

Does Religion Mitigate Earnings Management? Evidence from China

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Abstract Using a sample of 11,357 firm-year observations from the Chinese stock market for the period of 2001–2011, we investigate whether and how religion can mitigate earnings management. Specifically, based on geographic-proximity-based religion variables, we provide strong and robust evidence to show that religion is significantly negatively associated with the extent of earnings management, suggesting that religion can serve as a set of social norms to mitigate corporate unethical behavior such as earnings management. Our findings also reveal that the negative association between religion and earnings management is less pronounced for firms with closer distance to the regulatory centers than for their counterparts, implying the substitutive effects between religion and the distance to regulators (the proxy for regulatory intensity) on mitigating earnings management. The above results are

robust to different measures of earnings management, various religion variables, and a variety of sensitivity tests.

Keywords Religion · Earnings management · The distance to regulators · Geographic proximity · The percentage of state shareholding · Regulatory intensity

Introduction

The importance of ethics in the financial reporting process has long been addressed in practice and academia. Unethical activities such as financial fraud and financial reporting irregularities can be attributed to the ethical failures (Staubus 2005). It is also well known that one of the most provocative topics in accounting and finance is earnings management in last few decades. Loomis (1999) argues that earnings management masks the true financial position of business organizations and hides relevant information that investors ought to know. Aggressive earnings management has been viewed as being opportunistic and inappropriate behavior. As a result, earnings management is implicitly involved in corporate or individual ethical issue (see Elias 2002, 2004; Greenfield et al. 2008; Kaplan 2001; Kaplan et al. 2007, etc.).

Therefore, researchers seek for the determinants of business ethics to mitigate earnings management. Du (2013a, b) argues that religion plays an important role in shaping business ethics. Also, religion is regarded as a potential source of ethical norms to affect individual behaviors (Conroy and Emerson 2004; Longenecker et al. 2004; Pace 2013). Recently, there is growing strand of work that investigates the impact of religion on corporate governance and corporate decision (e.g., Chen et al. 2013;

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Du 2013a, b; Dyreng et al. 2012; El Ghouli et al. 2012; Grullon et al. 2010; Hilary and Hui 2009; Matoussi and Jardak 2012; McGuire et al. 2012; etc.). These previous studies do not focus on the impacts of the religious belief of specific individual on corporate behavior. Also, they *do* shed light on how the religious atmosphere in a region/district affects corporate decisions. Managers may not be religious believers, but they may be affected by the religious norms in a geographic area (Du et al. 2013b; El Ghouli et al. 2012). These studies have some insightful findings. In particular, Grullon et al. (2010), Dyreng et al. (2012), and McGuire et al. (2012) find that firms in religious areas have higher quality of financial reporting. Specifically, they corroborate that religion has some negative effect on earnings management. However, all above-mentioned studies are conducted in the U.S. where most adherents are Christian or Catholic. Therefore, there is sparse evidence on other denominations outside the U.S. Do some other religions such as Eastern-origin religions have any similar effects on earnings management? Our study attempts to fill these voids in the existing literature.

Prior studies document some evidence that Chinese listed firms use earnings management for certain purposes (Aharony et al. 2000; Chen and Yuan 2004; Haw et al. 2005; Jiang and Wang 2008; Jian and Wong 2010; Chen et al. 2008). However, in the Chinese stock market, formal institutions like standard corporate governance mechanisms are less effective or even under construction (Du 2013a). McGuire et al. (2012) point out that religious influence is more pronounced for firms lacking of strong external monitoring. It triggers us to investigate the role of religion in emerging markets (like China in our study) with weak formal institutions. China distinguishes itself from other rule-based economies in its cultural and social factors, legal system, political system, and economic development (Du 2013a; Kimber and Lipton 2005). Therefore, using the context of China, we address whether and how religion (Buddhism and Taoism) can reduce earnings management.

China has a very early civilization and a long and rich history. The religious tradition in China also has a very long history, for example, Taoism can be traced to nearly 1,900 years ago. The most influential religions are Buddhist and Taoist denominations. The influence extended to Chinese esthetics, politics, literature, philosophy, medicine, and a lot of other aspects. Historically, Buddhism and Taoism have been deep-rooted in China from generation to generation. Religious activities were largely reduced for a long time after the founding of the People's Republic of China, albeit never reduced to zero (Yang 2009). After the end of the Cultural Revolution, the government's attitude toward religion changed. From the late 1970s, China began to promote a market economy and undertake an open-up

reform. The more pragmatic leadership under Deng Xiaoping took over the Chinese Communist Party, they changed course (Yang 2009). From the legal perspective, the Constitution of China in 1982 provides that citizens have freedom of religion. Religious festivals are held, traditional funerals and burial rituals are restored, destroyed images and shrines are rebuilt, priests reappear to organize rituals, and congregations meet to worship (Overmyer 2003). In recent years, the government's attitude toward religious activities has become unprecedentedly friendly, as the party leaders realize that religion helps fill a vacuum created by the country's breakneck growth and rush to get rich (Du et al. 2013a). This change is the primary factor why religion can revive and even thrive under atheist Communist rule. Here is an example. Chinese President *Xi Jinping* recently met with *Fo Guang Shan's* Master *Hsing Yun* in February 2014, and highly complimented his book on Buddhism (Ifeng 2014). Although we do not know the accurate number of religious people, one report on religion in 2011 shows that about 185 million people admit the Buddhism beliefs (Jin and Qiu 2011).

One of the biggest challenges in our study is the measurement of religiosity or religion. Some U.S. studies employ well-developed databases that provide information about the adherents in a district. However, similar information is not available in China. To counter this problem, we follow previous studies and attempt to construct a simple and objective measure. Du (2013a, b) and Du et al. (2013a) document strong evidence that religious sites may reflect religious atmosphere in a region. Religious adherents express their devotion and loyalty by building up those monasteries, temples, shrines, and pagodas. In addition, the nation-widely famous monasteries and temples are representative in reflecting religious heat, as the religious activities are plentiful and religious atmosphere is strong in the vicinity of sites. Also, our religious measure can borrow support from findings that geographic dissemination, distance, and characteristics have information content (e.g., Agarwal and Hauswald 2010; Choi et al. 2012; DeFond et al. 2011; Du 2013a, b; El Ghouli et al. 2013; John et al. 2011; Kang and Kim 2008; Kedia and Rajgopal 2011; Loughran 2007; etc.). Therefore, we construct religion variables by counting the number of religious sites (Buddhist monasteries and Taoist temples, *similarly hereinafter*) within certain distance around a firm's registered address provided by *Google-earth* map. We find that religion (religious atmosphere in a region) is significantly negatively associated with earnings management. As earnings management is restrained by the legislative regulation, the negative association between religion and earnings management is less pronounced for firms with closer distance to the regulatory centers than their counterparts. Our findings are robust to various measures of religion and earnings management.

Our study contributes to the existing literature in several ways. First, to our knowledge and literature in hand, our study is the first to use the Chinese context to investigate the impact of religion on earnings management. This study adds to the existing literature (Grullon et al. 2010; Chen et al. 2013; Dyreng et al. 2012; Gould 1995; McGuire et al. 2012) that explores the role of some Western religions in corporate decisions.¹ These previous studies contend that religion enhances ethical level in the U.S., but they do not extend the finding from Western religions to Eastern religions. Therefore, findings in extant studies that address the influence of Western religions on corporate behavior may not automatically lend support to our concerns about whether and how Eastern religions, especially Buddhism and Taoism in China, reduce earnings management. Using the international setting and considering Eastern religions, Callen et al. (2011) find that neither religious affiliation nor the degree of religiosity has any impact on earnings management. However, our study is different from Callen et al. (2011) in sample and the measurement of religion variables.² As a result, it is sufficiently necessary for us to investigate religious influence on earnings management in the Chinese context.

Our study distinguishes itself from some extant studies based on the Chinese context (e.g., Du 2013a, b; Du et al. 2013a, b; etc.).³ These extant studies shed light on whether and how religion affects corporate behavior such as corporate governance and social responsibility including its specific dimensions. However, previous literature provides little evidence on whether and how religion influences the quality of accounting numbers, for instance, the choice of accounting policy.⁴ In China, the regulators often rely on accounting numbers to govern listed companies (Liu and Lu 2007), so earnings management deserves academic

interests. In this regard, we cannot directly borrow support from prior studies such as Du (2013a, b) and Du et al. (2013a, b), which motivates this study to separately investigate whether and how religion can influence earnings quality.

Second, we extend the existing literature which sheds light on the geographic proximity between listed firms and different parties (Agarwal and Hauswald 2010; Choi et al. 2012; El Ghouli et al. 2013; John et al. 2011; DeFond et al. 2011; Kedia and Rajgopal 2011). We find that the negative association between religion and earnings management is weaker for firms which are closer to the regulatory centers than for their counterparts. It is consistent with the view that religion is an alternative mechanism where formal system is incomplete and many external monitoring mechanisms are less effective. This finding is important for future studies based on the contexts of both China and U.S., because those two countries stretch across a vast area and need take geographic dissemination of information into account.

Third, considering that state-owned ownership is also a unique characteristic in Chinese political and economic environment, we further address the differences in religious influence on earnings management among different percentages (proportions) of state shareholding.⁵ Specifically, we find that the negative association between religion and earnings management is less pronounced for firms with higher state shareholding than for firms with lower state shareholding. Furthermore, we find that the substitutive effects between religion and regulatory intensity, measured as the average distance between a listed firm and three regulatory centers, on earnings management mainly exist in firms with lower state shareholding. In this regard, our study is the first one to examine differences in religious impacts on corporate behavior among firms with different percentages of state shareholding, and thus provides additional evidence on the asymmetric influence of religion on corporate behavior in different contexts.

Fourth, our study is one of the very thin but growing literature to use firm-level religion variables. Our study distinguishes itself from extant studies based on the U.S. context (El Ghouli et al. 2012; Hilary and Hui 2009; McGuire et al. 2012), because the measures of religion variables in those studies are based on county/region/metropolitan level. However, as argued by Wines and Napier (1992) and Du (2013a), county-level religion variables are inclined to result in serious cross-sectional self-correlation. To overcome above shortcoming of county-/region-/metropolitan-level religion variables, Du (2013a) and Chen et al. (2013) explore quasi-firm-level religion variables in the Chinese context. In this study, we not only

¹ Using the context of China, Chen et al. (2013) adopt accounting misconduct and discretionary accruals as the proxies for corporate governance and then investigate the impact of religious tradition on corporate governance. Chen et al. (2013) find that religion is significantly positively associated with corporate governance.

² In Callen et al. (2011), religious observance and religious affiliation at the country or region level are based on the World Values Survey of the World Bank. Moreover, Callen et al. (2011) may not contain firms in mainland China.

³ We acknowledge our great thanks for one referee's suggestion that we should explore the differences between our study and extant studies such as Du (2013a, b) and Du et al. (2013a, b).

⁴ Du (2013a) documents systematic evidence to show the negative association between religion and owner-manager agency costs and Du (2013b) finds that Buddhism mitigates tunneling to some extent. To sum up, Du (2013a, b) establishes the link between religion and corporate governance, especially owner-manager agency conflicts and agency costs between the controlling shareholder and minority shareholders. Du et al. (2013a) find that religion has positive impact on corporate philanthropic giving and Du et al. (2013b) find that religion is associated with corporate environmental responsibility.

⁵ We acknowledge our great thanks to two acute referees for their valuable suggestion.

follow Du (2013a, b) and utilize quasi-firm-level religion variables, but also develop Du (2013a)'s approach to adopt firm-level religion variables in the strict sense to provide robust results.

Finally, our study also adds to the existing religion management and economics literature. On the one hand, the association between religion and corporate decisions echoes the existing argument that religion helps judge whether behavior is ethical (Weaver and Agle 2002) by providing specific ethical guidelines as “common knowledge” (Du et al. 2013b; El Ghouli et al. 2012; Hunt and Vitell 2006). On the other hand, our finding that religion affects corporate behavior echoes arguments in Aggarwal and Goodell (2009), Allen et al. (2005), Iannaccone (1998), North (1990, 2000), Pistor and Xu (2005), and Williamson (2000), which emphasize the role of religion, customs, tradition, and norms in shaping formal systems like law, although they are often non-calculative and spontaneous (Du 2013b).

The remainder of this paper is organized as follows. In the next section, we introduce institutional background and develop research hypotheses. Then we discuss the measures of key variables as well as empirical model specifications, followed by a section of the sample construction and descriptive statistics. We then report empirical results and conduct a variety of robustness checks and additional tests. Finally, we summarize our conclusions and discuss the implications of our study.

Institutional Background, Literature Review, and Hypotheses Development

Religion in China

China is an old Eastern country with rich culture and civilizations, and the religious tradition in China also has a very long history. For example, the indigenous religion, i.e., Taoism (Daoism), had existed more than 1,900 years. Taoism was predated by a handful of philosophical texts. The most well known in Taoism is the *Dao De Jing*, the first text to illustrate the central concept of Taoism. Buddhism is the oldest foreign religion and it has been already 2,000 years since it spreads into China (Ling 2004). Buddhism is combined with indigenous Taoism, Confucianism, and some folk religions during the localization. For thousands of years, Buddhism and Taoism are the most two influential religions in China. In fact, Chinese Buddhism and Taoism have a lot in common, some Buddhists may pray to both Buddha and Taoist gods. Comparatively, in China, other denominations like Christian have a shorter history, and Islam is popular mainly in some provinces.

The modern Chinese Buddhism suffered some tribulation during the Cultural Revolution in the 1960s. In the last three decades, religion has become popular again since the restriction on religion was raveled. The religious revival is significant and visible. The revival has been fueled by a number of factors: the state's lifting of its ban on freedom of worship; by widespread disillusion with the official ideology; economic and social uncertainties in the wake of modernization and reforms; and the enduring nature of religious belief (Lai 2005). Overmyer (2003, p. 307) maintains that besides the outside help for these activities, the fundamental impetus is the faith and devotion of the Chinese people themselves. Sociologist and the government are curious about the number of religious adherents nowadays. However, religion research in China is just at its beginning, and no acknowledged religious polls reveal the accurate information. The so-called Blue book on religion shows that about 185 million people admit the Buddhism beliefs (Jin and Qiu 2011). Thousands of Buddhists practice Buddhism at home in a conservative and discreet way (they are called laymen). Also, because of persecution in the Cultural Revolution, many refuse to declare their religious beliefs publicly. Therefore, the media doubt this number may be underestimated and 300 million is another estimated number (e.g., Lim 2010).

We can take a look at Chinese Buddhism and Taoism from another perspective: the religious sites. China has approximately sixteen thousand Buddhist monasteries and over one thousand Taoist temples (Chen 2003). The religious sites are the places where most religious activities are held and believers assemble. Although religious sites are different from western churches, the most outstanding evidence of the adherents' devotion is the many monasteries which dot the land in the country (Chen et al. 2013; Du et al. 2013a, b; Hodus 2009).

Earnings Management and Corporate Ethics

Some terms such as “earnings management,” “earnings manipulations,” “creative accounting,” and “accounting abuses” are striking in the media, because people regard them as the root of a number of financial scandals. Although academics, practitioners, and regulators may fail to get reconciliation on the exact definition of earnings management, it is undeniable that earnings management is one of the most provocative topics in accounting in last few decades. A representative definition from the academic literature is that “earnings management occurs when managers use judgment in financial reporting and in structuring transactions to alter financial reports to either mislead some stakeholders about the underlying economic performance of a firm or to affect contractual outcomes that depend on reported accounting numbers” (Healy and

Wahlen 1999). Even if the overwhelming majority of financial managers want to report earnings honestly and honorably (Parfet 2000), earnings management *does* occur because of the complex conflicts among interest groups. According to contracting theory, managers consider the potential benefits of earnings management such as higher compensation (Healy 1985) or avoiding the violation of a debt covenant (DeFond and Jiambalvo 1994; Sweeney 1994). In addition, numerous prior studies find that “beat benchmarks” is also a motivation of earnings manipulation. Those benchmarks include avoiding losses and earnings decrease and meeting analysts’ (managers’) forecasts, etc. (Burgstahler and Dichev 1997; Burgstahler and Eames 2006; Degeorge et al. 1999; Graham et al. 2005; Kasznik 1999).

Corporate governance and business ethics are two major channels to curb earnings management (Chen et al. 2013; Du 2013a). Given an incentive to manipulate, having strong internal corporate governance structure is less likely to lead to firms’ actively engaging in earnings management (Dechow et al. 1996; Klein 2002). That is why the regulators in various capital markets emphasize closely on the corporate governance mechanisms such as the board component, the independence of external directors, the effectiveness of audit committee, the risk management and controls, etc. From the macro perspective, some studies shed light on the external environmental factors and provide evidence of the importance of institutional features on accounting. For instance, Leuz et al. (2003) examine earnings management around the world and document that earnings management is more likely to occur in countries where legal investor protection is weaker.

Business ethics are even more perplexing in earnings management, because they combine business philosophy, individual cognition, and subjective judgment. Undoubtedly, the use of judgment and subjectivity in accounting is important and desirable. Managers have information as an advantage in the business operation, and thus there is no substitute for a trained professional manager applying his/her knowledge to determine the proper recording of business transactions. Sometimes the tactics used in financial reporting do not break generally accepted accounting principles (GAAP) or violate laws, and some studies contend that not all earnings managements are detrimental to firms (Arya et al. 2003).

Is earnings management unethical? Johnson et al. (2012) argue that the behavior undertaken solely to enhance personal profits is generally as unethical (e.g., boost the bonus). However, conclusions about the ethics of managing earnings for specific goals (e.g., to meet budget targets) are mixed at best. Some studies report the acceptance of such practices as ethical (e.g., Elias 2002; Kaplan 2001; etc.), but others conclude that they are unethical (e.g., Fischer

and Rosenzweig 1995; Kaplan and Ravenscroft 2004; Kaplan et al. 2007). The attitudes toward the morality or ethics of particular behavior affect managers’ decisions. Johnson et al. (2012) analyze social consensus in corporate ethics, because it is one dimension in moral intensity. Individuals prefer to follow the consensus of a peer group regarding whether the observed behavior is ethical. Our study echoes this view of point, and addresses how social norms affect corporate decision.

In short, as some scholars argue, earnings management may be the most important ethical issue facing the accounting profession (Merchant and Rockness 1994). Corporate ethics are the essential component to affect high-quality information for investors (Parfet 2000; Staubus 2005).

Hypotheses Development

Owing to the relation between corporate ethics and earnings management, we attempt to explore some non-institutional factors in corporate operation. Religion provides specific ethical guidelines and emphasizes the overall importance of ethical behavior. The following enumerates some extant findings.

First, in the international comparative studies, religion is usually used as a proxy for culture, and researchers compare religious influence in different countries, and thus find that religion in a country affects government quality and investor protection (La Porta et al. 1999; Stulz and Williamson 2003). It is noteworthy that cultural differences play a large and important role in defining the amount and types of earnings management that are acceptable (Lo 2008).

Second, extant studies provide systematic evidence that religion influences individual behavior, especially the attitude and ethics. For instance, Conroy and Emerson (2004) use the survey method to find that religiosity is significantly correlated with ethical perceptions. Similarly, Longenecker et al. (2004) find that respondents who indicate that religious interests are of high or moderate importance to them demonstrate a higher level of ethical judgment. Pace (2013) sheds light on the effects of Buddhist ethics on consumers’ materialism, and finds that religious belief decreases the propensity to attach a fundamental role to possessions.

Third, in finance and accounting, there is growing strand of work to empirically investigate the importance of religion in the U.S. on firm-level decisions (Dyreg et al. 2012; El Ghouli et al. 2012; Grullon et al. 2010; Hilary and Hui 2009; McGuire et al. 2012). The foundation of these findings is that religion acts as one part of social norms and affects managers’ decisions in an imperceptible way. According to social norm theory, social norms urge individuals to conform to their peer group. Therefore,

managers are inevitably affected by religious norms in a geographic area regardless of their religious beliefs (Du 2013b; El Ghouli et al. 2012) because religious social norms of local population are important elements of the environment in which managers live and operate. From this point of view, religion affects people's attitude and judgment in a district, no matter they are adherents or not.

Even when the managers are not adherents, they may also participate in some particular religious activities and have some interaction with religious individuals. The local community can reward the companies that are in line with the local beliefs and culture. Extant studies echo above arguments by documenting systematic evidence. Firms located in more religious counties have less agency problem (El Ghouli et al. 2012), display lower degrees of risk exposure (Hilary and Hui 2009), get involved in less lawsuits (McGuire et al. 2012; Grullon et al. 2010), and engage in fewer accounting restatements (Dyregang et al. 2012; McGuire et al. 2012), whereupon they enjoy cheaper equity financing costs (El Ghouli et al. 2012). More directly, Grullon et al. (2010), Dyregang et al. (2012), and McGuire et al. (2012) examine religious influence on earnings management in U.S., and find that firms located in the districts with high levels of religious adherence are less likely to engage in earnings management.

Finally, all above-mentioned studies conduct investigation in the U.S. where influential religions are Christianity and Catholicism. However, these extant studies provide insufficient evidence on whether Eastern-origin religions have similar effects on corporate behavior. In this regard, a branch of recent literature supplements U.S. studies. Using the international setting including the Eastern religion, Callen et al. (2011) find no significant influence of religious affiliation and the degree of religiosity on earnings management. Some researchers (Chen et al. 2013; Du 2013a, b; Du et al. 2013a, b) investigate whether religious social norms can exert influence on corporate behavior in China, an old traditional country with a typical communist economy, and they find that religion (Buddhism and Taoism) serves as a set of social norms, and can reduce owner-manager agency costs, mitigate tunneling, motivate firms to carry out corporate philanthropy, and enhance corporate environmental responsibility. However, whether Eastern-origin religions in China have similar effects on earnings management still remains question.

Earnings management in China has attracted close attention from practice and academia. The incentives of earnings management are somewhat similar to those in western countries. For instance, firms manipulate earnings to meet the regulatory benchmark of returns on equity (ROE) for rights issues (Aharony et al. 2000; Chen and Yuan 2004; Haw et al. 2005; Jiang and Wang 2008). Besides, earnings management helps firms facilitate

tunneling by controlling shareholders (Jian and Wong 2010) and satisfy the arrangement of the local government (Chen et al. 2008).

Earnings management is unethical according to the Buddhist and Taoist philosophy.⁶ The first is the Buddhist and Taoist attitude toward money. Buddhism eschews purely material pleasures and focuses instead on social and environmental responsibility in production, distribution, and exchange (Norberg-Hodge 1997). The concept of "emptiness" in Buddhism discourages active money making. Pace (2013) explicates how the Four Immeasurables in Buddhism have a direct effect on materialism. Similarly, Taoism's keystone Dao De Jing includes the aphorism: "virtuous accumulation can leave nothing undone." Taoism advocates merciful deeds, rather than the accumulation of wealth. Second, both Buddhism and Taoism emphasize honesty, which requires and emphasizes one should tell the truth to other people. For instance, Taoism denotes non-action or *Wu Wei*, meaning taking no action that is contrary to essence. Taoism opposes to misrepresent the truth in order to satisfy others' expectation or even cater the others. Therefore, distorting the earnings number to meet others' expectation of the outsiders is against to the religious doctrine from both Buddhism and Taoism.

Drawing on the aforementioned discussion and previous studies, we expect that firms located in the strong religious regions are less likely to engage in earnings management in the Chinese stock market, and thus formulate the following Hypothesis 1:

Hypothesis 1 *Ceteris paribus*, religion is negatively associated with earnings management.

In Hypothesis 1, we emphasize the impact of religion, i.e., religious atmosphere in one district, on earnings management. Analogously, some studies (Agarwal and Hauswald 2010; John et al. 2011; Kang and Kim 2008) argue that geographic dissemination has its special information content because geographic distance can alleviate information asymmetry and thus geographic characteristic is valuable for shareholders' decisions. For instance, Agarwal and Hauswald (2010) find that physical distance between borrower and lender is influential in corporate lending. John et al. (2011) construct a set of variables such as distance to a major metropolitan, distance to airport, and

⁶ For example, an essential Buddhist platform is morality (Du 2013b; Esposito et al. 2006; Pace 2013; Wiese 2011). Buddhism teaches desire as a source of suffering (*dukkha*), interdependence (*pratitya-samutpada*) and impermanence (*anitya*), and non-self (*anātman*), well known as the three core tenets of Buddhism. And the moral doctrine in Buddhism is synthesized in Four Immeasurables: compassion (*karuna*), loving kindness (*metta*), empathetic joy (*mudita*), and equanimity (*upekkha*). Du (2013b) has an exhaustive analysis on how three tenets of Buddhism and four Immeasurables affect peoples' attitude toward ethics.

distance to bank and then examine the impact of geographic location on dividend policy. Kang and Kim (2008) investigate the influence of geographic distance between the acquirer and the target on block acquisitions.

Referring to financial reporting quality, DeFond et al. (2011) and Kedia and Rajgopal (2011) shed light on the firms' distance to U.S. Securities and Exchange Commission (SEC) offices. In fact, geographical proximity is especially helpful for managers because it can help managers get access to soft information about current SEC policies. More importantly, SEC regulation is more effective when it is local, as regional SEC offices monitor nearby companies more intensely, which mitigates information asymmetry between the SEC and these companies, and in turn reduces misreporting. In contrast, remote companies are either less aware of SEC enforcement or perceive a lower *ex ante* risk of being detected for misreporting (given the SEC's proclivity to investigate nearby companies), which leads to more misreporting behavior among distant companies.

As a counterpart of Security and Exchange Commission (SEC) in the U.S., China Securities Regulatory Commission (CSRC) is the regulatory body that enforces securities laws and regulations. CSRC also carries out investigations to identify and prosecute securities fraud. Moreover, two stock exchanges (Shanghai and Shenzhen Stock Exchanges) are under the ultimate authority of CSRC to regulate firms under their jurisdictions. The headquarters for CSRC is in Beijing. Due to Shanghai and Shenzhen Stock Exchanges, CSRC sets up two special offices in Shanghai and Shenzhen for securities regulation.⁷ Although the Chinese stock market has been established for more than 20 years, the deeply rooted administrative pattern still has important influence. The government has issued a host of regulations to supervise Chinese listed firms in recent years. Many regulations, rules, and guidelines have been promulgated by CSRC and the two stock exchanges. For example, CSRC limits daily price change floor (−10 %) and ceiling (10 %) to reduce the price volatility. For another example, firms reporting two consecutive annual losses or negative book value are subject to special treatment.⁸ In this regard, Chen et al. (2005) find that the enforcement actions from CSRC have a negative impact on stock prices, suggesting that investors take heed of enforcement actions from CSRC and revalue companies downward. The above-mentioned studies, taken together,

suggest that CSRC has its important influence on corporate behavior.

In the U.S., SEC has a national office and five regional offices, i.e., Washington DC, New York City, Miami, Chicago, Denver, and Los Angeles (Kedia and Rajgopal 2011). DeFond et al. (2011) note that “all of the SEC regional offices have permanent accounting staff whose primary responsibilities include identifying and prosecuting accounting and auditing misconduct, and further more than half of the investigations of suspected accounting and auditing misconduct originate with the SEC regional offices.” Kedia and Rajgopal (2011) find that earnings quality is negatively associated with firms' distance to the SEC regional office. Above findings in extant studies suggest that SEC regional offices play a major role in the detection and prosecution of accounting misconduct.

In China, CSRC has the power analogous to SEC.⁹ However, the structure and operations of CSRC are different from SEC. CSRC sets up thirty-six regional bureaus in provinces, autonomous regions, municipalities, and several specified cities across mainland China.¹⁰ Unlike SEC regional offices, CSRC regional offices do not have the same level of enforcement power, partly due to their recent creation in 1999. CSRC oversees the nationwide securities supervisory system in a vertical and centralized pattern, and thus CSRC regional offices only have limited power in supervising listed firms in their respective provinces. In fact, CSRC regional offices even did *not* have authority of administrative penalties before Oct. 1, 2013.¹¹ Nevertheless, Shanghai and Shenzhen Stock Exchanges are authorized by CSRC and have the delegated powers to regulate firms under their jurisdictions.

Based on the aforementioned discussions, we choose three regulatory centers Beijing, Shanghai, and Shenzhen, rather than 36 regional offices, as the benchmark to define regulatory intensity. Also, according to the Global Financial Centres Index (GFCI) from the Z/Yen Group

⁹ We acknowledge our great thanks to one referee for his/her valuable suggestion as below: (1) We should discuss why we choose three regulatory centers as the basis to define regulatory intensity and (2) We should explore other values of Beijing, Shanghai, and Shenzhen as three regulatory centers.

¹⁰ See the website of CSRC: http://www.csrc.gov.cn/pub/csrc_en/about/. Thirty-six regional bureaus accept commission to supervise listed firms in their respective provinces or cities. And then, using a vertical pattern, CSRC oversees regional bureaus. Moreover, CSRC has established Shanghai and Shenzhen Commissioner Offices.

¹¹ See the CSRC website. http://www.csrc.gov.cn/pub/tianjin/xxfw/scyw/201310/t20131024_236822.htm. During our sample period (2001–2011), the regional offices only take the daily inspection and carry out the command from the superior. Today, CSRC begins to streamline the administration and delegates real powers to lower levels.

⁷ See the website of CSRC: http://www.csrc.gov.cn/pub/csrc_en/about/.

⁸ See websites: (1) http://www.sse.com.cn/lawandrules/sserules/listing/stock/c/c_20120918_49621.shtml; and (2) <http://www.szse.cn/main/images/2012/07/07/20120707165902322.pdf>.

in London,¹² Beijing, Shanghai, and Shenzhen are three financial centers in China. Most institutional investors, investment bankers, analysts, and financial institutions are located in these three financial centers. El Ghouli et al. (2013) find that firms close to six financial centers exhibit lower equity cost in the U.S. Therefore, the monitoring power is more intense in Beijing, Shanghai, and Shenzhen, not only because they have stronger regulatory power from CSRC, but also because they have higher external monitoring.

The above discussions construct the negative link between regulatory intensity based on three regulatory centers and earnings management and then expound why we can use the distance between regulatory centers and Chinese listed firms as the proxy for regulatory intensity. Next, we further address the substitutive effects between religion and regulatory intensity on earnings management.

Moreover, we can borrow support from Williamson (2000) to illustrate possible factors which might contribute to the substitutive effects between religion and regulatory intensity. Williamson (2000) documents four levels of “social analysis,” in which religion lies in the first and embedded level. The factors (i.e., religion, customs, and tradition) in the first level, as *ex ante* factors, have spontaneous origin, and thus they change extremely slowly and keep stable for centuries or millennia. However, formal institutions are “partly the product of evolutionary processes,” which are *ex post*. When there is no formal institution, informal system plays an alternative role in shaping corporate behavior. In addition, according to Williamson (2000), the change of governance mechanisms is responsive. Considering that rules, regulations, and guidance issued by the government are hysteretic, informal institutions such as religion can serve as an alternative mechanism to formal systems and play a substitutive role in shaping the social activities. As a result, the interaction between religion and regulatory intensity on earnings management is inclined to be substitutive, rather than reciprocally reinforced.

To sum up, prior studies recognize that informal system can serve as an alternative to formal institutions (Allen et al. 2005; Du 2013a; Pistor and Xu 2005; Williamson 2000). Therefore, we predict the substitutive effect between religion as an informal system and regulatory intensity (an indicator of the average distance between a listed firm and three regulatory centers) on mitigating earnings management, and thus we formulate Hypothesis 2 as below:

Hypothesis 2 *Ceteris paribus*, the negative association between religion and earnings management is less

pronounced for firms closer to the regulatory centers than for their counterparts.

Empirical Models and Variables

Empirical Model Specification for Hypothesis 1

Hypothesis 1 predicts that religion is negatively associated with earnings management after controlling for other determinants. To test Hypothesis 1, we employ the ordinary least squares (OLS) regression procedure to estimate the following Eq. (1):

$$\begin{aligned}
 |DA| = & a_0 + \alpha_1 REL_R + \alpha_2 LNBGS + \alpha_3 BIG4 \\
 & + \alpha_4 TENURE + \alpha_5 INDSPEC + \alpha_6 CHGSALE \\
 & + \alpha_7 BTM + \alpha_8 SIZE + \alpha_9 LEV + \alpha_{10} ZSCORE \\
 & + \alpha_{11} ISSUE + \alpha_{12} LOSS + \alpha_{13} ROE + \alpha_{14} CFO \\
 & + \alpha_{15} LAGACCR + \alpha_{16} FIRST + \alpha_{17} DUAL \\
 & + \alpha_{18} INDR + \alpha_{19} BOARD + \alpha_{20} MANSHR \\
 & + \alpha_{21} CONCENT + \alpha_{22} STATE + \alpha_{23} MKT \\
 & + \alpha_{24} CONFU + \alpha_{25} ETHNIC + \alpha_{26} GDPGROWTH \\
 & + \alpha_{27} GOVERNANCE + \alpha_{28} POPULATION \\
 & + \alpha_{29} INCOME + \alpha_{30} EDUCATION + \alpha_{31} POLITICS \\
 & + \alpha_{32} AGE + \alpha_{33} MINORITY + \text{Industry Dummies} \\
 & + \text{Year Dummies} + \varepsilon \quad (1)
 \end{aligned}$$

In Eq. (1), $|DA|$ is the dependent variable and stands for earnings management through abnormal accruals. REL_R is the independent variable in this study. In Eq. (1), if the coefficient on REL_R (i.e., α_1) is negative and significant, Hypothesis 1 is supported by the empirical evidence. Please refer to the subsections of “the measurement of religion” and “the measurement of earnings management” for the definitions of $|DA|$ and REL_R in detail.

Previous studies on earnings management are ample, so we include a set of control variables to isolate religious influence. (1) $LNBGS$ represents the natural logarithm of the sum of the number of business, product, and geographic segments minus two. Francis and Yu (2009) find that firms with multiple operating divisions or geographical segments are more likely to require more audit engagement, and therefore the accrual quality is affected. (2) Some empirical studies show that dutiful auditors can reduce managers’ opportunistic discretions in financial statement, and thus Eq. (1) contains variables on auditor characteristics. The Big auditors are less likely to allow earnings management than their counterparts (Becker et al. 1998), so Eq. (1) includes $BIG4$. $BIG4$ is a dummy variable, equaling 1 if a firm is audited by one of the big four auditors and 0 otherwise (Fan and Wong 2005). Moreover, prior studies

¹² See the following website: <http://www.zyen.com/PDF/GFC16.pdf>.

suggest auditors who gain client-specific knowledge through their extended tenure with specific clients (Myers et al. 2003) or industry specialization (Reichelt and Wang 2010) are better able to mitigate firms' aggressive accrual choices, so Eq. (1) includes two related variables: *TENURE* and *INDSPEC*. *TENURE* is an indicator variable, equaling 1 if the auditor tenure is ≤ 3 years and 0 otherwise. *INDSPEC* is a dummy variable to control for the effect of auditor brand name on industry expertise, equaling 1 if the audit firm is the specific industry leader (based on the share of audit fees) for the audit year in the provincial audit market and 0 otherwise. (3) *CHGSALE* and *BTM* are added into Eq. (1) to control for a firm's growth. *CHGSALE* is the change in sales deflated by lagged total asset; *BTM* is the book-to-market ratio. (4) Eq. (1) includes two variables, i.e., *SIZE* and *LEV*, to control for the impacts of firm size and financial leverage on earnings management, respectively. *SIZE* is measured as the natural logarithm of the total asset at the end of the year, and *LEV* is total liabilities divided by total asset. These two variables are usually included in the extant literature on earnings management (Marra et al. 2011; Siregar and Utama 2008). (5) *ZSCORE* is put into Eq. (1) to control for the effects of financial distress and financial performance on earnings management (Burgstahler and Dichev 1997; Kothari et al. 2005). *ZSCORE* is modified Altman (1968) Z-scores, equaling 2 if the Z-score is < 1.8 , 1 if the Z-score is < 3 but > 1.8 , and 0 if Z-score is > 3 , respectively. (6) Prior studies (Chen and Yuan 2004; Haw et al. 2005; Teoh et al. 1998) find that earnings management is related to some financial transactions both in the U.S and China, so Eq. (1) incorporates *ISSUE*, which is a dummy variable, equaling 1 if the sum of debt and equity issued during the past 3 years is more than 5 % of total assets and 0 otherwise. (7) *LOSS* is a dummy variable, equaling 1 if a firm reports negative net income in the year. *ROE* indicates return on net assets, measured as net operating income deflated by net assets. (8) *CFO*, operating cash flows, is added in Eq. (1) to control for the influence of cash flows on earnings management (Dechow et al. 1998; Kothari et al. 2005; Chen et al. 2011). (9) Following Kim et al. (2003), we include *LAGACCR* to control for the reversal of accruals over time. (10) In line with the existing literature (Dechow et al. 1996; Klein 2002; Liu and Lu 2007; Siregar and Utama 2008; Xie et al. 2003), some corporate governance features are also controlled in Eq. (1). *FIRST* is the percentage of common ownership held by the controlling shareholder. *DUAL*, *INDR*, and *BOARD* are included in Eq. (1) to control for the characteristics of the boards of directors. *DUAL* is an indicator variable, equaling 1 if the CEO and the chairman are the same person and 0 otherwise. *INDR* is the ratio of independent directors, measured as the number of independent directors scaled by the total number of directors in

the boardroom. *BOARD* is the natural logarithm of the number of directors in the boardroom. *MANSHR* is the percentage of shares owned by a firm's managers. (11) *CONCENT* represents auditor concentration index, measured as the Herfindahl index of the number of clients for audit office by province. (12) One unique feature of Chinese stock market is that central or/and local governments have considerable amounts of shares in listed firms. Compared with family firms, state-owned enterprises have different regulatory environment, management philosophy, and financial performance (Faccio 2006; Chen et al. 2008, 2011; Jian and Wong 2010). We check the proportion of state shareholding for every firm and partition the sample into two sub-groups. *STATE* is a dummy variable, equaling 1 if the percentage of state shareholding in a firm is greater than the median value of the sample in a specific year and 0 otherwise.¹³ (13) A region's institutional environment affects the properties of listed firms' reported earnings (Leuz et al. 2003) and McGuire et al. (2012) emphasize researchers should control for various demographic factors. Therefore, a set of demographic determinants are included in Eq. (1) to control for regional institutional characteristics from culture, economy, and governance aspects. Specifically, we use Fan et al. (2011)'s Marketization index, labeled as *MKT*, to control for regional or provincial difference in the market development level (Jian and Wong 2010). Because Confucianism has important influence on ethical philosophy in China (Chan 2008; Du 2013b), we include *CONFU* in Eq. (1). *CONFU* is a dummy variable, equaling 1 if a firm locates in one of the seven provinces (i.e., Shandong, Henan, Sichuan, Fujian, Jiangsu, Zhejiang, and Jiangxi) in which there are one or more nationally famous Confucianism centers and 0 otherwise. There are some ethnic minority autonomous regions in China, so we include *ETHNIC* in Eq. (1). *ETHNIC* is an indicator variable, equaling 1 if a firm locates in one of the five ethnic minority autonomous regions (i.e., Guangxi, Ningxia, Xinjiang, Tibet, and Inner Mongolia) and 0 otherwise. From the economic perspective, we control the provincial GDP growth (*GDPGROWTH*). To control the governance level in one province, we use the list of Chinese Government Transparency issued by the research Center in Chinese Academy of Social Sciences. *GOVERNANCE* is the rank of the scores, from the highest of 31 to the lowest of 1.

¹³ Some extant studies use a dummy variable, which indicates whether a firm's ultimate owner is a central/local government or government-controlled enterprises, to distinguish SOEs from non-SOEs. However, a branch of thin but growing literature (Chen et al. 2006; Xiao and Yuan 2007) uses the percentage of state shareholding as the proxy to investigate the difference in corporate behavior between two subsamples. Following Chen et al. (2006) and Xiao and Yuan (2007), we investigate religious influence on earnings management among different percentages of state shareholding.

Besides, following McGuire et al. (2012), we include some demographic control variables in each province,¹⁴ covering the population, income, education level, politics, age, and racial composition. *POPULATION* is the number of population for each province in millions. *INCOME* stands for the average province-level income per capita (Arano and Blair 2008). *EDUCATION* reflects the education background, measured as the number of people with a college education in each province divided by the whole population with a college education in China. *POLITICS* is the percentage of listed firms with political connection in each province. *AGE* is the amount of residents with age ranging from 15 to 64 in each province scaled by the total number amount of the residents with age ranging from 15 to 64 in China. *MINORITY* represents racial minorities in each province, measured as the percentage of racial minorities in each province divided by the whole amount of the racial minorities in China. (14) We also include a set of industry and year dummies to control for calendar year and industry fixed effects. “Appendix” section outlines definitions and data sources for the regression variables.

Empirical Model Specification for Hypothesis 2

Our second hypothesis predicts that the negative association between religion and earnings management is weaker for firms with closer distance to the regulatory centers. To test Hypothesis 2, we use Eq. (2) by adding one additional factor (*REGLIST*) and an interaction term (*REL_R* × *REGLIST*).

$$\begin{aligned}
 |DA| = & \beta_0 + \beta_1 REL_R + \beta_2 REGLIST + \beta_3 REL_R \\
 & \times REGLIST + \beta_4 LNBGS + \beta_5 BIG4 + \beta_6 TENURE \\
 & + \beta_7 INDSPEC + \beta_8 CHGSALE + \beta_9 BTM \\
 & + \beta_{10} SIZE + \beta_{11} LEV + \beta_{12} ZSCORE + \beta_{13} ISSUE \\
 & + \beta_{14} LOSS + \beta_{15} ROE + \beta_{16} CFO + \beta_{17} LAGACCR \\
 & + \beta_{18} FIRST + \beta_{19} DUAL + \beta_{20} INDR \\
 & + \beta_{21} BOARD + \beta_{22} MANSHR + \beta_{23} CONCENT \\
 & + \beta_{24} STATE + \beta_{25} MKT + \beta_{26} CONFU \\
 & + \beta_{27} ETHNIC + \beta_{28} GDPGROWTH \\
 & + \beta_{29} GOVERNANCE + \beta_{30} POPULATION \\
 & + \beta_{31} INCOME + \beta_{32} EDUCATION + \beta_{33} POLITICS \\
 & + \beta_{34} AGE + \beta_{35} MINORITY \\
 & + \text{Industry Dummies} + \text{Year Dummies} + \zeta \quad (2)
 \end{aligned}$$

In Eq. (2), the dependent variable is still *IDA*. *REGLIST* is a dummy variable for the geographic proximity between regulators and listed firms, equaling 1 if the average

distance between a listed firm and three financial regulators (i.e., Beijing, Shanghai, and Shenzhen) is less than the median value of the sample and 0 otherwise. According to Hypothesis 1 and the existing literature, we predict the coefficients on both *REL_R* and *REGLIST* are significantly negative ($\beta_1 < 0$ and $\beta_2 < 0$). Moreover, we predict the substitutive effects between *REL_R* and *REGLIST* on mitigating earnings management, so a significantly positive coefficient on *REL_R* × *REGLIST* ($\beta_3 > 0$) is consistent with Hypothesis 2. Note that control variables in Eq. (2) are the same as those in Eq. (1). Please refer to the subsection of “the measurement of the Distance to the Regulatory Center” for the definition of *REGLIST*.

The Measurement of Religion

In terms of the measurement of religion, U.S. studies employ some well-developed data from professional entities. For example, Hilary and Hui (2009, p. 459) use “Church and Church Membership” files in American Religion Data Archive and McGuire et al. (2012, p. 650) use a nationwide survey data, respectively. Because these databases provide the information of the adherents in different areas, those extant studies use county-/region-/metropolitan-level variables. However, such information is not available in China. Buddhists or Taoists neither go to temples weekly nor do they attend religious services based on solar calendar, so it is difficult to accurately estimate monasteries or/and temples attendance. Moreover, authoritative statistics on religiosity in China are scanty.

Based on the aforementioned, we attempt to construct religion variables not from the statistics on the people, but from other aspects. We notice that famous religious shrines in China are often hundreds or thousands of years old. They witnessed religious development in China and made great contribution to the propagating religious beliefs in history. Specifically, they have sacred stupas, statues, and texts. Moreover, the abbots are venerable masters and they have greater ability to train the monks and nuns. Besides, big monasteries and temples are capable to accommodate more adherents and organize grand-scale rituals. The nationwide famous monasteries and temples are representative in reflecting the religious heat, as the religious activities are plentiful and religious atmosphere is strong in the vicinity of sites. Therefore, we identify some national famous Buddhist monasteries and Taoist temples based upon a list issued by the State Council in 1983.¹⁵ Those representative religious sites have more far-reaching influence because of their historical development, religious heritage, and inter-

¹⁴ We acknowledge our great thanks to one anonymous referee for his/her valuable suggestion on controlling the regional institutional characteristics in our regression.

¹⁵ See “The report on nation-widely famous Buddhist monasteries and Taoist temples in Han area” for the detailed list.

generational inheritance. Following Du (2013a, b), with the help of Google-earth map and an equation from geographic information system, we count the number of religious sites within certain kilometers radius around a firm's registered place.

Religious site is an indicator of the religious intensity of the people in the vicinity, and thus accordingly, the distance between a religious site and a firm can reflect religious influence or religious atmosphere in a region. We borrow support from findings that geographic dissemination, distance, and characteristics have their respective information contents (Agarwal and Hauswald 2010; Chen et al. 2013; Choi et al. 2012; Du 2013a, b; Du et al. 2013a, b; El Ghouli et al. 2013; John et al. 2011; Loughran 2007). Similar to Du (2013a, b), we investigate religious sites around Chinese listed firms as the proxy for religious influence. As Wines and Napier (1992) and Du (2013a) note, country-/region- level religious variables are inclined to result in serious cross-sectional self-correlation of regression results. In this regard, firm-specific approach merits its advantage.

More specifically, we follow (Du 2013a, b; Chen et al. 2013) and then count the number of religious sites (Buddhist monasteries and Taoism temples) within a certain radius according to following steps: (1) Using Google-earth map, we locate the registered address of every firm and obtain its longitude and latitude, respectively. (2) We check the geographic location of every religious site and recognize its longitude and latitude. (3) We calculate the distance between a firm and a religious site as the length of the minor arc across the earth's surface according to their longitudes and latitudes (Rising 2000; Du 2013a, b). (4) Following Du et al. (2013a), we use 200, 250, and 300 km as the distance criteria (the upper limits) to identify the number of religious sites and define *REL200*, *REL250*, and *REL300*, respectively. Please note that we also use other scales (e.g., 50, 100, 150 km) to reconstruct other religion variables (e.g., *REL50*, *REL100*, and *REL150*) for robustness checks.

The Measurement of Earnings Management

Extant studies well document that firms use earnings management via accruals and discretionary accruals (Healy 1985; Jones 1991; Dechow et al. 1995), which refers to managers' opportunistic use of the flexibility afforded under generally accepted accounting principles (GAAP) to manage earnings. We view absolute discretionary accruals (*DA*) as an outcome of earnings management. We use the cross-sectional accrual model and follow the method in Ball and Shivakumar (2006). This approach increases the ability to detect earnings manipulations and reduces the risk of selection bias of the time-series approach, which

requires that firms survive at least 11 years to be included in a research sample (Jeter and Shivakumar 1999). Most of the Chinese listed firms have relatively short histories and thus cross-sectional approach is used to ensure the ample sample size. Further, Ball and Shivakumar (2006) take the asymmetric timeliness in recognition of gains versus loss into account and thereof add the nonlinear relation between accruals and cash flows in the previous model.

Discretionary accruals (*DA*) for firm *j* in year *t* are computed as the difference between the actual accruals in the prospectus and estimated normal accruals. The estimated normal accrual stems from Eq. (3), in which the model parameters are estimated using ordinary least squares (OLS) regression. We estimate Eq. (3) by year and industry (21 industries based on a two-digit code issued by the CSRC).

$$\begin{aligned} TACC_{j,t}/A_{j,t-1} = & \gamma_1 [1/TA_{j,t-1}] + \gamma_2 [\Delta REV_{jt}/TA_{j,t-1}] \\ & + \gamma_3 [PPE_{j,t}/TA_{j,t-1}] + \gamma_4 [CFO_{j,t}/TA_{j,t-1}] \\ & + \gamma_5 DCFO_{j,t} + \gamma_6 [(CFO_{j,t}/TA_{j,t-1}) \\ & * DCFO_{j,t}] + \theta_{j,t} \end{aligned} \quad (3)$$

In Eq. (3), *TACC* denotes the total accruals, measured as net income minus cash flows from operation. *TA* is the total assets, ΔREV is the change in revenue, and *PPE* is the gross property, plant, and equipment. *CFO* represents cash flows from operations; *DCFO* is an indicator variable, equaling 1 if *CFO* is negative and 0 otherwise.

The Measurement of the Distance to the Regulatory Centers (Regulatory Intensity)

DeFond et al. (2011) and Kedia and Rajgopal (2011) use the physical distance from listed firms to SEC offices as the proxy for differences in firms' awareness of SEC activities. By the same token, we attempt to explore the influence of geographic distance between the regulatory body and a firm on earnings management. China Securities Regulatory Commission (CSRC) is settled in Beijing. The CSRC sets up 36 regional bureaus, but the overall supervision system is unified and vertically guided by the CSRC.¹⁶ Moreover, Shanghai Stock Exchange and Shenzhen Stock Exchange are located in Shanghai and Shenzhen, respectively, and thus CSRC sets up two special offices for securities regulation in Shanghai and Shenzhen. We infer that the supervision of listed firms is more intense in three regulatory centers: Beijing, Shanghai, and Shenzhen.

¹⁶ We are especially grateful to one referee for his/her suggestion that we should use the location of regulators' regional offices as the benchmark to calculate the distance and define *REGLIST*. The non-tabulated results show that it has no influence on corporate earnings management. The results are available from the author upon request.

In this study, we measure religion variables based on the distance between a religious site and a firm. Similarly, using Google-earth map, we locate the address of the *CSRC*, *SHSE*, *SZSE*, and then obtain its longitude and latitude, respectively. Then we calculate the distance between a firm and three regulators (*CSRC*, *SHSE*, *SZSE*) according to their longitudes and latitudes, measured as the length of the minor arc across the earth's surface (Rising 2000; Du 2013a) between a firm and the three regulators. For every firm, we get an average distance to three regulatory centers.

To simplify our measurement, in this study, an indicator variable (*REGLIST*) is constructed. *REGLIST* is a dummy variable, equaling 1 if the average distance between a listed firm and three regulators is less than the median value of the sample and 0 otherwise. In other words, firms with *REGLIST* = 1 are nearer to the regulators than those with *REGLIST* = 0.

Sample and Descriptive Statistics

Identification of Sample

The initial list in our sample includes all Chinese listed firms from 2001 to 2011. We select our sample using the following criteria in Panel A of Table 1¹⁷: (1) We exclude firm-year observations pertaining to the banking, insurance, and other financial industries. (2) We delete firm-year observations that do not meet the criteria that a firm should have listed for at least 1 year (Du, 2013a, b); (3) We delete firm-year observations with transaction statuses of special treatment (ST), suspension from trading (*ST), or particular transfer (PT) because these firms are under the risk of delisting and may try to improve their listing status via higher discretionary accruals (Jiang and Wang 2008). (4) We exclude firm-year observations whose data on firm-specific control variables are unavailable. Finally, we get a sample of 11,357 firm-year observations, covering 1,602 different firms. We winsorize the top and bottom 1 % of each variable's distribution to control for the influence of extreme observations.

Panel B of Table 1 reports sample distribution by year and industry. As shown in Panel B, year or industry clustering is not severe except for C4, C6, and C7. Nevertheless, we report t-statistics based on standard errors adjusted for clustering at the firm and year level (Petersen 2009).

¹⁷ The results remain qualitatively similar if we include deleted firm-year observations based on criteria (2)–(3) and introduce two dummy variables (i.e., *NEWLIST* and *ST*) into regressions.

Data Source

The data sources are as follows: (1) Following Du (2013a, b) and based on the geographic proximity between listed firms and religious sites with the help of Google-earth map, we hand-collect data on *REL_R*, religion variables in this study. (2) We also hand-collect data on *REGLIST*, the geographic proximity between listed firms and regulators with the help of Google-earth map. (3) We calculate data on *IDA*, the proxy for earnings management, based on original data and information from China Stock Market and Accounting Research (CSMAR). (4) Our regional governance variables are computed from the list of Chinese Government Transparency issued by the research Center in Chinese Academy of Social Sciences. (5) Other financial, corporate governance, and macro economic data are from CSMAR and China Statistical Yearbook. Please see “Appendix” section in detail.

Descriptive Statistics and Pearson Correlation Analysis

Table 2 reports descriptive statistics of variables used in our study. The mean (median) value and the maximum value of *IDA*, the dependent variable (multiply 100), are 3.7653 (2.5758) and 23.6163, suggesting that the degree of earnings management is quite severe in Chinese listed firms. The mean values of *REL200*, *REL250*, and *REL300* reveal that the number of religious sites located within a radius of 200, 250, and 300 km around a listed firm's registered address is 9.2592, 12.5580, and 16.2524, respectively. Moreover, the mean value of *REGLIST* is 0.5001.

The descriptive statistics of control variables are reported for brevity as below. *LNBGS* has a mean value of 1.7153, indicating that firms have eight operational segments on average. The mean value of *BIG4* is 0.0712, suggesting that only a small percentage of firms hire BIG 4 auditors. The mean value of *TENURE* suggests that about 29.90 % of firms have auditor tenure <3 years. The mean of *INDSPEC* reveals that about 34.4 % of firms hire industry specialists. This percentage is a little lower than that in the U.S. (e.g., Choi et al. 2012). The descriptive statistics on *CHGSALE* and *BTM* show that the sample firms have a rapid growth. *SIZE* has a mean (median) value of 21.6071 (21.4882), with a standard deviation of 1.1010. The mean value of *LEV* is 49.78 %, suggesting that Chinese listed firms experience a relatively high financial leverage during the sample period. The mean of the modified z-score is 0.8270, which is not far off the ones in Omer et al. (2010). The mean of *ISSUE* is 0.8511. About 11 % firm-year observations have negative

Table 1 Sample selection

Panel A: Firm-year observation selection process

Initial observations	17,092
Eliminate observations pertaining to the banking, insurance, and other financial industries	(194)
Eliminate observations that do not meet the criteria that listed for at least 1 year	(1,502)
Eliminate observations whose transaction status are ST,*ST or PT	(1,301)
Eliminate observations whose data on firm-specific control variables are not available	(2,738)
Available firm-year observations	11,357
Unique firms	1,602

Industry	Code	Year										Total by industry	%
		2001	2002	2003	2004	2005	2006	2007	2008	2009	2010		

Panel B: Sample distribution by year and industry

Industry	Code	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	Total by industry	%
Agriculture, forestry, husbandry and fishery	A	15	16	21	20	20	19	22	24	24	29	29	239	2.10
Mining	B	8	10	13	16	15	16	19	18	23	33	34	205	1.81
Food and beverage	C0	30	34	38	41	45	44	44	50	53	57	61	497	4.38
Textile, garment manufacturing and products of leather and fur	C1	27	31	40	44	43	45	50	53	57	61	66	517	4.55
Wood and furniture	C2	1	1	2	1	1	1	2	3	3	3	5	23	0.20
Papermaking and printing	C3	15	14	14	16	15	16	18	19	25	28	32	212	1.87
Petroleum, chemical, plastics, and rubber products	C4	88	97	107	116	113	119	122	115	131	129	135	1,272	11.20
Electronics	C5	20	18	22	25	30	34	32	35	44	57	59	376	3.31
Metal and non-metal	C6	68	74	87	89	102	102	100	99	108	120	127	1,076	9.47
Machinery, equipment, and instrument manufacturing	C7	114	120	129	146	159	163	177	189	192	211	227	1,827	16.09
Medicine and biological products manufacturing	C8	39	44	51	55	59	64	69	77	81	81	84	704	6.20
Other manufacturing	C9	5	9	13	12	11	9	11	12	15	19	20	136	1.20
Production and supply of electricity, steam and tap water	D	31	32	39	43	39	47	51	55	53	52	57	499	4.39
Construction	E	11	14	13	15	15	18	20	21	30	30	31	218	1.92
Transportation and warehousing	F	23	29	33	38	40	45	47	47	51	54	58	465	4.09
Information technology	G	48	53	56	55	59	58	58	58	68	76	83	672	5.92
Wholesale and retail	H	70	71	75	80	82	80	79	77	79	83	88	864	7.61
Real estate	J	31	31	33	37	37	39	41	41	43	45	46	424	3.73
Social services	K	22	25	34	32	31	33	36	37	41	43	44	378	3.33

Table 1 continued

Industry	Code	Year										Total by industry	%	
		2001	2002	2003	2004	2005	2006	2007	2008	2009	2010			2011
Communication and culture	L	8	8	6	7	7	7	7	7	7	8	9	81	0.71
Conglomerates	M	64	62	61	60	65	61	58	59	58	62	62	672	5.92
Total by year		738	793	887	948	988	1,020	1,063	1,096	1,186	1,281	1,357	11,357	100
%		6.50	6.98	7.81	8.35	8.70	8.98	9.36	9.65	10.44	11.28	11.95		

earnings and the average *ROE* of the sample is 5.86 %. The mean value of *CFO* is 0.0501. The average one-year lagged total accrual is -0.0169 . On average, the largest shareholder has 38.60 % of the whole shares. The mean value of *DUAL* is 0.1244, indicating that the CEO and the chairman of the board are the same person for about 12.44 % of Chinese listed firms. The mean value of *INDR* is 0.3274, suggesting that satisfying the regulatory requirement is the most important incentive to hire independent directors. *BOARD* has a mean value of 2.2209, meaning an average of nine directors on the corporate board ($e^{2.2209}$). Managers own a relatively low percentage of stakes (1.3 %). The mean value of the Herfindahl index on the auditing concentration (*CONCENT*) is 0.2188, suggesting the current status of the Chinese audit market. The mean value of *STATE* is 0.4386. *MKT* has a mean value of 7.9383 and a standard deviation of 2.1810, showing that the market development level varies greatly in different provinces. The mean of our Confucianism variable (*CONFU*) is 0.2002, indicating that about 20 % of our samples are in the seven provinces where Confucian schools locate. The mean value of *ETHNIC* shows that 1.06 % of the firm-years are from the ethnic minority autonomous regions. The *GDP* growth has a large variation cross provinces with the average growth of 16.64 %. *GOVERNANCE* is the rank (from 31 to 1) of the score in list of Chinese Government Transparency. The average population in each province is about 40 million. The variable of *INCOME* has a mean value of 21.0591, showing that income per capita is about 21 thousand Yuan. The average of *EDUCATION* is 0.0250, suggesting that the fraction of people with college education is very low. The mean of *POLITICS* is 0.7259, showing most of firms have political connection. The mean of *AGE* and *MINORITY* is 0.0158 and 0.0058, respectively.

Table 3 reports the Pearson correlation among the variables used in this study. As expected, earnings management (*IDA*) is significantly negatively correlated with *REL200*, *REL250*, and *REL300* at the 1 % level, respectively. These results lend preliminary support to Hypothesis 1 and suggest that strong religious atmosphere *does* mitigate earnings management to a larger extent. *IDA* is also significantly negatively correlated with *REGLIST* at the 1 % level, meaning that firms closer to the regulator have lower extent of earnings management. Above results, taken together, motivate us to examine the interactive effects between religion (*REL_R*) and the distance to regulators (*REGLIST*) on mitigating earnings management.

Moreover, *IDA* is significantly negatively correlated with *INDSPEC*, *BTM*, *SIZE*, *ZSCORE*, *ISSUE*, *ROE*, *FIRST*, *BOARD*, *CONCENT*, and *STATE*. Also, *IDA* is significantly positively associated with *TENURE*,

Table 2 Descriptive statistics

Variables	<i>N</i>	Mean	SD	Min	Q1	Median	Q3	Max
<i>DAI</i> ($\times 100$)	11,357	3.7653	3.8415	0.0177	1.1365	2.5758	5.0045	23.6163
<i>REL200</i>	11,357	9.2592	7.9812	0	3	6	16	30
<i>REL250</i>	11,357	12.5580	11.3276	0	4	9	23	43
<i>REL300</i>	11,357	16.2524	13.1320	0	5	12	26	46
<i>REGLIST</i>	11,357	0.5001	0.5000	0	0	1	1	1
<i>LNBGS</i>	11,357	1.7153	0.6585	0.0000	1.3863	1.7918	2.1972	3.1355
<i>BIG4</i>	11,357	0.0712	0.2572	0	0	0	0	1
<i>TENURE</i>	11,357	0.2990	0.4578	0	0	0	1	1
<i>INDSPEC</i>	11,357	0.3440	0.4751	0	0	0	1	1
<i>CHGSALE</i>	11,357	0.1264	0.2845	-0.6658	-0.0002	0.0732	0.1894	2.7749
<i>BTM</i>	11,357	0.5517	0.2630	0.0570	0.3373	0.5361	0.7497	1.3635
<i>SIZE</i>	11,357	21.6071	1.1010	19.0733	20.8372	21.4882	22.2210	25.7883
<i>LEV</i>	11,357	0.4978	0.1824	0.0071	0.3714	0.5092	0.6326	0.9970
<i>ZSCORE</i>	11,357	0.8270	0.8076	0	0	1	2	2
<i>ISSUE</i>	11,357	0.8511	0.3560	0	1	1	1	1
<i>LOSS</i>	11,357	0.1106	0.3136	0	0	0	0	1
<i>ROE</i>	11,357	0.0586	0.1862	-1.1755	0.0224	0.0722	0.1332	0.7594
<i>CFO</i>	11,357	0.0501	0.0869	-0.5655	0.0080	0.0496	0.0959	1.0192
<i>LAGACCR</i>	11,357	-0.0169	0.0975	-0.3463	-0.0677	-0.0225	0.0240	0.5017
<i>FIRST</i>	11,357	0.3860	0.1616	0.0899	0.2565	0.3666	0.5079	0.7644
<i>DUAL</i>	11,357	0.1244	0.3301	0	0	0	0	1
<i>INDR</i>	11,357	0.3274	0.0963	0.0000	0.3333	0.3333	0.3636	0.7500
<i>BOARD</i>	11,357	2.2209	0.2159	1.0986	2.1972	2.1972	2.3979	2.9444
<i>MANSHR</i>	11,357	0.0130	0.0658	0.0000	0.0000	0.0001	0.0003	0.6605
<i>CONCENT</i>	11,357	0.2188	0.1360	0.0691	0.1220	0.1784	0.2698	1.0000
<i>STATE</i>	11,357	0.4386	0.4962	0	0	0	1	1
<i>MKT</i>	11,357	7.9383	2.1810	0.2900	6.2300	7.9700	9.7200	11.8000
<i>CONFU</i>	11,357	0.2002	0.4002	0	0	0	0	1
<i>ETHNIC</i>	11,357	0.0106	0.1023	0	0	0	0	1
<i>GDPGROWTH</i>	11,357	0.1664	0.0840	0.0672	0.1290	0.1577	0.1836	0.6077
<i>GOVERNANCE</i>	11,357	22.7500	6.0174	1.0000	19.0000	25.0000	26.0000	31.0000
<i>POPULATION</i>	11,357	40.4432	29.1477	5.2300	17.1100	23.0191	63.4200	104.3031
<i>INCOME</i>	11,357	21.0591	9.4774	5.2921	13.2518	19.6861	29.7591	40.5323
<i>EDUCATION</i>	11,357	0.0250	0.0071	0.0013	0.0213	0.0261	0.0279	0.0428
<i>POLITICS</i>	11,357	0.7259	0.0810	0.0000	0.6833	0.7133	0.7500	1.0000
<i>AGE</i>	11,357	0.0158	0.0109	0.0020	0.0070	0.0094	0.0242	0.0401
<i>MINORITY</i>	11,357	0.0058	0.0097	0.0004	0.0018	0.0028	0.0058	0.0672

All the variables are defined in “Appendix” section. We winsorize the top and bottom 1 % of each variable’s distribution to control for the influence of extreme observations (*similarly hereinafter*)

CHGSALE, *LOSS*, *LAGACCR*, *DUAL*, *INDR*, *MANSHR*, *POPULATION*, *INCOME*, *EDUCATION*, and *AGE*. These results, taken together, suggest a need to control for these variables when examining the effects of religion on earnings management. Moreover, the coefficients of pair-wise correction among control variables are generally low, suggesting that multicollinearity is not a serious problem when we include these control variables in regression analyses simultaneously.

Empirical Results

Multivariate Test of Hypothesis 1

Hypothesis 1 predicts that religion is negatively associated with earnings management. Table 4 reports the multivariate regression results of Hypothesis 1. All reported t-statistics are based on standard errors adjusted for clustering at the firm and the year level (Petersen 2009).

Table 3 Pearson correlation matrix

Variable	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)
(1) IDAI	1												
(2) REL200	-0.0378 [#]	1											
(3) REL250	-0.0354 [#]	0.9523 [#]	1										
(4) REL300	-0.0343 [#]	0.9302 [#]	0.9510 [#]	1									
(5) REGLIST	-0.0406 [#]	0.5603 [#]	0.5934 [#]	0.5820 [#]	1								
(6) LNBGS	-0.0103	0.0126	0.0198 ⁺	0.0165 [*]	0.0123	1							
(7) BIG4	-0.0094	0.0750 [#]	0.0767 [#]	0.0753 [#]	0.0502 [#]	-0.0165 [*]	1						
(8) TENURE	0.0239 ⁺	-0.0001	-0.0009	-0.0103	-0.0479 [#]	-0.0351 [#]	0.2311 [#]	1					
(9) INDSPEC	-0.0259 [#]	0.0967 [#]	0.1145 [#]	0.1165 [#]	0.0849 [#]	0.0593 [#]	0.0070	-0.0827 [#]	1				
(10) CHGSALE	0.0456 [#]	0.0206 ⁺	0.0223 ⁺	0.0320 ⁺	0.0362 [#]	0.0708 [#]	0.0256 [#]	0.0086	0.0456 [#]	1			
(11) BTM	-0.1920 [#]	-0.0282 [#]	-0.0261 [#]	-0.0192 ⁺	0.0237 ⁺	-0.0430 [#]	0.0725 [#]	-0.0171 [*]	0.0483 [#]	-0.0652 [#]	1		
(12) SIZE	-0.0817 [#]	0.0203 ⁺	0.0137	0.0350 [#]	0.0199 ⁺	0.1741 [#]	0.3255 [#]	0.1124 [#]	0.1071 [#]	0.1663 [#]	0.2428 [#]	1	
(13) LEV	-0.0046	-0.0048	-0.0101	-0.0078	0.0037	0.0856 [#]	-0.0254 [#]	0.0318 [#]	0.0186 ⁺	0.1128 [#]	-0.0360 [#]	0.2941 [#]	1
(14) ZSCORE	-0.0367 [#]	-0.0651 [#]	-0.0714 [#]	-0.0707 [#]	-0.0227 ⁺	-0.0055	-0.0157 [*]	0.0270 [#]	0.0044	-0.1440 [#]	0.3379 [#]	0.1986 [#]	0.6832 [#]
(15) ISSUE	-0.0560 [#]	0.1206 [#]	0.1259 [#]	0.1198 [#]	0.1073 [#]	0.0812 [#]	-0.0314 [#]	-0.0243 [#]	0.0267 [#]	0.0520 [#]	0.0074	0.1213 [#]	0.3899 [#]
(16) LOSS	0.3696 [#]	-0.0507 [#]	-0.0526 [#]	-0.0611 [#]	-0.0450 [#]	-0.0572 [#]	-0.0485 [#]	0.0407 [#]	-0.0320 [#]	-0.1891 [#]	-0.0276 [#]	-0.1570 [#]	0.1783 [#]
(17) ROE	-0.2672 [#]	0.0353 [#]	0.0418 [#]	0.0488 [#]	0.0341 [#]	0.0462 [#]	0.0723 [#]	-0.0362 [#]	0.0414 [#]	0.2880 [#]	-0.0087	0.2262 [#]	-0.2156 [#]
(18) CFO	-0.0043	-0.0159 [*]	-0.0147	-0.0104	0.0019	-0.0383 [#]	0.0788 [#]	-0.0199 ⁺	0.0343 [#]	0.1026 [#]	-0.0444 [#]	0.0565 [#]	-0.1617 [#]
(19) LAGACCR	0.0371 [#]	0.0200 ⁺	0.0247 [#]	0.0214 ⁺	0.0017	0.0294 [#]	-0.0282 [#]	0.0007	-0.0238 ⁺	0.0019	0.0050	0.0132	-0.0161 [*]
(20) FIRST	-0.0171 [*]	0.0226 ⁺	0.0248 [#]	0.0491 [#]	-0.0007	-0.0751 [#]	0.1169 [#]	0.0389 [#]	0.0348 [#]	0.0885 [#]	0.2009 [#]	0.1952 [#]	-0.0434 [#]
(21) DUAL	0.0498 [#]	-0.0064	-0.0054	0.0063	-0.0398 [#]	0.0222 ⁺	-0.0339 [#]	-0.0213 ⁺	-0.0304 [#]	-0.0125	-0.0721 [#]	-0.0714 [#]	-0.0336 [#]
(22) INDR	0.0219 ⁺	0.0302 [#]	0.0304 [#]	0.0358 [#]	0.0091	0.2505 [#]	0.0333 [#]	-0.0253 [#]	0.0084	0.0634 [#]	0.0139	0.1813 [#]	0.0702 [#]
(23) BOARD	-0.0596 [#]	-0.0416 [#]	-0.0396 [#]	-0.0298 [#]	-0.0226 ⁺	-0.0169 [*]	0.1167 [#]	0.0489 [#]	0.0442 [#]	0.0303 [#]	0.1164 [#]	0.2145 [#]	0.0445 [#]
(24) MANSHR	0.0538 [#]	0.0694 [#]	0.0656 [#]	0.0702 [#]	0.0358 [#]	0.0610 [#]	-0.0394 [#]	-0.0478 [#]	-0.0164 [*]	0.0351 [#]	-0.0988 [#]	-0.0628 [#]	-0.0753 [#]
(25) CONCENT	-0.0265 [#]	0.1889 [#]	0.2197 [#]	0.2253 [#]	0.1635 [#]	-0.0567 [#]	-0.0705 [#]	-0.1234 [#]	0.0855 [#]	0.0044	0.0429 [#]	-0.1249 [#]	-0.0080
(26) STATE	-0.0359 [#]	-0.0344 [#]	-0.0389 [#]	-0.0265 [#]	-0.0299 [#]	-0.0369 [#]	0.0532 [#]	0.0529 [#]	-0.0051	0.0429 [#]	0.1823 [#]	0.1284 [#]	-0.0059
(27) MKT	0.0043	0.5024 [#]	0.5222 [#]	0.5375 [#]	0.3496 [#]	0.1882 [#]	0.0983 [#]	0.0173 [#]	0.0197 ⁺	0.0404 [#]	-0.1303 [#]	0.1990 [#]	0.0234 ⁺
(28) CONFU	-0.0006	0.2338 [#]	0.2526 [#]	0.2651 [#]	0.2621 [#]	0.0328 [#]	-0.1377 [#]	-0.2033 [#]	0.1115 [#]	0.0267 [#]	-0.0044	-0.1052 [#]	0.0015
(29) ETHNIC	-0.0025	-0.1162 [#]	-0.1120 [#]	-0.1257 [#]	-0.1034 [#]	0.0364 [#]	-0.0286 [#]	-0.0619 [#]	-0.0223 ⁺	-0.0135	-0.0089	-0.0247 [#]	0.0226 ⁺
(30) GDPGROWTH	0.0103	-0.0497 [#]	-0.0593 [#]	-0.0425 [#]	-0.0675 [#]	0.0229 ⁺	-0.0199 ⁺	0.0016	-0.0245 [#]	0.0107	0.2126 [#]	-0.0005	0.0270 [#]
(31) GOVERNANCE	-0.0105	0.3653 [#]	0.3707 [#]	0.3612 [#]	0.1480 [#]	0.0222 ⁺	0.2037 [#]	0.1488 [#]	0.0295 [#]	0.0282 [#]	-0.0584 [#]	0.1410 [#]	0.0065
(32) POPULATION	0.0244 [#]	-0.0955 [#]	-0.0979 [#]	-0.0968 [#]	-0.0183 [*]	0.0103	-0.1622 [#]	-0.1600 [#]	0.0295 [#]	-0.0266 [#]	0.0242 [#]	-0.1392 [#]	-0.0309 [#]
(33) INCOME	0.0250 [#]	0.1365 [#]	0.1402 [#]	0.1491 [#]	0.0373 [#]	0.2695 [#]	0.1122 [#]	0.0853 [#]	-0.0208 ⁺	0.0736 [#]	-0.2522 [#]	0.3438 [#]	0.0515 [#]
(34) EDUCATION	0.0276 [#]	-0.0334 [#]	-0.0445 [#]	-0.0126	-0.0336 [#]	0.0667 [#]	-0.0298 [#]	0.0749 [#]	-0.0412 [#]	-0.0090	-0.0594 [#]	0.0730 [#]	-0.0212 ⁺
(35) POLITICS	0.0085	-0.0605 [#]	-0.0556 [#]	-0.0618 [#]	-0.0817 [#]	-0.0335 [#]	-0.0320 [#]	-0.0650 [#]	0.0400 [#]	-0.0191 ⁺	0.1551 [#]	-0.1315 [#]	0.0133
(36) AGE	0.0235 ⁺	-0.0895 [#]	-0.0915 [#]	-0.0895 [#]	-0.0084	0.0058	-0.1622 [#]	-0.1618 [#]	0.0330 [#]	-0.0265 [#]	0.0176 [#]	-0.1384 [#]	-0.0321 [#]

Table 3 continued

Variable	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)
(37) MINORITY	0.0108	-0.2842 [#]	-0.2794 [#]	-0.2947 [#]	-0.2241 [#]	-0.0061	-0.1231 [#]	-0.1348 [#]	-0.0114	-0.0175 [*]	0.0288 [#]	-0.1018 [#]	0.0031
Variable	(14)	(15)	(16)	(17)	(18)	(19)	(20)	(21)	(22)	(23)	(24)	(25)	
(14) ZSCORE	1												
(15) ISSUE	0.2723 [#]	1											
(16) LOSS	0.2664 [#]	0.0309 [#]	1										
(17) ROE	-0.3250 [#]	-0.0692 [#]	-0.1737 [#]	1									
(18) CFO	-0.1767 [#]	-0.1770 [#]	-0.1770 [#]	0.2699 [#]	1								
(19) LAGACCR	-0.0333 [#]	0.0778 [#]	-0.0287 [#]	0.0339 [#]	-0.1658 [#]	1							
(20) FIRST	-0.0031	-0.0429 [#]	-0.0707 [#]	0.1026 [#]	0.0757 [#]	-0.0043	1						
(21) DUAL	-0.0484 [#]	0.0099	0.0176 [*]	-0.0250 [#]	-0.0255 [#]	0.0373 [#]	-0.0829 [#]	1					
(22) INDR	0.0088	-0.0130	-0.0585 [#]	0.0692 [#]	0.0135	-0.0135	-0.0903 [#]	0.0360 [#]	1				
(23) BOARD	0.0661 [#]	0.0212 ⁺	-0.0381 [#]	0.0476 [#]	0.0688 [#]	-0.0605 [#]	0.0256 [#]	-0.1020 [#]	-0.1594 [#]	1			
(24) MANSHR	-0.0983 [#]	0.0211 ⁺	-0.0321 [#]	0.0426 [#]	-0.0241 ⁺	0.0737 [#]	-0.1208 [#]	0.1104 [#]	0.0874 [#]	0.0874 [#]	1		
(25) CONCENT	0.0164 [*]	0.0224 ⁺	0.0010	-0.0147	-0.0074	-0.0120	0.0417 [#]	-0.0267 [#]	-0.1645 [#]	0.0521 [#]	0.0521 [#]	0.0107	1
(26) STATE	0.0494 [#]	-0.0271 [#]	-0.0180 [*]	0.0159 [*]	0.0436 [#]	-0.0310 [#]	0.4268 [#]	-0.0697 [#]	-0.0670 [#]	0.1169 [#]	0.1169 [#]	-0.1370 [#]	0.0636 [#]
(27) MKT	-0.1070 [#]	0.0873 [#]	-0.0859 [#]	0.1100 [#]	-0.0057	0.0461 [#]	-0.0774 [#]	0.0626 [#]	0.3245 [#]	-0.0770 [#]	-0.0770 [#]	0.1886 [#]	-0.2003 [#]
(28) CONFU	-0.0230 ⁺	0.0741 [#]	-0.0060	0.0153	0.0069	-0.0044	-0.0444 [#]	-0.0026	-0.0075	-0.0616 [#]	-0.0616 [#]	0.0435 [#]	0.1466 [#]
(29) ETHNIC	0.0275 [#]	0.0189 ⁺	0.0130	-0.0217 ⁺	-0.0114	0.0012	-0.0253 [#]	0.0211 ⁺	-0.0240 ⁺	0.0222 ⁺	0.0222 ⁺	-0.0201 ⁺	0.0683 [#]
(30) GDPGROWTH	0.0835 [#]	-0.0330 [#]	0.0209 ⁺	-0.0168 [*]	0.0140	-0.0341 [#]	0.0219 ⁺	-0.0027	0.1848 [#]	0.0240 ⁺	0.0240 ⁺	-0.0232 ⁺	-0.0494 [#]
(31) GOVERNANCE	-0.0613 [#]	0.0283 [#]	-0.0328 [#]	0.0524 [#]	0.0308 [#]	-0.0039	0.0241 ⁺	-0.0016	0.0788 [#]	-0.0173 [*]	-0.0173 [*]	0.0478 [#]	0.0181 [*]
(32) POPULATION	0.0036	0.0136	0.0135	-0.0182 [*]	-0.0169 [*]	0.0158 [*]	-0.0731 [#]	0.0183 [*]	-0.0115	-0.0609 [#]	-0.0609 [#]	0.0400 [#]	-0.1199 [#]
(33) INCOME	-0.1337 [#]	-0.0223 ⁺	-0.0851 [#]	0.1176 [#]	-0.0057	0.0384 [#]	-0.0998 [#]	0.0370 [#]	0.4265 [#]	-0.0685 [#]	-0.0685 [#]	0.1709 [#]	-0.1857 [#]
(34) EDUCATION	-0.0661 [#]	0.0146	-0.0172 [*]	0.0372 [#]	0.0046	0.0200 ⁺	-0.0589 [#]	0.0294 [#]	0.1184 [#]	-0.0539 [#]	-0.0539 [#]	0.0705 [#]	-0.3262 [#]
(35) POLITICS	0.0957 [#]	0.0070	0.0273 [#]	-0.0496 [#]	0.0168 [*]	-0.0315 [#]	0.0216 ⁺	0.0191 ⁺	0.0139	0.0747 [#]	0.0747 [#]	-0.0667 [#]	0.0707 [#]
(36) AGE	0.0004	0.0154	0.0135	-0.0178 [*]	-0.0195 ⁺	0.0173 [*]	-0.0724 [#]	0.0209 ⁺	-0.0280 [#]	-0.0617 [#]	-0.0617 [#]	0.0427 [#]	-0.1183 [#]
(37) MINORITY	0.0440 [#]	-0.0288 [#]	0.0285 [#]	-0.0294 [#]	-0.0110	0.0014	0.0009	0.0134	-0.0728 [#]	0.0162 [*]	0.0162 [*]	-0.0517 [#]	0.0594 [#]
Variable	(26)	(27)	(28)	(29)	(30)	(31)	(32)	(33)	(34)	(35)	(36)	(37)	
(26) STATE	1												
(27) MKT	-0.1513 [#]	1											
(28) CONFU	-0.0902 [#]	0.1681 [#]	1										
(29) ETHNIC	0.0301 [#]	-0.1570 [#]	-0.0517 [#]	1									
(30) GDPGROWTH	0.0217 ⁺	-0.0245 [#]	-0.0159 [*]	0.0030	1								
(31) GOVERNANCE	-0.0183 [*]	0.2856 [#]	-0.0409 [#]	-0.3735 [#]	-0.0058	1							
(32) POPULATION	-0.1005 [#]	0.0638 [#]	0.4571 [#]	-0.0851 [#]	-0.0184 [*]	-0.4702 [#]	1						



Table 3 continued

Variable	(26)	(27)	(28)	(29)	(30)	(31)	(32)	(33)	(34)	(35)	(36)	(37)
(33) <i>INCOME</i>	-0.1167 [#]	0.5042 [#]	-0.1886 [#]	-0.1147 [#]	-0.0321 [#]	0.4372 [#]	-0.3366 [#]	1				
(34) <i>EDUCATION</i>	-0.0688 [#]	0.2757 [#]	0.0547 [#]	-0.2308 [#]	0.1054 [#]	-0.0594 [#]	0.4721 [#]	0.2503 [#]	1			
(35) <i>POLITICS</i>	0.0471 [#]	-0.1907 [#]	-0.0764 [#]	0.1478 [#]	0.0256 [#]	-0.1181 [#]	0.1298 [#]	-0.4339 [#]	-0.2503 [#]	1		
(36) <i>AGE</i>	-0.1012 [#]	0.0640 [#]	0.4668 [#]	-0.0909 [#]	-0.0453 [#]	-0.4738 [#]	0.9957 [#]	-0.3338 [#]	0.4781 [#]	0.1081 [#]	1	
(37) <i>MINORITY</i>	0.0394 [#]	-0.3171 [#]	-0.0527 [#]	0.3764 [#]	-0.0374 [#]	-0.5524 [#]	0.2027 [#]	-0.3765 [#]	-0.2497 [#]	0.2818 [#]	0.1985 [#]	1

[#] $p < 0.01$; ⁺ $p < 0.05$; * $p < 0.10$; All the variables are defined in "Appendix" section

As shown in Columns (1)–(3) of Table 4, the coefficients on *REL200*, *REL250*, and *REL300* are negative and significant at the 5 % level or above (-0.0177 with $t = -2.92$, -0.0103 with $t = -2.09$, and -0.0087 with $t = -2.27$, respectively). These results provide strong support to Hypothesis 1 and suggest that religion can mitigate earnings management to some extent. With regard to economic significance, these coefficient estimates suggest that when *REL200*, *REL250*, and *REL300* increase by one unit of standard deviation, earnings management decreases by about 14.13, 11.67, and 11.42 %, equaling about 3.75, 3.10, and 3.03 % of the mean of *IDA* (3.7653), respectively. Moreover, the absolute magnitude of the coefficients on *REL200*, *REL250*, and *REL300* decreases when the distance criteria are expanded, echoing the findings in Du (2013a).

As for control variable, it is worthy noting the following aspects. The coefficients on *CHGSALE* are always positive and significant and *BTM* are always negative and significant, which suggests that high-growth firms manage earnings more aggressively. *SIZE* has significantly positive coefficients across all cases, meaning that larger firms engage in more earnings manipulation. *LEV* displays significantly negative coefficients at the 1 % level across all columns. The coefficients on *ISSUE* are negative.¹⁸ The variables which control the firm performance (i.e., *LOSS*, *ROE*) have significant coefficients. The coefficients on *CFO* and *LAG-ACCR* have positive signs.¹⁹ With respect to the ownership characteristics, the coefficients on *FIRST* are positive and significant at the 5 % level, which is consistent with the findings in Jian and Wong (2010). The coefficients on *DUAL* are positive and significant. The coefficients on *BOARD* are significantly negative, which can bring support from Klein (2002). Moreover, the coefficients on *MANSHR* are also significantly positive, suggesting that managers have more incentives to boost the earnings when they have more shares. Finally, the coefficients on *POLITICS* always have a positive sign, indicating that political connections have some positive influence on corporate earnings manipulation.

¹⁸ Extant studies (Chen and Yuan 2004; Haw et al. 2005) find that earnings management is related to corporate seasoned equity offering in China. As time went by, the regulators realized the loopholes of rules and the supervision on equity offering became rigorous. For example, in 2002, the CSRC enacted a policy to conduct a closer scrutiny on the firms before issuing stock. Firm could no longer use the below-the-line items to manipulate the earnings. So perhaps earnings management for stock issuance gets deterrent for the samples during our sample period (2001–2011).

¹⁹ Theoretically, the relation between accruals and cash flows is negative. Referring to Chinese contexts, consistent with Chen et al. (2011), we fail to find the negative relation between the accruals and cash flow. Similar to Kim et al. (2003), the coefficient on one-period lagged discretionary accrual is positive. The possible explanation is that accruals may reverse over time, and managers may conduct earnings manipulation for several years.

Table 4 Regression results of discretionary accrual (*IDA*) on religion and other determinants

Variable	(1)		(2)		(3)	
	<i>R</i> = 200 km		<i>R</i> = 250 km		<i>R</i> = 300 km	
	Coefficient	<i>t</i> value	Coefficient	<i>t</i> value	Coefficient	<i>t</i> value
<i>REL_R</i>	-0.0177***	-2.92	-0.0103**	-2.09	-0.0087**	-2.27
<i>LNBGS</i>	-0.1034	-1.61	-0.1009	-1.57	-0.1031	-1.60
<i>BIG4</i>	-0.0664	-0.34	-0.0662	-0.34	-0.0673	-0.35
<i>TENURE</i>	-0.0260	-0.30	-0.0240	-0.28	-0.0273	-0.32
<i>INDSPEC</i>	-0.1190	-1.48	-0.1179	-1.46	-0.1185	-1.46
<i>CHGSALE</i>	1.7265***	9.33	1.7271***	9.38	1.7295***	9.37
<i>BTM</i>	-4.5588***	-10.81	-4.5518***	-10.78	-4.5526***	-10.81
<i>SIZE</i>	0.4831***	7.22	0.4806***	7.20	0.4830***	7.21
<i>LEV</i>	-2.7293***	-4.20	-2.7229***	-4.20	-2.7218***	-4.19
<i>ZSCORE</i>	-0.0180	-0.16	-0.0180	-0.16	-0.0174	-0.15
<i>ISSUE</i>	-0.7540***	-3.51	-0.7614***	-3.53	-0.7677***	-3.55
<i>LOSS</i>	3.9585***	10.50	3.9623***	10.48	3.9603***	10.46
<i>ROE</i>	-3.2717***	-3.05	-3.2625***	-3.03	-3.2658***	-3.04
<i>CFO</i>	1.8114***	3.10	1.8126***	3.11	1.8144***	3.11
<i>LAGACCR</i>	1.9459***	3.82	1.9524***	3.82	1.9474***	3.82
<i>FIRST</i>	1.1539**	2.49	1.1515**	2.49	1.1657**	2.51
<i>DUAL</i>	0.2061**	2.39	0.2078**	2.40	0.2130**	2.45
<i>INDR</i>	0.0139	0.02	0.0194	0.02	0.0095	0.01
<i>BOARD</i>	-0.5075***	-2.65	-0.5018***	-2.63	-0.4979***	-2.61
<i>MANSHR</i>	2.6727***	3.74	2.6592***	3.73	2.6668***	3.75
<i>CONCENT</i>	0.2389	0.59	0.2233	0.55	0.2336	0.57
<i>STATE</i>	-0.1134	-1.01	-0.1149	-1.03	-0.1145	-1.03
<i>MKT</i>	0.0144	0.57	0.0097	0.34	0.0097	0.38
<i>CONFU</i>	0.1320	1.27	0.1331	1.27	0.1398	1.30
<i>ETHNIC</i>	-0.2309	-0.43	-0.2423	-0.45	-0.2633	-0.49
<i>GDPGROWTH</i>	0.0023	0.01	0.0037	0.02	0.0195	0.10
<i>GOVERNANCE</i>	-0.0022	-0.16	-0.0036	-0.26	-0.0043	-0.31
<i>POPULATION</i>	0.0044	0.38	0.0047	0.40	0.0044	0.37
<i>INCOME</i>	-0.0011	-0.07	0.0008	0.05	-0.0001	-0.00
<i>EDUCATION</i>	4.9470	0.62	4.5911	0.58	5.8127	0.72
<i>POLITICS</i>	1.8108***	3.65	1.8279***	3.69	1.8515***	3.73
<i>AGE</i>	-7.7319	-0.24	-8.3090	-0.26	-8.3793	-0.26
<i>MINORITY</i>	-0.7516	-0.11	-0.3803	-0.06	-0.5424	-0.08
<i>INTERCEPT</i>	-3.4070***	-3.10	-3.4058***	-3.13	-3.4501***	-3.13
Industry/year	Control		Control		Control	
<i>adj_R</i> ² (%)	23.52		23.50		23.49	
Observations	11,357		11,357		11,357	
<i>F</i> (<i>p</i> value)	35.60*** (0.0000)		35.57*** (0.0000)		35.56*** (0.0000)	

***, ** and * represent the 1, 5 and 10 % levels of significance, respectively, for two-tailed tests. All reported *t*-statistics are based on standard errors adjusted for clustering at the firm level and the year level (Petersen 2009). All the variables are defined in “Appendix” section

Multivariate Test of Hypothesis 2

Hypothesis 2 predicts that the negative association between religion and earnings management is less pronounced for firms closer to regulatory centers. Table 5 reports the multivariate regression results.

In Column (1) of Table 5, we only include *REGLIST*, the indicator of firm-regulator distance. The coefficient on *REGLIST* is -0.1592 with $t = -2.00$, suggesting that firms close to the regulator are less likely to engage in misconduct. This result is consistent with Kedia and Rajgopal (2011) and echoes the views that Chinese regulators’ ability to scrutinize firms (Chen et al., 2005).

Table 5 Regression results of discretionary accrual (*DAI*) on religion, regulatory intensity, and other determinants

Variable	(1)		(2)		(3)		(4)	
	REGLIST		<i>R</i> = 200 km		<i>R</i> = 250 km		<i>R</i> = 300 km	
	Coefficient	<i>t</i> value	Coefficient	<i>t</i> value	Coefficient	<i>t</i> value	Coefficient	<i>t</i> value
<i>REL_R</i>			-0.0497***	-3.77	-0.0345***	-2.95	-0.0192**	-2.34
<i>REGLIST</i>	-0.1592**	-2.00	-0.3768***	-2.76	-0.3437**	-2.38	-0.2988**	-2.04
<i>REL_R</i> × <i>REGLIST</i>			0.0447***	3.13	0.0314**	2.52	0.0162*	1.83
<i>LNBGS</i>	-0.1009	-1.56	-0.1067*	-1.66	-0.1036	-1.61	-0.1056	-1.63
<i>BIG4</i>	-0.0589	-0.31	-0.0848	-0.44	-0.0814	-0.42	-0.0741	-0.39
<i>TENURE</i>	-0.0310	-0.37	-0.0428	-0.49	-0.0408	-0.48	-0.0410	-0.48
<i>INDSPEC</i>	-0.1275	-1.59	-0.1182	-1.47	-0.1177	-1.45	-0.1189	-1.46
<i>CHGSALE</i>	1.7329***	9.52	1.7325***	9.41	1.7306***	9.46	1.7345***	9.47
<i>BTM</i>	-4.5379***	-10.74	-4.5687***	-10.81	-4.5570***	-10.78	-4.5558***	-10.78
<i>SIZE</i>	0.4832***	7.23	0.4877***	7.29	0.4848***	7.24	0.4883***	7.18
<i>LEV</i>	-2.7100***	-4.16	-2.6968***	-4.14	-2.7032***	-4.16	-2.7084***	-4.17
<i>ZSCORE</i>	-0.0149	-0.13	-0.0233	-0.20	-0.0223	-0.19	-0.0212	-0.18
<i>ISSUE</i>	-0.7785***	-3.61	-0.7901***	-3.64	-0.7834***	-3.63	-0.7804***	-3.63
<i>LOSS</i>	3.9637***	10.48	3.9577***	10.47	3.9637***	10.42	3.9609***	10.44
<i>ROE</i>	-3.2559***	-3.02	-3.2780***	-3.06	-3.2653***	-3.03	-3.2720***	-3.05
<i>CFO</i>	1.8214***	3.11	1.8292***	3.12	1.8240***	3.14	1.8193***	3.11
<i>LAGACCR</i>	1.9499***	3.83	1.9211***	3.81	1.9381***	3.83	1.9401***	3.84
<i>FIRST</i>	1.1164**	2.39	1.1938***	2.61	1.1807**	2.58	1.1856**	2.57
<i>DUAL</i>	0.2052**	2.37	0.1870**	2.20	0.1908**	2.26	0.2008**	2.35
<i>INDR</i>	0.0156	0.02	0.0552	0.07	0.0273	0.03	0.0131	0.02
<i>BOARD</i>	-0.5007***	-2.62	-0.4978***	-2.59	-0.5076***	-2.66	-0.4978***	-2.61
<i>MANSHR</i>	2.6854***	3.82	2.6530***	3.76	2.6444***	3.76	2.6519***	3.75
<i>CONCENT</i>	0.1088	0.28	0.1570	0.41	0.1587	0.41	0.2048	0.52
<i>STATE</i>	-0.1155	-1.03	-0.1065	-0.95	-0.1080	-0.96	-0.1088	-0.97
<i>MKT</i>	-0.0060	-0.26	0.0108	0.43	0.0105	0.38	0.0146	0.58
<i>CONFU</i>	0.1265	1.18	0.1544	1.41	0.1574	1.43	0.1502	1.35
<i>ETHNIC</i>	-0.3143	-0.60	-0.3720	-0.70	-0.3808	-0.71	-0.3832	-0.73
<i>GDPGROWTH</i>	-0.0370	-0.22	0.0150	0.09	0.0005	0.00	-0.0048	-0.03
<i>GOVERNANCE</i>	-0.0082	-0.59	-0.0012	-0.08	-0.0027	-0.19	-0.0052	-0.38
<i>POPULATION</i>	0.0053	0.44	0.0029	0.25	0.0030	0.27	0.0030	0.26
<i>INCOME</i>	-0.0001	-0.01	-0.0064	-0.39	-0.0045	-0.28	-0.0041	-0.25
<i>EDUCATION</i>	4.8460	0.62	6.5613	0.83	6.2514	0.80	6.9710	0.87
<i>POLITICS</i>	1.7512***	3.62	1.7566***	3.71	1.7824***	3.73	1.8099***	3.75
<i>AGE</i>	-10.0643	-0.31	-5.3502	-0.17	-5.6980	-0.18	-6.5465	-0.21
<i>MINORITY</i>	-1.0998	-0.17	-1.6783	-0.26	-1.1379	-0.17	-1.4561	-0.22
<i>INTERCEPT</i>	-3.1446***	-2.89	-3.1663***	-2.94	-3.1441***	-2.99	-3.2917***	-3.04
Industry/year	Control		Control		Control		Control	
<i>adj_R</i> ² (%)	23.48		23.61		23.56		23.52	
Observations	11,357		11,357		11,357		11,357	
<i>F</i> (<i>p</i> value)	35.60*** (0.0000)		34.59*** (0.0000)		34.57*** (0.0000)		34.54*** (0.0000)	

***, ** and * represent the 1, 5 and 10 % levels of significance, respectively, for two-tailed tests. All reported *t*-statistics are based on standard errors adjusted for clustering at the firm level and the year level (Petersen 2009). All the variables are defined in “Appendix” section

As shown in Columns (2)–(4), the coefficients on *REL200*, *REL250*, and *REL300* are negative and significant at the 5 % level and above (−0.0497 with *t* = −3.77,

−0.0345 with *t* = −2.95, and −0.0192 with *t* = −2.34, respectively), lending additionally support to Hypothesis 1. Also, *REGLIST* has significantly negative coefficients in

Columns (2)–(4), consistent with findings in Column (1) and Chen et al. (2005).

More importantly, the coefficients on $REL_R \times REGLIST$ are significantly positive across all Columns (0.0447 with $t = 3.13$, 0.0314 with $t = 2.52$, and 0.0162 with $t = 1.83$, respectively), implying that the negative association between religion and earnings management is less pronounced for firms with more proximity to the regulator. It suggests the substitutive effects between religion and the distance to regulators on mitigating earnings management and thus Hypothesis 2 is supported.

As for the signs and significances of the control variables in Table 5, we find that they are qualitatively similar to those in Table 4.

Robustness Checks

Robustness Checks Using Other Measures of Religion

In our main tests, we use 200, 250, and 300 km as upper limits to identify the number of religious sites and construct religious variables, respectively, and then investigate the impact of religion on earnings management. Next, we employ additional robust tests using other measures of religion.

First, precise distance criteria (i.e., 50, 100 and 150 km) are used to define other religion variables and conduct robustness checks. Results in Columns (1)–(3) of Panel A in Table 6 show the re-test of Hypothesis 1. The coefficient on $REL50$ is negative but insignificant (-0.0232 with $t = -1.50$). The coefficients on $REL100$ and $REL150$ are both negative and significant at the 5 % level (-0.0205 with $t = -2.24$ and -0.0197 with $t = -2.53$, respectively), which again supports Hypothesis 1. Columns (4)–(7) report the results of revisiting Hypothesis 2. Both REL_R and $REGLIST$ in Columns (4)–(7) have significantly negative coefficients, respectively, additionally supporting Hypothesis 1 and consistent with findings in Table 5. The coefficients on the term of interest, $REL_R \times REGLIST$, are consistently positive and significant under every gage (0.0642 with $t = 2.21$, 0.0470 with $t = 2.01$ and 0.0395 with $t = 2.09$), providing strong support to Hypothesis 2. In a nutshell, after applying more explicit measures, results are insensitive to the choice on the distance criteria.

Second, we use the reciprocal value of distance to measure religion and regulatory intensity. Because two or more listed firms may have the same amount of religious sites in a certain radius of vicinity. However, they cannot have completely coincident registered addresses. Therefore, following Du et al. (2013b), we can obtain religious variables in the strict sense when we adopt the reciprocal value of the distance between a listed firm and a specific number of religious sites as the positive proxy for religion.

REL_DIS_N is the reciprocal value of the average distance between a listed firm and the nearest N religious sites ($N = 1, 2, 3$). By the same token, we measure the influence of regulatory intensity in a similar way. $REGLIST_DIS$ is the reciprocal value of the average geographic distance between the firm and the three regulatory centers. In this case, every firm gets a unique value; the higher the value, the stronger the regulatory influence.

As shown in Columns (1)–(3) of Panel B in Table 6, the coefficients on REL_DIS_N ($N = 1, 2, 3$) are negative and significant (-0.5736 with $t = -2.22$, -0.6619 with $t = -2.17$, and -0.8252 with $t = -2.09$, respectively), implying that earnings management is influenced by the religious atmosphere, and that nearby religious sites have stronger effect. These results additionally support Hypothesis 1.

In Column (4), we test the influence of the regulatory body alone on earnings management. As shown in Column (4), we find that $REGLIST_DIS$ has a significantly negative sign.

In Columns (5)–(7), when we put REL_DIS_N ($N = 1, 2, 3$), $REGLIST_DIS$, and $REL_DIS_N \times REGLIST_DIS$ into the regression, respectively, we still observe significantly negative coefficients on both REL_DIS_N and $REGLIST_DIS$, providing further support to Hypothesis 1 and echoing findings in Table 5, respectively. More importantly, the coefficients on $REL_DIS_N \times REGLIST_DIS$ are positive and significant in Columns (5)–(7), reinforcing our argument that there are some substitutive effects between religion and distance to regulators on mitigating earnings management.

Robustness Checks Using Other Measures of Earnings Management

Earnings management or accruals have a lot in common with earning quality (Lo 2008). To supplement two discretionary accrual measures, we also employ the accrual quality measure developed by Dechow and Dichev (2002). The accrual quality is defined as the extent to which accrual maps into past, current, and future realizations. Based on Dechow and Dichev (2002), in this study, we adopt the rolling 5-year method to calculate the accrual quality (AQ) for each firm over the years from $t - 5$ to t . We expect that religion negatively affects AQ , so the coefficient on AQ is supposed to be negative.

The results are reported in Panel A of Table 7 based on 6,545 firm-year observations. In Columns (1)–(3), the coefficients on $REL200$, $REL250$, and $REL300$ are negative and significant or marginally significant, respectively, suggesting that religion plays an important role in reducing earnings management and improving the accrual quality. These results are consistent with Hypothesis 1. In Columns (5)–(7), the coefficients on REL_R are still significantly negative or marginally significantly, consistent with

Table 6 Robustness checks of Hypotheses 1 and 2 using other religion variables

Variable	Section A: Hypothesis 1					
	(1)		(2)		(3)	
	<i>R</i> = 50 km		<i>R</i> = 100 km		<i>R</i> = 150 km	
	Coefficient	<i>t</i> value	Coefficient	<i>t</i> value	Coefficient	<i>t</i> value
Panel A: Robustness checks of Hypotheses 1 and 2 using other religion variables based on different distance criteria						
<i>REL_R</i>	-0.0232	-1.50	-0.0205**	-2.24	-0.0197**	-2.53
<i>REGLIST</i>						
<i>REL_R</i> × <i>REGLIST</i>						
<i>LNBGS</i>	-0.1018	-1.57	-0.1025	-1.59	-0.1023	-1.58
<i>BIG4</i>	-0.0679	-0.36	-0.0638	-0.34	-0.0664	-0.35
<i>TENURE</i>	-0.0320	-0.38	-0.0316	-0.37	-0.0295	-0.34
<i>INDSPEC</i>	-0.1286	-1.61	-0.1303	-1.63	-0.1281	-1.61
<i>CHGSALE</i>	1.7258***	9.35	1.7251***	9.36	1.7270***	9.35
<i>BTM</i>	-4.5605***	-10.74	-4.5585***	-10.73	-4.5591***	-10.77
<i>SIZE</i>	0.4831***	7.28	0.4838***	7.30	0.4837***	7.32
<i>LEV</i>	-2.7042***	-4.12	-2.7149***	-4.14	-2.7272***	-4.15
<i>ZSCORE</i>	-0.0173	-0.15	-0.0179	-0.15	-0.0155	-0.13
<i>ISSUE</i>	-0.8083***	-3.84	-0.7852***	-3.69	-0.7671***	-3.62
<i>LOSS</i>	3.9704***	10.50	3.9671***	10.50	3.9630***	10.53
<i>ROE</i>	-3.2554***	-3.03	-3.2587***	-3.03	-3.2628***	-3.04
<i>CFO</i>	1.8176***	3.11	1.8069***	3.09	1.8105***	3.09
<i>LAGACCR</i>	1.9578***	3.82	1.9608***	3.82	1.9517***	3.81
<i>FIRST</i>	1.1406**	2.49	1.1382**	2.46	1.1567**	2.49
<i>DUAL</i>	0.2066**	2.34	0.2083**	2.33	0.2102**	2.37
<i>INDR</i>	0.0172	0.02	0.0092	0.01	0.0173	0.02
<i>BOARD</i>	-0.4924***	-2.59	-0.4947***	-2.60	-0.5043***	-2.63
<i>MANSHR</i>	2.6429***	3.72	2.6653***	3.74	2.7057***	3.79
<i>CONCENT</i>	0.0334	0.09	0.0383	0.10	0.1391	0.35
<i>STATE</i>	-0.1095	-0.97	-0.1120	-1.00	-0.1169	-1.05
<i>MKT</i>	-0.0027	-0.31	-0.0008	-0.10	0.0001	0.01
<i>CONFUCIANISM</i>	0.0760	0.77	0.0908	0.90	0.1217	1.18
<i>MINORREG</i>	-0.2599	-0.47	-0.2334	-0.42	-0.2303	-0.42
<i>GDPGR</i>	0.0695	0.40	0.0423	0.23	0.0498	0.26
<i>GOVERNANCE</i>	-0.0067	-0.48	-0.0057	-0.41	-0.0038	-0.27
<i>POPULATION</i>	0.0041	0.33	0.0039	0.31	0.0033	0.26
<i>INCOME</i>	-0.0016	-0.10	-0.0018	-0.12	-0.0024	-0.15
<i>EDUCATION</i>	5.2443	0.67	5.1435	0.66	5.7418	0.72
<i>POLITICS</i>	1.7673***	3.74	1.7692***	3.68	1.7982***	3.67
<i>AGE</i>	-7.4784	-0.22	-6.5791	-0.19	-5.0201	-0.15
<i>MINORITY</i>	-0.8533	-0.12	-1.5137	-0.22	-1.4125	-0.20
<i>INTERCEPT</i>	-3.2052***	-2.87	-3.2183***	-2.89	-3.2668***	-2.93
Industry/year	Control		Control		Control	
<i>adj_R</i> ² (%)	23.46		23.47		23.50	
Observations	11,357		11,357		11,357	
<i>F</i> (<i>p</i> value)	35.56*** (0.0000)		35.57*** (0.0000)		35.57*** (0.0000)	

Table 6 continued

Variable	Section B: Hypothesis 2							
	(4)		(5)		(6)		(7)	
	<i>REGLIST</i>		<i>R = 50 km</i>		<i>R = 100 km</i>		<i>R = 150 km</i>	
	Coefficient	<i>t</i> value	Coefficient	<i>t</i> value	Coefficient	<i>t</i> value	Coefficient	<i>t</i> value
Panel A: Robustness checks of Hypotheses 1 and 2 using other religion variables based on different distance criteria								
<i>REL_R</i>			-0.0432**	-2.14	-0.0454**	-2.41	-0.0414***	-2.75
<i>REGLIST</i>	-0.1592**	-2.00	-0.3127***	-3.04	-0.3035***	-2.66	-0.3137***	-2.58
<i>REL_R × REGLIST</i>			0.0642**	2.21	0.0470**	2.01	0.0395**	2.09
<i>LNBGS</i>	-0.1009	-1.56	-0.1060	-1.63	-0.1061	-1.64	-0.1050	-1.62
<i>BIG4</i>	-0.0589	-0.31	-0.0710	-0.38	-0.0646	-0.34	-0.0651	-0.34
<i>TENURE</i>	-0.0310	-0.37	-0.0439	-0.52	-0.0415	-0.49	-0.0415	-0.48
<i>INDSPEC</i>	-0.1275	-1.59	-0.1265	-1.60	-0.1261	-1.59	-0.1227	-1.54
<i>CHGSALE</i>	1.7329***	9.52	1.7339***	9.54	1.7327***	9.51	1.7317***	9.43
<i>BTM</i>	-4.5379***	-10.74	-4.5302***	-10.76	-4.5442***	-10.75	-4.5526***	-10.76
<i>SIZE</i>	0.4832***	7.23	0.4852***	7.30	0.4864***	7.33	0.4852***	7.33
<i>LEV</i>	-2.7100***	-4.16	-2.6936***	-4.09	-2.6955***	-4.12	-2.7025***	-4.11
<i>ZSCORE</i>	-0.0149	-0.13	-0.0209	-0.18	-0.0228	-0.20	-0.0211	-0.18
<i>ISSUE</i>	-0.7785***	-3.61	-0.7935***	-3.78	-0.7828***	-3.70	-0.7824***	-3.68
<i>LOSS</i>	3.9637***	10.48	3.9673***	10.45	3.9670***	10.45	3.9646***	10.48
<i>ROE</i>	-3.2559***	-3.02	-3.2526***	-3.02	-3.2569***	-3.02	-3.2623***	-3.04
<i>CFO</i>	1.8214***	3.11	1.8216***	3.10	1.8256***	3.09	1.8271***	3.09
<i>LAGACCR</i>	1.9499***	3.83	1.9458***	3.82	1.9451***	3.82	1.9323***	3.81
<i>FIRST</i>	1.1164**	2.39	1.1476**	2.52	1.1595**	2.54	1.1862***	2.62
<i>DUAL</i>	0.2052**	2.37	0.2030**	2.28	0.1996**	2.23	0.1967**	2.23
<i>INDR</i>	0.0156	0.02	0.0619	0.08	0.0731	0.09	0.0608	0.07
<i>BOARD</i>	-0.5007***	-2.62	-0.4956***	-2.60	-0.4944***	-2.59	-0.4977***	-2.59
<i>MANSHR</i>	2.6854***	3.82	2.6872***	3.79	2.6898***	3.81	2.6792***	3.81
<i>CONCENT</i>	0.1088	0.28	0.1724	0.44	0.1204	0.31	0.0960	0.24
<i>STATE</i>	-0.1155	-1.03	-0.1066	-0.95	-0.1078	-0.96	-0.1128	-1.00
<i>MKT</i>	-0.0060	-0.26	-0.0014	-0.17	-0.0010	-0.11	-0.0023	-0.26
<i>CONFUCIANISM</i>	0.1265	1.18	0.1299	1.17	0.1226	1.11	0.1377	1.24
<i>MINORREG</i>	-0.3143	-0.60	-0.3476	-0.64	-0.3264	-0.60	-0.3164	-0.58
<i>GDPGR</i>	-0.0370	-0.22	0.0200	0.11	0.0129	0.07	0.0158	0.09
<i>GOVERNANCE</i>	-0.0082	-0.59	-0.0080	-0.58	-0.0065	-0.47	-0.0035	-0.24
<i>POPULATION</i>	0.0053	0.44	0.0020	0.17	0.0023	0.19	0.0022	0.18
<i>INCOME</i>	-0.0001	-0.01	-0.0054	-0.34	-0.0051	-0.32	-0.0049	-0.31
<i>EDUCATION</i>	4.8460	0.62	7.3199	0.92	6.5279	0.83	5.9724	0.77
<i>POLITICS</i>	1.7512***	3.62	1.7481***	3.58	1.7401***	3.59	1.7642***	3.66
<i>AGE</i>	-10.0643	-0.31	-4.1168	-0.12	-3.8716	-0.12	-2.7240	-0.08
<i>MINORITY</i>	-1.0998	-0.17	-2.9066	-0.42	-3.1742	-0.45	-2.5023	-0.36
<i>INTERCEPT</i>	-3.1446***	-2.89	-3.0462***	-2.77	-3.0620***	-2.81	-3.0710***	-2.79
Industry/year	Control		Control		Control		Control	
<i>adj_R²</i> (%)	23.48		23.52		23.52		23.54	
Observations	11,357		11,357		11,357		11,357	
<i>F</i> (<i>p</i> value)	35.60*** (0.0000)		34.53*** (0.0000)		34.53*** (0.0000)		34.56*** (0.0000)	

Table 6 continued

Variable	Section A: Hypothesis 1					
	(1)		(2)		(3)	
	<i>N</i> = 1		<i>N</i> = 2		<i>N</i> = 3	
	Coefficient	<i>t</i> value	Coefficient	<i>t</i> value	Coefficient	<i>t</i> value
Panel B: Robustness checks of Hypotheses 1 and 2 using religion variables based on the reciprocal value of distance between listed firms and religious sites						
<i>REL_DIS_N</i>	-0.5736**	-2.22	-0.6619**	-2.17	-0.8252**	-2.09
<i>REGLIST_DIS</i>						
<i>REL_DIS_N</i> × <i>REGLIST_DIS</i>						
<i>LNBGS</i>	-0.1064*	-1.86	-0.1046*	-1.84	-0.1042*	-1.84
<i>BIG4</i>	-0.0811	-0.60	-0.0816	-0.61	-0.0813	-0.61
<i>TENURE</i>	-0.0329	-0.47	-0.0324	-0.47	-0.0323	-0.47
<i>INDSPEC</i>	-0.1233**	-1.98	-0.1281**	-2.12	-0.1279**	-2.11
<i>CHGSALE</i>	1.7293***	13.31	1.7313***	13.45	1.7315***	13.50
<i>BTM</i>	-4.5641***	-12.00	-4.5621***	-11.99	-4.5627***	-11.99
<i>SIZE</i>	0.4842***	9.00	0.4853***	9.01	0.4859***	9.00
<i>LEV</i>	-2.7095***	-4.61	-2.7134***	-4.61	-2.7143***	-4.60
<i>ZSCORE</i>	-0.0139	-0.13	-0.0149	-0.15	-0.0155	-0.15
<i>ISSUE</i>	-0.8050***	-8.99	-0.8081***	-9.00	-0.8077***	-9.13
<i>LOSS</i>	3.9720***	11.07	3.9710***	11.05	3.9705***	11.04
<i>ROE</i>	-3.2538***	-3.10	-3.2566***	-3.11	-3.2586***	-3.11
<i>CFO</i>	1.8173***	2.77	1.8219***	2.77	1.8223***	2.77
<i>LAGACCR</i>	1.9631***	4.58	1.9595***	4.58	1.9594***	4.58
<i>FIRST</i>	1.1115**	2.53	1.1168**	2.52	1.1218**	2.54
<i>DUAL</i>	0.2093***	4.42	0.2078***	4.53	0.2076***	4.61
<i>INDR</i>	-0.0130	-0.02	-0.0136	-0.02	-0.0105	-0.02
<i>BOARD</i>	-0.5000***	-3.73	-0.5001***	-3.73	-0.4985***	-3.71
<i>MANSHR</i>	2.5471***	5.10	2.5469***	4.99	2.5481***	4.97
<i>CONCENT</i>	0.0393	0.10	0.0249	0.07	0.0242	0.06
<i>STATE</i>	-0.1094	-1.15	-0.1097	-1.15	-0.1101	-1.16
<i>MKT</i>	0.0078	0.17	0.0058	0.13	0.0056	0.13
<i>CONFUCIANISM</i>	0.0548	0.62	0.0498	0.54	0.0471	0.51
<i>MINORREG</i>	-0.2526	-0.61	-0.2307	-0.55	-0.2268	-0.54
<i>GDPGR</i>	0.0609	0.17	0.0561	0.16	0.0550	0.15
<i>GOVERNANCE</i>	-0.0062	-0.51	-0.0059	-0.49	-0.0058	-0.48
<i>POPULATION</i>	0.0036	0.29	0.0039	0.31	0.0038	0.31
<i>INCOME</i>	-0.0037	-0.18	-0.0037	-0.18	-0.0037	-0.18
<i>EDUCATION</i>	5.1133	0.47	5.1452	0.48	5.1707	0.48
<i>POLITICS</i>	1.7861***	3.11	1.7571***	3.08	1.7528***	3.08
<i>AGE</i>	-5.9955	-0.15	-6.6260	-0.17	-6.5489	-0.17
<i>MINORITY</i>	-0.2400	-0.04	-0.5825	-0.09	-0.6726	-0.11
<i>INTERCEPT</i>	-3.2765***	-2.60	-3.2685***	-2.61	-3.2820***	-2.61
Industry/year	Control		Control		Control	
<i>adj_R</i> ² (%)	23.46		23.45		23.46	
Observations	11,357		11,357		11,357	
<i>F</i> (<i>p</i> value)	35.57*** (0.0000)		35.56*** (0.0000)		35.56*** (0.0000)	

Table 6 continued

Variable	Section B: Hypothesis 2							
	(4)		(5)		(6)		(7)	
	<i>REGLIST</i>		<i>N = 1</i>		<i>N = 2</i>		<i>N = 3</i>	
	Coefficient	<i>t</i> value	Coefficient	<i>t</i> value	Coefficient	<i>t</i> value	Coefficient	<i>t</i> value
Panel B: Robustness checks of Hypotheses 1 and 2 using religion variables based on the reciprocal value of distance between listed firms and religious sites								
<i>REL_DIS_N</i>			-0.7190***	-3.99	-1.0068***	-3.38	-1.1277***	-2.91
<i>REGLIST_DIS</i>	-396.4743**	-2.27	-493.2281**	-2.26	-481.8775**	-2.12	-468.3258**	-2.00
<i>REL_DIS_N × REGLIST_DIS</i>			3,657.4623***	2.95	6,077.0341***	3.75	7,047.6335***	3.14
<i>LNBGS</i>	-0.1026	-1.53	-0.1085*	-1.84	-0.1038*	-1.80	-0.1029*	-1.80
<i>BIG4</i>	-0.0674	-0.38	-0.0632	-0.49	-0.0635	-0.48	-0.0656	-0.49
<i>TENURE</i>	-0.0360	-0.37	-0.0362	-0.54	-0.0388	-0.59	-0.0400	-0.61
<i>INDSPEC</i>	-0.1285*	-1.87	-0.1214**	-1.98	-0.1236**	-2.07	-0.1236**	-2.07
<i>CHGSALE</i>	1.7382***	9.14	1.7380***	13.07	1.7364***	13.13	1.7365***	13.28
<i>BTM</i>	-4.5488***	-10.54	-4.5564***	-12.11	-4.5507***	-12.05	-4.5472***	-11.98
<i>SIZE</i>	0.4881***	7.47	0.4881***	9.07	0.4881***	9.15	0.4885***	9.11
<i>LEV</i>	-2.7283***	-4.22	-2.7193***	-4.59	-2.7106***	-4.56	-2.7090***	-4.55
<i>ZSCORE</i>	-0.0167	-0.15	-0.0182	-0.17	-0.0203	-0.19	-0.0211	-0.20
<i>ISSUE</i>	-0.7699***	-3.37	-0.7656***	-9.19	-0.7699***	-9.63	-0.7712***	-9.63
<i>LOSS</i>	3.9668***	10.87	3.9693***	11.08	3.9696***	11.01	3.9690***	11.00
<i>ROE</i>	-3.2578***	-3.07	-3.2644***	-3.10	-3.2482***	-3.09	-3.2491***	-3.09
<i>CFO</i>	1.8417***	3.03	1.8499***	2.77	1.8528***	2.77	1.8541***	2.78
<i>LAGACCR</i>	1.9452***	4.11	1.9369***	4.50	1.9299***	4.55	1.9305***	4.56
<i>FIRST</i>	1.1397**	2.40	1.1655**	2.58	1.1669**	2.57	1.1615**	2.57
<i>DUAL</i>	0.2115***	4.87	0.2062***	4.40	0.2041***	4.40	0.2066***	4.44
<i>INDR</i>	-0.0103	-0.01	0.0219	0.03	0.0121	0.02	0.0099	0.01
<i>BOARD</i>	-0.4982**	-2.45	-0.4916***	-3.78	-0.4927***	-3.86	-0.4918***	-3.85
<i>MANSHR</i>	2.6094***	4.13	2.6486***	5.28	2.6333***	4.93	2.6327***	4.88
<i>CONCENT</i>	0.1081	0.30	0.0697	0.19	0.0941	0.25	0.1028	0.27
<i>STATE</i>	-0.1150	-1.07	-0.1123	-1.17	-0.1142	-1.19	-0.1147	-1.20
<i>MKT</i>	0.0333	0.65	0.0150	0.29	0.0047	0.09	0.0045	0.08
<i>CONFUCIANISM</i>	0.0790	0.76	0.0963	1.14	0.0993	1.09	0.0960	1.01
<i>MINORREG</i>	-0.3409	-0.85	-0.4477	-1.07	-0.3945	-0.96	-0.3875	-0.94
<i>GDPGR</i>	-0.0406	-0.16	0.0178	0.05	0.0256	0.07	0.0264	0.08
<i>GOVERNANCE</i>	-0.0082	-0.51	-0.0068	-0.53	-0.0059	-0.45	-0.0065	-0.50
<i>POPULATION</i>	0.0020	0.19	0.0022	0.18	0.0022	0.18	0.0023	0.19
<i>INCOME</i>	-0.0079	-0.35	-0.0065	-0.30	-0.0068	-0.32	-0.0066	-0.31
<i>EDUCATION</i>	5.1812	0.63	6.4041	0.62	7.3441	0.68	7.4327	0.68
<i>POLITICS</i>	1.7923***	3.05	1.7587***	2.86	1.7349***	2.86	1.7290***	2.85
<i>AGE</i>	-2.4207	-0.08	-2.8936	-0.08	-2.7839	-0.07	-3.0787	-0.08
<i>MINORITY</i>	-2.4475	-0.34	-2.3783	-0.36	-3.7115	-0.56	-3.8557	-0.58
<i>INTERCEPT</i>	-3.0597**	-2.04	-2.8902**	-2.43	-2.8417**	-2.39	-2.8634**	-2.37
Industry/year	Control		Control		Control		Control	
<i>adj_R² (%)</i>	23.49		23.54		23.53		23.53	
Observations	11,357		11,357		11,357		11,357	
<i>F (p value)</i>	35.60*** (0.0000)		34.57*** (0.0000)		34.61*** (0.0000)		34.62*** (0.0000)	

***, ** and * represent the 1, 5 and 10 % levels of significance, respectively, for two-tailed tests. All reported t-statistics are based on standard errors adjusted for clustering at the firm level and the year level (Petersen 2009). All the variables are defined in “Appendix” section

Table 7 Robustness checks of Hypotheses 1 and 2 using different dependent variables

Variable	Section A: Hypothesis 1					
	(1)		(2)		(3)	
	R = 200 km		R = 250 km		R = 300 km	
	Coefficient	t value	Coefficient	t value	Coefficient	t value
Panel A: Robustness checks of Hypotheses 1 and 2 using accrual quality (<i>AQ</i>) as the proxy for earnings quality						
<i>REL_R</i>	-0.0380**	-2.06	-0.0214	-1.51	-0.0278**	-2.14
<i>REGLIST</i>						
<i>REL_R</i> × <i>REGLIST</i>						
<i>LNBGS</i>	-0.4151***	-2.91	-0.4064***	-2.85	-0.4180***	-2.95
<i>BIG4</i>	-0.2761	-0.66	-0.2994	-0.72	-0.2929	-0.71
<i>TENURE</i>	0.5461***	2.99	0.5546***	3.05	0.5531***	3.03
<i>INDSPEC</i>	-0.1512	-0.82	-0.1506	-0.80	-0.1328	-0.71
<i>OPCYCLE</i>	0.4198***	3.60	0.4184***	3.57	0.4175***	3.58
<i>STD_CFO</i>	2.8189**	2.16	2.8219**	2.17	2.8526**	2.18
<i>STD_SALE</i>	2.2717***	8.09	2.2720***	8.11	2.2353***	7.96
<i>CHGSALE</i>	-0.4325*	-1.80	-0.4308*	-1.81	-0.4215*	-1.77
<i>BTM</i>	-1.4529**	-2.57	-1.4442**	-2.54	-1.4315**	-2.53
<i>SIZE</i>	-0.5244***	-3.49	-0.5265***	-3.54	-0.5245***	-3.50
<i>LEV</i>	2.0802***	3.57	2.0913***	3.60	2.0893***	3.60
<i>ISSUE</i>	-1.4751***	-2.65	-1.4976***	-2.67	-1.4720***	-2.63
<i>ROE</i>	-0.5491	-1.33	-0.5371	-1.30	-0.5430	-1.31
<i>CFO</i>	-1.6329**	-2.44	-1.6335**	-2.44	-1.6137**	-2.42
<i>FIRST</i>	1.5716**	2.08	1.5674**	2.07	1.6589**	2.20
<i>DUAL</i>	0.2207	0.89	0.2195	0.88	0.2411	0.98
<i>INDR</i>	1.0138	0.58	1.0296	0.59	1.0184	0.58
<i>BOARD</i>	-2.0248***	-4.17	-2.0096***	-4.10	-2.0038***	-4.10
<i>MANSHR</i>	-2.2437	-1.38	-2.3632	-1.44	-2.2615	-1.38
<i>STATE</i>	-0.2148	-0.98	-0.2204	-1.00	-0.2138	-0.98
<i>MKT</i>	0.3260***	3.96	0.3172***	3.82	0.3484***	4.25
<i>CONFU</i>	-0.5336*	-1.84	-0.5547*	-1.87	-0.4784	-1.59
<i>ETHNIC</i>	-0.2548	-0.38	-0.2570	-0.38	-0.2970	-0.44
<i>GDPGROWTH</i>	-0.3455	-0.31	-0.3958	-0.34	-0.2880	-0.25
<i>GOVERNANCE</i>	0.0097	0.55	0.0065	0.37	0.0062	0.36
<i>POPULATION</i>	-0.0057	-0.40	-0.0049	-0.34	-0.0065	-0.45
<i>INCOME</i>	-0.0503*	-1.67	-0.0475	-1.54	-0.0454	-1.48
<i>EDUCATION</i>	-38.8525***	-2.85	-38.6974***	-2.86	-39.4269***	-2.97
<i>POLITICS</i>	0.6220	0.54	0.6277	0.55	0.7721	0.68
<i>AGE</i>	34.6013	0.55	32.0913	0.51	36.0868	0.57
<i>MINORITY</i>	-0.5502	-0.09	0.4438	0.07	-1.2349	-0.19
<i>INTERCEPT</i>	21.9631***	5.15	21.9054***	5.14	21.5955***	4.94
Industry/year	Control		Control		Control	
<i>adj_R</i> ² (%)	16.64		16.55		16.70	
Observations	6,545		6,545		6,545	
<i>F</i> (p value)	14.54*** (0.0000)		14.47*** (0.0000)		14.74*** (0.0000)	
Panel B: Robustness checks of Hypotheses 1 and 2 using discretionary accrual based on operating income (<i>IDA_OI</i>)						
<i>REL_R</i>	-0.0218***	-3.51	-0.0114**	-2.38	-0.0096**	-2.25
<i>REGLIST</i>						
<i>REL_R</i> × <i>REGLIST</i>						
<i>LNBGS</i>	-0.1512**	-2.19	-0.1480**	-2.13	-0.1504**	-2.17

Table 7 continued

Variable	Section A: Hypothesis 1					
	(1)		(2)		(3)	
	<i>R</i> = 200 km		<i>R</i> = 250 km		<i>R</i> = 300 km	
	Coefficient	<i>t</i> value	Coefficient	<i>t</i> value	Coefficient	<i>t</i> value
<i>BIG4</i>	-0.0881	-0.43	-0.0882	-0.43	-0.0894	-0.44
<i>TENURE</i>	-0.0140	-0.13	-0.0116	-0.11	-0.0154	-0.15
<i>INDSPEC</i>	-0.0901	-1.21	-0.0910	-1.21	-0.0916	-1.21
<i>CHGSALE</i>	1.9869***	9.33	1.9889***	9.38	1.9916***	9.38
<i>BTM</i>	-4.6474***	-9.84	-4.6379***	-9.82	-4.6386***	-9.84
<i>SIZE</i>	0.5154***	6.98	0.5121***	6.94	0.5148***	6.97
<i>LEV</i>	-3.1864***	-3.82	-3.1756***	-3.82	-3.1743***	-3.81
<i>ZSCORE</i>	0.0060	0.03	0.0063	0.04	0.0070	0.04
<i>ISSUE</i>	-0.6661**	-2.47	-0.6798**	-2.54	-0.6868**	-2.56
<i>LOSS</i>	3.4302***	10.42	3.4361***	10.39	3.4340***	10.37
<i>ROE</i>	-2.9950***	-2.91	-2.9814***	-2.88	-2.9850***	-2.88
<i>CFO</i>	3.0871***	5.76	3.0879***	5.78	3.0898***	5.79
<i>LAGACCR</i>	1.9145***	2.82	1.9240***	2.82	1.9183***	2.82
<i>FIRST</i>	1.2876***	2.87	1.2797***	2.85	1.2955***	2.87
<i>DUAL</i>	0.2649***	2.70	0.2676***	2.71	0.2735***	2.76
<i>INDR</i>	-0.3776	-0.37	-0.3696	-0.37	-0.3806	-0.38
<i>BOARD</i>	-0.5364***	-2.77	-0.5283***	-2.76	-0.5239***	-2.73
<i>MANSHR</i>	2.3434**	2.51	2.3285**	2.51	2.3374**	2.51
<i>CONCENT</i>	0.2131	0.53	0.1674	0.41	0.1790	0.43
<i>STATE</i>	-0.0603	-0.53	-0.0619	-0.54	-0.0615	-0.54
<i>MKT</i>	0.0551**	2.05	0.0461	1.57	0.0462	1.59
<i>CONFU</i>	0.2082*	1.84	0.2057*	1.78	0.2135*	1.82
<i>ETHNIC</i>	-0.3895	-0.59	-0.4132	-0.63	-0.4360	-0.66
<i>GDPGROWTH</i>	0.3057	1.33	0.3225	1.42	0.3358	1.47
<i>GOVERNANCE</i>	-0.0097	-0.73	-0.0119	-0.91	-0.0127	-0.96
<i>POPULATION</i>	0.0095**	2.25	0.0096**	2.27	0.0096**	2.25
<i>INCOME</i>	-0.0080	-0.41	-0.0055	-0.28	-0.0065	-0.34
<i>EDUCATION</i>	6.6982	0.90	6.3137	0.85	7.7077	1.03
<i>POLITICS</i>	1.5561**	2.17	1.5781**	2.21	1.6032**	2.24
<i>AGE</i>	-26.2623**	-2.35	-25.9881**	-2.31	-26.8282**	-2.35
<i>MINORITY</i>	-3.1450	-0.36	-2.4700	-0.28	-2.6555	-0.30
<i>INTERCEPT</i>	-2.7239**	-1.98	-2.7049**	-1.97	-2.7527**	-2.00
Industry/year	Control		Control		Control	
<i>adj_R</i> ² (%)	18.49		18.44		18.44	
Observations	11,357		11,357		11,357	
<i>F</i> (<i>p</i> value)	30.48*** (0.0000)		30.37*** (0.0000)		30.34*** (0.0000)	

Variable	Section B: Hypothesis 2							
	(4)		(5)		(6)		(7)	
	<i>REGLIST</i>		<i>R</i> = 200 km		<i>R</i> = 250 km		<i>R</i> = 300 km	
	Coefficient	<i>t</i> value	Coefficient	<i>t</i> value	Coefficient	<i>t</i> value	Coefficient	<i>t</i> value

Panel A: Robustness checks of Hypotheses 1 and 2 using accrual quality (*AQ*) as the proxy for earnings quality

<i>REL_R</i>			-0.0650*	-1.73	-0.0467	-1.60	-0.0453**	-2.00
<i>REGLIST</i>	-0.5242**	-2.22	-0.4709**	-1.97	-0.5093**	-2.18	-0.4036*	-1.74
<i>REL_R</i> × <i>REGLIST</i>			0.0671*	1.76	0.0552*	1.92	0.0434**	2.00
<i>LNBSGS</i>	-0.3862***	-2.69	-0.3759***	-2.64	-0.3740***	-2.63	-0.3772***	-2.66

Table 7 continued

Variable	Section B: Hypothesis 2							
	(4)		(5)		(6)		(7)	
	<i>REGLIST</i>		<i>R</i> = 200 km		<i>R</i> = 250 km		<i>R</i> = 300 km	
	Coefficient	<i>t</i> value	Coefficient	<i>t</i> value	Coefficient	<i>t</i> value	Coefficient	<i>t</i> value
<i>BIG4</i>	-0.2359	-0.56	-0.2712	-0.65	-0.2796	-0.66	-0.2766	-0.66
<i>TENURE</i>	0.5484***	3.06	0.5375***	2.95	0.5368***	2.97	0.5383***	2.97
<i>INDSPEC</i>	-0.1481	-0.80	-0.1445	-0.78	-0.1435	-0.77	-0.1244	-0.66
<i>OPCYCLE</i>	0.4328***	3.66	0.4252***	3.61	0.4257***	3.60	0.4299***	3.62
<i>STD_CFO</i>	2.8254**	2.11	2.8040**	2.09	2.8204**	2.11	2.8434**	2.12
<i>STD_SALE</i>	2.3416***	8.29	2.3353***	8.19	2.3419***	8.11	2.3162***	7.95
<i>CHGSALE</i>	-0.4359*	-1.88	-0.4426*	-1.84	-0.4432*	-1.89	-0.4412*	-1.87
<i>BTM</i>	-1.4360**	-2.49	-1.4758***	-2.60	-1.4785***	-2.60	-1.4918***	-2.62
<i>SIZE</i>	-0.5167***	-3.47	-0.5130***	-3.40	-0.5086***	-3.41	-0.5044***	-3.33
<i>LEV</i>	2.0806***	3.56	2.1202***	3.65	2.0968***	3.60	2.0767***	3.56
<i>ISSUE</i>	-1.3705**	-2.48	-1.4043***	-2.59	-1.4259***	-2.60	-1.3996**	-2.56
<i>ROE</i>	-0.4761	-1.17	-0.4896	-1.20	-0.4922	-1.21	-0.4830	-1.19
<i>CFO</i>	-1.7593***	-2.60	-1.7566***	-2.59	-1.7545***	-2.59	-1.7776***	-2.62
<i>FIRST</i>	1.4542*	1.90	1.5364**	2.00	1.5032*	1.96	1.6166**	2.12
<i>DUAL</i>	0.2350	0.94	0.2333	0.94	0.2317	0.93	0.2592	1.05
<i>INDR</i>	1.0412	0.59	1.0663	0.61	1.0104	0.58	0.9361	0.53
<i>BOARD</i>	-2.0058***	-4.09	-2.0336***	-4.20	-2.0379***	-4.21	-2.0158***	-4.13
<i>MANSHR</i>	-2.2103	-1.36	-2.2703	-1.38	-2.3699	-1.45	-2.2292	-1.36
<i>STATE</i>	-0.2422	-1.09	-0.2257	-1.02	-0.2305	-1.04	-0.2236	-1.02
<i>MKT</i>	0.1751*	1.87	0.1852**	2.04	0.1737**	1.98	0.2107**	2.36
<i>CONFU</i>	-0.3937	-1.40	-0.3313	-1.09	-0.3679	-1.19	-0.3226	-1.04
<i>ETHNIC</i>	-0.1711	-0.25	-0.3676	-0.52	-0.3951	-0.56	-0.3635	-0.52
<i>GDPGROWTH</i>	-0.9581	-0.77	-0.7992	-0.65	-0.8030	-0.65	-0.8958	-0.66
<i>GOVERNANCE</i>	-0.0072	-0.41	-0.0047	-0.26	-0.0031	-0.17	-0.0051	-0.29
<i>POPULATION</i>	0.0019	0.14	-0.0008	-0.06	-0.0023	-0.17	-0.0018	-0.13
<i>INCOME</i>	-0.0196	-0.72	-0.0239	-0.86	-0.0292	-1.00	-0.0215	-0.75
<i>EDUCATION</i>	-34.0041**	-2.49	-33.8366**	-2.40	-32.5601**	-2.35	-34.1622**	-2.51
<i>POLITICS</i>	0.5335	0.45	0.6624	0.56	0.5681	0.48	0.7156	0.61
<i>AGE</i>	47.6681	0.78	48.2542	0.78	50.6855	0.81	54.1310	0.86
<i>MINORITY</i>	-0.9444	-0.16	-4.2613	-0.62	-3.5994	-0.55	-5.3241	-0.79
<i>INTERCEPT</i>	22.0008***	5.43	22.2348***	5.44	22.3649***	5.38	21.8064***	5.13
Industry/year	Control		Control		Control		Control	
<i>adj_R</i> ² (%)	16.66		16.78		16.73		16.87	
Observations	6,545		6,545		6,545		6,545	
<i>F</i> (<i>p</i> value)	14.67*** (0.0000)		14.29*** (0.0000)		14.26*** (0.0000)		14.47*** (0.0000)	
Panel B: Robustness checks of Hypotheses 1 and 2 using discretionary accrual based on operating income (<i>IDA_OI</i>)								
<i>REL_R</i>			-0.0578***	-3.86	-0.0391***	-3.04	-0.0238***	-2.63
<i>REGLIST</i>	-0.1167*	-1.65	-0.3130**	-2.08	-0.2977*	-1.91	-0.2765*	-1.69
<i>REL_R</i> × <i>REGLIST</i>			0.0473***	2.85	0.0341**	2.39	0.0196*	1.94
<i>LNBGS</i>	-0.1471**	-1.98	-0.1543**	-2.23	-0.1505**	-2.17	-0.1534**	-2.20
<i>BIG4</i>	-0.0832	-0.65	-0.1115	-0.55	-0.1082	-0.53	-0.1029	-0.51
<i>TENURE</i>	-0.0168	-0.23	-0.0286	-0.28	-0.0274	-0.27	-0.0298	-0.29
<i>INDSPEC</i>	-0.1039**	-2.42	-0.0894	-1.21	-0.0906	-1.20	-0.0921	-1.22
<i>CHGSALE</i>	1.9953***	28.09	1.9904***	9.34	1.9903***	9.41	1.9953***	9.42
<i>BTM</i>	-4.6263***	-10.21	-4.6664***	-9.78	-4.6504***	-9.74	-4.6505***	-9.76
<i>SIZE</i>	0.5142***	7.37	0.5206***	7.06	0.5167***	6.99	0.5217***	6.97

Table 7 continued

Variable	Section B: Hypothesis 2							
	(4)		(5)		(6)		(7)	
	<i>REGLIST</i>		<i>R = 200 km</i>		<i>R = 250 km</i>		<i>R = 300 km</i>	
	Coefficient	<i>t</i> value	Coefficient	<i>t</i> value	Coefficient	<i>t</i> value	Coefficient	<i>t</i> value
<i>LEV</i>	-3.1587***	-4.12	-3.1533***	-3.78	-3.1550***	-3.79	-3.1587***	-3.79
<i>ZSCORE</i>	0.0100	0.06	0.0004	0.00	0.0011	0.01	0.0019	0.01
<i>ISSUE</i>	-0.7069***	-4.42	-0.7087***	-2.60	-0.7057***	-2.61	-0.7068***	-2.64
<i>LOSS</i>	3.4403***	10.26	3.4312***	10.40	3.4398***	10.32	3.4367***	10.33
<i>ROE</i>	-2.9696***	-3.25	-2.9994***	-2.92	-2.9819***	-2.88	-2.9909***	-2.90
<i>CFO</i>	3.0942***	7.09	3.1029***	5.82	3.0967***	5.84	3.0928***	5.80
<i>LAGACCR</i>	1.9249***	2.97	1.8893***	2.79	1.9102***	2.81	1.9100***	2.83
<i>FIRST</i>	1.2428**	2.49	1.3417***	3.05	1.3224***	2.98	1.3344***	3.00
<i>DUAL</i>	0.2693***	3.66	0.2513**	2.57	0.2546***	2.60	0.2651***	2.68
<i>INDR</i>	-0.3762	-0.40	-0.3417	-0.34	-0.3644	-0.36	-0.3815	-0.38
<i>BOARD</i>	-0.5243***	-2.99	-0.5233***	-2.68	-0.5317***	-2.75	-0.5199***	-2.68
<i>MANSHR</i>	2.3604***	3.92	2.3361**	2.52	2.3228**	2.52	2.3322**	2.52
<i>CONCENT</i>	0.0032	0.01	0.0976	0.25	0.0768	0.20	0.1250	0.32
<i>STATE</i>	-0.0631	-0.64	-0.0540	-0.47	-0.0552	-0.48	-0.0553	-0.48
<i>MKT</i>	0.0228*	1.87	0.0446	1.61	0.0414	1.40	0.0468	1.61
<i>CONFU</i>	0.1870*	1.69	0.2208*	1.82	0.2254*	1.85	0.2181*	1.77
<i>ETHNIC</i>	-0.4833	-0.96	-0.5177	-0.79	-0.5453	-0.82	-0.5626	-0.86
<i>GDPGROWTH</i>	0.3248	1.20	0.3555	1.44	0.3443	1.42	0.3373	1.41
<i>GOVERNANCE</i>	-0.0167	-1.17	-0.0076	-0.57	-0.0101	-0.77	-0.0129	-0.97
<i>POPULATION</i>	0.0100**	2.39	0.0102**	2.40	0.0101**	2.40	0.0098**	2.33
<i>INCOME</i>	-0.0057	-0.31	-0.0126	-0.63	-0.0101	-0.52	-0.0104	-0.53
<i>EDUCATION</i>	6.6250	0.96	8.3436	1.17	8.0393	1.13	9.2803	1.29
<i>POLITICS</i>	1.4965**	1.98	1.4908**	2.19	1.5270**	2.23	1.5609**	2.25
<i>AGE</i>	-26.9482*	-1.79	-29.0920**	-2.52	-28.8174**	-2.52	-29.6200**	-2.57
<i>MINORITY</i>	-2.6931	-0.32	-3.6311	-0.41	-2.8627	-0.32	-3.2613	-0.37
<i>INTERCEPT</i>	-2.4271**	-2.05	-2.5001*	-1.83	-2.4559*	-1.83	-2.6217*	-1.93
Industry/year	Control		Control		Control		Control	
<i>adj_R²</i> (%)	18.41		18.57		18.50		18.47	
Observations	11,357		11,357		11,357		11,357	
<i>F</i> (<i>p</i> value)	30.30*** (0.0000)		29.61*** (0.0000)		29.52*** (0.0000)		29.47*** (0.0000)	

***, ** and * represent the 1, 5 and 10 % levels of significance, respectively, for two-tailed tests. All reported t-statistics are based on standard errors adjusted for clustering at the firm level and the year level (Petersen 2009). All the variables are defined in “Appendix” section

previous results and Hypothesis 1. In Columns (4)–(7), the coefficients on *REGLIST* are negative as expected, and they are statistically significant in all cases. More importantly, the coefficients on *REL_R* × *REGLIST* are positive at the conventional level of significance. These results, overall, lend additional support to Hypothesis 2.

Then we re-estimate the discretionary accrual by calculating the total accrual in an alternative way. Total accrual is operating income minus cash flows from operation. *IDA_OI* stands for the absolute value of discretionary accruals under the new way of measurement. Again, in Columns (1)–(3) of Panel B of Table 7, the coefficients on *REL200*, *REL250*, and *REL300* are significantly negative. In Columns (5)–(7), the

coefficients on *REL_R* × *REGLIST* are positive at the conventional level of significance. Both our Hypothesis 1 and Hypothesis 2 are supported, and it suggests that the results are insensitive to the measurement of the dependent variable.

Robustness Checks Considering Different Fixed Effects and Clustering Approaches

In the main tests, following Petersen (2009), all reported t-statistics are based on standard errors adjusted for clustering at the firm level and the year level. However, the religious sites are clustered in some specific areas and the number of Buddhist monasteries and Taoist temples

distributes unequally across Chinese provinces (Du 2013a). To examine whether our results are robust to different fixed effects and clustering approaches, we conduct two robustness checks. Specifically, in Panels A and B of Table 8, we conduct robustness checks considering firm-location, year, and industry fixed effects simultaneously²⁰ and considering clustering at the province and the year levels, respectively.

In Panel A of Table 8, we control industry, year, and province (firm-location) effects simultaneously to re-test Hypotheses 1 and 2. As shown in Columns (1)–(3) of Panel A, *REL200*, *REL250*, and *REL300* have negative and significant coefficients (-0.0177 with $t = -2.78$, -0.0089 with $t = -1.91$, and -0.0084 with $t = -2.00$), providing additional support to Hypothesis 1. In Column (4), *REGLIST* has a significantly negative coefficient, consistent with finding in Table 5. Results in Columns (5)–(7) show that *REL_R* ($R = 200, 250, 250$ km) has significantly negative coefficients, which is consistent with Hypothesis 1 again. More importantly, in Columns (5)–(7) of Panel B, the coefficients on *REL200* \times *REGLIST*, *REL250* \times *REGLIST*, and *REL300* \times *REGLIST* are positive and significant (0.0457 with $t = 3.35$, 0.0298 with $t = 2.64$, and 0.0146 with $t = 1.72$), lending important support to Hypothesis 2. All in all then, results in Panel A of Table 8 suggest that our results are qualitatively similar to those in Tables 4 and 5.

In Panel B of Table 8, we re-examine Hypotheses 1 and 2 considering the clustering at the province and year levels. In Columns (1)–(3) of Panel B, the coefficients on *REL200*, *REL250*, and *REL300* are negative and significant (-0.0177 with $t = -3.98$, -0.0103 with $t = -2.77$, and -0.0087 with $t = -3.15$, respectively). In Column (4), we find that regulatory intensity (*REGLIST*) has significantly negative impact (-0.1592 with $t = -1.97$) on earnings management. Compared to the results in Columns (1)–(3) of Table 4, the significance of the coefficient gets increased. In Columns (5)–(7) of Panel B, the coefficients on *REL_R* \times *REGLIST* are significantly positive (0.0447 with $t = 4.17$, 0.0314 with $t = 3.67$, and 0.0162 with $t = 2.95$, respectively). Overall, results in Panel B of Table 8 reveal that Hypotheses 1 and 2 still hold after controlling the location clustering issue.

Additional Tests

Additional Tests with the Distinction between Buddhism and Taoism

To address the concern about whether different religions have different influence on curbing earnings management, we investigate the influence of Buddhism and Taoism

²⁰ We acknowledge our great thanks to Reviewer #2 for his/her valuable suggestion on this robustness check.

separately. *BUD_R* (*TAO_R*) is the number of Buddhist monasteries (Taoist temples) with R km ($R = 200, 250, 300$ km) around Chinese listed firms' registered addresses. We then re-estimate Eqs. (1) and (2) by putting in the two religion variable: *BUD_R* and *TAO_R*.

As shown in Columns (1)–(3) of Table 9, the coefficients on *BUD_R* are negative and significant when we use 200 and 300 km as radius; and the coefficients on *TAO_R* are negative and significant when we use 200, 250, and 300 km as radius. On the whole, these findings show that Buddhism and Taoism have some effect in reducing earnings management. This finding is different from Du (2013a), which only shows Buddhism has significant influence on owner-manager agency costs.

In Columns (4)–(6) of Table 9, the two interaction terms *BUD_R* \times *REGLIST* and *TAO_R* \times *REGLIST* are contained. The coefficients on *BUD_R* are negative and significant in all cases, but the coefficients on *TAO_R* become insignificant. In addition, with respect to the role of the regulator in mitigating earnings management, we observe that the substitutive effect between Buddhism and the distance to regulators on mitigating earnings management is constantly robust, because the coefficients on *BUD_R* \times *REGLIST* are significantly positive. Moreover, the coefficients on *TAO_250* \times *REGLIST* and *TAO_300* \times *REGLIST* are significantly negative although *TAO_200* \times *REGLIST* has insignificant coefficient, suggesting an interesting finding that the geographic proximity between regulators and listed firms strengthens the negative association between Taoism and earnings management. Therefore, we can draw a conclusion that the geographic proximity between listed firms and regulators differently moderates the negative association between Buddhism, Taoism, and earnings management.

Additional Tests Considering the Percentage of State Shareholding

Hypotheses 1 and 2 address the influence of religion on earnings management in Chinese listed firms and its interaction with regulatory supervision. However, we cannot evade talking about its unique political administration and economic system in the Chinese context. Despite of privatization reform, the government has considerable state shareholding in some SOEs. State-owned enterprises undertake some government's roles of diverting corporate resources for social or political goals, which may be not always consistent with firm value maximization (Chen et al. 2011). For example, firms with higher state shareholding always maintain a given level of employment to maintain social stability. Moreover, many managers in state-owned enterprises are communist party members, so they may have different motivations than those firms with

Table 8 Robustness checks of Hypotheses 1 and 2 considering different fixed effects and clustering approaches

Variable	Section A: Hypothesis 1			Section B: Hypothesis 2			
	(1) R = 200 km Coefficient (t value)	(2) R = 250 km Coefficient (t value)	(3) R = 300 km Coefficient (t value)	(4) REGLIST Coefficient (t value)	(5) R = 200 km Coefficient (t value)	(6) R = 250 km Coefficient (t value)	(7) R = 300 km Coefficient (t value)
Panel A: Robustness checks considering firm-location, year, and industry fixed effects simultaneously							
REL_R	-0.0177*** (-2.78)	-0.0089* (-1.91)	-0.0084** (-2.00)		-0.0502*** (-4.21)	-0.0319*** (-3.09)	-0.0179** (-2.36)
REGLIST				-0.1188* (-1.67)	-0.3519*** (-2.64)	-0.3070** (-2.29)	-0.2499* (-1.74)
REL_R × REGLIST					0.0457*** (3.35)	0.0298*** (2.64)	0.0146* (1.72)
LNBGS	-0.1037* (-1.85)	-0.1016* (-1.82)	-0.1033* (-1.85)	-0.1014* (-1.81)	-0.1040* (-1.86)	-0.1012* (-1.81)	-0.1034* (-1.85)
BIG4	-0.0255 (-0.19)	-0.0205 (-0.15)	-0.0162 (-0.12)	-0.0099 (-0.07)	-0.0262 (-0.19)	-0.0222 (-0.16)	-0.0166 (-0.12)
TENURE	-0.0468 (-0.60)	-0.0467 (-0.60)	-0.0487 (-0.62)	-0.0506 (-0.65)	-0.0567 (-0.72)	-0.0561 (-0.71)	-0.0556 (-0.71)
INDSPEC	-0.0839 (-1.23)	-0.0853 (-1.25)	-0.0844 (-1.24)	-0.0929 (-1.36)	-0.0820 (-1.20)	-0.0839 (-1.23)	-0.0841 (-1.23)
CHGSALE	1.7157*** (9.35)	1.7171*** (9.37)	1.7185*** (9.37)	1.7207*** (9.39)	1.7181*** (9.37)	1.7171*** (9.37)	1.7204*** (9.38)
BTM	-4.5527*** (-20.53)	-4.5454*** (-20.49)	-4.5502*** (-20.50)	-4.5342*** (-20.41)	-4.5628*** (-20.51)	-4.5497*** (-20.46)	-4.5522*** (-20.45)
SIZE	0.4923*** (10.03)	0.4907*** (9.99)	0.4932*** (10.04)	0.4929*** (10.02)	0.4963*** (10.10)	0.4932*** (10.04)	0.4970*** (10.08)
LEV	-2.7347*** (-7.58)	-2.7278*** (-7.56)	-2.7312*** (-7.56)	-2.7170*** (-7.53)	-2.7063*** (-7.51)	-2.7107*** (-7.51)	-2.7196*** (-7.53)
ZSCORE	-0.0153 (-0.22)	-0.0152 (-0.21)	-0.0144 (-0.20)	-0.0131 (-0.18)	-0.0211 (-0.30)	-0.0195 (-0.27)	-0.0181 (-0.25)
ISSUE	-0.7618*** (-4.03)	-0.7698*** (-4.07)	-0.7734*** (-4.09)	-0.7858*** (-4.16)	-0.7887*** (-4.17)	-0.7843*** (-4.14)	-0.7828*** (-4.14)
LOSS	3.9575*** (23.69)	3.9602*** (23.70)	3.9571*** (23.69)	3.9599*** (23.69)	3.9540*** (23.69)	3.9594*** (23.70)	3.9564*** (23.69)
ROE	-3.2700*** (-7.65)	-3.2619*** (-7.63)	-3.2668*** (-7.64)	-3.2565*** (-7.62)	-3.2768*** (-7.68)	-3.2637*** (-7.64)	-3.2716*** (-7.66)

Table 8 continued

Variable	Section A: Hypothesis 1			Section B: Hypothesis 2			
	(1) R = 200 km Coefficient (t value)	(2) R = 250 km Coefficient (t value)	(3) R = 300 km Coefficient (t value)	(4) REGLIST Coefficient (t value)	(5) R = 200 km Coefficient (t value)	(6) R = 250 km Coefficient (t value)	(7) R = 300 km Coefficient (t value)
<i>CFO</i>	1.7718*** (3.66)	1.7761*** (3.67)	1.7771*** (3.68)	1.7878*** (3.70)	1.7829*** (3.69)	1.7832*** (3.69)	1.7800*** (3.68)
<i>LAGACR</i>	1.9118*** (5.11)	1.9178*** (5.12)	1.9126*** (5.11)	1.9152*** (5.11)	1.8949*** (5.06)	1.9100*** (5.10)	1.9100*** (5.10)
<i>FIRST</i>	1.1315*** (4.43)	1.1288*** (4.42)	1.1420*** (4.46)	1.1054*** (4.32)	1.1703*** (4.58)	1.1543*** (4.51)	1.1611*** (4.52)
<i>DUAL</i>	0.2107** (2.01)	0.2113** (2.01)	0.2146** (2.04)	0.2106** (2.00)	0.1989* (1.89)	0.2015* (1.92)	0.2089** (1.99)
<i>INDR</i>	-0.0348 (-0.06)	-0.0314 (-0.05)	-0.0366 (-0.06)	-0.0296 (-0.05)	0.0175 (0.03)	-0.0109 (-0.02)	-0.0269 (-0.05)
<i>BOARD</i>	-0.5431*** (-3.31)	-0.5378*** (-3.28)	-0.5362*** (-3.27)	-0.5354*** (-3.26)	-0.5338*** (-3.25)	-0.5410*** (-3.30)	-0.5343*** (-3.26)
<i>MANSHR</i>	2.6878*** (4.80)	2.6667*** (4.75)	2.6724*** (4.77)	2.6920*** (4.81)	2.6698*** (4.78)	2.6629*** (4.76)	2.6689*** (4.77)
<i>CONCENT</i>	0.2915 (0.89)	0.2138 (0.65)	0.2384 (0.72)	0.0899 (0.29)	0.1935 (0.59)	0.1641 (0.50)	0.2248 (0.68)
<i>STATE</i>	-0.1001 (-1.35)	-0.0999 (-1.34)	-0.1002 (-1.35)	-0.0999 (-1.34)	-0.0959 (-1.29)	-0.0966 (-1.30)	-0.0975 (-1.31)
<i>MKT</i>	0.0112 (0.43)	0.0020 (0.07)	0.0055 (0.20)	-0.0128 (-0.53)	0.0131 (0.50)	0.0081 (0.30)	0.0126 (0.46)
<i>CONFU</i>	-0.1151 (-0.07)	-0.0462 (-0.03)	-0.1737 (-0.11)	-0.1999 (-0.13)	-0.3809 (-0.24)	-0.3219 (-0.20)	-0.3771 (-0.24)
<i>ETHNIC</i>	-0.0806 (-0.01)	0.5018 (0.08)	0.5501 (0.09)	-0.7881 (-0.12)	-2.5451 (-0.40)	-2.2335 (-0.35)	-1.6435 (-0.26)
<i>GDPGROWTH</i>	-0.1245 (-0.24)	-0.1317 (-0.25)	-0.1256 (-0.24)	-0.1433 (-0.27)	-0.1156 (-0.22)	-0.1262 (-0.24)	-0.1267 (-0.24)
<i>GOVERNANCE</i>	0.0347 (0.09)	0.0667 (0.18)	0.0708 (0.19)	-0.0107 (-0.03)	-0.1057 (-0.28)	-0.0903 (-0.24)	-0.0544 (-0.14)
<i>POPULATION</i>	-0.0206 (-1.21)	-0.0203 (-1.19)	-0.0194 (-1.14)	-0.0187 (-1.10)	-0.0188 (-1.10)	-0.0188 (-1.10)	-0.0180 (-1.05)
<i>INCOME</i>	-0.0142 (-0.67)	-0.0136 (-0.65)	-0.0141 (-0.67)	-0.0131 (-0.62)	-0.0123 (-0.59)	-0.0124 (-0.59)	-0.0139 (-0.66)

Table 8 continued

Variable	Section A: Hypothesis 1			Section B: Hypothesis 2			
	(1) R = 200 km Coefficient (t value)	(2) R = 250 km Coefficient (t value)	(3) R = 300 km Coefficient (t value)	(4) REGLIST Coefficient (t value)	(5) R = 200 km Coefficient (t value)	(6) R = 250 km Coefficient (t value)	(7) R = 300 km Coefficient (t value)
<i>EDUCATION</i>	3.8959 (0.28)	3.7626 (0.27)	3.2498 (0.23)	3.7559 (0.27)	3.7271 (0.27)	3.6325 (0.26)	3.0031 (0.21)
<i>POLITICS</i>	1.8707*** (2.73)	1.8627*** (2.72)	1.8628*** (2.72)	1.8398*** (2.69)	1.8983*** (2.77)	1.8923*** (2.76)	1.8737*** (2.74)
<i>AGE</i>	35.6825 (0.93)	35.5786 (0.92)	35.2242 (0.91)	33.7788 (0.88)	34.9770 (0.91)	34.9002 (0.91)	34.3267 (0.89)
<i>MINORITY</i>	-4.9351 (-0.01)	37.3210 (0.07)	26.2427 (0.05)	-58.9162 (-0.11)	-185.7034 (-0.34)	-164.8611 (-0.30)	-128.7104 (-0.23)
<i>INTERCEPT</i>	-3.3640 (-0.30)	-4.2708 (-0.38)	-4.3077 (-0.38)	-1.9431 (-0.17)	0.7130 (0.06)	0.3307 (0.03)	-0.7315 (-0.06)
Industry	Control	Control	Control	Control	Control	Control	Control
Year	Control	Control	Control	Control	Control	Control	Control
Province	Control	Control	Control	Control	Control	Control	Control
<i>adj_R²</i> (%)	23.71	23.68	23.68	23.66	23.77	23.72	23.69
Observations	11,357	11,357	11,357	11,357	11,357	11,357	11,357
<i>F</i> (p value)	26.97*** (0.0000)	26.95*** (0.0000)	26.94*** (0.0000)	26.96*** (0.0000)	26.40*** (0.0000)	26.38*** (0.0000)	26.36*** (0.0000)
Panel B: Robustness checks considering clustering at the province and the year levels							
<i>REL_R</i>	-0.0177*** (-3.98)	-0.0103*** (-2.77)	-0.0087*** (-3.15)		-0.0497*** (-4.81)	-0.0345*** (-4.00)	-0.0192*** (-3.51)
<i>REGLIST</i>				-0.1592** (-1.97)	-0.3768*** (-3.10)	-0.3437*** (-2.72)	-0.2988** (-2.29)
<i>REL_R × REGLIST</i>					0.0447*** (4.17)	0.0314*** (3.67)	0.0162*** (2.95)
<i>LNBSGS</i>	-0.1034 (-1.56)	-0.1009 (-1.51)	-0.1031 (-1.55)	-0.1009 (-1.52)	-0.1067 (-1.64)	-0.1036 (-1.57)	-0.1056 (-1.59)
<i>BIG4</i>	-0.0664 (-0.37)	-0.0662 (-0.37)	-0.0673 (-0.38)	-0.0589 (-0.33)	-0.0848 (-0.48)	-0.0814 (-0.46)	-0.0741 (-0.42)
<i>TENURE</i>	-0.0260 (-0.27)	-0.0240 (-0.25)	-0.0273 (-0.28)	-0.0310 (-0.32)	-0.0428 (-0.45)	-0.0408 (-0.43)	-0.0410 (-0.43)
<i>INDSPEC</i>	-0.1190* (-1.66)	-0.1179 (-1.62)	-0.1185 (-1.62)	-0.1275* (-1.79)	-0.1182 (-1.64)	-0.1177 (-1.59)	-0.1189 (-1.60)
<i>CHGSALE</i>	1.7265***	1.7271***	1.7295***	1.7329***	1.7325***	1.7306***	1.7345***



Table 8 continued

Variable	Section A: Hypothesis 1			Section B: Hypothesis 2			
	(1) R = 200 km Coefficient (t value)	(2) R = 250 km Coefficient (t value)	(3) R = 300 km Coefficient (t value)	(4) REGLIST Coefficient (t value)	(5) R = 200 km Coefficient (t value)	(6) R = 250 km Coefficient (t value)	(7) R = 300 km Coefficient (t value)
<i>BTM</i>	(9.08) -4.5588*** (-10.65)	(9.09) -4.5518*** (-10.60)	(9.06) -4.5526*** (-10.62)	(9.14) -4.5379*** (-10.54)	(9.14) -4.5687*** (-10.58)	(9.19) -4.5570*** (-10.52)	(9.15) -4.5558*** (-10.56)
<i>SIZE</i>	0.4831*** (7.45)	0.4806*** (7.36)	0.4830*** (7.45)	0.4832*** (7.34)	0.4877*** (7.51)	0.4848*** (7.29)	0.4883*** (7.43)
<i>LEV</i>	-2.7293*** (-4.25)	-2.7229*** (-4.24)	-2.7218*** (-4.22)	-2.7100*** (-4.20)	-2.6968*** (-4.14)	-2.7032*** (-4.17)	-2.7084*** (-4.18)
<i>ZSCORE</i>	-0.0180 (-0.16)	-0.0180 (-0.16)	-0.0174 (-0.16)	-0.0149 (-0.13)	-0.0233 (-0.21)	-0.0223 (-0.20)	-0.0212 (-0.19)
<i>ISSUE</i>	-0.7540*** (-3.28)	-0.7614*** (-3.29)	-0.7677*** (-3.31)	-0.7785*** (-3.36)	-0.7901*** (-3.41)	-0.7834*** (-3.39)	-0.7804*** (-3.37)
<i>LOSS</i>	3.9585*** (10.89)	3.9623*** (10.87)	3.9603*** (10.85)	3.9637*** (10.89)	3.9577*** (10.89)	3.9637*** (10.83)	3.9609*** (10.85)
<i>ROE</i>	-3.2717*** (-3.10)	-3.2625*** (-3.08)	-3.2658*** (-3.09)	-3.2559*** (-3.07)	-3.2780*** (-3.12)	-3.2653*** (-3.08)	-3.2720*** (-3.10)
<i>CFO</i>	1.8114*** (3.00)	1.8126*** (3.01)	1.8144*** (3.00)	1.8214*** (3.00)	1.8292*** (3.00)	1.8240*** (3.02)	1.8193*** (2.99)
<i>LAGACCR</i>	1.9459*** (4.11)	1.9524*** (4.13)	1.9474*** (4.11)	1.9499*** (4.15)	1.9211*** (4.12)	1.9381*** (4.15)	1.9401*** (4.15)
<i>FIRST</i>	1.1539** (2.43)	1.1515** (2.43)	1.1657** (2.45)	1.1164** (2.34)	1.1938** (2.57)	1.1807** (2.53)	1.1856** (2.52)
<i>DUAL</i>	0.2061*** (4.93)	0.2078*** (4.89)	0.2130*** (4.94)	0.2052*** (4.84)	0.1870*** (4.75)	0.1908*** (4.86)	0.2008*** (5.31)
<i>INDR</i>	0.0139 (0.02)	0.0194 (0.03)	0.0095 (0.01)	0.0156 (0.02)	0.0552 (0.07)	0.0273 (0.03)	0.0131 (0.02)
<i>BOARD</i>	-0.5075** (-2.52)	-0.5018** (-2.50)	-0.4979** (-2.48)	-0.5007** (-2.48)	-0.4978** (-2.46)	-0.5076** (-2.51)	-0.4978** (-2.48)
<i>MANSHR</i>	2.6727*** (4.33)	2.6592*** (4.32)	2.6668*** (4.29)	2.6854*** (4.34)	2.6530*** (4.35)	2.6444*** (4.34)	2.6519*** (4.30)
<i>CONCENT</i>	0.2389 (0.65)	0.2233 (0.58)	0.2336 (0.59)	0.1088 (0.29)	0.1570 (0.45)	0.1587 (0.44)	0.2048 (0.55)

Table 8 continued

Variable	Section A: Hypothesis 1			Section B: Hypothesis 2			
	(1) R = 200 km Coefficient (t value)	(2) R = 250 km Coefficient (t value)	(3) R = 300 km Coefficient (t value)	(4) REGLIST Coefficient (t value)	(5) R = 200 km Coefficient (t value)	(6) R = 250 km Coefficient (t value)	(7) R = 300 km Coefficient (t value)
STATE	-0.1134 (-1.05)	-0.1149 (-1.06)	-0.1145 (-1.05)	-0.1155 (-1.07)	-0.1065 (-0.96)	-0.1080 (-0.97)	-0.1088 (-0.98)
MKT	0.0144 (1.12)	0.0097 (0.53)	0.0097 (0.58)	-0.0060 (-0.37)	0.0108 (0.91)	0.0105 (0.66)	0.0146 (1.01)
CONFU	0.1320 (1.41)	0.1331 (1.36)	0.1398 (1.40)	0.1265 (1.21)	0.1544* (1.70)	0.1574* (1.70)	0.1502 (1.59)
ETHNIC	-0.2309 (-0.58)	-0.2423 (-0.60)	-0.2633 (-0.67)	-0.3143 (-0.83)	-0.3720 (-0.95)	-0.3808 (-0.97)	-0.3832 (-1.01)
GDPGROWTH	0.0023 (0.01)	0.0037 (0.02)	0.0195 (0.09)	-0.0370 (-0.16)	0.0150 (0.08)	0.0005 (0.00)	-0.0048 (-0.03)
GOVERNANCE	-0.0022 (-0.14)	-0.0036 (-0.22)	-0.0043 (-0.26)	-0.0082 (-0.51)	-0.0012 (-0.08)	-0.0027 (-0.17)	-0.0052 (-0.33)
POPULATION	0.0044 (0.42)	0.0047 (0.44)	0.0044 (0.41)	0.0053 (0.49)	0.0029 (0.28)	0.0030 (0.29)	0.0030 (0.28)
INCOME	-0.0011 (-0.06)	0.0008 (0.05)	-0.0001 (-0.00)	-0.0001 (-0.01)	-0.0064 (-0.36)	-0.0045 (-0.26)	-0.0041 (-0.24)
EDUCATION	4.9470 (0.56)	4.5911 (0.53)	5.8127 (0.66)	4.8460 (0.57)	6.5613 (0.74)	6.2514 (0.72)	6.9710 (0.79)
POLITICS	1.8108*** (3.21)	1.8279*** (3.27)	1.8515*** (3.28)	1.7512*** (3.25)	1.7566*** (3.22)	1.7824*** (3.27)	1.8099*** (3.29)
AGE	-7.7319 (-0.25)	-8.3090 (-0.26)	-8.3793 (-0.26)	-10.0643 (-0.31)	-5.3502 (-0.18)	-5.6980 (-0.19)	-6.5465 (-0.21)
MINORITY	-0.7516 (-0.11)	-0.3803 (-0.06)	-0.5424 (-0.08)	-1.0998 (-0.16)	-1.6783 (-0.25)	-1.1379 (-0.17)	-1.4561 (-0.22)
INTERCEPT	-3.4070** (-2.30)	-3.4058** (-2.25)	-3.4501** (-2.30)	-3.1446** (-2.07)	-3.1663** (-2.17)	-3.1441** (-2.09)	-3.2917** (-2.21)
Industry/year	Control	Control	Control	Control	Control	Control	Control
adj_R ² (%)	23.52	23.50	23.49	23.48	23.61	23.56	23.52
Observations	11,357	11,357	11,357	11,357	11,357	11,357	11,357
F (p value)	48.80*** (0.0000)	48.61*** (0.0000)	48.24*** (0.0000)	49.93*** (0.0000)	48.19*** (0.0000)	48.26*** (0.0000)	48.26*** (0.0000)

***, ** and * represent the 1, 5 and 10 % levels of significance, respectively, for two-tailed tests. All reported t-statistics are based on standard errors adjusted for clustering at the province level and the year level. All the variables are defined in "Appendix" section



Table 9 Additional tests of Hypotheses 1 and 2 with the distinction between Buddhism and Taoism

Variable	Section A: Hypothesis 1			Section B: Hypothesis 2		
	(1) R = 200 km Coefficient (t value)	(2) R = 250 km Coefficient (t value)	(3) R = 300 km Coefficient (t value)	(4) R = 200 km Coefficient (t value)	(5) R = 250 km Coefficient (t value)	(6) R = 300 km Coefficient (t value)
<i>BUD_R</i>	-0.0145*** (-2.58)	-0.0043 (-1.00)	-0.0069* (-1.79)	-0.0571*** (-3.19)	-0.0304** (-2.15)	-0.0180* (-1.92)
<i>TAO_R</i>	-0.0721** (-2.11)	-0.1175*** (-3.20)	-0.0563* (-1.75)	-0.0118 (-0.28)	-0.0565 (-1.29)	-0.0244 (-0.68)
<i>REGLIST</i>				-0.2867* (-1.90)	-0.1449 (-0.90)	-0.1080 (-0.66)
<i>BUD_R</i> × <i>REGLIST</i>				0.0579*** (3.05)	0.0405*** (2.62)	0.0195* (1.89)
<i>TAO_R</i> × <i>REGLIST</i>				-0.1516 (-1.53)	-0.2369*** (-2.85)	-0.1416** (-2.25)
<i>LNBGS</i>	-0.1038 (-1.61)	-0.1019 (-1.58)	-0.1062 (-1.64)	-0.1050 (-1.64)	-0.1035 (-1.61)	-0.1108* (-1.72)
<i>BIG4</i>	-0.0723 (-0.37)	-0.0665 (-0.34)	-0.0749 (-0.38)	-0.0863 (-0.44)	-0.0719 (-0.37)	-0.0762 (-0.39)
<i>TENURE</i>	-0.0258 (-0.30)	-0.0234 (-0.27)	-0.0264 (-0.31)	-0.0434 (-0.50)	-0.0357 (-0.42)	-0.0346 (-0.41)
<i>INDSPEC</i>	-0.1394* (-1.77)	-0.1357* (-1.73)	-0.1378* (-1.76)	-0.1368* (-1.75)	-0.1390* (-1.78)	-0.1413* (-1.81)
<i>CHGSALE</i>	1.7273*** (9.31)	1.7273*** (9.28)	1.7303*** (9.33)	1.7324*** (9.43)	1.7308*** (9.37)	1.7362*** (9.43)
<i>BTM</i>	-4.5686*** (-10.76)	-4.5666*** (-10.75)	-4.5579*** (-10.75)	-4.5816*** (-10.75)	-4.5736*** (-10.74)	-4.5575*** (-10.74)
<i>SIZE</i>	0.4871*** (7.40)	0.4836*** (7.44)	0.4867*** (7.41)	0.4951*** (7.44)	0.4907*** (7.49)	0.4938*** (7.34)
<i>LEV</i>	-2.7378*** (-4.19)	-2.7236*** (-4.19)	-2.7263*** (-4.19)	-2.7107*** (-4.16)	-2.7212*** (-4.19)	-2.7141*** (-4.17)
<i>ZSCORE</i>	-0.0179 (-0.15)	-0.0189 (-0.16)	-0.0186 (-0.16)	-0.0241 (-0.21)	-0.0254 (-0.22)	-0.0258 (-0.23)
<i>ISSUE</i>	-0.7600*** (-3.59)	-0.7730*** (-3.61)	-0.7716*** (-3.61)	-0.7829*** (-3.65)	-0.7783*** (-3.62)	-0.7771*** (-3.63)
<i>LOSS</i>	3.9604*** (10.51)	3.9592*** (10.49)	3.9583*** (10.47)	3.9576*** (10.46)	3.9580*** (10.41)	3.9602*** (10.47)
<i>ROE</i>	-3.2731*** (-3.05)	-3.2829*** (-3.07)	-3.2792*** (-3.05)	-3.2720*** (-3.05)	-3.2889*** (-3.07)	-3.2877*** (-3.07)
<i>CFO</i>	1.8255*** (3.10)	1.8310*** (3.12)	1.8302*** (3.11)	1.8341*** (3.11)	1.8339*** (3.13)	1.8248*** (3.10)
<i>LAGACCR</i>	1.9302*** (3.79)	1.9226*** (3.78)	1.9297*** (3.79)	1.9162*** (3.82)	1.9245*** (3.83)	1.9344*** (3.84)
<i>FIRST</i>	1.1669** (2.52)	1.1632** (2.51)	1.1736** (2.52)	1.2076*** (2.65)	1.1924*** (2.62)	1.2134*** (2.64)
<i>DUAL</i>	0.2099** (2.36)	0.2117** (2.36)	0.2132** (2.39)	0.1932** (2.20)	0.1989** (2.25)	0.2065** (2.33)

Table 9 continued

Variable	Section A: Hypothesis 1			Section B: Hypothesis 2		
	(1) R = 200 km Coefficient (t value)	(2) R = 250 km Coefficient (t value)	(3) R = 300 km Coefficient (t value)	(4) R = 200 km Coefficient (t value)	(5) R = 250 km Coefficient (t value)	(6) R = 300 km Coefficient (t value)
<i>INDR</i>	0.0419 (0.05)	0.0704 (0.09)	0.0429 (0.05)	0.0740 (0.09)	0.0674 (0.08)	0.0440 (0.05)
<i>BOARD</i>	-0.5018*** (-2.60)	-0.4951*** (-2.58)	-0.4970*** (-2.59)	-0.4991*** (-2.59)	-0.5038*** (-2.62)	-0.4968*** (-2.59)
<i>MANSHR</i>	2.6685*** (3.68)	2.6382*** (3.68)	2.6440*** (3.67)	2.6530*** (3.69)	2.6136*** (3.67)	2.6423*** (3.67)
<i>CONCENT</i>	0.3116 (0.74)	0.1382 (0.33)	0.3061 (0.71)	0.3450 (0.83)	0.0012 (0.00)	0.2497 (0.60)
<i>STATE</i>	-0.1203 (-1.09)	-0.1214 (-1.10)	-0.1179 (-1.07)	-0.1175 (-1.06)	-0.1176 (-1.06)	-0.1138 (-1.04)
<i>MKT</i>	0.0256 (0.51)	0.0089 (0.17)	0.0225 (0.42)	-0.0066 (-0.12)	-0.0161 (-0.28)	0.0041 (0.07)
<i>CONFU</i>	0.1045 (0.98)	0.0953 (0.89)	0.1057 (0.97)	0.1736 (1.50)	0.1361 (1.19)	0.1219 (1.05)
<i>ETHNIC</i>	-0.1798 (-0.32)	-0.1711 (-0.31)	-0.2307 (-0.42)	-0.3522 (-0.64)	-0.3032 (-0.55)	-0.3206 (-0.59)
<i>GDPGROWTH</i>	0.0130 (0.06)	0.0182 (0.09)	0.0212 (0.10)	0.0371 (0.18)	0.0090 (0.04)	0.0081 (0.04)
<i>GOVERNANCE</i>	-0.0003 (-0.02)	0.0010 (0.07)	-0.0020 (-0.15)	-0.0033 (-0.23)	-0.0034 (-0.24)	-0.0049 (-0.36)
<i>POPULATION</i>	0.0010 (0.08)	0.0009 (0.08)	0.0006 (0.05)	-0.0003 (-0.03)	-0.0008 (-0.07)	-0.0004 (-0.03)
<i>INCOME</i>	-0.0097 (-0.51)	-0.0076 (-0.40)	-0.0092 (-0.49)	-0.0049 (-0.26)	-0.0039 (-0.21)	-0.0063 (-0.34)
<i>EDUCATION</i>	6.4375 (0.80)	7.1009 (0.89)	7.0879 (0.88)	9.4877 (1.20)	9.8995 (1.24)	9.2089 (1.13)
<i>POLITICS</i>	1.8344*** (3.44)	1.8210*** (3.45)	1.8726*** (3.53)	1.9175*** (3.53)	1.9174*** (3.57)	1.9261*** (3.61)
<i>AGE</i>	0.8374 (0.03)	2.1045 (0.06)	1.2077 (0.04)	2.6925 (0.08)	4.7937 (0.15)	2.5550 (0.08)
<i>MINORITY</i>	-1.8554 (-0.25)	-1.7491 (-0.24)	-1.6131 (-0.22)	-3.8904 (-0.53)	-4.0805 (-0.57)	-3.2365 (-0.45)
<i>INTERCEPT</i>	-3.4246*** (-3.05)	-3.3150*** (-3.04)	-3.4184*** (-3.07)	-3.3772*** (-3.07)	-3.1887*** (-3.06)	-3.4079*** (-3.12)
Industry/year	Control	Control	Control	Control	Control	Control
<i>adj_R²</i> (%)	23.54	23.55	23.52	23.63	23.64	23.56
Observations	11,357	11,357	11,357	11,357	11,357	11,357
<i>F</i> (p value)	35.11*** (0.0000)	35.18*** (0.0000)	35.11*** (0.0000)	33.67*** (0.0000)	33.83*** (0.0000)	33.63*** (0.0000)

***, ** and * represent the 1, 5 and 10 % levels of significance, respectively, for two-tailed tests. All reported t-statistics are based on standard errors adjusted for clustering at the firm level and the year level (Petersen 2009). All the variables are defined in “Appendix” section

Table 10 Additional tests of Hypotheses 1 and 2 considering the percentage of state shareholding

Variable	Section A: Subsample with lower percentage of state shareholding			Section B: Subsample with higher percentage of state shareholding					
	(1)		(2)	(3)		(4)	(5)	(6)	
	R = 200 km	t value	R = 250 km	t value	R = 300 km	R = 200 km	R = 250 km	R = 300 km	
	Coefficient	t value	Coefficient	t value	Coefficient	Coefficient	Coefficient	Coefficient	
Panel A: Additional checks of Hypothesis 1 considering the percentage of state shareholding									
<i>REL_R</i>	-0.0204***	-3.47	-0.0151***	-2.79	-0.0124***	-0.0132**	-0.0028	-0.0033	-0.64
<i>LNBSGS</i>	-0.0597	-0.57	-0.0591	-0.56	-0.0589	-0.1669*	-0.1670*	-0.1684*	-1.74
<i>BIG4</i>	-0.0950	-0.44	-0.1011	-0.47	-0.1003	-0.0180	-0.0171	-0.0174	-0.08
<i>TENURE</i>	-0.0537	-0.51	-0.0476	-0.45	-0.0541	0.0290	0.0272	0.0267	0.23
<i>INDSPEC</i>	-0.1229	-1.13	-0.1166	-1.08	-0.1177	-0.1244	-0.1310	-0.1295	-1.05
<i>CHGSALE</i>	1.7481***	5.28	1.7501***	5.27	1.7547***	1.6364***	1.6333***	1.6341***	9.11
<i>BTM</i>	-4.3638***	-9.79	-4.3577***	-9.79	-4.3569***	-4.8469***	-4.8376***	-4.8397***	-8.36
<i>SIZE</i>	0.4497***	6.58	0.4476***	6.58	0.4509***	0.4865***	0.4815***	0.4827***	4.17
<i>LEV</i>	-2.7700***	-3.14	-2.7687***	-3.14	-2.7676***	-2.4823***	-2.4417***	-2.4485***	-3.53
<i>ZSCORE</i>	0.0633	0.40	0.0634	0.40	0.0654	-0.1302	-0.1318	-0.1317	-1.13
<i>ISSUE</i>	-0.8631**	-2.57	-0.8572**	-2.55	-0.8666**	-0.5885**	-0.6218**	-0.6187**	-2.18
<i>LOSS</i>	3.8991***	8.45	3.9015***	8.46	3.8985***	4.0332***	4.0394***	4.0383***	9.51
<i>ROE</i>	-3.2069**	-2.27	-3.2026**	-2.26	-3.2065**	-3.3484***	-3.3337***	-3.3359***	-3.51
<i>CFO</i>	1.6386**	2.35	1.6299**	2.34	1.6402**	2.0442	2.0438	2.0438	1.64
<i>LAGACCR</i>	2.0377***	2.97	2.0515***	2.98	2.0393***	1.7643***	1.7621***	1.7613***	3.07
<i>FIRST</i>	1.0950	1.60	1.0957	1.60	1.1190	1.4320**	1.4383**	1.4432**	2.39
<i>DUAL</i>	0.2618***	2.68	0.2607***	2.67	0.2705***	0.1276	0.1263	0.1272	0.98
<i>INDR</i>	0.2221	0.33	0.2543	0.38	0.2409	-0.2831	-0.3054	-0.3049	-0.38
<i>BOARD</i>	-0.4443	-1.61	-0.4357	-1.59	-0.4336	-0.6581**	-0.6465**	-0.6457**	-2.39
<i>MANSHR</i>	2.5897***	6.23	2.5557***	6.29	2.5734***	4.3910	4.4576	4.4486	1.63
<i>CONCENT</i>	0.1556	0.34	0.2249	0.44	0.2016	0.5687	0.4677	0.5007	1.27
<i>MKT</i>	-0.0007	-0.03	0.0041	0.28	0.0019	0.0406	0.0214	0.0255	0.55
<i>CONFU</i>	0.0696	0.83	0.0783	0.83	0.0898	0.1757	0.1674	0.1726	1.05
<i>ETHNIC</i>	0.8146	1.49	0.8067	1.49	0.7836	-0.9675*	-0.9939*	-0.9979*	-1.89
<i>GDPGROWTH</i>	0.1863	0.54	0.1840	0.51	0.2085	-0.1747	-0.1523	-0.1506	-0.51
<i>GOVERNANCE</i>	0.0066	0.29	0.0061	0.26	0.0051	-0.0199	-0.0236*	-0.0233*	-1.94
<i>POPULATION</i>	-0.0102	-1.50	-0.0098	-1.44	-0.0107	0.0218**	0.0228**	0.0225**	2.07
<i>INCOME</i>	-0.0013	-0.06	0.0007	0.03	-0.0006	-0.0063	-0.0025	-0.0034	-0.19
<i>EDUCATION</i>	-6.6193	-0.48	-7.2170	-0.53	-5.4207	18.6334*	18.5139*	18.9991*	1.70
<i>POLITICS</i>	1.4386*	1.96	1.4727*	1.95	1.5258**	2.1306***	2.1478***	2.1526***	3.72
<i>AGE</i>	68.6776**	2.03	66.9818**	1.97	68.9116**	-105.8645**	-108.9989**	-108.2029**	-2.24

Table 10 continued

Variable	Section A: Subsample with lower percentage of state shareholding				Section B: Subsample with higher percentage of state shareholding							
	(1)		(2)		(3)		(4)		(5)		(6)	
	R = 200 km	t value	R = 250 km	t value	R = 300 km	t value	R = 200 km	t value	R = 250 km	t value	R = 300 km	t value
<i>MINORITY</i>	-7.2493	-0.61	-6.8762	-0.58	-7.2469	-0.61	-0.5045	-0.08	0.0743	0.01	-0.0123	-0.00
<i>INTERCEPT</i>	-2.7461**	-2.25	-2.8585**	-2.25	-2.9121**	-2.38	-3.0404	-1.60	-2.9270	-1.52	-2.9617	-1.52
Industry/year	Control		Control		Control		Control		Control		Control	
<i>adj_R²</i> (%)	22.88		22.88		22.87		24.24		24.21		24.21	
Observations	6,376		6,376		6,376		4,981		4,981		4,981	
<i>F</i> (p value)	30.35*** (0.0000)		30.23*** (0.0000)		30.27*** (0.0000)		26.41*** (0.0000)		26.22*** (0.0000)		26.33*** (0.0000)	
Chow (1960) tests for two subsample (<i>F</i> tests)												
							(1) versus (4)		(2) versus (5)		(3) versus (6)	
							1.43*		1.49**		1.47**	
							(0.0517)		(0.0359)		(0.0398)	
							-2.36**		-2.84***		-2.95***	
							(0.0182)		(0.0046)		(0.0032)	
Coefficient difference in REL_R (<i>t</i> tests)												
Panel B: Additional checks of Hypothesis 2 considering the percentage of state shareholding												
<i>REL_R</i>	-0.0613***	-5.65	-0.0476***	-3.88	-0.0286***	-3.26	-0.0378*	-1.74	-0.0208	-1.15	-0.0106	-0.79
<i>REGLIST</i>	-0.4027**	-2.51	-0.3353*	-1.80	-0.2967*	-1.69	-0.2962*	-1.78	-0.3176*	-1.91	-0.2605	-1.42
<i>REL_R × REGLIST</i>	0.0554***	5.60	0.0395***	3.74	0.0217***	2.89	0.0340	1.53	0.0247	1.35	0.0123	0.96
<i>LNBSGS</i>	-0.0613	-0.59	-0.0601	-0.58	-0.0593	-0.56	-0.1696*	-1.77	-0.1701*	-1.77	-0.1719*	-1.79
<i>BIG4</i>	-0.1178	-0.53	-0.1199	-0.56	-0.1114	-0.51	-0.0351	-0.16	-0.0267	-0.12	-0.0201	-0.09
<i>TENURE</i>	-0.0753	-0.74	-0.0684	-0.66	-0.0720	-0.70	0.0176	0.15	0.0160	0.14	0.0177	0.15
<i>INDSPEC</i>	-0.1143	-1.03	-0.1104	-1.00	-0.1133	-1.02	-0.1308	-1.09	-0.1377	-1.12	-0.1348	-1.08
<i>CHGSALE</i>	1.7487***	5.18	1.7542***	5.18	1.7587***	5.21	1.6446***	9.37	1.6370***	9.18	1.6401***	9.21
<i>BTM</i>	-4.3946***	-9.77	-4.3865***	-9.75	-4.3834***	-9.82	-4.8412***	-8.26	-4.8207***	-8.19	-4.8256***	-8.19
<i>SIZE</i>	0.4501***	6.59	0.4477***	6.46	0.4558***	6.59	0.4948***	4.31	0.4878***	4.18	0.4876***	4.15
<i>LEV</i>	-2.7239***	-3.07	-2.7431***	-3.10	-2.7521***	-3.11	-2.4782***	-3.69	-2.4399***	-3.63	-2.4470***	-3.57
<i>ZSCORE</i>	0.0555	0.35	0.0578	0.36	0.0593	0.38	-0.1318	-1.14	-0.1328	-1.16	-0.1317	-1.15
<i>ISSUE</i>	-0.9006***	-2.68	-0.8810***	-2.60	-0.8831***	-2.61	-0.6163**	-2.16	-0.6364**	-2.27	-0.6264**	-2.21
<i>LOSS</i>	3.9037***	8.53	3.9079***	8.50	3.9001***	8.51	4.0272***	9.42	4.0350***	9.35	4.0376***	9.38
<i>ROE</i>	-3.2039**	-2.28	-3.1998**	-2.26	-3.2129**	-2.28	-3.3652***	-3.56	-3.3448***	-3.50	-3.3446***	-3.52
<i>CFO</i>	1.7063**	2.39	1.6812**	2.38	1.6767**	2.35	2.0189	1.62	2.0180	1.61	2.0237	1.62
<i>LAGACCR</i>	1.9866***	2.92	2.0166***	2.97	2.0114***	2.94	1.7638***	3.10	1.7656***	3.08	1.7673***	3.08
<i>FIRST</i>	1.1718**	1.70	1.1520*	1.68	1.1724*	1.68	1.4479**	2.44	1.4553**	2.45	1.4518**	2.45
<i>DUAL</i>	0.2463***	2.50	0.2465**	2.51	0.2632***	2.75	0.1080	0.86	0.1108	0.89	0.1158	0.91
<i>INDR</i>	0.2595	0.37	0.2612	0.38	0.2336	0.34	-0.2387	-0.29	-0.2813	-0.34	-0.2801	-0.34

Table 10 continued

Variable	Section A: Subsample with lower percentage of state shareholding				Section B: Subsample with higher percentage of state shareholding							
	(1)		(2)		(3)		(4)		(5)		(6)	
	R = 200 km	t value	R = 250 km	t value	R = 300 km	t value	R = 200 km	t value	R = 250 km	t value	R = 300 km	t value
<i>BOARD</i>	-0.4296	-1.55	-0.4404	-1.60	-0.4324	-1.57	-0.6518**	-2.45	-0.6494**	-2.44	-0.6425**	-2.40
<i>MANSHR</i>	2.6004***	6.02	2.5681***	6.13	2.5865***	6.04	4.3669	1.61	4.3898	1.61	4.3886	1.60
<i>CONCENT</i>	-0.0249	-0.06	0.0686	0.14	0.1155	0.24	0.5738	1.54	0.4868	1.34	0.5198	1.33
<i>MKT</i>	-0.0110	-1.47	-0.0003	-0.02	0.0025	0.19	0.0424	1.00	0.0260	0.58	0.0325	0.72
<i>CONFU</i>	0.0743	0.73	0.0883	0.86	0.0850	0.87	0.1958	1.19	0.1926	1.20	0.1866	1.18
<i>ETHNIC</i>	0.6456	1.25	0.6577	1.30	0.6462	1.31	-1.0353*	-1.90	-1.0713*	-1.95	-1.0632*	-1.94
<i>GDPGROWTH</i>	0.2328	0.79	0.2161	0.70	0.2121	0.74	-0.1364	-0.47	-0.1345	-0.47	-0.1528	-0.56
<i>GOVERNANCE</i>	0.0084	0.40	0.0082	0.39	0.0048	0.22	-0.0172	-1.58	-0.0212*	-1.94	-0.0225**	-2.00
<i>POPULATION</i>	-0.0137**	-2.58	-0.0130**	-2.35	-0.0133**	-2.44	0.0189*	1.83	0.0196*	1.89	0.0200*	1.80
<i>INCOME</i>	-0.0083	-0.41	-0.0056	-0.29	-0.0053	-0.27	-0.0126	-0.67	-0.0097	-0.55	-0.0086	-0.45
<i>EDUCATION</i>	-5.1116	-0.39	-5.4853	-0.41	-4.0383	-0.30	20.6056*	1.81	20.5793*	1.86	20.4192*	1.79
<i>POLITICS</i>	1.3328*	1.94	1.4047*	1.97	1.4732**	2.02	2.1000***	3.48	2.0965***	3.61	2.1098***	3.60
<i>AGE</i>	81.8859***	2.88	78.4405***	2.66	77.4645***	2.62	-96.2615**	-2.15	-98.3619**	-2.16	-100.7113**	-2.13
<i>MINORITY</i>	-8.2318	-0.74	-7.6094	-0.69	-8.1664	-0.72	-1.2002	-0.19	-0.6431	-0.11	-0.7288	-0.12
<i>INTERCEPT</i>	-2.2545*	-1.94	-2.4102**	-2.00	-2.6591**	-2.24	-2.9800	-1.61	-2.7577	-1.46	-2.8631	-1.50
Industry/year	Control		Control		Control		Control		Control		Control	
<i>adj_R²</i> (%)	22.98		22.94		22.90		24.27		24.24		24.22	
Observations	6,376		6,376		6,376		4,981		4,981		4,981	
<i>F</i> (<i>p</i> value)	29.53*** (0.0000)		29.29*** (0.0000)		29.28*** (0.0000)		25.90*** (0.0000)		25.73*** (0.0000)		26.10*** (0.0000)	
Chow (1960) tests for two subsample (<i>F</i> test)							(1) versus (4)		(2) versus (5)		(3) versus (6)	
							1.38*		1.43**		1.40*	
							(0.0678)		(0.0486)		(0.0572)	
Coefficient difference in REL_R (<i>t</i> tests)							-2.86***		-3.05***		-3.22***	
							(0.0043)		(0.0023)		(0.0013)	
Coefficient difference in REL_R × REGLIST (<i>t</i> tests)							2.13**		2.14**		2.06**	
							(0.0333)		(0.0327)		(0.0398)	

***, ** and * represent the 1, 5 and 10 % levels of significance, respectively, for two-tailed tests. All reported *t*-statistics are based on standard errors adjusted for clustering at the firm level and the year level (Peterson 2009). All the variables are defined in "Appendix" section

no state ownership. As a result, it is possible that religion has different impacts on earnings management in firms with different percentages of state shareholding.²¹ Accordingly, we conduct an additional test to investigate whether the religious influence on earnings management is different in firms with different percentages of state ownership.

To address the aforementioned concern, we divide our sample into two subsamples according to the percentage of state shareholding. 6,376 firm-year observations are identified as the lower state shareholding, while 4,981 firm-year observations are identified as the higher state shareholding. And then, we re-examine Hypotheses 1 and 2 using the two subsamples separately in Table 10.

In Columns (1)–(3) of Panel A in Table 10, in the subsample with lower percentage of state shareholding, the coefficients on REL_R ($R = 200, 250, 300$ km) are negative and significant at the 1 % level (-0.0204 with $t = -3.47$, -0.0151 with $t = -2.79$ and -0.0124 with $t = -3.16$). On the contrast, in Columns (4)–(6), for the subsample with higher percentage of state shareholding, the coefficient on REL_200 is significantly negative but REL_250 and REL_300 have negative but insignificant coefficients. Above results, taken together, suggest that religious influence on earnings management is more (less) prominent in firms with less (more) governmental influence.

In addition to empirical tests, we follow Chow (1960) to examine whether the influence of religion on earnings management is invariant between the subsample with lower percentage of state shareholding and the subsample with higher percentage of state shareholding. As shown in the second last row in Panel A, the F-statistics are significant at the 5 or 10 % level across all cases (F values = 1.43, 1.49, and 1.47 for (1) vs. (4), (2) vs. (5), and (3) vs. (6), respectively), suggesting that there is systematic difference in the mitigating influence of religion on earnings management between two subsamples. Furthermore, we conduct t tests for difference in the coefficients on REL_R ($R = 200, 250, 300$ km) between two subsamples. As shown in the last row in Panel A, the coefficient differences in REL_R are negative and significant at the 1 or 5 % level across all cases (t values = -2.36 , -2.84 , and -2.95 for (1) vs. (4), (2) vs. (5), and (3) vs. (6), respectively), revealing that the mitigating effect of religion on earnings management is more pronounced for the subsample with lower percentage of state shareholding than for the subsample with higher percentage of state shareholding.

²¹ We acknowledge our great thanks to two anonymous referees for their valuable suggestion that we should discuss differences in religious influence between SOEs and non-SOEs or considering different proportions of state ownership.

Similarly, in Panel B of Table 10, results of re-examining Hypothesis 2 show that the coefficients on REL_R are significantly negative for the subsample with lower percentage of state shareholding, but for the subsample with higher percentage of state shareholding, the coefficients on REL_250 and REL_300 are negative but insignificant and only REL_200 has negative and significant coefficient. More importantly, results of the re-examining of Hypothesis 2 exhibit that the coefficients on $REL_R \times REGLIST$ are significantly positive in Columns (1)–(3), i.e., for the subsample with lower percentage of state shareholding. However, for the subsample with higher percentage of state shareholding, none of the coefficients on $REL_R \times REGLIST$ are significant. These results, taken together, suggest that the substitutive effect between religion and regulatory intensity only exists in the subsample with lower percentage of state shareholding and governmental influence.

Moreover, in the third last row of Panel B, results of Chow (1960) tests show that F-statistics are significant across all cases (F values = 1.38, 1.43, and 1.40 for (1) vs. (4), (2) vs. (5), and (3) vs. (6), respectively), suggesting that there is systematic difference between two subsamples. Moreover, in the second last row in Panel B, t tests display significantly negative (at the 1 % level) coefficient differences in REL_R (t values = -2.86 , -3.05 , and -3.22 for (1) vs. (4), (2) vs. (5), and (3) vs. (6), respectively), consistent with results in Panel A. More important, in the last row, t values for coefficient differences in $REL_R \times REGLIST$ between two subsamples are positive and significant at the 5 % level across all cases (t values = 2.13, 2.14, and 2.06 for (1) vs. (4), (2) vs. (5), and (3) vs. (6), respectively), suggesting that the influence (attenuating effect) of regulatory intensity on the association between religion and earnings management is more pronounced for the subsample with lower percentage of state shareholding than for the subsample with higher percentage of state shareholding.

Additional Tests Considering the Endogeneity Between Religion and Earnings Management

In our study, the religious measure relies on firms' registered addresses, and these addresses are mostly exogenous, because corporate location decisions are effected mainly on some economic issues, e.g., labor costs and regional governance. However, firms may take into account some social factors and prefer to settle in peaceful place. Therefore, some prior studies address the concerns about the potential endogeneity between religion and corporate behavior (Hilary and Hui 2009; El Ghouli et al. 2013; Du 2013a). We also address this concern by adopting the following tests.

First, following Du (2013a, b), we employ the reduced sample to control for the potential endogeneity between

Table 11 Additional tests of Hypotheses 1 and 2 considering the potential endogeneity between religion and earnings management

Variable	Section A: Hypothesis 1					
	(1)		(2)		(3)	
	<i>R</i> = 200 km		<i>R</i> = 250 km		<i>R</i> = 300 km	
	Coefficient	<i>t</i> value	Coefficient	<i>t</i> value	Coefficient	<i>t</i> value
Panel A: Additional checks of Hypotheses 1 and 2 considering the potential endogeneity between religion and earnings management using reduced sample excluding firms in eight provinces						
<i>REL_R</i>	-0.0193***	-3.06	-0.0115**	-2.20	-0.0100**	-2.48
<i>REGLIST</i>						
<i>REL_R</i> × <i>REGLIST</i>						
<i>LNBGS</i>	-0.0921	-1.41	-0.0898	-1.37	-0.0920	-1.40
<i>BIG4</i>	-0.0635	-0.31	-0.0631	-0.31	-0.0637	-0.31
<i>TENURE</i>	-0.0249	-0.29	-0.0226	-0.26	-0.0267	-0.31
<i>INDSPEC</i>	-0.1087	-1.31	-0.1069	-1.28	-0.1074	-1.28
<i>CHGSALE</i>	1.6952***	7.68	1.6958***	7.72	1.6983***	7.72
<i>BTM</i>	-4.5385***	-10.23	-4.5301***	-10.20	-4.5307***	-10.23
<i>SIZE</i>	0.4650***	6.76	0.4621***	6.74	0.4647***	6.75
<i>LEV</i>	-2.7760***	-4.26	-2.7691***	-4.26	-2.7683***	-4.25
<i>ZSCORE</i>	0.0145	0.12	0.0137	0.12	0.0148	0.13
<i>ISSUE</i>	-0.7284***	-3.26	-0.7363***	-3.28	-0.7419***	-3.30
<i>LOSS</i>	3.9842***	10.45	3.9881***	10.42	3.9852***	10.40
<i>ROE</i>	-3.0879***	-2.88	-3.0789***	-2.86	-3.0831***	-2.87
<i>CFO</i>	1.8830***	2.84	1.8840***	2.85	1.8856***	2.85
<i>LAGACCR</i>	2.0844***	3.83	2.0921***	3.83	2.0860***	3.83
<i>FIRST</i>	1.2608***	2.75	1.2593***	2.74	1.2777***	2.77
<i>DUAL</i>	0.2029**	2.28	0.2041**	2.28	0.2089**	2.33
<i>INDR</i>	0.0672	0.08	0.0760	0.09	0.0658	0.08
<i>BOARD</i>	-0.5023**	-2.45	-0.4961**	-2.43	-0.4924**	-2.41
<i>MANSHR</i>	2.6103***	3.46	2.5927***	3.46	2.5994***	3.47
<i>CONCENT</i>	0.2589	0.64	0.2480	0.61	0.2673	0.65
<i>STATE</i>	-0.1188	-1.05	-0.1205	-1.06	-0.1195	-1.06
<i>MKT</i>	0.0222	0.68	0.0193	0.54	0.0201	0.60
<i>CONFU</i>	0.1396	1.27	0.1427	1.28	0.1515	1.34
<i>GDPGROWTH</i>	-0.1328	-0.92	-0.1325	-0.93	-0.1139	-0.78
<i>GOVERNANCE</i>	-0.0016	-0.13	-0.0031	-0.24	-0.0038	-0.30
<i>POPULATION</i>	-0.0003	-0.02	-0.0000	-0.00	-0.0005	-0.03
<i>INCOME</i>	-0.0053	-0.32	-0.0033	-0.20	-0.0045	-0.27
<i>EDUCATION</i>	7.0054	0.85	6.6383	0.81	8.1075	0.97
<i>POLITICS</i>	1.8582***	3.22	1.8825***	3.27	1.9149***	3.31
<i>AGE</i>	1.9248	0.05	1.3668	0.04	1.5647	0.04
<i>MINORITY</i>	-1.0072	-0.14	-0.4162	-0.06	-0.6652	-0.09
<i>INTERCEPT</i>	-3.2187***	-2.72	-3.2372***	-2.76	-3.2920***	-2.78
Industry/year	Control		Control		Control	
<i>adj_R</i> ² (%)	23.02		22.99		22.99	
Observations	10,669		10,669		10,669	
<i>F</i> (<i>p</i> value)	32.95*** (0.0000)		32.91*** (0.0000)		32.91*** (0.0000)	
Panel B: Additional checks of Hypotheses 1 and 2 considering the potential endogeneity between religion and earnings management using reduced sample from defined industries						
<i>REL_R</i>	-0.0316**	-2.55	-0.0164*	-1.71	-0.0213**	-2.54
<i>REGLIST</i>						
<i>REL_R</i> × <i>REGLIST</i>						
<i>LNBGS</i>	0.0371	0.30	0.0428	0.35	0.0355	0.29

Table 11 continued

Variable	Section A: Hypothesis 1					
	(1)		(2)		(3)	
	<i>R</i> = 200 km		<i>R</i> = 250 km		<i>R</i> = 300 km	
	Coefficient	<i>t</i> value	Coefficient	<i>t</i> value	Coefficient	<i>t</i> value
<i>BIG4</i>	-0.2072	-0.73	-0.2148	-0.76	-0.2082	-0.74
<i>TENURE</i>	0.0739	0.56	0.0825	0.65	0.0654	0.50
<i>INDSPEC</i>	-0.1346	-0.98	-0.1301	-0.94	-0.1240	-0.91
<i>CHGSALE</i>	0.9410***	3.04	0.9447***	3.02	0.9478***	3.04
<i>BTM</i>	-4.2316***	-7.92	-4.2296***	-7.91	-4.2325***	-7.92
<i>SIZE</i>	0.2202	1.45	0.2130	1.42	0.2219	1.47
<i>LEV</i>	-1.7485*	-1.95	-1.7854**	-1.96	-1.7745**	-1.97
<i>ZSCORE</i>	-0.0288	-0.22	-0.0191	-0.14	-0.0256	-0.19
<i>ISSUE</i>	-1.1239***	-3.30	-1.1276***	-3.31	-1.1267***	-3.26
<i>LOSS</i>	3.6596***	8.09	3.6679***	8.09	3.6603***	8.06
<i>ROE</i>	-2.0421*	-1.69	-2.0162*	-1.65	-2.0205*	-1.66
<i>CFO</i>	0.3976	0.31	0.4108	0.32	0.4217	0.32
<i>LAGACCR</i>	1.5390*	1.78	1.5570*	1.79	1.5329*	1.77
<i>FIRST</i>	2.0486**	2.40	2.0078**	2.34	2.0824**	2.43
<i>DUAL</i>	0.0696	0.33	0.0607	0.29	0.0795	0.38
<i>INDR</i>	0.8395	0.69	0.9178	0.76	0.8884	0.74
<i>BOARD</i>	-0.6666**	-2.15	-0.6337**	-2.10	-0.6185**	-2.06
<i>MANSHR</i>	2.4428***	3.53	2.4378***	3.50	2.4177***	3.42
<i>CONCENT</i>	-0.0303	-0.06	-0.1194	-0.24	0.0825	0.17
<i>STATE</i>	-0.1823	-0.87	-0.1744	-0.83	-0.1715	-0.82
<i>MKT</i>	0.1136***	3.51	0.1004***	3.01	0.1260***	3.68
<i>CONFU</i>	0.0904	0.44	0.0897	0.44	0.1316	0.62
<i>ETHNIC</i>	-0.2060	-0.41	-0.2268	-0.44	-0.2399	-0.47
<i>GDPGROWTH</i>	-0.0591	-0.11	-0.0724	-0.13	0.0023	0.00
<i>GOVERNANCE</i>	-0.0028	-0.22	-0.0065	-0.49	-0.0053	-0.40
<i>POPULATION</i>	0.0091	0.83	0.0114	1.04	0.0075	0.69
<i>INCOME</i>	0.0299	1.29	0.0337	1.40	0.0318	1.38
<i>EDUCATION</i>	7.5538	0.51	8.3703	0.57	11.0672	0.77
<i>POLITICS</i>	3.3310**	2.10	3.2971**	2.13	3.5017**	2.22
<i>AGE</i>	-20.3767	-1.28	-26.3493*	-1.65	-19.3754	-1.23
<i>MINORITY</i>	0.6615	0.07	2.1230	0.22	1.1624	0.12
<i>INTERCEPT</i>	-2.2224	-1.01	-2.1618	-0.99	-2.6545	-1.20
Industry/year	Control		Control		Control	
<i>adj_R</i> ² (%)	21.59		21.49		21.60	
Observations	3,162		3,162		3,162	
<i>F</i> (<i>p</i> value)	12.58*** (0.0000)		12.55*** (0.0000)		12.60*** (0.0000)	

Variable	Section B: Hypothesis 2							
	(4)		(5)		(6)		(7)	
	<i>REGLIST</i>		<i>R</i> = 200 km		<i>R</i> = 250 km		<i>R</i> = 300 km	
	Coefficient	<i>t</i> value	Coefficient	<i>t</i> value	Coefficient	<i>t</i> value	Coefficient	<i>t</i> value
<i>REL_R</i>			-0.0568***	-4.00	-0.0403***	-2.98	-0.0224**	-2.49
<i>REGLIST</i>	-0.1676**	-2.00	-0.4330***	-2.91	-0.3941**	-2.38	-0.3287**	-2.05
<i>REL_R</i> × <i>REGLIST</i>			0.0514***	3.27	0.0366**	2.48	0.0183*	1.87

Panel A: Additional checks of Hypotheses 1 and 2 considering the potential endogeneity between religion and earnings management using reduced sample excluding firms in eight provinces

<i>REL_R</i>			-0.0568***	-4.00	-0.0403***	-2.98	-0.0224**	-2.49
<i>REGLIST</i>	-0.1676**	-2.00	-0.4330***	-2.91	-0.3941**	-2.38	-0.3287**	-2.05
<i>REL_R</i> × <i>REGLIST</i>			0.0514***	3.27	0.0366**	2.48	0.0183*	1.87

Table 11 continued

Variable	Section B: Hypothesis 2							
	(4)		(5)		(6)		(7)	
	<i>REGLIST</i>		<i>R</i> = 200 km		<i>R</i> = 250 km		<i>R</i> = 300 km	
	Coefficient	<i>t</i> value	Coefficient	<i>t</i> value	Coefficient	<i>t</i> value	Coefficient	<i>t</i> value
<i>LNBSG</i>	-0.0892	-1.36	-0.0905	-1.38	-0.0878	-1.34	-0.0914	-1.39
<i>BIG4</i>	-0.0556	-0.28	-0.0877	-0.44	-0.0841	-0.42	-0.0730	-0.36
<i>TENURE</i>	-0.0299	-0.36	-0.0434	-0.50	-0.0416	-0.49	-0.0423	-0.50
<i>INDSPEC</i>	-0.1185	-1.44	-0.1078	-1.30	-0.1066	-1.27	-0.1078	-1.29
<i>CHGSALE</i>	1.7018***	7.86	1.6991***	7.71	1.6970***	7.76	1.7017***	7.77
<i>BTM</i>	-4.5143***	-10.15	-4.5469***	-10.26	-4.5330***	-10.23	-4.5326***	-10.20
<i>SIZE</i>	0.4651***	6.77	0.4683***	6.82	0.4654***	6.78	0.4696***	6.72
<i>LEV</i>	-2.7542***	-4.21	-2.7376***	-4.18	-2.7453***	-4.21	-2.7520***	-4.21
<i>ZSCORE</i>	0.0171	0.14	0.0121	0.10	0.0119	0.10	0.0129	0.11
<i>ISSUE</i>	-0.7563***	-3.38	-0.7596***	-3.38	-0.7530***	-3.36	-0.7512***	-3.36
<i>LOSS</i>	3.9901***	10.42	3.9837***	10.40	3.9906***	10.36	3.9862***	10.37
<i>ROE</i>	-3.0705***	-2.84	-3.0863***	-2.89	-3.0735***	-2.85	-3.0852***	-2.87
<i>CFO</i>	1.8925***	2.85	1.9073***	2.86	1.9008***	2.88	1.8924***	2.84
<i>LAGACCR</i>	2.0912***	3.84	2.0535***	3.83	2.0735***	3.84	2.0762***	3.85
<i>FIRST</i>	1.2175***	2.62	1.2980***	2.86	1.2859***	2.83	1.2988***	2.83
<i>DUAL</i>	0.2020**	2.26	0.1808**	2.05	0.1849**	2.10	0.1943**	2.20
<i>INDR</i>	0.0700	0.09	0.1099	0.13	0.0798	0.10	0.0675	0.08
<i>BOARD</i>	-0.4940**	-2.42	-0.4891**	-2.37	-0.5018**	-2.45	-0.4922**	-2.40
<i>MANSHR</i>	2.6254***	3.55	2.5971***	3.50	2.5825***	3.49	2.5866***	3.47
<i>CONCENT</i>	0.1125	0.29	0.1666	0.44	0.1732	0.45	0.2401	0.61
<i>STATE</i>	-0.1214	-1.07	-0.1120	-0.99	-0.1138	-1.01	-0.1130	-1.01
<i>MKT</i>	0.0003	0.01	0.0049	0.15	0.0080	0.22	0.0190	0.56
<i>CONFU</i>	0.1331	1.17	0.1701	1.47	0.1744	1.50	0.1641	1.40
<i>GDPGROWTH</i>	-0.1792	-1.47	-0.1201	-0.93	-0.1358	-1.05	-0.1393	-1.09
<i>GOVERNANCE</i>	-0.0082	-0.63	0.0012	0.09	-0.0006	-0.04	-0.0040	-0.31
<i>POPULATION</i>	0.0008	0.06	-0.0020	-0.15	-0.0019	-0.14	-0.0021	-0.16
<i>INCOME</i>	-0.0043	-0.26	-0.0097	-0.57	-0.0079	-0.47	-0.0081	-0.49
<i>EDUCATION</i>	7.0097	0.86	9.0142	1.12	8.7651	1.09	9.5789	1.17
<i>POLITICS</i>	1.7772***	3.13	1.7566***	3.17	1.7947***	3.19	1.8495***	3.24
<i>AGE</i>	-1.1083	-0.03	5.1969	0.15	4.7453	0.13	3.8671	0.11
<i>MINORITY</i>	-0.9999	-0.14	-2.1960	-0.31	-1.3181	-0.18	-1.8225	-0.25
<i>INTERCEPT</i>	-2.9320**	-2.49	-2.8735**	-2.52	-2.8757***	-2.58	-3.0783***	-2.67
Industry/year	Control		Control		Control		Control	
<i>adj_R</i> ² (%)	22.97		23.12		23.07		23.02	
Observations	10,669		10,669		10,669		10,669	
<i>F</i> (<i>p</i> value)	32.94*** (0.0000)		32.00*** (0.0000)		31.96*** (0.0000)		31.95*** (0.0000)	
Panel B: Additional checks of Hypotheses 1 and 2 considering the potential endogeneity between religion and earnings management using reduced sample from defined industries								
<i>REL_R</i>			-0.0702***	-2.82	-0.0493*	-1.96	-0.0398**	-2.41
<i>REGLIST</i>	-0.2977*	-1.84	-0.6388**	-2.03	-0.5834*	-1.84	-0.5848*	-1.84
<i>REL_R</i> × <i>REGLIST</i>			0.0628**	2.13	0.0455*	1.68	0.0305*	1.72
<i>LNBSG</i>	0.0420	0.34	0.0275	0.23	0.0372	0.31	0.0289	0.24
<i>BIG4</i>	-0.2348	-0.83	-0.2396	-0.86	-0.2371	-0.84	-0.2388	-0.85
<i>TENURE</i>	0.0781	0.62	0.0409	0.32	0.0530	0.43	0.0371	0.30
<i>INDSPEC</i>	-0.1446	-1.05	-0.0952	-0.72	-0.1006	-0.74	-0.1034	-0.79
<i>CHGSALE</i>	0.9539***	3.04	0.9595***	3.08	0.9608***	3.05	0.9620***	3.09

Table 11 continued

Variable	Section B: Hypothesis 2							
	(4)		(5)		(6)		(7)	
	<i>REGLIST</i>		<i>R</i> = 200 km		<i>R</i> = 250 km		<i>R</i> = 300 km	
	Coefficient	<i>t</i> value	Coefficient	<i>t</i> value	Coefficient	<i>t</i> value	Coefficient	<i>t</i> value
<i>BTM</i>	-4.2055***	-7.87	-4.2430***	-7.91	-4.2280***	-7.90	-4.2429***	-7.91
<i>SIZE</i>	0.2167	1.43	0.2333	1.54	0.2235	1.48	0.2402	1.56
<i>LEV</i>	-1.8383**	-1.99	-1.7818**	-1.97	-1.8123**	-1.98	-1.8295**	-1.99
<i>ZSCORE</i>	-0.0101	-0.07	-0.0292	-0.22	-0.0211	-0.16	-0.0286	-0.21
<i>ISSUE</i>	-1.1232***	-3.27	-1.1519***	-3.26	-1.1391***	-3.25	-1.1297***	-3.18
<i>LOSS</i>	3.6790***	8.08	3.6922***	7.96	3.6991***	7.93	3.6831***	7.98
<i>ROE</i>	-2.0312*	-1.66	-2.0605*	-1.70	-2.0254*	-1.66	-2.0489*	-1.69
<i>CFO</i>	0.4015	0.31	0.4283	0.33	0.4282	0.33	0.4261	0.33
<i>LAGACCR</i>	1.5464*	1.78	1.4846*	1.78	1.5229*	1.81	1.4959*	1.79
<i>FIRST</i>	1.9068**	2.19	2.1513**	2.56	2.0909**	2.49	2.1640**	2.53
<i>DUAL</i>	0.0386	0.19	0.0393	0.19	0.0409	0.19	0.0625	0.30
<i>INDR</i>	0.8318	0.68	0.9145	0.75	0.9316	0.78	0.8561	0.71
<i>BOARD</i>	-0.6154**	-2.09	-0.6447**	-2.11	-0.6266**	-2.08	-0.6080**	-2.01
<i>MANSHR</i>	2.4490***	3.65	2.4234***	3.44	2.4028***	3.42	2.3783***	3.34
<i>CONCENT</i>	-0.2792	-0.51	0.0251	0.05	-0.0463	-0.09	0.1985	0.38
<i>STATE</i>	-0.1549	-0.75	-0.1756	-0.85	-0.1768	-0.86	-0.1675	-0.81
<i>MKT</i>	0.0809**	2.07	0.1108***	3.24	0.1062***	3.14	0.1377***	3.83
<i>CONFU</i>	0.0374	0.19	0.0793	0.38	0.0856	0.42	0.1036	0.49
<i>ETHNIC</i>	-0.2780	-0.53	-0.4150	-0.74	-0.3931	-0.68	-0.4022	-0.71
<i>GDPGROWTH</i>	-0.1707	-0.32	-0.0360	-0.07	-0.1226	-0.24	-0.0324	-0.06
<i>GOVERNANCE</i>	-0.0064	-0.49	-0.0009	-0.07	-0.0023	-0.18	-0.0014	-0.11
<i>POPULATION</i>	0.0106	0.90	0.0051	0.42	0.0063	0.51	0.0022	0.17
<i>INCOME</i>	0.0228	1.00	0.0120	0.43	0.0154	0.51	0.0130	0.45
<i>EDUCATION</i>	8.8217	0.61	10.5687	0.66	10.6192	0.68	13.8116	0.88
<i>POLITICS</i>	2.9081*	1.82	3.1048**	2.05	3.0811**	2.07	3.2627**	2.17
<i>AGE</i>	-23.9466	-1.40	-13.5461	-0.68	-16.0585	-0.83	-9.4567	-0.48
<i>MINORITY</i>	2.0650	0.22	-2.0262	-0.22	-0.7839	-0.09	-1.1800	-0.13
<i>INTERCEPT</i>	-1.4905	-0.69	-1.6818	-0.75	-1.5880	-0.72	-2.2702	-1.01
Industry/year	Control		Control		Control		Control	
<i>adj_R</i> ² (%)	21.49		21.77		21.63		21.73	
Observations	3,162		3,162		3,162		3,162	
<i>F</i> (<i>p</i> value)	12.59*** (0.0000)		12.19*** (0.0000)		12.12*** (0.0000)		12.19*** (0.0000)	

***, ** and * represent the 1, 5 and 10 % levels of significance, respectively, for two-tailed tests. All reported t-statistics are based on standard errors adjusted for clustering at the firm level and the year level (Petersen 2009). All the variables are defined in “Appendix” section

religion and earnings management. Listed firms with registered addresses in five ethnic minority autonomous regions (i.e., *Xinjiang, Tibet, Inner Mongolia, Guangxi and Ningxia*) are eliminated, because religion sites are in the Han area. We also exclude firms located in *Gansu, Hainan, and Qinghai* because these provinces have no nationally famous religious sites. As a result, 688 observations are dropped and the multivariable tests are reported in Panel A of Table 11.

Columns (1)–(3) of Panel A in Table 11 show the results for Hypothesis 1 and the coefficients on *REL_R* are negative and significant as expected. Moreover, in Columns (5)–(7) of Panel A in Table 11, *REL_R* × *REGLIST* have significantly positive coefficients.

Second, following El Ghouli et al. (2012) and Du (2013a), to control for the potential endogeneity between religion and earnings management, we re-estimate Eqs. (1) and (2) using firm-year observations in defined industries



(i.e., the agriculture, mining, construction, transportation and warehousing, information technology, wholesale and retail, and production and supply of electricity, steam and tap water). Listed firms in these defined industries display a particularly pronounced tendency to locate in areas reflecting the nature of their production process.

As shown in Columns (1)–(3) of Panel B in Table 11, the coefficients on *REL200*, *REL250*, and *REL300* are significantly negative, consistent with Hypothesis 1. Moreover, Columns (5)–(7) show that *REL_R* × *REGLIST* has significantly positive coefficients ($R = 200, 250, 300$ km), providing strong support to Hypothesis 2 and qualitatively similar to those in Table 5.

In short, results in Table 11 produce statistically indistinguishable results compared with those in Tables 4 and 5, corroborating that religion is negatively associated with earnings management, and the association is weaker for firms which are closer to the security regulators.

Conclusions

In this study, using geographic-proximity-based religion variables, we empirically investigate the role played by religion in mitigating Chinese listed firms' earnings management. Moreover, we further examine the interactive effects between geographic-proximity-based religion variables and the distance to regulatory centers (regulatory intensity) on earnings management. Our study is motivated by some recent studies which find that religion is likely to influence individual behavior as well as corporate decision-making. Particularly, some studies shed light on the influence of religion on corporate earnings management (Grullon et al. 2010; Dyreng et al. 2012; McGuire et al. 2012) and contend that religion can curb firms' improper behavior in the U.S. Our study complements those above literature by providing evidence in Chinese context. In the meanwhile, these findings are important given that Chinese society is undergoing an extraordinary religious revival. The government should not ignore the religious and culture power in sustaining a harmonious society. Also, we extend extant studies on special information content from the perspective of geographic dissemination. It would be the interest of regulators, since it demonstrates that the geographic proximity between regulators and listed firms can be beneficial to improve earnings quality.

Our findings have several implications as below. First, the negative association between religion and earnings management implies that religion *does* affect corporate behavior in China, adding to the existing literature on the influence of Western religions on corporate decisions. Our findings are crucial for displaying religious influence and thus may reverse some earlier impressions that China's

religion is insignificant because atheism and Marxism-Leninism are dominant tenets. Indeed, our findings suggest that religion plays an increasingly important role in influencing corporate behavior in China.

Second, our findings suggest that religion (Buddhism and Taoism in our study), an important informal system and a set of social norms, can help reduce managers' unethical behavior and thus mitigate earnings management. Therefore, our finding that religion mitigates earnings management has important implications for emerging markets with less effective corporate governance mechanism and weaker business ethics.

Third, our findings show the substitutive effects between the distance to regulators and religion on mitigating earnings management. This finding means that religion plays a less-pronounced role in mitigating earnings management for firms closer to regulators than for their counterparts, implying the substitutive role between formal institutions and informal system (religion in our study) in strengthening business ethics and mitigating managerial unethical behavior like earnings management.

Finally, our finding reveals that religious influence on earnings management is different among firms with different percentages (proportions) of state shareholding, meaning that political environment may differentiate the extent of religious influence on some corporate behavior. This finding suggests that it is necessary for researchers to take political institution into account in a given country or region when they investigate the influence of informal institution (e.g., religion) on corporate behavior.

Our empirical findings are subject to two limitations. First, we follow Du (2013a, b) to measure religion variables as the number of nationally famous religious sites, rather than all religious sites, within a certain radius around a listed firm's registered address due to the limitations of data on the longitudes and latitudes of thousands of Buddhist monasteries and Taoist temples. Second, because of data limitation, we cannot examine the influence of individual religiosity on earnings management. Maybe it is better to jointly use geographic-proximity-based religion variables and religion variables based on individual religiosity. Finally, due to data limitation, we cannot investigate whether Western religions and Eastern religions have asymmetric impacts on earnings management in Chinese listed firms, and then compare. Future studies can focus on the competitive or asymmetric influence of different religions on earnings management and other corporate decisions.

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Appendix

See Table 12.

Table 12 Variable definitions

Variable	Definition	Data source
Variables for main tests		
<i>IDA</i>	The absolute value of discretionary accruals based on the model in Ball and Shivakumar (2006)	Author's calculation (A'C)
<i>REL_R</i>	The number of religious sites (Buddhist monasteries and Taoist temples) within a radius of <i>R</i> kilometers ($R = 200, 250, 300$ km) around a listed firm's registered address (Du 2013a, b)	A'C based on CSMAR and Google-earth
<i>REGLIST</i>	A dummy variable for the geographic proximity between regulators and listed firms, equaling 1 if the average distance between a listed firm and three financial regulator (i.e., Beijing, Shanghai, Shenzhen) is less than the median value of the sample and 0 otherwise	A'C based on CSMAR and Google-earth
<i>LNBSG</i>	The natural logarithm of the sum of business, product, and geographic segments minus 2 (Francis and Yu 2009; Choi et al. 2012)	CSMAR
<i>BIG4</i>	A dummy variable, equaling 1 when the auditor is a Big 4 accounting firm (including affiliated firms) and 0 otherwise (Becker et al. 1998; Fan and Wong 2005)	www.cicpa.org.cn
<i>TENURE</i>	A dummy variable, equaling 1 if auditor tenure is ≤ 3 years, 0 otherwise (Myers et al. 2003; Reichelt and Wang 2010; Choi et al. 2012)	CSMAR
<i>INDSPEC</i>	A dummy variable of auditor industry expertise, equaling 1 if the audit firm is the specific industry leader (based on the share of audit fees) for the audit year in the provincial audit market, and 0 otherwise (Myers et al. 2003; Reichelt and Wang 2010; Choi et al. 2012)	A'C based on CSMAR
<i>CHGSALE</i>	The change in sales deflated by lagged total assets (Choi et al. 2012)	A'C based on CSMAR
<i>BTM</i>	The book-to-market ratio (Choi et al. 2012)	CSMAR
<i>SIZE</i>	Firm size, measured as the natural logarithm of total assets	CSMAR
<i>LEV</i>	Financial leverage, measured as the ratio of total liabilities to total assets	CSMAR
<i>ZSCORE</i>	Modified Altman (1968)'s Z-score, equaling 2 if Z-score is < 1.80 , 1 if Z-score is between 1.80 and 3.00 and 0 otherwise (Burgstahler and Dichev 1997; Choi et al. 2012; Kothari et al. 2005)	A'C based on CSMAR
<i>ISSUE</i>	A dummy variable, equaling 1 if the sum of debt and equity issued during the past 3 years is more than 5 % of the total assets, and 0 otherwise (Chen and Yuan 2004; Choi et al. 2012; Haw et al. 2005; Teoh et al. 1998)	A'C based on CSMAR
<i>LOSS</i>	A dummy variable, equaling 1 if a firm reports negative net income in the year	CSMAR
<i>ROE</i>	Return on net assets, measured as net operating income deflated by net assets	CSMAR
<i>CFO</i>	Operating cash flows deflated by the lagged total assets (Dechow et al. 1998; Kothari et al. 2005; Chen et al. 2011)	CSMAR
<i>LAGACCR</i>	One-year lagged total accruals, and accruals are calculated as income before extraordinary items minus operating cash flows deflated by the lagged total assets (Kim et al. 2003; Choi et al. 2012)	A'C based on CSMAR
<i>FIRST</i>	The percentage of common shares owned by controlling shareholder (Dechow et al. 1996; Klein 2002; Liu and Lu 2007; Siregar and Utama 2008; Xie et al. 2003)	CSMAR
<i>DUAL</i>	A dummy variable, equaling 1 if the CEO and the chairman of the board are the same person and 0 otherwise	CSMAR
<i>INDR</i>	The ratio of independent directors, measured as the number of independent directors to the total number of directors in the boardroom	CSMAR
<i>BOARD</i>	The natural logarithm of the number of directors in the boardroom (Dechow et al. 1996; Klein 2002; Liu and Lu 2007; Siregar and Utama 2008; Xie et al. 2003)	CSMAR
<i>MANSHR</i>	The percentage of shares owned by a firm's managers	CSMAR

Table 12 continued

Variable	Definition	Data source
<i>CONCENT</i>	Auditor concentration by province, measured as the Herfindahl index of the number of clients for each audit office (Choi et al. 2012).	A'C based on CSMAR
<i>STATE</i>	A dummy variable for the percentage of state shareholding, equaling 1 if the percentage of state shareholding in a firm is greater than the median value in a specific year and 0 otherwise (Chen et al. 2011; Jian and Wong 2010; Jiang et al. 2010)	A'C based on CSMAR
<i>MKT</i>	Marketization index, which measures the whole institution development of each province in China (Fan et al. 2011)	Fan et al. (2011)
<i>CONFU</i>	A dummy variable, equaling 1 if the firm's registered address is in seven provinces (i.e., Shandong, Henan, Sichuan, Fujian, Jiangsu, Zhejiang and Jiangxi) in which there are one or more nationally famous Confucianism centers and 0 otherwise (Du 2013b)	A'C based on CSMAR
<i>ETHNIC</i>	A dummy variable, equaling 1 if the firm's registered address is in five ethnic minority autonomous regions (Guangxi, Ningxia, Xinjiang, Tibet and Inner Mongolia), and 0 otherwise (Leuz et al. 2003)	A'C based on CSMAR
<i>GDPGROWTH</i>	The provincial GDP growth (Leuz et al. 2003)	China Statistical Yearbook
<i>GOVERNANCE</i>	The rank (from 31 to 1) of the score in list of Chinese Government Transparency issued by the research Center in Chinese Academy of Social Sciences and Social Science Academic Press (McGuire et al. 2012)	The List of Chinese Government Transparency
<i>POPULATION</i>	The number of the population for each province in millions (McGuire et al. 2012)	China Statistical Yearbook
<i>INCOME</i>	The average province-level income per capita in thousand Yuan (Arano and Blair 2008; McGuire et al. 2012)	China Statistical Yearbook
<i>EDUCATION</i>	The number of people with a college education in each province divided by the total number of population with a college education in China (McGuire et al. 2012)	China Statistical Yearbook
<i>POLITICS</i>	The percentage of listed firms with political connection in each province (McGuire et al. 2012)	Author's calculation (A'C)
<i>AGE</i>	The amount of residents with age ranging from 15 to 64 in each province divided by the whole amount of the residents with age ranging from 15 to 64 in China (McGuire et al. 2012)	China Statistical Yearbook
<i>MINORITY</i>	The percentage of racial minorities in each province divided by the whole amount of the racial minorities in China (McGuire et al. 2012)	China Statistical Yearbook
Variables for robustness checks		
<i>AQ</i>	Accrual quality based on Dechow and Dichev (2002)'s rolling five-year method	Author's calculation (A'C)
<i> DA_OI </i>	The absolute value of discretionary accruals using operating income based on the model in Ball and Shivakumar (2006)	Author's calculation (A'C)
<i>REL_DIS_N</i>	The reciprocal value of the distance between the nearest <i>N</i> religious sites and a listed firm's registered address ($N = 1, 2, 3$) (Du et al. 2013b)	A'C based on <i>Google-earth</i>
<i>REGLIST_DIS</i>	The geographic proximity between regulators and listed firms, equaling the reciprocal value of the average distance between a listed firm and three (financial) regulatory centers (i.e., Beijing, Shanghai, Shenzhen)	A'C based on <i>Google-earth</i>

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