Religion, the Nature of Ultimate Owner, and Corporate Philanthropic Giving: Evidence from China

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Abstract   Using a sample of Chinese listed firms for the period of 2004–2010, this study examines the impact of religion on corporate philanthropic giving. Based on hand-collected data of religion and corporate philanthropic giving, we provide strong and robust evidence that religion is significantly positively associated with Chinese listed firms' philanthropic giving. This finding is consistent with the view that religiosity has remarkable effects on individual thinking and behavior, and can serve as social norms to influence corporate philanthropy. Moreover, religion and corporate philanthropic giving have a significantly weaker (less pronounced) positive association for state-owned enterprises than for non-state-owned enterprises. The results are robust to a variety of sensitivity tests. Our results highlight religious influence on corporate philanthropic giving in contemporary China, an old traditional country with a typical communist economy.

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Introduction

Corporate philanthropic giving has drawn a great deal of attention from researchers (Vaidyanathan 2008). Extant studies, especially those published in the *Journal of Business Ethics*, focus on the determinations and economic consequences of corporate philanthropy (e.g., File and Prince 1998; Gao et al. 2012; Sánchez 2000; Mitschow 2000; MacDonald et al. 2002; Morris et al. 2003; Williams 2003; Brammer and Millington 2005; Choi and Wang 2007; Chen et al. 2008; Patten 2008; Crampton and Patten 2008; Zhang et al. 2009; Amato and Amato 2012; Maas and Liket 2011). To our knowledge, however, previous literature has rarely examined religious influence on corporate philanthropic giving.

China's religious tradition has a long history. Taoism, the indigenous religion, originated nearly 1,900 years ago. Religious belief, important in Chinese philosophy, has deep roots and serves to fill the spiritual vacuum as Chinese people face today's fast-paced and changing society. In the past 35 years since the Chinese government took a new proactive approach to religious activities, religion has blossomed, flourished, and far outpaced expectations. These observations motivate us to address religion's impact on corporate philanthropy.

Almost all world religions teach the value of charity as a way of transferring wealth. Historically, two traditional and influential religions, Buddhism and Taoism, have encouraged the Chinese to take care of others and forego personal interests. Therefore, we expect that religion positively

affects firms in making philanthropic decisions. In contrast with US studies using county-level religiosity measure, our study refers to Du (2012) and constructs quasi-firm-level religious variables, measured as the number of nationally famous religious sites, mostly Buddhist monasteries and Taoist temples, within a certain radius around the firm's registered address. We collect data regarding religion and corporate philanthropic giving and provide strong and robust evidence that religion is significantly positively associated with corporate philanthropic giving. Moreover, the nature of the ultimate owner affects the positive association between religion and corporate philanthropy which is significantly weakened and less-pronounced for state-owned enterprises (SOEs) than for non-state-owned enterprises (non-SOEs).

Our study contributes to the extant literature in the following ways. First, to our knowledge, this study is the first to address the concern about whether and how religion, as an important social norm, can influence corporate decisions about philanthropic giving. Prior studies in religion, psychology, and anthropology find that religion powerfully affects individual thoughts and behaviors, which then reverberates to enhance philanthropic behavior (e.g., Angelidis and Ibrahim 2004; Conroy and Emerson 2004). Those studies provide little evidence, however, about religious influence on corporate philanthropic decisions, and we intend to fill that gap by addressing this issue.

Second, our findings suggest that religion can serve as an alternative mechanism to urge firms toward philanthropic giving in emerging markets like China where business ethics are still evolving and dynamic. Although traditional religion teaches that "helping others will benefit you as well", many Chinese enterprises have not yet begun to appreciate the value of corporate philanthropic giving (Baskin 2006). Instead, they remain apathetic about corporate philanthropy or fulfill their corporate philanthropy in appearance rather than in substance. Our findings suggest that religion, as a social norm, can facilitate Chinese firms to assume their role in corporate philanthropy.

Third, our study considers the importance of the nature of ultimate owners for moderating the positive association between religion and corporate philanthropy. When studying Chinese business operations, we must consider that SOEs operate under a sensitive political environment. We find that the divergent nature of ultimate owners differentially influence corporate philanthropic giving, and further religion and corporate philanthropy have a less-pronounced positive association for SOEs. This finding supplements some prior studies that solely investigate administrative forces on corporate philanthropy in China's "communist religious economy" (e.g., Gao et al. 2012; Zhang et al. 2009).

Fourth, our study belongs to a very thin line of literature seeking to measure firm-level religious variables. Our measure can borrow support from findings that geographic dissemination, distance, and characteristics have varying information content (El Ghoul et al. 2012a; John et al. 2011; Loughran 2007; Du 2012). Previous studies (Hilary and Hui 2009; McGuire et al. 2012; El Ghoul et al. 2012b) adopt county or region-level religious measures that may generate serious cross-sectional self-correlation of regression results (Wines and Napier 1992; Du 2012), but firm-level religious variables can overcome such weaknesses.

Finally, our study is one of the very thin studies to illuminate religion's role in the behavior of Chinese listed firms. Prior studies in this area focus mostly on the United States, but there is an absence of persuasive evidence about religious influence outside the United States although a few studies address this issue (e.g., Bekkers 2003; Tao and Yeh 2007). Do religious social norms play an important role in other less-developed market settings like China? Our study fills these voids by examining whether and how religion, particularly Buddhism and Taoism, influences philanthropic giving in Chinese listed firms. Recognizing that China is the world's second largest economy, our study complements extant literature and provides additional evidence about whether and how religions other than Christianity have economic consequences.

The remainder of the paper is organized as follows. Second section introduces institutional background and develops research hypotheses. Third section introduces the empirical models and the measure of religious variables. Fourth section describes our sample and reports basic descriptive statistics. Fifth and sixth sections present the regression results and robustness checks, respectively. In the final section, we present our conclusions.

Institutional Background and Hypotheses Development

Institutional Background

Buddhism and Taoism are the principal religions currently registered in China. Buddhism is China's oldest foreign religion, while Taoism, indigenously Chinese, has a long history. In 1949, Mao Zedong founded the People's Republic of China, following the philosophies of Marxism and Leninism promoted in the former Soviet Union. The Chinese Communist Party adopted atheism as a fundamental doctrine. During the Cultural Revolution from 1966 to 1976, religious activities were greatly curtailed. In 1979, China began unprecedented reforms leading to more open markets and allowing greater tolerance of diverse views and practices. Of particular, relevance to our study, the Chinese Communist Party realized that people had widely

varying spiritual views and demands, and that religion can never be eradicated.

Since the restrictions on religion loosened and reform began, faith has grown significantly. In the 1980s, some destroyed shrines were repaired. Temples, mosques, and other sites were reopened for religious activities. Monks, priests, nuns, and clergy reappeared to perform rituals, and congregations began meeting for worship. Today religious activities are flourishing beyond expectations, with some Buddhist monasteries and Taoist temples crammed during holidays and festivals. Scholars have begun to notice China's religious development (Ashiwa and Wank 2006; Yang 2009) and have turned to the fundamental impetus: the faith and devotion of the Chinese people (Overmyer 2003).

Nevertheless, knowing that Chinese Communist Party members are inclined to atheism, doubts may remain about religious influence in contemporary China. However, "China had 80.27 million Chinese Communist Party members by the end of 2010 and they are inclined to atheism, but more than 1.2 billion people have the right to choose religious beliefs" (Du 2012). Moreover, 11 % belong to a religion (World Values Survey 2007). However, the number may be somewhat underestimated because of language or expression barriers (Yang 2009). As of 2011, about 185 million people claim Buddhism beliefs (Jin and Qiu 2011), and while 300 million may be more accurate (e.g., Lim 2010).

Another argument is that famous religious shrines are often so ancient that they are tourist attractions more than places of worship, and that worship is very different from tourism (Eliade 1959, 1969). Nevertheless, tourism and pilgrimage cannot be said to be opposites (Turner and Turner 1978); pilgrimage has historical origins as a form of tourism (Sigaux 1966; Turner 1973; Cohen 1992, 2004; Singh 2006). Scholars also address similarities between worship and tourism (e.g., Adler 1989; Bar and Cohen-Hattab 2003; Smith 1992), showing that secular pilgrimage and sacred tourism are associated (Graburn 1977, 2001; MacCannell 1976; Collins-Kreiner and Kliot 2000; Singh 2005). Therefore, we can rationally infer that pilgrimage and tourism have increasingly blurred and convergent boundaries (Cohen 1992; Smith 1992; Singh 2005).[1]

Obviously, traditional religious activity is rising in modern Chinese society. Along with China's economic boom, materialism has rampantly polarized the rich and poor. Consequently, people turn to traditions and religion for comfort. This phenomenon triggers our interest in the effects on business decisions, particularly on corporate philanthropic giving.

Hypotheses Development

Philanthropy can enhance corporate image, reputation, and even competitive advantage (Godfrey 2005; Porter and Kramer 2002) although the relation between charitable donations and financial performance is still inconclusive (Margolis and Walsh 2001). Broadly, corporate social responsibility (CSR) includes philanthropic corporate giving, based on the theory of corporate stakeholder view (Carroll 1991). In fact, CSR does not contradict owners' interests. For example, firms use the disclosure of CSR activities to reduce equity costs (Dhaliwal et al. 2011).

The corporate stakeholder view coincides with most religious teachings to uphold responsibilities. A survey of 473 Christian business students finds a positive relationship between religiosity and ethical components of CSR (Angelidis and Ibrahim 2004). Another study of 17,000 individuals from 20 countries shows that religious individuals appear to differentiate between personal and corporate responsibility (Brammer et al. 2007).

Most major religions teach the value of charity. Buddhism, for example, teaches an important concept of compassion, meaning sympathy or willingness to bear others' pain. Buddhism eschews purely material pleasures and focuses instead on social and environmental responsibility in production, distribution, and exchange (Norberg-Hodge 1997). Taoism's keystone *Dao De Jing* includes the aphorism: "virtuous accumulation can leave nothing undone." Virtuous accumulation includes all merciful deeds, especially philanthropy. Most obviously, religious institutions play a large role in humanitarian aid work. For example, after the massive earthquake in Sichuan in 2008, Chinese residents were deeply impressed by clerics who contributed so much to alleviate public suffering. In fact, business owners who are located in areas that have more religious sites are likely to be reminded that religion has some value in that area, and that corporate philanthropy may enhance the firm's reputation and generate goodwill. Thus, firms that are located in areas where generosity is a prevalent social norm may choose to make more charitable donations.

Of course, one might argue that directors or/and managers are the decision makers, and they may be nonbelievers and thus are less influenced by religious teachings. Nevertheless, when employees, customers, employers, and suppliers in the surrounding region embrace moral/social/religious norms, corporate leaders must be responsive (e.g., El Ghoul et al. 2012b). Therefore, being located in areas that have strong religious social norms does exert

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[1] Famous religious sites attract travelers. For example, Buddhist meditation has inspired meditation tourism in Thailand, Hong Kong, and Japan, attracting many to monasteries in their quests for self-realization and spiritual enlightenment. Religious tourism positively affects religious loyalty, drawing even non-adherents. In other words, religious tourism promotes religious teachings and attracts the general public.

some influence (Kennedy and Lawton 1998), contagiously spreading benevolence.[2] Thus, religious social norms can influence even non-adherents through their desire to conform socially. Because religious activities and people are concentrated in areas of religious sites, they generate a strong pervasive religious atmosphere, influencing philanthropic behavior through the norms and obligations of the social network. Corporate directors and/or managers in such areas receive religious edification imperceptibly and tend to be more generous to enhance the firm's reputation and generate goodwill. Therefore, we predict that firms located in religious areas are more likely to engage in philanthropic giving, leading to our first hypothesis:

Hypothesis 1 Ceteris paribus, religion is positively associated with corporate philanthropic giving.

Hypothesis 1 predicts that religion and corporate philanthropic giving have a positive association. However, the ultimate owners of firms may differ in nature, which may attenuate the religious influence on philanthropic decisions. The reasons are as follows:

First, Gao et al. (2012) argue that China has not yet been able to achieve an efficient separation between business entities and government agencies. In fact, it is well-known that the Chinese central and/or local government has strong administrative force influencing corporate decisions. Some government officials, as the ultimate owners of SOEs, abuse their power and regard corporate philanthropic giving as a subordinate responsibility. Ironically, the Web has coined a new popular saying: "forced to donate" ("*Bei Juan*" in Chinese). Therefore, we infer that some SOEs have passive, involuntary attitudes toward philanthropic giving. In comparison, for non-SOEs, corporate philanthropic giving tends to be voluntary and strategic for enhancing reputation, gaining popularity, increasing market share, and improving future financial performance (File and Prince 1998; Patten 2008; Maas and Liket 2011). Therefore, for SOEs, government or officials, rather than religious factors, are likely to affect philanthropic behavior.

Second, SOE top managers (chairmen, CEOs, and directors, etc.) are always Chinese Communist Party members who tend to have atheist views. However, non-SOE top managers are far less likely to be Chinese Communist Party members. Rationally deducing that religious belief at the top will influence attitudes, we expect SOEs and non-SOEs to show differences in philanthropic giving.

Finally, SOE managers and/or directors are semi-officials who value their career progress rather than business ethics when making corporate decisions on corporate philanthropic giving. Thus, their decisions on corporate philanthropic giving are rarely the outcome of religious influence.

Overall, we can conclude that religious influence on corporate philanthropic giving is more pronounced for non-SOEs than for SOEs, inspiring the second hypothesis in an alternative form:

Hypothesis 2 Ceteris paribus, the positive association between religion and corporate philanthropic giving is weaker (less pronounced) for SOEs than for non-SOEs.

Empirical Models Specification and Variables

The Potential Endogeneity Between Corporate Philanthropic Giving and Religion

Extant studies address concerns that religion and corporate behavior may potentially be endogenous (e.g., Hilary and Hui 2009; El Ghoul et al. 2012b). Similarly, we cannot rule out endogeneity between religion and corporate philanthropic giving because firms may choose to locate in peaceful places. Firms that have high levels of philanthropic giving may also want to locate in highly religious regions to obtain support from labor, production inputs, customers, and suppliers (Loughran and Schultz 2005; Loughran 2007; John et al. 2011; El Ghoul et al. 2012b; Du 2012).

To control for this potential endogeneity problem, we must estimate the relation between corporate philanthropic giving and religion in the simultaneous setting. Therefore, we estimate the first-stage OLS regression:

$$
\begin{aligned}
RELIGION = {} & \gamma_0 + \gamma_1 GIVING + \gamma_2 LNTAX \\
& + \gamma_3 INCOME\_PC + \gamma_4 TRANSPORT \\
& + \gamma_5 LNGDP + \gamma_6 CENTER \\
& + (Exogenous\ varibles) + Year\ Dummies \\
& + Industry\ Dummies + \Phi
\end{aligned} \tag{1}
$$

In Eq. 1, *RELIGION* is the dependent variable, measured as the number of religious sites within a certain radius around Chinese listed firms' registered addresses. *GIVING* denotes the level of corporate philanthropic giving (See the sections "The Measurement of Religious Variables" and "The Measurement of Corporate Philanthropic Giving" for more details, similarly hereinafter).

Considering the importance of a firm's registered address, or corporate location, in defining our religious variables, we must investigate factors influencing location decisions and religious variables. Referring to prior literature, we identify five factors that influence corporate location decisions and thus are suitable as our instrumental variables: (1) tax

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[2] Hilary and Hui (2009) also provide strong evidence that firms located in counties with higher religiosity display lower risk exposure. Dyreng et al. (2012), Grullon et al. (2010), and McGuire et al. (2012) also show the impact of religion on accounting risks, lawsuits, restatements, and accrual management. McGuire et al. (2012) note that religious social norms are important for mitigating agency conflicts in contemporary corporations.

purposes (*LNTAX*), measured as the natural logarithm of total provincial tax (in million RMB) (El Ghoul et al. 2012b; Du 2012; Stack and Kposowa 2006); (2) labor costs (*INCOME_PC*), the natural logarithm of provincial income *per capita* (Tomes 1985; Arano and Blair 2008); (3) customers and suppliers (*TRANSPORT*), the natural logarithm of the total mileage of highway and railway at the province level (in km) (Loughran and Schultz 2005; Loughran 2007); (4) regional development level (*LNGDP*), equaling the natural logarithm of *GDP per capita* at the province level (John et al. 2011; McCleary and Barro 2006; Barro and McCleary 2003); (5) regulation (*CENTER*), measured as the natural logarithm of the distance (in km) between listed firms and the nearest financial centers of Beijing, Shanghai, or Shenzhen (El Ghoul et al. 2012a). Moreover, following Herrera and Minetti (2007) and Newey (1987), we also include all control variables in Eqs. 2 and 3 as *exogenous variables* in Eq. 1.

The two-stage regression analysis procedure greatly depends on using good instruments. Following Larcker and Rusticus (2010), we conduct diagnostic tests to examine whether instruments in the first-stage equation (i.e., Eq. 1) are appropriate. Non-tabulated results show, first, to estimate the two-stage OLS-Tobit regression procedure, we must identify instruments that satisfy two conditions: the instruments are (1) important to determine a firm's location and thus religious variables; and (2) less likely to be correlated with residuals from the regression of corporate philanthropic giving. Second, endogenous variables and the instrument variables are highly correlated, ranging from 33.08 to 51.82 %, and significant at 1 % level. Third, over-identification tests do not reject the appropriateness of the instruments. Finally, non-tabulated Hausman tests reject the null hypothesis of no endogeneity for measurement of religious variables. Overall, these additional tests can mitigate the possibility of weak instrumental variables in our two-stage OLS-Tobit specifications.

Empirical Model Specification for Hypothesis 1

Hypothesis 1 predicts that religion is positively associated with corporate philanthropic giving. In our study, we employ Eq. 1 and the following Eq. 2 (*Tobit* regression) in a simultaneous setting to test Hypothesis 1:

$$
\begin{aligned}
GIVING = {} & \alpha_0 + \alpha_1 RELIGION + \alpha_2 STATE + \alpha_3 FIRST \\
& + \alpha_4 BDSHR + \alpha_5 INSTSHR + \alpha_6 BOARD \\
& + \alpha_7 GENDER + \alpha_8 PLU + \alpha_9 CASH + \alpha_{10} LEV \\
& + \alpha_{11} SIZE + \alpha_{12} ROA + \alpha_{13} GROWTH \\
& + \alpha_{14} GDP\_PC + Year\,Dummies \\
& + Industry\,Dummies + \varepsilon
\end{aligned} \tag{2}
$$

In Eq. 2, *GIVING* is the dependent variable, measured as the amount of corporate philanthropic giving deflated by

total assets at the beginning of the year; *RELIGION* is the main independent variable and denotes firm-level religious variables. According to our Hypothesis 1, α_1 is expected to be significantly positive.

Following previous literature (e.g., Ullmann 1985; Useem 1988; McGuire et al. 1988; Roberts 1992; Wang and Coffey 1992; Meznar and Nigh 1995; Johnson and Greening 1999; Williams 2003; Brammer and Millington 2006; Brown et al. 2006; Amato and Amato 2007, 2012; Zhang et al. 2009, 2010; Jia and Zhang 2011; Du 2012), we introduce control variables: (1) Considering SOEs and non-SOEs as two types of ultimate owners of Chinese listed firms, we introduce a dummy variable of *STATE* to discriminate between them. An examination of Chinese firms' responses to the 2008 Sichuan earthquake showed that SOEs were less likely to respond (Zhang et al. 2009). (2) *FIRST*, *BDSHR*, and *INSTSHR* are the percentages of ownership owned by the largest shareholder, board members, and institutional investors, respectively. (3) *BOARD*, *GENDER*, and *PLU* are three variables controlling corporate governance structures and characteristics of the board of directors. In particular, *BOARD* is the natural logarithm of the number of the board of directors. *GENDER* is the percentage of women on the board of directors, equaling the number of women directors to the number of the board of directors. *PLU* is an indicator variable that equals 1 if the board director is also the CEO and 0 otherwise. (4) Normally, firms with abundant cash have more flexibility in corporate philanthropic giving. Hence, *CASH* is calculated as cash and equivalents deflated by total assets at the beginning of the year. (5) *LEV* is the leverage ratio, measured as total liabilities scaled by total assets. (6) Firm size is also a key factor because a recent study disputes common knowledge and maintains that medium-size firms give more (Amato and Amato 2007). Therefore, we include the variable of *SIZE*, measured as the natural logarithm of total assets, in Eq. 2 because prior studies (e.g., Useem 1988; Meznar and Nigh 1995; Brammer and Millington 2006; Amato and Amato 2007) find that firm size is significantly positively associated with corporate philanthropic giving. (7) We control firm performance (*ROA*) as well, because philanthropy and firms' bottom line have mutual and perplexing relationships (McGuire et al. 1988; Roberts 1992). (8) Firms with low expanding rate may be strategically more conservative and more attentive to stakeholders. Thus we add *GROWTH*, for growth prospects. (9) We include the variable of *GDP_PC*, measured by the growth rate of *GDP per capita* at the provincial level, into Eq. 2 to control the influence of regional development extent on corporate philanthropic giving. (10) Finally, we introduce year and industry dummies into Eq. 2 to control year effects and industry effects, respectively. All variable definitions are presented in Appendix.

Empirical Model Specification for Hypothesis 2

Hypothesis 2 predicts that the positive association between religion and corporate philanthropic giving is attenuated for SOEs. To examine whether the nature of ultimate owners attenuates the influence of religion on corporate philanthropic giving, we introduce the interactive item between *RELIGION* and the indicator variable of *STATE* and construct the following Eq. 3. Furthermore, we employ Eqs. 1 and 3 in a simultaneous setting to test Hypothesis 2:

$$
\begin{aligned}
GIVING = {} & \beta_0 + \beta_1 RELIGION + \beta_2 RELIGION \times STATE \\
& + \beta_3 STATE + \beta_4 FIRST + \beta_5 BDSHR \\
& + \beta_6 INSTSHR + \beta_7 BOARD + \beta_8 GENDER \\
& + \beta_9 PLU + \beta_{10} CASH + \beta_{11} LEV + \beta_{12} SIZE \\
& + \beta_{13} ROA + \beta_{14} GROWTH + \beta_{15} GDP\_PC \\
& + Year\,Dummies + Industry\,Dummies + \psi
\end{aligned}
$$
(3)

In Eq. 3, *STATE* is a dummy variable, equaling 1 when the ultimate owner is a central or local government-controlled SOE, and 0 otherwise (Zhang et al. 2009, 2010). If the coefficient on "*RELIGION × STATE*" (i.e., β_2) is negative and significant, our empirical evidence supports Hypothesis 2. In Eq. 3, control variables are the same as those in Eq. 2, and all variable definitions are presented in Appendix.

The Measurement of Religious Variables

Previous research use US data to derive county-level religiosity indexes: the American Religion Data Archive by the Glenmary Research Center (Hilary and Hui 2009) or Gallup nationwide survey data (McGuire et al. 2012). But China has no such data. Unlike other theists, Buddhists and Taoists do not attend regular weekly religious services, making it difficult to estimate the frequency of religious observations.[3] Moreover, religious research in China is in its infancy, and authoritative statistics are scant. To counter this problem, we refer to Du (2012) and construct a simple and objective measure as an alternative.

Some US studies define a firm's location as the place where a firm's headquarters are most often located (e.g., Hilary and Hui 2009). Similarly, we use the firm's registered address, usually where the business initially started and most often the headquarters. Moreover, we investigate

only Buddhist and Taoist impacts, not only because they are predominant, but also because our study is hampered by the lack of data of other religions. Furthermore, it is unfeasible to count all religious sites, large or small, notable or unknown. China has approximately 6,000 Buddhist monasteries and 1,000 Taoist temples (Chen 2003). Therefore, we identify some nationally famous Buddhist monasteries and Taoist temples based on a list issued by the State Council in 1983, which includes 141 Buddhist monasteries and 21 Taoist temples. We count the number of Buddhist monasteries and Taoist temples in this list within a defined kilometer radius around the firm's registered address in the digital map provided by *Google*.

In particular, following Du (2012), we report the procedure of variable construction: (1) Using "Google-earth" we obtain the longitude and latitude of every firm-year observation in our sample according to its registered address, respectively. (2) Similarly, we check the geographic location of every religious site, and then fix its longitude and latitude. (3) We calculate the distance between a firm and every religious site according to their longitudes and latitudes, equaling the length of the minor arc across the surface of the earth (Rising 2000). Finally, we use 200 and 300 km as the distance criteria (the upper limits)[4] to define *RELIGION200* and *RELIGION300* by identifying the number of nationally famous religious sites and measure our main independent variables, respectively.

We argue that there are two meritorious features of our approach. First, this measure is objective. It is hard to assert people's spiritual status, so the survey information, especially information from interviews, inevitably suffers some bias. While some survey resources provide us with some useful insights, there is frequently incongruence between interviewees' claims and actual thoughts. Accordingly, our measure is more objective. Second, it is quasi firm-level, religious variable, rather than a province-level one. Prior US studies use county-/region-/metropolitan-level religious measures and thus may give rise to the curiosity that firms within one area are alike in religiosity. Our measure can relatively display some variation of religiosity among different firms in a province. Of course, our

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[3] Monks or clergies cannot derive accurate statistics about the numbers of religious believers in their assemblies because so many attend services. More importantly, many religious people are conservative and discreet. Persecution during the Cultural Revolution made them feel unsafe about communicating their religious beliefs publically. Therefore statistics are unavailable to reveal the number of religious believers.

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[4] We choose 200 and 300 km as the distance criteria to calculate the number of religious sites famous nationwide and measure religious variables for the following reasons: (1) Following Du (2012) and Rising (2000), we view every province or municipality as approximately circular and calculate the average approximate radius to be about 234.05 km. (2) "Higher index of 'standard deviation/mean' indicates acuter relative discrete degree of random variables on the mean, and thereof it is more unsuitable to choose related distances as the criteria to define religious variables" (Du 2012). Therefore, we calculate the index of "standard deviation/mean" and find it greater than 1 when the distance criterion exceeds 200 km. Therefore, we choose 200 and 300 km as the distance criteria.

measure of religiosity may fail to fully capture the underlying spiritual status of Chinese people.

The Measurement of Corporate Philanthropic Giving

To measure the variable of *GIVING*, we use annual financial statements for collecting data on corporate philanthropic giving. According to China's accounting standards, corporate philanthropy, as a sub-item of non-operating expenses, includes cash and goods donations. Some studies have focused on firms' reactions to catastrophes, such as the Sichuan earthquake in 2008 (e.g., Gao et al. 2012; Zhang et al. 2009). In contrast, our measurement places more weight on long-term philanthropic activities, including low-profile cases of large contributions and persistent charitable activities.

In previous studies, *GIVING* is measured as: (1) the natural logarithm of the amount of corporate philanthropic giving (Zhang et al. 2010); (2) the amount of corporate philanthropic giving deflated by total assets at the beginning of the year (Brown et al. 2006; Useem 1988; Meznar and Nigh 1995; Brammer and Millington 2006; Amato and Amato 2007, 2012); (3) the amount of corporate philanthropic giving deflated by sales revenue (Williams 2003; Chen et al. 2008); (4) the amount of corporate philanthropic giving deflated by pre-tax income/profit in the year (Wang and Coffey 1992; Ullmann 1985; McGuire et al. 1988; Roberts 1992).

To measure the variable of *GIVING* and conduct our main tests, we adopt the second method, the amount of corporate philanthropic giving deflated by total assets at the beginning of the year, because: (1) organizational size theory of CSR argues that firm size and industry are two key factors influencing corporate philanthropic giving, and (2) prior studies provide strong evidence that firm size is the most important factor in corporate philanthropic giving (Useem 1988; Meznar and Nigh 1995; Brammer and Millington 2006; Amato and Amato 2007). For example, Useem (1988), Meznar and Nigh (1995), and Brammer and Millington (2006) argue that firm size is the only important factor dominating the level of corporate philanthropic giving and larger firms tend to respond positively to corporate philanthropy. Furthermore, Amato and Amato (2007, 2012) find that firm size and philanthropic giving show a nonlinear relation. Overall, extant studies have constructed a close link between corporate philanthropy and firm size, strongly supporting our measure of *GIVING*, i.e., the amount of corporate philanthropic giving deflated by total assets at the beginning of the year.[5]

Sample and Descriptive Statistics

Identification of Sample

Panel A of Table 1 summarizes the sample selection process. Our initial sample includes all listed firms in 19 provinces and 4 municipalities of mainland China for the period of 2004–2010.[6] We begin with 11,154 firm-year observations[7] and then exclude observations for (1) firms in the finance and insurance industry because of their different balance sheet structures, (2) firms that issue shares to foreign investors, termed B- or H-shares, because their financial characteristics and regulatory environments differ from those of firms issuing only domestic A-shares, (3) firms with negative assets, (4) ST (special treatment) firms because they operate under various trading and financial restrictions, (5) firms with unavailable data for measuring firm-specific control variables.

Finally, we obtain a sample of 6,866 observations with 1,288 unique firms. We winsorize the top and bottom 1 % of each variable to control the influence of some extreme observations.[8]

Table 1, Panel B, displays the sample distribution by year and industry. As it shows, year or industry clustering is not severe in our study. Appendix includes the data source of all variables.

Discussion on Sample Selection

We cannot rule out sample selection bias. Lack of corporate philanthropic giving data for our sample firms means either they failed to give or failed to report their donations. It is difficult to distinguish one from the other, so we use a "reduced form" approach (Hall and Oriani 2006) where a single Probit equation describes the probability of observing philanthropic giving. For brevity, we report non-tabulated results as the Eq. 4:

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[5] Our main conclusions are not qualitatively changed using other measures of *GIVING* as the dependent variable.

[6] We omit firms located in five autonomous regions (Xinjiang, Tiebt, Inner Mongolia, Guangxi, and Ningxia) because the temples listed are in the Han area. We also eliminate firm-year observations in Gansu, Hainan, and Qinghai because these provinces have no nationally famous religious sites. If we view those regions and provinces as having low religiosity and include them in our sample, the results are not qualitatively changed.

[7] The results remain qualitatively similar if we include firm-year observations based on criteria (2)–(4) and introduce three dummy variables (i.e., *ST*, *Negative assets*, and *CROSS*) into regressions.

[8] The results are not qualitatively changed by deleting the top and the bottom 1% of the sample, no deletion, or no winsorization.

GIVINGDUM=	δ_0	$+\delta_1 GIVING\_IND$	$+\delta_2 GROWTH\_IND$	$+\delta_3 TOBIN'Q$	$+\delta_4 FIRST$	$+\delta_5 SIZE$
coefficients	-5.4947	+1.8389	+ 0.0950	+0.0153	-0.7365	+0.2487
t-value	-14.30***	15.39***	1.27	0.87	-6.75***	13.20***
	$+\delta_6 LEV$	$+\delta_7 ROA$	$+\delta_8 GROWTH$	$+fixed\ effects$	$+\xi$	
coefficients	+0.5876	+3.7087	-0.0703	$Pseudo\_R^2$=0.0815; $LR\ Chi^2$=746.54***		
t-value	5.52***	10.53***	-1.86*	$Log\ likelihood$=-4205.68; N=6,866		

$$(4)$$

In Eq. 4, the dependent variable is a dummy variable (GIVINGDUM), equal to 1 if corporate philanthropic expenditures are reported and 0 otherwise. The main independent variable is GIVING_IND, i.e., industry-level philanthropic giving, measured as the amount of industry-level philanthropic giving deflated by total industry revenues. We include both industry-level and firm-level control variables in Eq. 4: (1) GROWTH_IND is industry-level revenues growth rate, equaling (industry sale revenue in year t − industry sale revenue in year $t - 1$) divided by industry sale revenue in year t. (2) TOBIN'Q is defined as market value of assets over book value of assets and equals to the number of shares tradable × stock price at the end of year t + the number of shares non-tradable × net assets per share + total liability at the end of year t (Zhang et al. 2009, 2010). (3) FIRST, SIZE, LEV, ROA, and GROWTH are firm-level financial variables (see Appendix for definitions).

As shown in Eq. 4, the coefficient on GIVING_IND is positive and significant at the 1 % level (1.8389 with $t = 15.39$), suggesting that industry-level philanthropic giving is significantly positively associated with the likelihood that a firm will disclose its donations. This result means that our sample has no serious sample selection bias. Moreover, GIVINGDUM is significantly positively (negatively) associated with SIZE, LEV, and ROA (FIRST and GROWTH).

Descriptive Statistics and Pearson Correlation Analysis

Table 2 presents the descriptive statistics of variables in our study. The mean of GIVING is 0.2149, showing that the amount of corporate philanthropic giving accounts for about 0.02 % of firms' total assets. This number is significant in Chinese listed firms. Moreover, based on the descriptive statistics result of GIVING, we can infer that it does not obey the standard normal distribution.

The mean (median) values of RELIGION200 and RELIGION300 are 9.9650 and 17.6059 (9.0000 and 14.0000), with standard deviations of 7.6406 and 12.6060,

suggesting 9.9650 (17.6059) nationally famous religious sites within 200 km (300 km) radius around the firm's registered address, on average. Moreover, about 63.31 % of Chinese listed firms' ultimate owners are central/local government or government-controlled SOEs.

As for control variables in Eqs. 2 and 3, descriptive statistics results in Table 2 also reveal: (1) The average percentage of the largest shareholding is about 38.07 %. (2) The mean (media) value of BDSHR is about 0.0264 (0.00), suggesting that the average percentage of shares owned by corporate board members is low at 2.64 %. (3) The variable of INSTSHR has a mean value of 0.1807, indicating that the average ratio of shares owned by institutional investors is about 18.07 %. (4) The mean value of BOARD is 2.2119, suggesting that nine directors are universal. (5) The variable of GENDER has a mean value of 0.1399, meaning an average 13.99 % ratio of women directors. (6) The variable of PLU has a mean value of 0.1365, indicating that the same person serves as CEO and chairman of the board for about 13.65 % of Chinese listed firms. (7) The mean value of CASH is 0.1992, meaning that the ratio of the cash and equivalents to total assets at the beginning of the year is about 19.92 %. (8) The variable of LEV has a mean value of 0.4902, displaying that the average financial leverage is 49.02 %. (9) The mean value of SIZE is 21.5154 with a standard deviation of 1.0221, suggesting a substantial variation in firm size. (10) The variable of ROA has a mean (median) value of 0.0366 (0.0338), meaning a relatively poor accounting performance for firm-years in our sample. (11) The variable of GROWTH has a mean value of 0.2261 with a standard deviation of 0.4446, suggesting a big gap in growth rate. (12) The mean value of GDP_PC is 0.1575, indicating that the growth rate of province-level GDP per capita is 15.75 % on average.

As for variables in Eq. 1: (1) LNTAX has a mean value of 11.3982, suggesting that the average provincial tax is about 85.16 billion RMB. (2) The mean value of INCOME_PC is 10.1915, indicating the average province-level income per capita is about 26,675 RMB. (3) The mean value of TRANSPORT is 7.1603, reflecting the average total mileage of highway and railway at the

Table 1 Sample selection procedure and sample distribution

Panel A: Sample selection procedure

Initial observations from 2004 to 2010	11,154
Eliminate observations pertaining to the banking, insurance, and other financial industries	(136)
Eliminate observations who issue shares to foreign investors (termed B-shares or H-shares)	(876)
Eliminate observations whose net assets or shareholders equity are below *zero*	(437)
Eliminate observations whose transaction status are ST,*ST or PT	(599)
Eliminate observations whose data required to measure firm-specific control variables are not available	(2,240)
Remaining firm-year observations	6,866
Unique firms	1,288

Panel B: sample distribution by year and industry

Industry codes	Years								
	2004	2005	2006	2007	2008	2009	2010	%	Total
A	15	17	16	18	19	17	20	1.78	122
B	16	18	17	19	22	23	22	2.00	137
C0	32	32	33	35	38	40	38	3.61	248
C1	35	40	41	49	51	47	49	4.54	312
C2	0	1	2	1	2	4	3	0.19	13
C3	15	18	17	24	24	23	27	2.16	148
C4	105	114	104	108	117	113	117	11.33	778
C5	27	31	34	39	47	54	48	4.08	280
C6	81	82	80	84	95	86	94	8.77	602
C7	131	151	142	157	174	182	181	16.28	1,118
C8	53	69	66	67	70	71	71	6.80	467
C9	11	12	11	13	16	15	16	1.37	94
D	38	45	43	42	43	35	44	4.22	290
E	17	19	22	26	28	27	28	2.43	167
F	35	36	36	37	42	38	39	3.83	263
G	58	63	54	60	66	72	78	6.57	451
H	71	73	72	72	72	74	76	7.43	510
J	29	32	34	35	37	38	37	3.52	242
K	27	28	29	32	37	36	38	3.31	227
L	7	7	6	6	7	7	7	0.68	47
M	52	55	50	48	48	46	51	5.10	350
%	12.45	13.73	13.24	14.16	15.37	15.26	15.79	100	
Total	855	943	909	972	1,055	1,048	1,084		6,866

A agriculture, forestry, husbandry and fishery, *B* mining, *C0* food and beverage, *C1* textile, garment manufacturing and products of leather and fur, *C2* wood and furniture, *C3* papermaking and printing, *C4* petroleum, chemical, plastics, and rubber products, *C5* electronics, *C6* metal and non-metal, *C7* machinery, equipment and instrument manufacturing, *C8* medicine and biological products manufacturing, *C9* other manufacturing, *D* production and supply of electricity, steam and tap water, *E* construction, *F* transportation, and warehousing, *G* information technology, *H* wholesale and retail, *J* real estate, *K* social services, *L* communication and culture, *M* conglomerates

province level. (4) *LNGDP* has a mean value of 10.1909, suggesting that the average province-level GDP *per capita* is about 26,660 *RMB*. (5) The mean value of *CENTER* is 5.1378, indicating that the average distance between a listed firm and the nearest financial center (Beijing, Shanghai, or Shenzhen in China) is about 170.34 km.

Table 3 reports the Pearson correlation among the variables. The *p* value is in parentheses below the coefficient. As

expected, our measure of corporate philanthropic giving (i.e., *GIVING*) is significantly negatively associated with religious variables, i.e., *RELIGION 200* and *RELIGION300* at the 5 % level, tentatively supporting Hypothesis 1. Moreover, *STATE* is significantly negatively associated with *GIVING* at the 1 % level, and *RELIGION 200* and *RELIGION300* are significantly negatively related with *STATE*. These results reveal that the nature of controlling

Table 2 Descriptive statistics

Variable	N	Mean	SD	Min	Q1	Median	Q3	Max
GIVING(×1000)	6,866	0.2149	0.4840	0.0000	0.0000	0.0196	0.1788	3.0584
RELIGION200	6,866	9.9650	7.6406	0.0000	3.0000	9.0000	18.0000	30.0000
RELIGION300	6,866	17.6059	12.6060	0.0000	6.0000	14.0000	26.0000	45.0000
STATE	6,866	0.6331	0.4820	0.0000	0.0000	1.0000	1.0000	1.0000
FIRST	6,866	0.3807	0.1558	0.0894	0.2558	0.3627	0.5013	0.7498
BDSHR	6,866	0.0264	0.0938	0.0000	0.0000	0.0000	0.0003	0.5373
INSTSHR	6,866	0.1807	0.1891	0.0000	0.0258	0.1127	0.2820	0.7419
BOARD	6,866	2.2119	0.2040	1.6094	2.1972	2.1972	2.3026	2.7081
GENDER	6,866	0.1399	0.0999	0.0000	0.0600	0.1200	0.2000	0.4400
PLU	6,866	0.1365	0.3433	0.0000	0.0000	0.0000	0.0000	1.0000
CASH	6,866	0.1992	0.1555	0.0078	0.0919	0.1576	0.2606	0.8483
LEV	6,866	0.4902	0.1825	0.0723	0.3582	0.5039	0.6288	0.8628
SIZE	6,866	21.5154	1.0221	19.4125	20.7848	21.4265	22.1306	24.4714
ROA	6,866	0.0366	0.0556	−0.1876	0.0135	0.0338	0.0613	0.1968
GROWTH	6,866	0.2261	0.4446	−0.6363	0.0148	0.1603	0.3426	2.8030
GDP_PC	6,866	0.1575	0.0524	0.0333	0.1234	0.1663	0.1932	0.2730
LNTAX	6,866	11.3982	0.8412	9.3294	10.7128	11.4784	12.1280	12.8488
INCOME_PC	6,866	10.1915	0.3996	9.3667	9.9219	10.2114	10.4229	11.0992
TRANSPORT	6,866	7.1603	0.7875	5.5759	6.6690	7.0103	7.8372	8.5080
LNGDP	6,866	10.1909	0.6101	8.3703	9.7092	10.2257	10.7064	11.2395
CENTER	6,866	5.1378	1.8140	−1.0096	4.4946	5.7918	6.4538	7.3391

This table reports some descriptive analysis results. Please see Appendix for variable definitions. We winsorize the top and bottom 1 % of each of the continuous variables to exclude the effect of outliers

shareholders plays a possible moderating role on the association between religion and corporate philanthropic giving, preliminarily supporting Hypothesis 2. That is, Pearson analysis results suggest that we should test the joint effects of RELIGION 200 (RELIGION300) and STATE on GIVING.

Next, we turn to the Pearson correlation between corporate philanthropic giving and control variables. GIVING is significantly positively associated with BDSHR, INSTSHR, PLU, CASH, SIZE, ROA, and GROWTH, and GIVING displays a significantly negative relation with FIRST, and LEV. These results suggest a need to control these variables when we examine the influence of religion on corporate philanthropic giving in multivariate regressions, discussed in the next section.

As for the Pearson correlation among the variables used in Eq. 1 (i.e., the first-stage OLS regression), RELIGION 200 (RELIGION300) is significantly positively (negatively) related with LNTAX, INCOME_PC, and LNGDP (TRANSPORT and CENTER) at the 1 % level, suggesting that the five instrumental variables are appropriate.

Finally, as expected, the coefficients of pair-wise correlation among other control variables of Eqs. 2 and 3 in all models are generally low, suggesting no multicollinearity problem when these variables are included together in the regressions.

Empirical Results

Table 4 reports the first-stage OLS regression and the second-stage Tobit regression results. All reported t values are adjusted for clustered standard errors (Petersen 2009) (similarly hereafter). Moreover, we also compute sample-size adjusted t value to overcome the problem of overstated significance (Lindley 1957; Easton and Faff 1994; McKenzie and Faff 2005; Connolly 1989; Chatrath et al. 2006). Note that the critical value is 2.964 based on the equation $((s - k)^{0.5}(s^{1/s} - 1)^{0.5})$. In Table 4, we mark the significance on the estimated coefficients. Moreover, we also mark the letter "a" on t values to denote cases where the t value exceeds the critical value (2.964 in our study) and the estimated coefficients are significant at 5 % level at least (similarly hereafter).

The First-Stage OLS Regression Results

As for regression results of the first-stage OLS regression, as shown in Columns (1) and (4) of Table 4: (1) The coefficients on LNTAX are negative and significant at 1 % level, suggesting that corporate location and thus religiosity is significantly negatively associated with higher total provincial tax, consistent with Stack and Kposowa (2006). (2) The variables of INCOME_PC have significantly

Table 3 Pearson correlation matrix

Variable		(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)
GIVING	(1)	1.0000										
RELIGION200	(2)	0.0250 (0.0383)	1.0000									
RELIGION300	(3)	0.0273 (0.0239)	0.9128 (0.0000)	1.0000								
STATE	(4)	-0.1508 (0.0000)	-0.0971 (0.0000)	-0.0862 (0.0000)	1.0000							
FIRST	(5)	-0.0499 (0.0000)	-0.0170 (0.1583)	0.0125 (0.2990)	0.2394 (0.0000)	1.0000						
BDSHR	(6)	0.1191 (0.0000)	0.0693 (0.0000)	0.0614 (0.0000)	-0.3474 (0.0000)	-0.1332 (0.0000)	1.0000					
INSTSHR	(7)	0.0615 (0.0000)	-0.0563 (0.0000)	-0.0544 (0.0000)	0.0166 (0.1693)	-0.0628 (0.0000)	-0.0307 (0.0110)	1.0000				
BOARD	(8)	-0.0114 (0.3450)	-0.0490 (0.0000)	-0.0427 (0.0004)	0.2016 (0.0000)	0.0287 (0.0172)	-0.0954 (0.0000)	0.0334 (0.0056)	1.0000			
GENDER	(9)	0.0189 (0.1167)	0.0630 (0.0000)	0.0573 (0.0000)	-0.1782 (0.0000)	-0.1364 (0.0000)	0.0488 (0.0001)	0.0368 (0.0023)	-0.1252 (0.0000)	1.0000		
PLU	(10)	0.0521 (0.0000)	0.0186 (0.1224)	0.0276 (0.0220)	-0.1490 (0.0000)	-0.0542 (0.0000)	0.1418 (0.0000)	0.0042 (0.7304)	-0.1073 (0.0000)	0.0825 (0.0000)	1.0000	
CASH	(11)	0.1301 (0.0000)	0.0839 (0.0000)	0.0844 (0.0000)	-0.0842 (0.0000)	0.0299 (0.0133)	0.1328 (0.0000)	0.0873 (0.0000)	-0.0198 (0.1009)	0.0426 (0.0004)	0.0681 (0.0000)	1.0000
LEV	(12)	-0.0802 (0.0000)	-0.0052 (0.6695)	0.0035 (0.7700)	0.0613 (0.0000)	-0.0117 (0.3304)	-0.1243 (0.0000)	-0.0275 (0.0227)	0.0860 (0.0000)	-0.0237 (0.0496)	-0.0715 (0.0000)	-0.2180 (0.0000)
SIZE	(13)	0.0334 (0.0056)	-0.0298 (0.0136)	-0.0157 (0.1928)	0.2271 (0.0000)	0.2447 (0.0000)	-0.1579 (0.0000)	0.0006 (0.9620)	0.2191 (0.0000)	-0.1500 (0.0000)	-0.1004 (0.0000)	-0.0044 (0.7178)
ROA	(14)	0.2318 (0.0000)	0.0141 (0.2431)	0.0255 (0.0343)	-0.0572 (0.0000)	0.1343 (0.0000)	0.1280 (0.0000)	0.1400 (0.0000)	0.0313 (0.0095)	-0.0021 (0.8594)	0.0325 (0.0071)	0.3152 (0.0000)
GROWTH	(15)	0.0537 (0.0000)	-0.0231 (0.0553)	-0.0129 (0.2849)	0.0020 (0.8701)	0.0914 (0.0000)	0.0174 (0.1497)	0.0559 (0.0000)	0.0232 (0.0546)	-0.0171 (0.1576)	-0.0168 (0.1630)	0.1899 (0.0000)
GDP_PC	(16)	-0.0022 (0.8543)	-0.1624 (0.0000)	-0.1903 (0.0000)	0.0747 (0.0000)	-0.0004 (0.9730)	-0.1126 (0.0000)	0.0480 (0.0001)	0.0529 (0.0000)	-0.0787 (0.0000)	-0.0539 (0.0000)	-0.0737 (0.0000)
LNTAX	(17)	0.1220 (0.0000)	0.3038 (0.0000)	0.3211 (0.0000)	-0.1962 (0.0000)	-0.0742 (0.0000)	0.1898 (0.0000)	0.0155 (0.1982)	-0.0875 (0.0000)	0.1042 (0.0000)	0.1045 (0.0000)	0.1565 (0.0000)
INCOME_PC	(18)	0.1240 (0.0000)	0.3308 (0.0000)	0.3625 (0.0000)	-0.1030 (0.0000)	-0.0573 (0.0000)	0.1329 (0.0000)	0.0301 (0.0126)	-0.0846 (0.0000)	0.1340 (0.0000)	0.0737 (0.0000)	0.1766 (0.0000)
TRANSPORT	(19)	-0.0312 (0.0096)	-0.5182 (0.0000)	-0.5153 (0.0000)	0.0994 (0.0000)	0.0232 (0.0547)	-0.0980 (0.0000)	0.0133 (0.2687)	0.0262 (0.0297)	-0.1005 (0.0000)	-0.0412 (0.0006)	-0.1020 (0.0000)
LNGDP	(20)	0.0884 (0.0000)	0.3597 (0.0000)	0.3995 (0.0000)	-0.1119 (0.0000)	-0.0366 (0.0024)	0.1289 (0.0000)	0.0140 (0.2458)	-0.0821 (0.0000)	0.1431 (0.0000)	0.0778 (0.0000)	0.1284 (0.0000)
CENTER	(21)	0.0386 (0.0014)	-0.3347 (0.0000)	-0.3810 (0.0000)	-0.0072 (0.5529)	-0.0797 (0.0000)	-0.0434 (0.0003)	-0.0105 (0.3857)	0.0009 (0.9384)	-0.0890 (0.0000)	-0.0386 (0.0014)	-0.1029 (0.0000)

Table 3 Pearson correlation matrix

Variable		(12)	(13)	(14)	(15)	(16)	(17)	(18)	(19)	(20)	(21)
LEV	(12)	1.0000									
SIZE	(13)	0.3666 (0.0000)	1.0000								
ROA	(14)	−0.3689 (0.0000)	0.1272 (0.0000)	1.0000							
GROWTH	(15)	0.0855 (0.0000)	0.1270 (0.0000)	0.2233 (0.0000)	1.0000						
GDP_PC	(16)	0.0501 (0.0000)	−0.0726 (0.0000)	−0.0539 (0.0000)	0.0998 (0.0000)	1.0000					
LNTAX	(17)	−0.0397 (0.0010)	0.1293 (0.0000)	0.1411 (0.0000)	−0.0306 (0.0114)	−0.4507 (0.0000)	1.0000				
INCOME_PC	(18)	−0.0379 (0.0017)	0.1822 (0.0000)	0.1453 (0.0000)	−0.0214 (0.0760)	−0.5324 (0.0000)	0.7982 (0.0000)	1.0000			
TRANSPORT	(19)	0.0562 (0.0000)	−0.0296 (0.0140)	−0.0782 (0.0000)	0.0194 (0.1071)	0.4062 (0.0000)	−0.6031 (0.0000)	−0.5892 (0.0000)	1.0000		
LNGDP	(20)	−0.0269 (0.0259)	0.1661 (0.0000)	0.1208 (0.0000)	−0.0321 (0.0078)	−0.5063 (0.0000)	0.8364 (0.0000)	0.9033 (0.0000)	−0.6584 (0.0000)	1.0000	
CENTER	(21)	0.0550 (0.0000)	−0.1085 (0.0000)	−0.0646 (0.0000)	0.0135 (0.2617)	0.4598 (0.0000)	−0.5910 (0.0000)	−0.6292 (0.0000)	0.7293 (0.0000)	−0.7035 (0.0000)	1.0000

P value is presented in *parentheses*. Please see Appendix for variable definitions

positive coefficients in Columns (1) and (4), which can borrow support from Arano and Blair (2008) and Tomes (1985). (3) The coefficients on *TRANSPORT* in Columns (1) and (4) are significantly negative at the 1 % level, suggesting that corporate location and thus religiosity is inversely related with the status of province-level transport. (4) The coefficient on *LNGDP* in Column (4) is positive and significant at the 1 % level, echoing McCleary and Barro (2006) and Barro and McCleary (2003). (5) The variables of *CENTER* in Columns (1) and (4) have significantly positive coefficients, suggesting that corporate location in higher religiously intense areas is always far from financial centers. El Ghoul (2012a) can lend support to this finding.

Multivariate Test of Hypotheses 1 and 2

Next, we turn to the second-stage Tobit regression results. Because the dependent variable of corporate philanthropic giving (i.e., *GIVING*) does not obey the standard normal distribution,[9] Columns (2) and (5) (Columns (3) and (6)) of Table 4, in which *RELIGION200** and *RELIGION300**, are the predicted values from the first-stage OLS regression, present the second-stage Tobit regression results of Hypothesis 1 (Hypothesis 2), respectively.

Columns (2) and (5) show that the coefficients on *RELIGION200* and RELIGION300** are positive and significant at the 1 % level (0.0054 with $t = 5.30$ and 0.0020 with $t = 2.81$, respectively), providing support to Hypothesis 1. Furthermore, the estimated coefficients mean that when *RELIGION200* (*RELIGION300*) increases one unit of standard deviation, corporate philanthropic giving increases about 4.13 % (2.52 %), equaling about 19.22 % (11.73 %) of the mean value of *GIVING*. Therefore, these coefficient estimates are economically significant. Moreover, the magnitude of the coefficients on *RELIGION200* and *RELIGION300* tend to decline, meaning that the positive association between religion and corporate philanthropic giving becomes weaker when we relax the distance criterion from 200 to 300 km.

As reported in Columns (3) and (6), the coefficients on *RELIGION200* and RELIGION300**, which capture the influence of religion on philanthropic giving for non-SOEs, are positive and significant at the 1 % level (0.0419 with

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[9] Following Shapiro and Wilk (1965), Shapiro and Francia (1972), and D'Agostino et al. (1990), we conduct three tests to examine whether corporate philanthropic giving in our sample obeys the standard normal distribution, respectively. Our results show that the null hypothesis that "corporate philanthropic giving in our sample obeys standard normal distribution" is rejected at the 1% level regardless of used test approaches ($z = 19.38$, $z = 2.76$, and $\chi^2 = 5317.66$ for Shapiro–Wilk test, Shapiro–Francia test, and Skewness–Kurtosis test, respectively).

$t = 9.42$ and 0.0232 with $t = 10.39$, respectively), lending additionally strong and robust support to Hypothesis 1. The estimated coefficients mean that for non-SOEs, when the number of religious sites within 200 (300) km radius around a firm's registered address increases one unit, corporate philanthropic giving increases about 4.19 % (2.32 %), equaling about 19.50 % (7.96 %) of the mean value of *GIVING*, respectively. Obviously, these amounts are economically significant. Similarly, the magnitude of the coefficients on *RELIGION200* and *RELIGION300* also tend to decline.

More importantly, the coefficients on *RELIGION200** × *STATE* and *RELIGION300** × *STATE* are negative and significant at the 1 % level (-0.0630 with $t = -7.65$ and -0.0360 with $t = -8.22$, respectively), suggesting a weaker, less-pronounced positive association between religion and corporate philanthropic giving for SOEs than for non-SOEs. This result is consistent with Hypothesis 2. Furthermore, the absolute magnitude of the coefficient on *RELIGION200** × *STATE* (|−0.0630|) is greater than that of the coefficient on *RELIGION300** × *STATE* (|−0.0360|): the state nature of ultimate owners less attenuates the positive association between religion and corporate philanthropic giving when we relax the distance criterion from 200 to 300 km.

Moreover, as expected, the coefficients on *STATE* are significantly negative in Columns (2)–(3) and (5)–(6). Furthermore, corporate philanthropic giving in SOEs is significantly lower than that in non-SOEs, ranging from 9.09 to 13.07 % depending on different regression models. These results are consistent with extant literature (e.g., Zhang et al. 2009, 2010).

As for control variables in Columns (2)–(3) and (5)–(6): (1) The variables of *FIRST* in Columns (2) and (5) have significantly negative coefficients, meaning that higher shares owned by controlling shareholders lead to significantly lower philanthropic giving. (2) The coefficients on *BDSHR* are significant at the 1 % level across all cases, indicating that higher percentage of shares owned by the board of directors is significantly associated with corporate philanthropic giving. (3) The coefficients on *GENDER* in Columns (2), (3), and (6) are negative and significant at the 1 % level, meaning that higher ratio of women managers leads to less philanthropic giving, inconsistent with Jia and Zhang (2011). (4) The variables of *CASH* have significantly positive coefficients, suggesting that firms with higher cash holdings at the beginning of the year tend to donate more. (5) The coefficients on *LEV* in Columns (2) and (5) are positive and significant at the 1 % level, consistent with Brown et al. (2006). (6) The variables of *SIZE* have significantly positive coefficients across all cases, suggesting that larger firms pay more attention to social

responsibility and donate more than do smaller firms, consistent with Johnson (1966) and Brammer and Millington (2006). (7) The coefficients on *ROA* are positive and significant at the 1 % level, consistent with these findings in Ullmann (1985) and McGuire et al. (1988). (8) Except for those cases, we find no significant relations between *GIVING* and other variables such as *INSTSHR*, *PLU*, *GROWTH*, and *GDP_PC*.

Robustness Checks

Robustness Checks Using Different Religious Variables

To address whether our results in Table 4 are robust to alternative proxies for the religious variables, we relax and tighten the geographical parameter to identify the number of nationally known Buddhist monasteries and Taoist temples within other defined kilometers radius around the firm's registered address. In particular, we define *RELIGION 220*, *RELIGION 240*, *RELIGION 250*, *RELIGION 260*, and *RELIGION 280*, respectively, and conduct robustness checks. We report only the second-stage Tobit regression results and omit the first-stage OLS regression result for brevity.

Columns (1)–(5) of Table 5 show that the coefficients on *RELIGION220**, *RELIGION240**, *RELIGION250**, *RELIGION260**, and *RELIGION280** are positive and significant across all cases, which provides strong and robust support to Hypothesis 1 again. These results suggest that religion is significantly positively associated with corporate philanthropic giving.

Columns (6)–(10) of Table 5 display that the coefficients on *RELIGION220** × *STATE*, *RELIGION240** × *STATE*, *RELIGION250** × *STATE*, *RELIGION260** × *STATE*, and *RELIGION280** × *STATE* are all negative and significant at the 1 % level, which is consistent with our Hypothesis 2, and suggests that the state nature of ultimate owners attenuates the positive association between religion and corporate philanthropic giving. Moreover, as expected, the coefficients on all religious variables and *STATE* are significantly positive and significantly negative, respectively.

Results in Table 5 are indistinguishable when compared with those in Table 4. As for control variables in Table 5, the signs and significances are qualitatively similar to those in Table 4.

Further Tests Using an Alternative Proxy for the Dependent Variable

To address whether our main regression results are robust, we re-estimate Eqs. 2 and 3 using another dependent

Table 4 Regression results of corporate philanthropic giving on religion, the nature of ultimate owners, and other determinations using two-stage OLS-Tobit regression procedure

Variable	(1) First stage [Eq. (1)]		(2) Second stage [Eq. (2) and H1]		(3) Second stage [Eq. (3) and H2]		(4) First stage [Eq. (1)]		(5) Second stage [Eq. (2) and H1]		(6) Second stage [Eq. (3) and H2]	
	Coefficient	t value	Coefficient	t value	Coefficient	t value	Coefficient	t value	Coefficient	t value	Coefficient	t value
LNTAX	−0.7994***	(−4.32)[a]					−1.5612***	(−5.12)[a]				
INCOME_PC	6.8817***	(8.68)[a]					14.3935***	(11.02)[a]				
TRANSPORT	−5.0270***	(−29.20)[a]					−6.4550***	(−22.77)[a]				
LNGDP	0.2899	(0.77)					1.6251***	(2.62)				
CENTER	0.7407***	(8.41)[a]					0.9525***	(6.57)[a]				
RELIGION200*			0.0054***	(5.30)[a]	0.0419***	(9.42)[a]						
RELIGION300*									0.0020***	(2.81)	0.0232***	(10.39)[a]
RELIGION200* × STATE					−0.0630***	(−7.65)[a]						
RELIGION300* × STATE											−0.0360***	(−8.22)[a]
STATE	−0.5703***	(−3.09)[a]	−0.1286***	(−3.11)[a]	−0.0910**	(−2.38)	−1.0128***	(−3.33)[a]	−0.1307***	(−3.16)[a]	−0.0909**	(−2.37)
FIRST	1.3827**	(2.48)	−0.3015***	(−5.58)[a]	−0.0407	(−1.12)	3.3883***	(3.69)[a]	−0.2449***	(−6.23)[a]	−0.0337	(−0.96)
BDSHR	0.7075	(0.78)	0.2799***	(3.07)[a]	−0.6247***	(−3.66)[a]	−0.0447	(−0.03)	0.2874***	(3.12)[a]	−0.5981***	(−3.58)[a]
INSTSHR	−1.7137***	(−4.00)[a]	0.0219	(0.50)	0.0386	(0.89)	−3.0428***	(−4.32)[a]	0.0166	(0.39)	0.0447	(1.04)
BOARD	−0.6185	(−1.56)	0.0658	(1.58)	0.2007***	(6.41)[a]	−0.5100	(−0.78)	−0.3030***	(−5.71)[a]	0.2139***	(6.96)[a]
GENDER	−2.3902***	(−2.85)	−0.2427***	(−6.21)[a]	−0.4440***	(−8.18)[a]	−4.7479***	(−3.44)[a]	0.0635	(1.52)	−0.4477***	(−8.39)[a]
PLU	−0.0272	(−0.12)	0.0295	(1.20)	−0.0223	(−0.87)	0.2560	(0.68)	0.0288	(1.18)	−0.0285	(−1.16)
CASH	1.2389**	(2.24)	0.2638***	(3.83)[a]	0.2408***	(3.63)[a]	2.0164**	(2.21)	0.2696***	(3.85)[a]	0.2066***	(3.24)[a]
LEV	1.4395***	(2.66)	0.1694***	(2.87)	−0.0072	(−0.10)	4.2277***	(4.75)[a]	0.1682***	(2.87)	−0.0007	(−0.01)
SIZE	−0.2213**	(−2.29)	0.0570***	(5.93)[a]	0.1028***	(7.73)[a]	−0.5364***	(−3.37)[a]	0.0570***	(6.02)[a]	0.1006***	(7.83)[a]
ROA	−1.3168	(−0.77)	2.7338***	(5.16)[a]	2.0508***	(4.39)[a]	1.7932	(0.64)	2.7284***	(5.16)[a]	2.1301***	(4.48)[a]
GROWTH	−0.1440	(−0.78)	−0.0010	(−0.05)	−0.0081	(−0.41)	−0.0227	(−0.07)	−0.0022	(−0.10)	−0.0108	(−0.54)
GDP_PC	17.3475***	(7.29)[a]	−0.0406	(−0.14)	−0.1419	(−0.44)	22.9431***	(5.86)[a]	−0.0872	(−0.32)	−0.2290	(−0.72)
Intercept	−17.6306***	(−2.33)	−1.4989***	(−5.92)[a]	−2.7003***	(−8.73)[a]	−76.2552***	(−6.13)[a]	−1.4699***	(−5.94)[a]	−2.6500***	(−8.79)[a]
Industry and Year	Control		Control		Control		Control		Control		Control	
Number of Obs.	6,866		6,866		6,866		6,866		6,866		6,866	
Adj_R²/Pseudo_R²	0.3245		0.1221		0.1249		0.3273		0.1218		0.1250	
F-value	75.96***						76.93***					
Left censored			2,652		2,652				2,652		2,652	

Table 4 continued

Variable	(1)		(2)		(3)		(4)		(5)		(6)	
	First stage [Eq. (1)]		Second stage [Eq. (2)] and H1]		Second stage [Eq. (3)] and H2]		First stage [Eq. (1)]		Second stage [Eq. (2)] and H1]		Second stage [Eq. (3)] and H2]	
	Coefficient	t value	Coefficient	t value	Coefficient	t value	Coefficient	t value	Coefficient	t value	Coefficient	t value
Log likelihood			−5,413.55***		−5,396.25***				−5,415.45***		−5,395.62***	

The values of t statistics are in *parentheses*, and ***, **, and * represent the 1, 5 and 10 % levels of significance, respectively, for a two-tailed test. All reported t statistics are based on standard errors adjusted following Petersen (2009). Moreover, because of our relatively large sample size, we also compute the size-adjusted t statistic, and the 5 % critical t value is measured as $(s - k)^{0.5}(s^{1/s} - 1)^{0.5}$. s = sample size and k = the number of parameters estimated, including the intercept. Please note that the 5 % critical value is about 2.964 in our sample (N = 6,866). Following Lindley (1957), Easton and Faff (1994), McKenzie and Faff (2005), Connolly (1989), and Chatrath et al. (2006), we also mark the letter "a" on t values to denote that t value exceeds the critical value and the estimated coefficients are significant at 5 % level at least. Please see Appendix for variable definitions

variable *GIVING*, measured as the amount of corporate philanthropic giving deflated by net income in the year (Wang and Coffey 1992; Ullmann 1985; McGuire et al. 1988; Roberts 1992), borrowing support from slack resource theory of CSR.[10] Panel A of Table 6 reports the second-stage regression results for brevity.

Columns (1) and (3) of Panel A show that the coefficients on *RELIGION200** and *RELIGION300** are significantly positive at the 1 % level, additionally supporting Hypothesis 1. Moreover, results in Columns (2) and (4) show that the coefficients on *RELIGION200** × *STATE* and *RELIGION300** × *STATE* are significantly negative at the 1 % level, meaning that Hypothesis 2 stands.

Robustness Checks Using Reduced Sample Excluding Observations in the Year of 2008

The unreported descriptive results show that the number of firms engaging in philanthropic giving increases monotonically over the years and suddenly ascends in 2008, the year of the *Wenchuan* earthquake in Sichuan province. In 2008, 83.20 % of Chinese listed firms reported philanthropic giving, significantly higher than the 59.68 % for the other years of our sample period from 2004 to 2010. Eliminating 1,055 observations in 2008, the reduced sample comprises 5,811 observations, and the second-stage regression results are presented in Panel B of Table 6.

Columns (1) and (3) of Panel B show that the coefficients on *RELIGION 200** and *RELIGION300** are positive and significant at the 1 % level, additionally supporting Hypothesis 1 and again recognizing the significantly positive association between religion and corporate philanthropic giving. Columns (2) and (4) indicate that the coefficients on *RELIGION200** × *STATE* and *RELIGION300** × *STATE* are negative and significant at the 1 % level, consistent with Hypothesis 2.

Robustness Checks Based on Firm-Year Observations Before 2004

Next, we re-estimate Eqs. 2 and 3 using firm-years before our sample period (2004–2010) for balanced panel data (El Ghoul et al. 2012a, 2012b; Du 2012). The remaining firms have relatively longer histories and more stable financial status. We report the results in Panel C of Table 6.

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[10] We also conduct two other robustness checks: (1) *GIVING* is measured as the amount of corporate philanthropic giving, the natural logarithm of the amount of corporate philanthropic giving (Zhang et al. 2009); and (2) *GIVING* is measured as the amount of corporate philanthropic giving deflated by sale revenue (Williams 2003; Chen et al. 2008). Our unreported results are qualitatively similar to those in Table 4.

Table 5 Robustness checks of Hypotheses 1 and 2 using religious variables based on different distance criteria (the second-stage Tobit regression)

Variable	Hypothesis 1					Hypothesis 2				
	(1) 220 km	(2) 240 km	(3) 250 km	(4) 260 km	(5) 280 km	(6) 220 km	(7) 240 km	(8) 250 km	(9) 260 km	(10) 280 km
RELIGION_N*	0.0055***[a] (5.94)	0.0043***[a] (5.29)	0.0040***[a] (5.56)	0.0025***[a] (3.48)	0.0019** (2.53)	0.0375***[a] (8.98)	0.0333***[a] (8.68)	0.0321***[a] (8.67)	0.0289***[a] (9.84)	0.0260***[a] (10.41)
RELIGION_N* × STATE						-0.0565***[a] (-7.26)	-0.0502***[a] (-6.99)	-0.0485***[a] (-6.99)	-0.0440***[a] (-7.78)	-0.0400***[a] (-8.18)
STATE	-0.1276***[a] (-3.10)	-0.1288***[a] (-3.14)	-0.1291***[a] (-3.14)	-0.1310***[a] (-3.18)	-0.1320***[a] (-3.22)	-0.0925** (-2.43)	-0.0994***[a] (-2.61)	-0.0991***[a] (-2.61)	-0.0965** (-2.54)	-0.1035***[a] (-2.69)
FIRST	-0.2996***[a] (-5.54)	-0.3007***[a] (-5.56)	-0.3013***[a] (-5.57)	-0.3018***[a] (-5.65)	-0.3027***[a] (-5.72)	-0.0386 (-1.04)	-0.0447 (-1.10)	-0.0334 (-0.83)	-0.0361 (-0.98)	-0.0209 (-0.58)
BDSHR	0.2864***[a] (3.16)	0.2854***[a] (3.13)	0.2829***[a] (3.10)	0.2868***[a] (3.13)	0.2865***[a] (3.11)	-0.5822***[a] (-3.38)	-0.6347***[a] (-3.48)	-0.6817***[a] (-3.59)	-0.6401***[a] (-3.54)	-0.6577***[a] (-3.74)
INSTSHR	0.0244 (0.55)	0.0262 (0.59)	0.0249 (0.56)	0.0178 (0.41)	0.0152 (0.36)	0.0461 (1.06)	0.0387 (0.88)	0.0447 (1.03)	0.0479 (1.11)	0.0467 (1.09)
BOARD	0.0666 (1.60)	0.0657 (1.58)	0.0649 (1.56)	0.0645 (1.54)	0.0637 (1.53)	0.2011***[a] (6.30)	0.2076***[a] (6.19)	0.2130*** (6.36)	0.2027***[a] (6.08)	0.2125***[a] (6.66)
GENDER	-0.2433***[a] (-6.24)	-0.2419***[a] (-6.22)	-0.2395***[a] (-6.18)	-0.2426***[a] (-6.18)	-0.2444***[a] (-6.20)	-0.4565***[a] (-8.12)	-0.4736***[a] (-8.15)	-0.4774***[a] (-8.14)	-0.4432***[a] (-8.33)	-0.4643***[a] (-8.50)
PLU	0.0290 (1.18)	0.0295 (1.20)	0.0296 (1.20)	0.0294 (1.20)	0.0294 (1.20)	-0.0226 (-0.88)	-0.0217 (-0.82)	-0.0231 (-0.88)	-0.0258 (-1.03)	-0.0309 (-1.24)
CASH	0.2634***[a] (3.85)	0.2682***[a] (3.92)	0.2675***[a] (3.90)	0.2696***[a] (3.87)	0.2707***[a] (3.86)	0.2315***[a] (3.56)	0.2296***[a] (3.57)	0.2247***[a] (3.51)	0.2218***[a] (3.43)	0.2087***[a] (3.27)
LEV	0.1671***[a] (2.82)	0.1651***[a] (2.79)	0.1657***[a] (2.80)	0.1689***[a] (2.87)	0.1687***[a] (2.88)	-0.0052 (-0.07)	-0.0164 (-0.23)	-0.0200 (-0.27)	-0.0181 (-0.25)	-0.0158 (-0.23)
SIZE	0.0572***[a] (5.90)	0.0577***[a] (5.93)	0.0580***[a] (5.96)	0.0572***[a] (6.02)	0.0572***[a] (6.07)	0.1028***[a] (7.60)	0.1065***[a] (7.73)	0.1062***[a] (7.73)	0.1063***[a] (7.84)	0.1041***[a] (7.98)
ROA	2.7278***[a] (5.14)	2.7133***[a] (5.12)	2.7163***[a] (5.12)	2.7244***[a] (5.14)	2.7276***[a] (5.15)	2.0723***[a] (4.44)	2.0434***[a] (4.41)	2.0339***[a] (4.41)	2.0749***[a] (4.46)	2.0836***[a] (4.43)
GROWTH	-0.0007 (-0.04)	-0.0014 (-0.07)	-0.0014 (-0.07)	-0.0021 (-0.10)	-0.0022 (-0.10)	-0.0103 (-0.52)	-0.0129 (-0.65)	-0.0135 (-0.68)	-0.0128 (-0.64)	-0.0109 (-0.55)
GDP_PC	-0.0196 (-0.07)	0.0121 (0.04)	0.0185 (0.06)	-0.0447 (-0.16)	-0.0884 (-0.33)	-0.1161 (-0.36)	-0.1067 (-0.33)	-0.1083 (-0.34)	-0.1635 (-0.52)	-0.1967 (-0.62)
Intercept	-1.5127***[a] (-5.89)	-1.5211***[a] (-5.86)	-1.5253***[a] (-5.89)	-1.4832***[a] (-5.96)	-1.4689***[a] (-5.96)	-2.7004***[a] (-8.56)	-2.7785***[a] (-8.67)	-2.7829***[a] (-8.67)	-2.7430***[a] (-8.73)	-2.7061***[a] (-8.92)
Number of Obs.	6,866	6,866	6,866	6,866	6,866	6,866	6,866	6,866	6,866	6,866
Pseudo_R²	0.1222	0.1222	0.1222	0.1218	0.1218	0.1248	0.1248	0.1249	0.1251	0.1252
Left censored	2,652	2,652	2,652	2,652	2,652	2,652	2,652	2,652	2,652	2,652

Table 5 continued

Variable	Hypothesis 1					Hypothesis 2				
	(1) 220 km	(2) 240 km	(3) 250 km	(4) 260 km	(5) 280 km	(6) 220 km	(7) 240 km	(8) 250 km	(9) 260 km	(10) 280 km
Log likelihood	−5,412.61***	−5,412.86***	−5,413.02***	−5,415.08***	−5,415.60***	−5,397.04***	−5,396.54***	−5,396.15***	−5,394.95***	−5,394.22***

Note: The values of *t* statistics are in *parentheses*, and ***, **, and * represent the 1, 5 and 10 % levels of significance, respectively, for a two-tailed test. All reported *t* statistics are based on standard errors adjusted following Petersen (2009). Moreover, because of our relatively large sample size, we also compute the size-adjusted *t* statistic, and the 5 % critical *t* value is measured as $(s - k)^{0.5}(s^{1/s} - 1)^{0.5}$. s = sample size and k = the number of parameters estimated, including the intercept. Please note that the 5 % critical value is about 2.964 in our sample ($N = 6,866$). Following Lindley (1957), Easton and Faff (1994), McKenzie and Faff (2005), Connolly (1989), and Chatrath et al. (2006), we also mark the letter "a" on *t* values to denote that *t* value exceeds the critical value and the estimated coefficients are significant at 5 % level at least. Please see Appendix for variable definitions

Columns (1) and (3) of Panel C show that the coefficient on *RELIGION 200** and *RELIGION300** are positive and significant at the 1 % level, consistent with Hypothesis 1. Columns (2) and (4) show that the coefficients on *RELIGION200* × STATE* and *RELIGION300* × STATE* are significantly negative at the 1 % level, additionally supporting Hypothesis 2.

Overall, results in Table 6 are strong and robust, and these checks produce statistically indistinguishable results compared with our model in the main tests. Therefore, the findings in Table 6 corroborate that religion is positively associated with corporate philanthropic giving, and the association is weaker for SOEs than for non-SOEs.

Conclusions

We conduct this study to examine religion's role in shaping Chinese listed firms' philanthropic giving activities. We follow recent studies that investigate the presence of religion in corporate decisions and firms' valuations (e.g., El Ghoul et al. 2012b; Hilary and Hui 2009; McGuire et al. 2012). More specifically, we construct quasi-firm-level religious variables using a digital map. Then we explore whether the proximity of religious sites and corporate philanthropic giving are linked. Our findings reveal that religion is significantly positively associated with corporate philanthropic giving. Moreover, the positive association is less pronounced for SOEs than for non-SOEs. Our results are robust to various measures of religion and various sensitivity tests.

Our study makes several contributions to the business ethics literature. First, we illuminate the influence of religion on corporate philanthropy. Contemporary China has seen a dramatic religious revival. Meanwhile charities are becoming more widespread. Public firms are increasingly realizing that they should value CSR. The resurgence of religious influence prompts us to wonder whether religion would impact corporate philanthropic giving. Intuitively, we expect a naturally positive relationship because almost all religions teach the value of selflessness. Our study supports that religion does positively impact corporate philanthropic giving.

Second, our study explores the interactive effect between religion and administrative force on corporate philanthropy in China. Our findings reveal that religion, acting as a social norm, exerts significant and positive impact on corporate philanthropy. However, the nature of ultimate owner, as proxy for administrative force, negatively influences corporate philanthropic giving. Furthermore, the nature of ultimate owner attenuates the positive association between religion and corporate philanthropic giving. These results

Table 6 Other robustness checks of Hypotheses 1 and 2 (the second-stage Tobit regression)

Variables	(1)		(2)		(3)		(4)	
	Second stage [Eq. (2) and H1]		Second stage [Eq. (3) and H2]		Second stage [Eq. (2) and H1]		Second stage [Eq. (3) and H2]	
	Coefficient	t value	Coefficient	t value	Coefficient	t value	Coefficient	t value
Panel A: Robustness checks of Hypotheses 1 and 2 based on corporate philanthropic giving deflated by total profit								
RELIGION200*	0.1818***	(5.54)[a]	1.0017***	(8.46)[a]				
RELIGION300*					0.0786***	(3.80)[a]	0.5704***	(8.87)[a]
RELIGION200* × STATE			−1.4129***	(−7.36)[a]				
RELIGION300* × STATE							−0.8346***	(−7.82)[a]
STATE	−1.4811*	(−1.72)	−0.6411	(−0.74)	−1.5358*	(−1.78)	−0.6181	(−0.72)
Control variables	Yes		Yes		Yes		Yes	
Intercept	−29.0976***	(−3.27)[a]	−56.0333***	(−4.94)[a]	−28.4454***	(−3.22)[a]	−55.7673***	(−5.05)[a]
Number of obs.	6,866		6,866		6,866		6,866	
Pseudo_R[2]	0.0211		0.0218		0.0210		0.0219	
Left censored	2,652		2,652		2,652		2,652	
Log likelihood	−19,029.02***		−19,015.12***		−19,031.73***		−19,014.75***	
Panel B: Robustness checks of Hypotheses 1 and 2 based on reduced sample excluding the year of 2008								
RELIGION200*	0.0057***	(6.45)[a]	0.0407***	(8.31)[a]				
RELIGION300*					0.0023***	(4.00)[a]	0.0228***	(8.84)[a]
RELIGION200* × STATE			−0.0605***	(−7.13)[a]				
RELIGION300* × STATE							−0.0348***	(−7.47)[a]
STATE	−0.0924***	(−3.15)[a]	−0.0591**	(−2.08)	−0.0942***	(−3.19)[a]	−0.0568**	(−2.01)
Control variables	Yes		Yes		Yes		Yes	
Intercept	−1.5314***	(−5.15)[a]	−2.6588***	(−6.92)[a]	−1.5096***	(−5.22)[a]	−2.6313***	(−6.97)[a]
Number of obs.	5,811		5,811		5,811		5,811	
Pseudo_R[2]	0.0930		0.0961		0.0926		0.0962	
Left censored	2,468		2,468		2,468		2,468	
Log likelihood	−4,240.34***		−4,226.02***		−4,242.28***		−4,225.43***	
Panel C: Robustness checks of Hypotheses 1 and 2 based on firm-year observations that had existed before our sample period (2004-2010)								
RELIGION200*	0.0057***	(4.68)[a]	0.0458***	(8.51)[a]				
RELIGION300*					0.0019**	(2.16)	0.0247***	(9.36)[a]
RELIGION200* × STATE			−0.0630***	(−6.94)[a]				
RELIGION300* × STATE							−0.0355***	(−7.65)[a]
STATE	−0.1089***	(−2.69)	−0.0829**	(−2.11)	−0.1100***	(−2.71)	−0.0779**	(−1.97)
Control variables	Yes		Yes		Yes		Yes	
Intercept	−1.5587***	(−5.64)[a]	−2.7257***	(−9.33)[a]	−1.5235***	(−5.66)[a]	−2.6755***	(−9.26)[a]
Number of Obs.	6,143		6,143		6,143		6,143	
Pseudo_R[2]	0.1244		0.1271		0.1240		0.1270	
Left censored	2,452		2,452		2,452		2,452	
Log likelihood	−4,694.97***		−4,680.41***		−4,697.01***		−4,681.22***	

Note: All control variables, year dummies, and industry dummies are included in all regression models but not reported here for brevity. The values of *t* statistics are in *parentheses*, and ***,** and * represent the 1, 5 and 10 % levels of significance, respectively, for a two-tailed test. All reported *t* statistics are based on standard errors adjusted following Petersen (2009). Moreover, because of our relatively large sample size, we also compute the size-adjusted *t* statistic, and the 5 % critical *t* value is measured as $(s - k)^{0.5}(s^{1/s} - 1)^{0.5}$. s = sample size and k = the number of parameters estimated, including the intercept. Please note that the 5 % critical values are about 2.964, 2.935, and 2.945 in Panel A ($N = 6,866$), Panel B ($N = 5,811$), and Panel C ($N = 6,143$), respectively. Following Lindley (1957), Easton and Faff (1994), McKenzie and Faff (2005), Connolly (1989), and Chatrath et al. (2006), we also mark the letter "a" on *t* values to denote that *t* value exceeds the critical values and the estimated coefficients are significant at 5 % level at least. Please see Appendix for variable definitions

contribute to the controversy about the competitive influence between administrative force and religion.

Finally, throughout much of the economic reform period of the late twentieth century, China focused on economic development. Now that China has become the world's second largest economy, Chinese people are beginning to

seek more than economic advancement. Religion encourages the faithful to be compassionate toward others, and thus helps counter difficulties. In addition, the Chinese government desires a "harmonious society," and realizes religion's role in attaining that goal. Thus, the government has made some attempts to support traditional Chinese

practices such as encouraging ancestor worship and changing public holidays. This trend indicates that religions will continue to develop in China, benefitting both adherents and the nation as a whole.

Our study, of course, has its limitations. First, following Du (2012), we measure religious variables as the number of nationally famous religious sites within a certain radius around a listed firm's registered address. China has a number of religious sites, but our study includes only 162 nationally famous religious sites because of data limitations. Second, our study investigates only religious influence on corporate philanthropic giving based on Buddhism and Taoism, but we do not examine the impacts of other religions such as Islam, Catholicism, and Protestantism on corporate philanthropic giving in China, also because of data limitations.

Lastly, the research on how religion influences the Chinese economy is quite sparse. In essence, research on religion is just beginning. We hope that our highlighted area will be explored later by more in-depth research. We look forward to gathering more empirical findings and developing theory between religion and corporate philanthropic giving based on more authoritative, plentiful statistics. Moreover, we call for more detailed studies on the competitive influence of different religions on corporate philanthropic giving.

Appendix: variable definitions

Variable	Definition	Data source
GIVING	The amount of philanthropic giving, deflated by total assets at the beginning of the year (Useem 1988; Meznar and Nigh 1995; Brammer and Millington 2006; Amato and Amato 2007, 2012)	Author's calculation (A'C) based on CSMAR
RELIGION200	The number of nation-widely famous Buddhist monasteries and Taoist temples within a 200 km radius around the firm's registered place (Du 2012)	Author's calculation (A'C)
RELIGION300	The number of nation-widely famous Buddhist monasteries and Taoist temples within a 300 km radius around the firm's registered place (Du 2012)	Author's calculation (A'C)
RELIGION200*	The predicted values of *RELIGION 200* from the first-stage OLS regression (i.e., Eq. 1)	Eq. 1 in this study
RELIGION300*	The predicted values of *RELIGION 300* from the first-stage OLS regression (i.e., Eq. 1)	Eq. 1 in this study
STATE	A dummy variable, which equals 1 if the ultimate shareholder is central or local government(s) or government-controlled SOEs, and it equals 0 otherwise (Zhang et al. 2009, 2010)	Author's calculation (A'C)
GENDER	The ratio of women directors in the board of directors, equaling to the number of women directors to the number of the board of directors (Williams 2003; Jia and Zhang 2011)	Author's calculation (A'C) based on CSMAR
BDSHR	Shares owned by members in the board of directors (Johnson and Greening 1999)	CSMAR
INSTSHR	Shares owned by institutional investors (Johnson and Greening 1999)	CSMAR
FIRST	The percentage of ownership owned by the largest shareholder (Johnson and Greening 1999)	CSMAR
BOARD	The natural logarithm of the number of board (Williams 2003; Wang and Coffey 1992)	CSMAR
PLU	Dummy variable, which equals to 1 if the director of the chairman is also the CEO and 0 otherwise (Johnson and Greening 1999)	CSMAR
CASH	The cash and equivalents deflated by total assets in the beginning of the year (Zhang et al. 2009, 2010)	CSMAR
LEV	The debt-to-asset ratio, equaling to total liability deflated by total assets (Brown et al. 2006)	CSMAR
SIZE	The natural logarithm of total assets (Useem 1988; Meznar and Nigh 1995; Brammer and Millington 2006; Amato and Amato 2007, 2012)	CSMAR
ROA	The return on total asset, equaling to net income deflated by total assets (Ullmann 1985; McGuire et al. 1988; Roberts 1992)	CSMAR
GROWTH	The growth rate of revenue, equaling to (sale revenue in year t − sale revenue in year $t − 1$)/ sale revenue in year t	CSMAR

Variable	Definition	Data source
GDP_PC	The growth rate of *GDP per capita* at the province level	China statistical yearbook
LNTAX	The natural logarithm of total provincial tax (in million RMB)	China statistical yearbook
INCOME_PC	The natural logarithm of provincial income *per capita*	China statistical yearbook
TRANSPORT	The natural logarithm of the total mileage of highway and railway at the province level (in km)	China statistical yearbook
LNGDP	The natural logarithm of *GDP per capita* at the province level	China statistical yearbook
CENTER	The natural logarithm of the distance (in kilometer) between a listed firms and the nearest financial center (e.g., Beijing, Shanghai, and Shenzhen in China)	Author's calculation (*A'C*)

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