Religious atmosphere and corporate poverty alleviation: empirical evidence from China

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Abstract

Purpose – This study explores whether religion plays an important role in corporate poverty alleviation. Religious atmosphere affects managers' attitude towards corporate social responsibility (CSR) and then influences corporate poverty alleviation. This study first examines the impact of religious atmosphere on corporate poverty alleviation and then investigates whether formal institutions, such as law enforcement environments and ownership, influence the relationship between religious atmosphere and corporate poverty alleviation behavior.

Design/methodology/approach – In 2016, the Chinese government initiated a nationwide campaign aiming to eliminate poverty in China by 2020. The authors conduct empirical tests with data on Chinese listed firms from 2016 to 2020. The religious atmosphere is measured by the number of Buddhist monasteries and Taoist temples within a certain radius around Chinese listed firms' registered addresses. The authors adopt the ordinary least squares (OLS) method for regression and take the two-stage least squares (2SLS) method to address the endogeneity issue.

Findings – The results show a positive relationship between religious atmosphere and corporate poverty alleviation donations. Law enforcement attenuates the positive association between the religious atmosphere and corporate poverty alleviation donations. Religion and corporate poverty alleviation donations have a more positive association for non-state-owned enterprises (non-SOEs) than for state-owned enterprises (SOEs).

Research limitations/implications – The authors' findings have important implications. First, this study inspires incorporating the ethical value of traditional culture, such as religion, into CSR. Second, the findings imply that informal institutions have a greater impact on corporate decision-making when formal institutions are weak, suggesting that informal institutions should be emphasized when promoting CSR in countries where formal institutions are relatively weak. The study investigates only religious influence on corporate poverty alleviation based on Buddhism and Taoism, but the authors do not examine the impacts of other religions. Future research may examine the relationships between other religions and corporate poverty alleviation in China.

Originality/value – This study illustrates the positive role played by religion in promoting CSR by relating religious atmosphere to corporate poverty alleviation. It fills the research gap between religion and CSR and also contributes to the literature on determinants of corporate poverty alleviation.

Keywords Religious atmosphere, CSR, Corporate poverty alleviation, Targeted poverty alleviation campaign in China

Paper type Research paper

1. Introduction

As a crucial informal institution, religion is playing an increasingly important role in corporate behavior, including business ethics, managerial behavior, owner-manager agency

costs, risk and earnings management, and equity pricing (Hilary and Hui, 2009; El Ghoul *et al.*, 2012). In recent years, with the attention of scholars on corporate social responsibility (CSR), a growing body of literature examines the impact of religion on CSR (Ramasamy *et al.*, 2010). However, the majority of extant studies focus on Western contexts and different religions may have asymmetric impacts on CSR. Therefore, it is necessary for researchers to separately investigate the association between Eastern religions and CSR in the context of China, the largest emerging economy in the world.

There has been a long history of religion in China. Scholars have recognized the importance of religion in shaping individual behavior and influencing corporate decisions in China (Hilary and Hui, 2009; Li *et al.*, 2021). A small number of studies address the influence of religion on CSR, such as corporate philanthropic giving (Du *et al.*, 2014a, b), corporate environmental responsibility (Du *et al.*, 2014a, b), and employment protection (Hafedh and Xu, 2022). However, these studies just focus on traditional CSR activities initiated by firms and do not provide evidence that whether religion can motivate firms to participate in poverty alleviation and contribute to social justice. Nowadays, poverty alleviation has increasingly been reconsidered as an important part of CSR. However, little literature has empirically investigated the issue of corporate poverty alleviation. Our study aims to provide such evidence by investigating the impact of religion on corporate poverty alleviation in the unique China context.

In recent years, China has made great achievements in poverty alleviation. It's reported by the World Bank that the number of poor people living in Chinese has decreased from 878 million in 1981 to 25.11 million in 2013. To further eradicate poverty, the Chinese government launched a nationwide poverty alleviation campaign in 2016. The listed firms are important contributors. This campaign offers a unique setting to investigate listed firms' participation in government-initiated and socially significant CSR activity.

Therefore, we hand-collect details of 42,300 religion sites in 31 provinces and use China's A-share listed firms during 2016–2020 as our research sample. We examine the impact of religion on corporate poverty alleviation using a set of variables of the religious atmosphere based on the geographic proximity between firms and religion sites. We find that the religious atmosphere has a significant and positive effect on corporate poverty alleviation. Moreover, the positive impact of religious atmosphere on listed firms' poverty alleviation behavior is more pronounced in firms with more stringent external law enforcement environment and in non-state-owned enterprises (non-SOEs), which suggests that there is a substitute relationship between the external formal institutional arrangements of a firm and religion (referred to informal institutions).

Our study contributes to the extant literature in several ways. First, our study adds to the literature about the impact of religion on CSR based on the background of China's poverty alleviation. To our best knowledge, we are the first to investigate the impact of religion on corporate CSR from the perspective of poverty alleviation. The poverty alleviation campaigns participated by firms have an important influence on social justice. Our results show that the religious atmosphere has played an important role in motivating firms' participation in the targeted poverty alleviation campaign, suggesting that religion can motivate public firms to join forces to achieve a grand social objective.

Second, our study adds to the knowledge on the determinants of corporate poverty alleviation behavior by identifying the role of religion. A few studies considered the importance of managers' and politicians' incentives as well as a business strategy in corporate poverty alleviation behavior (Kolk and van Tulder, 2006; Huang *et al.*, 2019; Chang *et al.*, 2021). Our study expands the literature regarding determinants of corporate poverty alleviation from the perspective of religion.

Third, our study is one of the very few studies that illuminate religion's impact on the behaviors of Chinese listed firms. Previous studies in this field are mainly based on the

context of the United States, but there is less persuasive evidence about religious influence outside the United States. Only a few papers investigate the role of Buddhism and Taoism in the background of China (Du, 2013; Chen *et al.*, 2021; Li *et al.*, 2021). Our study fills this gap by examining the influence of religion on the poverty alleviation behavior of Chinese listed firms.

Finally, previous studies have pointed out that informal institutions play a more important role in areas where formal institutions are weaker (North, 1990; Williamson, 2000; Aghion *et al.*, 2010; Jensen *et al.*, 2015). Our findings show that law enforcement (formal institution) attenuates the positive association between the religious atmosphere (informal institution) and corporate poverty alleviation donations, which support the view that informal and formal institutions are substitute.

The remainder of our paper is organized as follows. Section 2 introduces the institutional background, literature review, and theoretical analysis. Section 3 describes the methodology including the sample, variable measurement, and research design. Section 4 presents the empirical results and robustness checks. Section 5 further explores the relationship between the religious atmosphere and corporate poverty alleviation behavior based on law enforcement and the nature of the ultimate owner. Section 6 concludes the paper.

2. Institutional background, literature review, and hypothesis development

2.1 Targeted poverty alleviation campaign in China

China has made significant progress in poverty reduction. For decades, relying on the increase in national wealth brought about by economic growth, the Chinese government has been committed to eradicating poverty and has put a lot of effort to help people get rid of poverty. One important target of China's thirteenth Five-Year Plan (2016–2020) is to eradicate poverty by 2020. The national-wide campaign, called "targeted poverty alleviation" is an important action taken by the Chinese central government to ensure that assistance reaches poverty-stricken villages and households. A key feature of the campaign is that it has mobilized people and organizations from all walks of life to participate (Qu, 2017). Particularly, listed firms may rely on their unique strengths, such as market knowledge and accessibility to various resources, to develop innovative business models which can provide effective solutions to poverty alleviation.

In September 2016, the China Securities Regulatory Commission (CSRC), the regulator of China's capital markets, announced that it had established a poverty alleviation working group. This working group is led by the chairman of the CSRC to support and encourage listed companies to fulfill their social responsibilities for poverty alleviation. Many listed firms have taken part in the campaign by donating money and resources, setting up cooperative projects with local people in poverty-stricken areas, and employing the poor. According to the requirements of the stock exchange, Chinese listed firms systematically disclose information about their participation and contributions in the poverty alleviation campaign starting in 2016. Specifically, these firms disclosed the amount of funds or resources they provided for the targeted poverty alleviation campaign and the number of people they helped out of poverty. The disclosure allows us to collect the information and examine listed firms' contributions to the poverty alleviation campaign.

2.2 Religion in China

The religious tradition in China has a very long history. In China, Buddhism and Taoism are the two most influential denominations. Religious activities were largely reduced from the founding of the People's Republic of China in 1949 to the termination of the Cultural Revolution in 1976 because atheism is the fundamental doctrine of the Chinese Communist Party at that time. After the Cultural Revolution, the government's attitude toward

religion changed. In 1979, China began an unprecedented open-up reform. During the process of reform and opening, the Chinese Communist Party realized that people have more diversified spiritual demands which called on religious belief, and religion can never be eradicated in any society.

The Chinese government has taken measures to lift restrictions on religious activities. Article 36 of the 1982 Constitution notes that: "*Citizens of the People's Republic of China enjoy the freedom of religious belief. The state protects normal religious activities*". In the 1980s, several religious sites are repaired and reopened for religious activities. In recent years, as China's economy has grown and the gap between rich and poor has widened, the government has become friendly to religious practices. For example, in February 2014, Chinese President Xi Jinping met with Master Hsing Yun, one of the famous Buddhist personages. It's shown from the World Value Survey that 11% of Chinese people have religious beliefs (Inglehart *et al.*, 2014). Some scholars roughly estimate that the number of religious believers in China should be between 185 and 300 million (Jin and Qiu, 2011). It has become a prevailing trend to participate in traditional religious activities in China nowadays. Some Buddhist monasteries and Taoist temples are crammed during holidays and festivals, and the peak number of adherents crowded into a famous religious site is 216 thousand to worship the gods in 2012.

Overall, religious influence in China is becoming increasingly strong, and thus we can logically infer that religion can influence individual behavior and corporate decisions to some extent. We think that scholars should pay more attention to religious influence in China (see Figure 1).

2.3 Literature review

2.3.1 Religion and corporate social responsibility. In recent years, a growing body of literature emerged that focuses on the relationship between religion and CSR. Most empirical
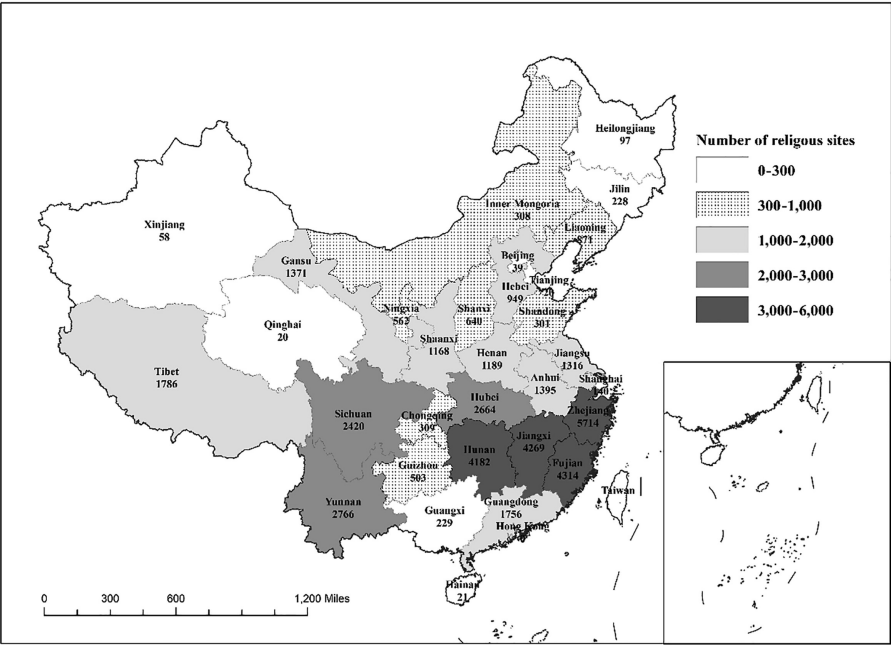

Figure 1.
The regional distribution of religious sites in China

researches have consistent conclusions and they support the view that religion can significantly promote a firm's CSR (Griffin and Sun, 2018; Harjoto and Rossi, 2019). It's worth noting that most studies examining the relationship between religion and CSR focused on developed markets such as the US. These studies concentrate more on the influence of Western religions on CSR. However, religions in different countries generally exert different influences on firms' CSR behavior. Therefore, findings based on Western religions could not fit in well with religions in Eastern cultures. That is to say, a large research gap is left to be filled in that whether these findings from research based on Western religions still hold in Eastern religions in China, such as Buddhism and Taoism.

Existing research on CSR mainly focuses on specific areas such as the environment (Du et al., 2014a, b; Chen et al., 2021), charity (Du et al., 2016), and employment protection (Hafedh and Xu, 2022). Many scholars examined the impact of religion on CSR from the perspective of environment and charity. However, few studies have examined the role of religion in promoting corporate poverty alleviation behavior. Different from charity activities organized by any firm, a firm's participation in official poverty alleviation campaigns initiated by the government can better reflect the impact of CSR on society. Taking into consideration that reducing poverty is essential to improving social progress, we believe that it is necessary to investigate the relationship between religion and CSR from the perspective of poverty alleviation.

2.3.2 CSR and targeted poverty alleviation. Recently, in the debate on how to combat poverty, the positive role of corporate is frequently mentioned nowadays. The potential of firms on poverty alleviation is receiving considerable attention from scholars, and they have realized that poverty alleviation should be an important part of CSR. Some studies have examined the role of Multinational corporations (MNCs) in alleviating the poverty of host countries. Pimpa (2011) found social and institutional pressures and stakeholders' involvement influence decision-making concerning MNCs on poverty alleviation in Thailand. Amadi and Abdullah (2012) found that the Nigerian subsidiary of Royal Dutch Shell has contributed immensely to the reduction of poverty of local communities in its areas of operation. Based on data from interviews with company chief operation officers, Akwaowo and Swanson (2016) explored the willingness of foreign investors in developing African countries to contribute to poverty alleviation. It should be noted that, due to the lack of detailed data on corporate poverty alleviation expenditure, most of these studies adopt qualitative analysis methods, and use secondary data from CSR reports, media interviews, and websites.

Since the Chinese central government launched the targeted poverty alleviation campaign, Chinese listed firms are required to disclose their expenditures on targeted poverty alleviation on projects. This unique setting provides an opportunity for researchers to use quantitative methods to investigate the influencing factors or economic consequences of corporate poverty alleviation. On the one hand, some studies have examined the driving factors of firms' participation in target poverty alleviation. Using multivariate analyses, Chang et al. (2021) found that managers' and politicians' incentives were important factors driving firms' decisions to participate in the poverty alleviation campaign. Similarly, Zhang et al. (2022) examined how the political connections of a firm's chairperson were associated with decisions to alleviate poverty based on a sample of listed Chinese firms from 2016 to 2018 and found chairperson's political connections increase the probability of participation and the amount of investment in programs to alleviate poverty. Huang et al. (2019) found political pressure from the government was the main driver behind Chinese firms' targeted poverty alleviation spending. On the other hand, other studies on corporate finance discussed the economic consequences of targeted poverty alleviation disclosure from the perspectives of financing constraints (Pan et al., 2021), shareholder wealth (Pan et al., 2021), stock returns (Qiao et al., 2021), equity capital cost (Yi et al., 2020; Zhao et al., 2022), and corporate risk (Chen and Li, 2021).

However, literature exploring determinants of corporate targeted poverty alleviation behavior is limited. Although some studies considered the importance of managers' and politicians' incentives in the firm's participation in the targeted poverty alleviation campaign (Huang *et al.*, 2019; Chang *et al.*, 2021), there is no research investigating the impact of informal institutions such as religion on corporate poverty alleviation behaviors.

2.4 Theoretical analysis and hypotheses development

Most religions advocate that one should have a sense of responsibility and care about others, which is consistent with the CSR theory. Poverty alleviation is a component of CSR, and there is an inherent coincidence between religion and poverty alleviation. Both Buddhism and Taoism advocate that believers should be compassionate and responsible for the poor.

Specifically, the belief underlying Buddhism is consistent with poverty alleviation. First, compassion and equality are ethical virtues in Buddhist ideology. Compassion requires a Buddhist to treat others people's feelings as his/her favor so that the followers ought to entail altruism and contribute to others well within their ability (Pace, 2013). Equality in Buddhism refers to fair equidistance from the extreme and thus one should not strive to gain status and wealth that is superior to the status and wealth of others (Pace, 2013). Second, Buddhism emphasizes that desires are the source of suffering (Brazier, 2003; Pace, 2013). Buddhists keep a self-disciplined lifestyle to reach an ultimate state of soteriological release and liberation from suffering. Therefore, they are less materialistic and tend to use part of their wealth to help the poor. Third, Buddhism's fundamental law of "*karma*" emphasizes that everything is caused by everything else and is also one of the causes of everything else (Brazier, 2003 Pace, 2013). Buddhists believe that all life is interrelated and interdependent so each people should share their wealth and help the poor.

Similarly, Taoist teachings also support believers to participate in poverty alleviation. First, Taoism tends to emphasize naturalness, spontaneity, simplicity, and detachment from desires (Chan, 1963). To attain naturalness, one should free oneself from selfishness and appreciate simplicity which suggests that Taoists are inclined to undervalue their material possessions and are more likely to engage in poverty alleviation (Fowler, 2005). In addition, the "*Three Treasures (Jewels)*" in Taoism comprise the basic virtues, including compassion, moderation, and humility (Waley, 2013). We can logically infer the positive association between Taoism and poverty alleviation.

The religious atmosphere reflects the religious culture and tradition in a region. Religious sites are the physical embodiment of the religious atmosphere because adherents express their loyalty and devotion by building religious sites. Referring to previous studies (Chen *et al.*, 2013; Li *et al.*, 2021), we use the number of religious sites within a certain radius of a firm as a proxy for the religious atmosphere. Since there is an inherent positive link between religious teachings and poverty alleviation, we can naturally infer that firms in areas with a strong religious atmosphere will donate more money and more resources to the targeted poverty alleviation campaign.

However, one might argue that managers and employees may be non-adherents, and thus the influence of the religious atmosphere on corporate poverty alleviation will be weakened. But we think that such doubts are not serious.

First, whether business operators are adherents or not, the religious atmosphere in the area where the firm is located can be viewed as a cultural cognition, which provides a framework of common knowledge based on religious ideology. Business operators in areas with a strong religious atmosphere are likely to be reminded of some religious values and be aware that corporate participation in poverty alleviation may enhance their reputation and further generate market value. As some studies have found, even if managers or employees of firms with a strong religious atmosphere are not religious adherents, they may (even must)

respond to local religious norms and interact with religious customers, and suppliers (El Ghoul *et al.*, 2013; Du, 2014). Thus, firms that are located in areas with a strong religious atmosphere may choose to make more poverty alleviation donations.

Second, the physical interaction between firms and religious sites can help them practice more CSR activities. Sacred religious sites are places of prayer, reverence, meditation, and education for visitors. By visiting religious sites, visitors can participate in a collective ritual and obtain a transformative experience. It may lead visitors to identify and understand religious beliefs and values. In areas with a strong religious atmosphere, firms are often close to religious sites, which provide convenient opportunities for firms' managers and employees to take a visit. Managers of these firms are also willing to lead employees on tours of the religious sites, carry out activities with religious groups, and integrate religious values such as poverty alleviation into the firms' management culture.

Based on the above discussion, we predict that firms surrounded by a stronger religious atmosphere are more likely to donate more money and resources to the targeted poverty alleviation campaign. Therefore, we propose the following hypothesis:

H1. Ceteris paribus, the religious atmosphere is positively associated with firms' donations to the targeted poverty alleviation campaign.

3. Methodology
3.1 Sample and data sources
Our sample selection starts with all listed firms in China's A-share markets from 2016 to 2020. The sampling period starts in 2016, the first year in which listed firms were required to disclose information about their contributions to poverty alleviation by stock exchanges. We exclude observations for (1) firms with unavailable data for poverty alleviation donation variables, (2) ST (special treatment) firms, and (3) firms with unavailable data for measuring firm-specific control variables. Then we winsorize the top and bottom 1% of all continuous variables to control the influence of some extreme observations. Figure 2 shows the regional distribution of listed firms in the sample. These listed firms drawn in our sample are distributed in every province in China, indicating that our sample is random and can represent different regions in China.

The data source is as below: (1) We obtain the firms' poverty alleviation donations data from the CSMAR database. (2) Based on the Google-earth map, we calculate and hand-collect data on the religious atmosphere (*Religion_R*). (3) Firm's financial data are collected or calculated based on CSMAR. (4) Other variables come from the "China Statistical Yearbook" or are manually collected.

3.2 Empirical model specification
To explore the relationship between the religious atmosphere and corporate poverty alleviation behavior, we estimate the following fixed-effects model [1] using observations for firm i in year t:

$$Y_{it} = \beta_0 + \beta_1 Religion\_R_{it} + Controls_{it} + Industry + Province + Year + \varepsilon_{it} \qquad (1)$$

where the dependent variable Y_{it} captures a firm's contributions to the poverty alleviation campaign. Because the main form of contributing to the campaign is donations of money and resources, we construct two continuous variables to measure the amount of donations: (1) *Donate/Ebit* (the sum of a firm's monetary and resource contributions deflated by Earnings before Interest and Taxes in the year); (2) *Lndonate* (the natural log of the sum of a firm's monetary and resource contributions). Firms also report the number of people they lift
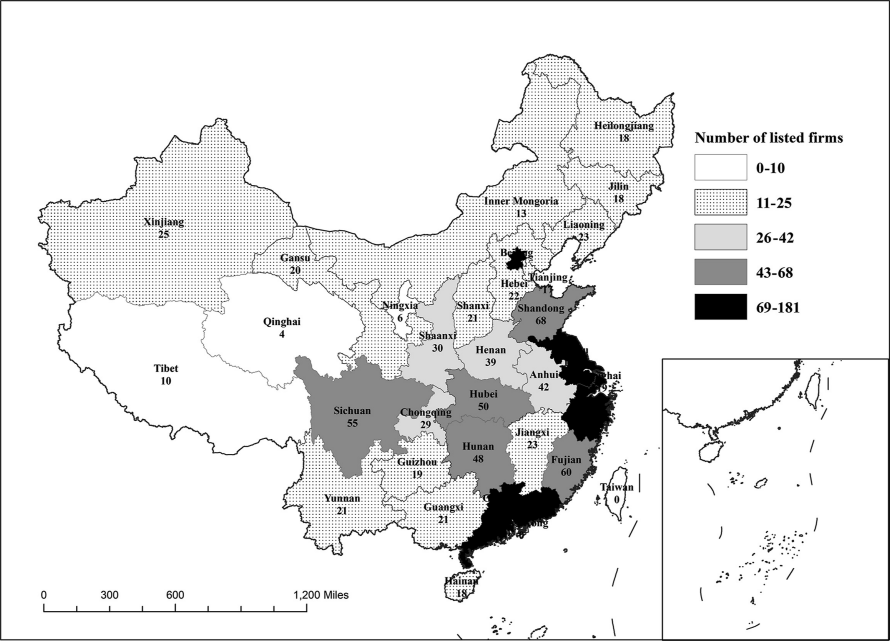
Figure 2.
The regional
distribution of listed
firms in the sample

out of poverty (*Pel*), which captures the effectiveness of their contributions to the campaign. We thus use it as an alternative proxy for the dependent variable in the robustness checks.

In previous literature, there are four methods to empirically measure the influence of religion: (a) individual religiosity of firms' executives, (b) the ratio of residents who participate in religious practices, or the number of religious believers divided by the total population in a religion (Hilary and Hui, 2009; Dyreng *et al.*, 2012); (c) the number of religious sites in a religion (Dyreng *et al.*, 2012); and (d) the number of religious sites within a certain distance of a firm (Chen *et al.*, 2013; Du, 2013). However, it's very difficult for researchers to investigate individual religiosity, the extent of religious participation, and the number of religious believers in China. Therefore, following previous studies (Chen *et al.*, 2013; Du *et al.*, 2014a, b; Li *et al.*, 2021), we use the number of religious sites within a certain radius of a firm (*Religion_R*) as a proxy for the religious atmosphere. We argue that there are two meritorious features of our approach. First, this measure is objective. Second, it is a quasi-firm-level, religious variable, rather than a region-level one. The firm-level measure can relatively display some variation in the religious atmosphere among different firms in a region. In addition, we also use the number of religious sites in a city where the firm is located as an alternative proxy for the religious atmosphere in the robustness test.

Specially, we regard the firm's registered address as the firm's location and count the number of Buddhist monasteries and Taoist temples within a defined kilometer radius (such as 100 and 200 km) around the firm's registered address in the digital map provided by Google. The specific procedures are as follows.

First, using "Google-earth", we check the registered address of every firm year in the sample and fix its longitude and latitude, respectively. Second, we check the geographic location of every Buddhist monastery (Taoist temple) which stands constantly in the same position, and then we fix the longitude and latitude of every monastery (temple) using

"Google-earth", respectively. Third, we calculate the distance between every firm-year and every Buddhist monastery (Taoist temple) according to their respective longitudes and latitudes. Finally, in our study, 100 and 200 km are utilized as distance criteria or upper limits to calculate the number of Buddhist monasteries and Taoist temples, and then to define the variables of *Religion_100* and *Religion_200,* respectively. The coefficient on *Religion_R* (i.e. β_1) captures the influence of the religious atmosphere on the firms' poverty alleviation donations after controlling other determinants.

Following extant studies (Jensen and Meckling, 1976; Brown *et al.*, 2006; Du *et al.*, 2016), we include a set of firm-specific financial characteristics as control variables in the regression. These control variables include firm size (*Size*), financial performance (*Roe*), financial leverage (*Lev*), percentage of ownership owned by the largest shareholder (*First*), and percentage of ownership owned by the top 10 shareholders (*Top*10), sales growth (*Growth*). Definitions of control variables are described in Table A1. We also control for industry, province, and year-fixed effects in the model, and all standard errors in the regression are clustered at the firm level.

3.3 Descriptive statistics
Table 1 reports descriptive statistics of the variables used in our study. The mean of *Donate/Ebit* is 0.02 which shows that the amount of donations of listed firms in the targeted poverty alleviation campaign accounts for about 2% of the firm's profits. The mean of *Lndonate* is 14.05, showing that the average donation of listed firms in the poverty alleviation campaign is 0.3819 million yuan. The mean values of *Religion_100* and *Religion_200* are 0.40 and 1.32, with standard deviations of 0.405 and 1.154 suggesting that 400 (1,320) religious sites within 100 km (200 km) radius around the firm's registered address, on average.

4. Empirical results
4.1 Baseline results
Our hypothesis predicts a significantly positive relationship between the religious atmosphere and corporate poverty alleviation behavior. Table 2 reports regression results of firms' poverty alleviation donations on religious atmosphere and other determinants. The dependent variables in columns (1) and (2) are *Donate/Ebit*. The coefficients on *Religion_100* and *Religion_200* are significantly positive at the level of 1%, respectively. These results provide strong and consistent evidence to our hypothesis. Furthermore, the estimated coefficients mean that when *Religion_100* (*Religion_200*) increase by one unit of standard

Variables	Mean	Std.dev	Min	Max	Median	Obs
Donate/Ebit	0.02	0.111	0.00	0.97	0.00	4,278
Lndonate	14.05	2.331	7.00	25.73	13.82	4,312
Pel	5.23	2.325	0.00	16.36	5.08	1,823
Religion_100	0.40	0.405	0.00	3.49	0.26	4,326
Religion_200	1.32	1.154	0.01	5.94	0.90	4,332
Size	23.27	1.715	20.32	28.49	23.03	4,342
Roe	0.09	0.064	−0.01	0.34	0.08	4,304
Lev	0.48	0.211	0.08	0.93	0.48	4,304
Top10	0.61	0.159	0.26	0.94	0.63	4,342
First	0.36	0.159	0.09	0.76	0.33	4,342
Growth	0.13	0.266	−0.46	1.40	0.10	4,304

Table 1.
Descriptive statistics

Variables	(1) *Donate/Ebit*	(2) *Donate/Ebit*	(3) *Lndonate*	(4) *Lndonate*
Religion_100	0.0169***		0.2282***	
	(0.005)		(0.085)	
Religion_200		0.0043***		0.0664**
		(0.002)		(0.027)
Size	−0.0031**	−0.0034**	0.8410***	0.8311***
	(0.002)	(0.002)	(0.027)	(0.027)
Roe	−0.1333***	−0.1376***	1.4729***	1.3925***
	(0.031)	(0.029)	(0.516)	(0.485)
Lev	0.0363***	0.0353***	−0.3872*	−0.3481*
	(0.013)	(0.012)	(0.213)	(0.205)
Top10	0.0118	0.0091	0.6072**	0.5636**
	(0.017)	(0.015)	(0.254)	(0.255)
First	−0.0236*	−0.0221	−0.3921	−0.4315*
	(0.013)	(0.015)	(0.254)	(0.253)
Growth	0.0026	0.0040	0.0137	0.0262
	(0.005)	(0.007)	(0.110)	(0.111)
Constant	0.1908**	0.2167***	−5.8784***	−5.4787***
	(0.079)	(0.041)	(0.928)	(0.695)
Industry FE	Yes	Yes	Yes	Yes
Province FE	Yes	Yes	Yes	Yes
Year FE	Yes	Yes	Yes	Yes
Adjust.R²	0.114	0.112	0.425	0.420
Observations	4,258	4,264	4,254	4,260

Table 2.
Basic regression of corporate poverty alleviation on religious atmosphere

Note(s): Robust standard errors are clustered at the firm level and provided in parentheses. ***, **, * denote significance at 1%, 5%, and 10% levels respectively

deviation, firms' poverty alleviation donations increase about 0.68% (0.49%), equal to about 29.7% (21.5%) of the mean value of *Donate/Ebit*. Therefore, these coefficient estimates are economically significant. Moreover, the coefficient on *Religion_100* tends to be smaller than *Religion_200* which means that the positive association between the religious atmosphere and corporate poverty alleviation behavior becomes weaker when we relax the distance criterion from 100 to 200 km. Similarly, the dependent variables in Columns (3) and (4) are *Lndonate*. Column (3) and (4) show that the coefficients on *Religion_100* and *Religion_200* are significantly positive at the level of 1%, which once again confirms the positive association between the religious atmosphere and corporate poverty alleviation donations. The results are consistent with previous studies examining religion and CSR, which find a positive relationship between religion and corporate philanthropic giving (Du *et al.*, 2014a, b), corporate environmental responsibility (Su, 2019; Chen *et al.*, 2021), and employment protection (Hafedh and Xu, 2022).

4.2 Robustness tests

4.2.1 Using other religious atmosphere variables. We further test our hypothesis using other variables measuring religious atmosphere based on different distance criteria and city-level religious atmosphere variables. First, we tighten and relax the distance criteria (50, 150, 250, and 300 km) and use the same procedure to define different religious atmosphere variables. As shown in columns (1)–(4) of Table 3, in which *Donate/Ebit* is the dependent variable, the coefficients on *Religion_R* (R = 50, 150, 250, 300 km) are positive and significant under every gauge, supporting our hypothesis again. Second, we re-estimate Eq. (1) using the city-level religious atmosphere variable to provide additional evidence for our hypothesis.

Variables	(1) Donate/Ebit	(2) Donate/Ebit	(3) Donate/Ebit	(4) Donate/Ebit	(5) Donate/Ebit
Religion_50	0.0357** (0.014)				
Religion_150		0.0084*** (0.003)			
Religion_250			0.0026** (0.001)		
Religion_300				0.0017** (0.001)	
Religion_city					0.2565* (0.140)
Controls	Yes	Yes	Yes	Yes	Yes
Industry FE	Yes	Yes	Yes	Yes	Yes
Province FE	Yes	Yes	Yes	Yes	Yes
Year FE	Yes	Yes	Yes	Yes	Yes
Adjust.R^2	0.115	0.113	0.110	0.111	0.214
Observations	4,141	4,262	4,274	4,260	2,401

Note(s): Robust standard errors are clustered at the firm level and provided in parentheses. ***, **, * denote significance at 1%, 5%, and 10% levels respectively

Table 3.
Alternative measure of
religious atmosphere

The city-level religious atmosphere variable (*Religion_city*) is measured as the number of Buddhist monasteries and Taoist temples in each prefecture-level city. In column (5) of Table 3, the coefficient on *Religion_city* is positive and significant, suggesting that the city-level religious atmosphere is positively associated with the firm's poverty alleviation donations. The result again supports our hypothesis.

4.2.2 Using an alternative proxy for the dependent variable. To further verify whether our findings are robust, we re-estimate Eq. (1) using the alternative dependent variable *Pel*, measured as the number of people lifted out of poverty by listed firms. Columns (1) and (2) in Table 4 show that the coefficients on *Religion_100* and *Religion_200* are significantly positive, additionally supporting our hypothesis.

4.2.3 Excluding samples from ethnic minority autonomous regions. In China, due to some natural and historical reasons, the social and economic development of minority people and

Variables	(1) Pel	(2) Pel	(3) Donate/Ebit	(4) Donate/Ebit
Religion_100	6.0655* (3.202)		0.0156*** (0.005)	
Religion_200		1.5240* (0.822)		0.0039** (0.002)
Controls	Yes	Yes	Yes	Yes
Industry FE	Yes	Yes	Yes	Yes
Province FE	Yes	Yes	Yes	Yes
Year FE	Yes	Yes	Yes	Yes
Adjust.R^2	0.110	0.091	0.117	0.115
Observations	1,358	2,022	4,032	4,031

Note(s): Robust standard errors are clustered at the firm level and provided in parentheses. ***, **, * denote significance at 1%, 5%, and 10% levels respectively

Table 4.
Alternative measure of
corporate poverty
alleviation and
excluding ethnic
minority autonomous
regions

regions lag compared to other areas and groups, and their poverty is serious. Poverty alleviation has been an important part of its policies on ethnic affairs. In this context, listed firms in ethnic minority areas tend to participate in more poverty alleviation activities and donate more money and resources, even if they are not directly influenced by religion. Moreover, people of ethnic minorities usually have religious beliefs, and the religious atmosphere in ethnic minority areas is generally very strong. We think this may interfere with our identification of the relationship between the religious atmosphere and corporate poverty alleviation behavior. Therefore, following Du (2014), we delete firms located in autonomous regions and re-estimate Eq. (1) using a reduced sample. In columns (3) and (4) of Table 4, the coefficients of *Religion_100* and *Religion_200* are positive and significant, and these results provide additional support to our hypothesis.

4.2.4 Using standardized data. Following Thompson (2021), we adopt a method called "z-score normalization" to standardize our data.

$$x' = \frac{x - mean(x)}{\sigma} \tag{2}$$

where $mean(x)$ is the mean of x, and σ is the standard deviation of x. After standardization, the data will be distributed with a mean of 0 and a standard deviation of 1. Then, we re-run our baseline model using standardized data. Table 5 presents the results based on standardized data. The coefficients of the religious atmosphere are positive and statistically significant, indicating that the results are robust.

4.3 Discussion on potential endogeneity between the religious atmosphere and corporate poverty alleviation behavior

We apply two approaches to address possible endogeneity issues that might bias our results. First, to control the several variables that may impact the location of the firm and corporate poverty alleviation behavior, following El Ghoul *et al.* (2012) and Du (2014), we identify five factors, including tax burden (*Tax*), labor costs (*Labor_cost*), traffic conditions (*Transport*), economic development (*GDP_per*), financial institution (*FI*), and include them to re-estimate Eq. (1). In addition, some socio-economics variables make it difficult to identify the relationship between the religious atmosphere and corporate poverty alleviation. We further introduce some other socio-economic variables into our regression, including government intervention (*Gov_Inv*), social awareness (*Soc_Awe*), and traditional values (*Trad_Value*),

Variables	(1) Donate/Ebit	(2) Donate/Ebit	(3) Lndonate	(4) Lndonate
Religion_100	0.0303** (0.012)		0.0403*** (0.014)	
Religion_200		0.0326** (0.017)		0.0354*** (0.013)
Controls	Yes	Yes	Yes	Yes
Industry FE	Yes	Yes	Yes	Yes
Province FE	Yes	Yes	Yes	Yes
Year FE	Yes	Yes	Yes	Yes
Adjust.R²	0.136	0.067	0.414	0.410
Observations	4,553	4,562	4,549	4,558

Table 5.
Robustness test using standardized data

Note(s): Robust standard errors are clustered at the firm level and provided in parentheses. ***, **, * denote significance at 1%, 5%, and 10% levels respectively

regional inequality (*Region_Ine*) and corporate executives' personal poverty experience (*Pov_Exp*). Definitions of these variables are described in Table A1.

As shown in Table 6, the coefficients on *Religion_100* and *Religion_200* are still positive and significant at 1% level, and again provide support to our hypothesis.

Second, to cope with the reverse causality effect between religion and corporate poverty alleviation behavior, we employ a two-stage least squares (2SLS) analysis. Following Dong *et al.* (2012) and Zhang *et al.* (2021), for the firm-level religious atmosphere variable (*Religion_200*), we use *5A_attraction* and *Treaty_post* variables as the instrumental variable. *5A_attraction* is measured as the number of 5A attractions within 200 km of the firm's registered place, and the *Treaty_post* is measured as opening years of treaty ports within 200 km of the firm's register place.

These two variables can well satisfy the instrumental relevance and instrumental exogeneity conditions. In terms of instrumental relevance, the two instrumental variables are related to the firm's address and address of religious sites. The longer the opening time of the treaty port is, the more influenced it is by western culture and customs. As a result, the business environment at treaty ports with a long opening time is usually business-friendly, and firms also tend to be close to treaty ports with a long history of opening up. Therefore, the variable *Treaty_post* is closely related to the firms' registered address. The natural

Variables	(1) *Donate/Ebit*	(2) *Donate/Ebit*	(3) *Donate/Ebit*	(4) *Donate/Ebit*
Religion_100	0.0164***	0.0165***		
	(0.006)	(0.005)		
Religion_200			0.0042**	0.0038**
			(0.002)	(0.002)
Tax	0.0080	0.0349	0.0065	0.0340
	(0.037)	(0.048)	(0.036)	(0.048)
Labor_Cost	0.0313	0.0821	0.0380	0.0841
	(0.120)	(0.147)	(0.120)	(0.147)
Transport	−0.0076	0.0753	−0.0053	0.0748
	(0.058)	(0.082)	(0.058)	(0.082)
GDP_per	0.0217	−0.0011	0.0212	−0.0007
	(0.033)	(0.042)	(0.033)	(0.041)
FI	0.0003	0.0010	0.0004	0.0013
	(0.001)	(0.001)	(0.001)	(0.001)
Gov_Inv		0.0001		0.0001
		(0.000)		(0.000)
Soc_Awe		−0.0332		−0.0341
		(0.057)		(0.057)
Trad_Value		0.0029		0.0031
		(0.003)		(0.003)
Religion_Ine		0.0281		0.0272
		(0.018)		(0.018)
Pov_Exp		0.0081*		0.0082*
		(0.005)		(0.005)
Controls	Yes	Yes	Yes	Yes
Industry FE	Yes	Yes	Yes	Yes
Province FE	Yes	Yes	Yes	Yes
Year FE	Yes	Yes	Yes	Yes
Adjust.R^2	0.117	0.145	0.113	0.143
Observations	4,238	2,855	4,254	2,858

Note(s): Robust standard errors are clustered at the firm level and provided in parentheses. ***, **, * denote significance at 1%, 5%, and 10% levels respectively

environment of 5A tourist attractions is beautiful, and many religious sites are usually located in 5A tourist attractions. Therefore, the more 5A attractions near the firm's address, the more likely the firm is influenced by religion. In terms of the exogenous conditions, both variables are historical variables, so the two instrumental variables are exogenous to corporate poverty alleviation donations.

Table 7 reports the IV estimation results. In column (1), the first-stage estimates show that our instrumental variable (*Treaty_post* and *5A_attraction*) is highly correlated with the firm-level variable on religious atmosphere (*Religon_200*). Meanwhile, the weak IV test shows that the F-statistic in the first stage is 1.6e+04. The value is far above the critical value 10 of the weak instrument hypothesis according to Stock and Yogo (2002), thus we reject the null hypothesis that our instrument is weak. In column (2), the second-stage results show that the religious atmosphere has a significantly positive effect on firms' poverty alleviation donations. Further, the Sargan-test result shows that there is no reason to reject the null hypothesis that instrumental variables are not correlated with disturbance terms, which indicates that our instrumental variables are exogenous. These results again prove that our conclusion is reliable.

5. Further analyses

5.1 The effect of the religious atmosphere on poverty alleviation donations in different law enforcement environments: substitution or supplementary?

There is a debate over whether the effect of formal and informal institutions on firms' behavior is supplementary or one of substitution. How law enforcement, as a typical formal institution, moderate the relationship between religion and corporate behavior is a problem to be considered. On the one hand, when formal institutions are weak or incomplete, informal institutions may play an alternative role in affecting corporate behavior. Religion has a spontaneous origin and keeps stable for thousands of years

Variables	(1) Religion_200	(2) Donate/Ebit
Treaty_post	0.0223***	
	(0.002)	
5A_attraction	0.0144***	
	(0.001)	
Religion_200		0.1328**
		(0.057)
Controls	Yes	Yes
Constant		0.5953
		(0.433)
Industry FE	Yes	Yes
Province FE	Yes	Yes
Year FE	Yes	Yes
Adjust.R²		0.204
Cragg-Donald Wald F statistic	1.6e+04***	
F-test		5.30***
		(0.000)
Sargan-test		1.282
Sargan-P_value		(0.5267)
Observations		3,481

Table 7.
Instrumental variable approach

Note(s): Robust standard errors are clustered at the firm level and provided in parentheses. ***, **, * denote significance at 1%, 5%, and 10% levels respectively

(Williamson, 2000). Because law and its enforcement are responsive and ex-post, religion can serve as a substitute mechanism for formal institutions (Du, 2013, 2014; Pistor and Xu, 2005). Chinese listed firms' poverty alleviation behavior is largely grounded in ethical and discretionary domains, because of the imperfect market and weak legal systems (Yin and Zhang, 2012). Religion may play a substitutive role in shaping and motivating firms to participate in CSR activities.

On the other hand, there may be a complementary relationship between formal and informal systems. Campbell (2007) has agreed that firms will be more likely to act in socially responsible ways if there are strong and well-enforced state regulations in place to ensure such behavior. When law enforcement is strict, firms attach more importance to the interests of their stakeholders rather than just the interests of maximizing profits, thus firms tend to CSR behavior. In strict law enforcement, the positive correlation between the religious atmosphere and CSR behavior is more pronounced which implies that there exists a supplementary relationship between religion and law enforcement.

Considering law enforcement varies across different provinces in mainland China (Fan et al., 2003), we further address how law enforcement moderates the positive association between the religious atmosphere and corporate poverty alleviation behavior. We introduce the law enforcement variable (Law) [2], which is calculated based on the legal environment index used in the Report on Marketization in China's Provinces (Fan et al., 2018), and the interaction item between the religious atmosphere and law enforcement (Religion_R*Law) into Eq.(1) to explore their joint effect on firms' poverty alleviation donations.

In columns (1)–(4) of Table 8, a positive relationship remains between the religious atmosphere and the firm's poverty alleviation donations. More importantly, the coefficients of interaction terms are significantly negative, indicating that the religious atmosphere positively impacts the firm's poverty alleviation donations, but the effects are more pronounced in an area lacking law enforcement. A conclusion can be drawn that the substitution effect exists between informal and formal institutions which is consistent with previous studies (North, 1990; Williamson, 2000; Jensen et al., 2015).

Variables	(1) Donate/Ebit	(2) Donate/Ebit	(3) Lndonate	(4) Lndonate
Religion_100	0.0088***		0.5658***	
	(0.003)		(0.139)	
Religion_100*Law	−0.0138***		−0.6233***	
	(0.004)		(0.198)	
Religion_200		0.0035***		0.1744***
		(0.001)		(0.053)
Religion_200*Law		−0.0052***		−0.1743**
		(0.001)		(0.072)
Law	0.3860	0.3103	−0.1229	−0.1874
	(0.600)	(0.632)	(0.322)	(0.326)
Controls	Yes	Yes	Yes	Yes
Industry FE	Yes	Yes	Yes	Yes
Province FE	Yes	Yes	Yes	Yes
Year FE	Yes	Yes	Yes	Yes
Adjust.R^2	0.238	0.178	0.422	0.420
Observations	3,278	3,280	3,276	3,278

Note(s): Robust standard errors are clustered at the firm level and provided in parentheses. ***, **, * denote significance at 1%, 5%, and 10% levels respectively

Table 8.
Moderating effect of
law enforcement

5.2 The effect of religious atmosphere of different ownership enterprises: exploring differences between SOEs and non-SOEs

The relationship between religion and corporate poverty alleviation differs across firms of different ownerships. As the ultimate owner of SOEs is the Chinese government, their poverty alleviation decisions are more likely to be influenced by government intervention. Therefore, their decision to participate in poverty alleviation is largely the result of administrative power and is less influenced by religion. On the contrary, it is difficult for non-SOEs in China to get government support. The poverty alleviation decisions of non-SOEs are less influenced by the government and more motivated by business ethics (Munro *et al.*, 2018; Dartey-Baah and Amoako, 2021). As an informal system that emphasizes charity, religious teachings coincide with non-SOEs' business ethics that emphasize more on CSR. Compared with SOEs, non-SOEs will participate more in poverty alleviation under the influence of religion.

To investigate the different impacts of religious atmosphere on poverty alleviation behavior between SOEs and non-SOEs, we add variables that represent the nature of the firm's ultimate owner (*Ownership*) and its interaction terms with the religious atmosphere into Eq. (1). In Table 9, the coefficients of the interaction are negative and significant. This indicates that the state-owned ownership attenuates the positive relationship between the religious atmosphere and corporate poverty alleviation.

6. Conclusion and implication

Under the unique background of China, using a set of the variable of the religious atmosphere based on the geographic proximity between the firm and religious sites, we explored how religion, a crucial informal institution, affects corporate poverty alleviation behavior. The results show that religious atmosphere is significantly positively associated with firms' poverty alleviation donations, implying firms surrounded by a stronger religious atmosphere donate more money and resources to the targeted poverty alleviation campaign. Furthermore, law enforcement attenuates the positive association between religious atmosphere and firms' poverty alleviation donations. In addition, considering the nature of the ultimate owner, the positive association between the religious

Variables	(1) *Donate/Ebit*	(2) *Donate/Ebit*	(3) *Lndonate*	(4) *Lndonate*
Religion_100	0.0189***		0.2195**	
	(0.007)		(0.089)	
*Rreligion_100*State*	−0.0198*		−0.3119**	
	(0.010)		(0.151)	
Religion_200		0.0063***		0.1029***
		(0.002)		(0.034)
*Religion_200*State*		−0.0069**		−0.1482***
		(0.003)		(0.050)
State	−0.0063	0.0002	−0.3676***	−0.2912***
	(0.005)	(0.005)	(0.087)	(0.092)
Controls	Yes	Yes	Yes	Yes
Industry FE	Yes	Yes	Yes	Yes
Province FE	Yes	Yes	Yes	Yes
Year FE	Yes	Yes	Yes	Yes
Adjust.R²	0.049	0.100	0.391	0.387
Observations	4,088	4,094	4,371	4,380

Table 9.
Moderating effect of state ownership

Note(s): Robust standard errors are clustered at the firm-level and provided in parentheses. ***, **, * denote significance at 1%, 5%, and 10% levels respectively

atmosphere and poverty alleviation donations is more pronounced for non-SOEs than for SOEs.

Our study contributes to the existing literature in the following ways. First, existing research on the determinants of CSR has mainly focused on finance or corporate governance factors (Yang *et al.*, 2017; Khan *et al.*, 2019). Few studies have addressed these issues from informal institutions. Our study sheds light on how religion (informal institution) affects CSR in the background of China's poverty alleviation. Second, to our knowledge, we are the first to investigate the influence of religion on corporate poverty alleviation, distinguishing itself from previous research about religion and CSR. Previous literature pays attention to religious influence on specific dimensions of CSR such as corporate philanthropy (Du *et al.*, 2014a, b), corporate environmental responsibility (Su, 2019; Chen *et al.*, 2021), and employment protection (Hafedh and Xu, 2022). However, CSR includes many other dimensions, such as poverty alleviation. Considering the importance of inequality issues and the religion, the relationship between religion and poverty alleviation should receive more attention in research.

Our study has the following managerial implications. First, focusing on corporate poverty alleviation behavior, we provide systematic evidence to show that religious atmosphere positively influences CSR. This result means that firms in emerging economies should sufficiently utilize the wisdom of local religion to form an effective mechanism to promote CSR through informal institutions. Compared with Western markets, firms in emerging economies have a late start and lack relevant experience in establishing a modern system, which leads to a lower extent of adoption of CSR. Firms in such real-world settings should exploit current advantages from informal institutions such as religion to promote CSR to facilitate its transformation and development ultimately.

Second, our study suggests that religion, as one of the important informal institutions, becomes more influential when a country's formal institutions are weak. Thus, policymakers must consider the role of informal institutions in enhancing CSR practices, especially in emerging economies such as China, where formal institutions are relatively weaker and business ethics is far from perfect. The Chinese government aims to eliminate poverty and create an ideally harmonious society with sustainable development. Given the weakness of formal institutions in China, firms will become more active in poverty alleviation and everyone will benefit from the revival of religion. The Chinese government should recognize that religion plays an important role and take measures to eliminate prejudice in religious culture and enhance the role of religion in advancing a harmonious society. In addition, given that religion has a greater impact on the poverty alleviation behavior of non-SOEs, policymakers can use religious culture to encourage non-SOEs to participate in poverty alleviation to achieve the goal of eliminating poverty.

Despite its contributions, our study is subject to limitations that can be addressed in future research. First, our study uses the number of religious sites within a certain radius around Chinese listed firms' registered addresses to construct a proxy for religious atmosphere. It makes sense that the religious atmosphere surrounding a firm influences the firm's behavior. However, it would be better if we could measure managers' Buddhist beliefs directly. Thus, future studies can conduct surveys to investigate the religiosity of managers and examine its impact on CSR decision-making. Second, our study investigates only religious influence on corporate poverty alleviation based on Buddhism and Taoism, but we do not examine the impacts of other religions such as Islam, Catholicism, and Protestantism because of data limitations. Future research may examine the relationships between other religions and corporate poverty alleviation in China. Third, our findings are based on Chinese listed firms and may be unique to the Chinese context. It is recommended that future studies on this topic can conduct empirical tests with data from other emerging countries, which would be a meaningful way to generalize our conclusions.

Notes

1. The fixed-effects (FE) model specification is often used in panel datasets as a way of dealing with correlated omitted variables. The advantage of the fixed effects method is that it can alleviate the effects of confounding omitted variables without measuring them (Halaby, 2004; Allison, 2009; Wooldridge, 2010; Hsiao, 2022). Actually, a review of recent accounting publications (Amir *et al.*, 2016) reveals that researchers are generally aware of the need to include fixed-effects in empirical models when using panel datasets, the most common fixed-effects specification used in these regressions are time and industry. In particular, in previous studies on religion and CSR, researchers usually choose to add industry fixed-effect and time fixed-effects into the model (El Ghoul *et al.*, 2012; Du, 2013; Du *et al.*, 2014a, b; Cao *et al.*, 2019; Li *et al.*, 2021).

2. We use the mean of law enforcement index in provinces to measure the development of legal environment. When the provincial legal development level is higher than the mean, then $Law = 1$, otherwise $Law = 0$. Law equal to 1 indicates that the firm's law enforcement environment is better.

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Appendix

Variable	Explanation	Definition	Reference
Religious_R	Religious atmosphere	The number of Buddhist monasteries and Taoist temples within a defined kilometer radius (such as 100 and 200 km) around the firm's registered address	Chen *et al.* (2013), Du *et al.* (2014a, b), Li *et al.* (2021)
Donate/Ebit	Corporate poverty alleviation measurement variable 1	The sum of a firm's monetary and resource contributions deflated by Earnings before Interest and Taxes in the year	Huang *et al.* (2019), Chang *et al.* (2021), Zhang *et al.* (2021)
Lndonate	Corporate poverty alleviation measurement variable 2	The natural log of the sum of a firm's monetary and resource contributions	
Pel	Corporate poverty alleviation measurement variable 3	The number of people lifted out of poverty with the help of firms	
Size	Firm size	The natural logarithm of total assets	Jensen and Meckling (1976), Brown *et al.* (2006), Du *et al.* (2016)
Roe	Financial performance	The net income by net assets	
Lev	Financial leverage	The total debts deflated by total assets	
First	Largest ownership	The percentage of ownership owned by the largest shareholder	
TOP10	Top10 ownership	The percentage of ownership owned by the top 10 shareholders	
Growth	Sales growth	The growth rate of sales revenue	
GDP_per	Economic development	The natural logarithm of GDP *per capita* at the province level	El Ghoul *et al.* (2012), Du (2014)
Tax	Tax burden	The natural logarithm of total tax at the province level	
Labor_Cost	Labor cost	The natural logarithm of provincial wage *per capita*	
Transport	Traffic conditions	The natural logarithm of provincial wage *per capita*	
FI	Financial institution	The natural logarithm of the distance between listed firms and the nearest financial center of Beijing, Shanghai, or Shenzhen	
Gov_Inv	Government intervention	The interaction term of "The Relationship between Government and Markets" index used in the Report on Marketization in China's Provinces (Fan *et al.*, 2018) and local government financial expenditure	Zhang *et al.* (2020), Fan *et al.* (2018)
Soc_Awe	Social awareness	China's Provincial Philanthropy Policy Progress Index report	Wang *et al.* (2018)
Trad_Value	Traditional values	The natural logarithm of the number of Confucian academies in each city	Ames and Rosemont (2010)
Religion_Ine	Regional inequality	The proportion of the number of national-level poor counties in the total number of counties in each city	Chang *et al.* (2021)
Pov_Exp	CEO's poverty experience	A dummy variable which equals one if the firm's CEO was born during the Great Famine (1947–1961) period in China and zero otherwise	Han *et al.* (2022)

Table A1.
Definition of main variables