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Corporate donations and religiosity: Cross-country evidence

Lamia Chourou[1]

Telfer School of Management, University of Ottawa, Ottawa, ON K1N 6N5, Canada

A B S T R A C T

Corporate philanthropy varies substantially across countries. This study explores whether the degree of religiosity prevailing in the country where a firm is located helps explain such variation. Using a large sample of firms from 41 countries, I find that firms located in more religious countries donate more than those located in less religious countries. Moreover, I show that the religiosity-donation association is mainly driven by managers catering to stakeholders' preferences rather than managers' own preferences. Finally, I find that firms set their donations at an optimal level. My results are robust to a battery of sensitivity analyses and are confirmed by a quasi-natural experiment.

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1. Introduction

Though a large body of literature investigates the key drivers of corporate donations, most studies use data from a single country, focusing on firm-level and manager-level determinants (Gautier and Pache, 2015). Whether and how country-level factors shape corporate donations remains unexplored. This is surprising, given that corporate philanthropy varies substantially across countries. For instance, firms in Brazil donate 17 times more than firms in China, while those in India and the US donate three times more than those in Hong Kong and Japan.[2] Motivated by prior evidence showing that an individual's religiosity induces personal giving (e.g., Neumayr, 2015; Regnerus et al., 1998; Scheepers and Grotenhuis, 2005; Umer, 2021), I examine whether religiosity can account for the wide variation in corporate philanthropy across countries.

It is a priori unclear whether the effect of religiosity on individual giving holds at the corporate level. Insights about individual donations may not apply to corporate giving because the primary goal of firms is to generate profits (Gautier and Pache, 2015). Furthermore, some scholars, such as Friedman (1970), consider corporate philanthropy an inappropriate use of corporate funds, and there is a line of literature showing that religiosity is negatively associated with wrongdoing (e.g., Abdelsalam et al.,

2021; Chourou et al., 2020; Dyreng et al., 2012). The level of religiosity prevailing in the area where the firm is located can, however, positively affect corporate donations through managers' personal preferences (supply-side) and/or managerial responses to stakeholder demands (demand-side).

Religiosity, like other social factors, influences decisions individuals make (e.g., Giddens, 1986; Bhabha, 1994). Therefore, a manager might take her religious convictions (as an individual) into her professional life. Consistent with this argument, Bin and Edwards (2009) show that in the context of disaster relief, owners and managers who are actively involved in religious organizations are more likely to donate through their businesses. Moreover, the literature suggests that individuals' actions are influenced not only by their own religiosity but also by the religiosity of their personal ties (e.g., Lim and MacGregor, 2012; Putnam and Campbell, 2010). Furthermore, theory and evidence suggest that managers prefer to adhere to social norms. Abdelsalam et al. (2021) and Dyreng et al. (2012), for instance, argue that managers would conform to the proscribed religious social norms to avoid sanctions from norm deviation. Thus, managers of firms located in more religious countries, whether they are religious or not, would donate more than their counterparts at firms located in less religious countries.

The potential positive association between religiosity and donation can stem not only from managers' own preferences (supply-side) as explained above but also from managerial responses to stakeholder demands (demand-side). Prior evidence shows that most religious groups hold companies responsible for supporting charities and other community projects (e.g., Brammer et al., 2007) and that managers cater to stakeholders' CSR

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[2] This evidence is from my summary statistics and will be discussed in section four.

demands (e.g., Griffin et al., 2021; Zaheer et al., 2015). For instance, Griffin et al. (2021) argue that individualism at the country level influences managers' CSR decisions through their anticipation of stakeholder demands for CSR practices. Thus, we can expect managers of firms located in more religious areas to be stronger donors in response to stakeholders' demands.

In a large sample of firms across 41 countries, I find that firms located in more religious areas donate more than firms located in less religious areas. Moreover, I disentangle the two channels of the identified association. I find that the religiosity-donation association is weaker for firms with a higher percentage of (i) foreign assets, (ii) foreign sales, and (iii) foreign shareholdings. These results suggest that the main driver of the religiosity-donation association is managers' responses to stakeholder demands rather than their own preferences. Furthermore, I study the effect of corporate donations on firm value/performance and examine whether this relationship is contingent on the degree of religiosity prevailing in the area where the firm is located. I find no significant association between donations and firm value/performance and that a country's religiosity does not affect the relationship between corporate donations and firm value/performance. These results suggest that managers set firm donations at an optimal level, regardless of whether the firm is located in high or low religious areas.

I subject the results to a series of robustness checks. First, I deal with potential sample selection bias due to the non-mandatory disclosure of donations. Second, I address endogeneity concerns in several ways: (i) I add several control variables to the regression model, (ii) I employ a two-stage least square (2SLS) model, and (iii) I use a quasi-natural experiment based on the 2004 Indian Ocean earthquake and tsunami. Third, I account for the potential self-selection of locations by firms. Fourth, I use country-year regressions to deal with the undue weight given to countries with a large number of observations. The results pass all tests and are robust to other sensitivity analyses, including a placebo test and alternative proxies for the dependent and independent variables.

This study contributes to the literature on corporate philanthropy in several ways. First, only a few studies look into the nonfinancial drivers of CSR and corporate philanthropy (Gupta et al., 2017; Muller et al., 2014). Establishing the level of religiosity prevailing in the area where the firm is located as a key driver of corporate philanthropy responds to Wang et al.'s (2020) call to consider nonfinancial drivers of CSR. In addition, while corporate giving has been investigated within single countries, mainly the US and UK (Gautier and Pache, 2015), there are hardly any studies using an international lens.[3] Moreover, this study adds to the debate regarding whether corporate donations increase firm performance (Fry et al., 1982; Lev et al., 2010; Su and Sauerwald, 2018; Wang and Qian, 2011).

This study also adds to prior research documenting that the degree of religiosity prevailing in the area where a firm is located affects a manager's decisions and choices (e.g., Abdelsalam et al., 2021; Blau, 2018; Chourou, 2020; El Ghoul et al., 2012; Kanagaretnam et al., 2015; Gao et al., 2011; Hilary and Hui, 2009; Ucar, 2016). In particular, it contributes to the evidence on religion and CSR. McGuire et al. (2012) and Attig and Brockman (2017) show that firms headquartered in more religious areas in the US receive lower CSR ratings. Focusing on the environmental responsibility component of CSR, Cui et al. (2015) find a negative association

between firm environmental practices and religiosity in the US context, while Du et al. (2014a) show a positive association in the Chinese context. Shahid et al. (2022) find that investors who score higher on Islamic Worldview are less likely to invest in a profitable firm with allegations of environmental degradation than those who score lower. Amin et al. (2021) find better employee treatment and workplace safety in more religious areas in the US.

Contrary to these prior works, this study concentrates on corporate donations. To the best of my knowledge, only Du et al. (2014b) examine the effect of religiosity on corporate philanthropy. However, their study is confined to a single country, China, and two religions, Buddhism and Taoism. The findings might not, however, generalize to other countries, especially since prior research finds that the effect of religiosity on environmental performance depends on the country under investigation (Cui et al., 2015; Du et al., 2014a). My study covers 41 countries and encompasses religions around the world. Moreover, Du et al. (2014a) do not investigate the channel through which religiosity affects corporate philanthropy. I propose that there are two potential channels at play: managers' own preferences (supply-side) and managers' catering to stakeholders' demands (demand-side). My results suggest that the religiosity-donation association is likely to stem from managers' responses to stakeholders' demands rather than managers' own preferences. Furthermore, Du et al. (2014a) do not study the association between firm donations and performance/value. My results indicate that managers set corporate donations at an optimal level, and this holds for firms located in high as well as low-religious countries.[4]

The rest of the paper is organized as follows. Section 2 provides background on religion and donations by individuals. Section 3 reviews the literature and develops the hypotheses. Section 4 describes the research design and sample. Sections 5 and 6 discuss the empirical results and robustness checks, respectively. Section 7 concludes the paper.

2. Background

Abrahamic faiths stress the importance of charity. In Judaism, *tzedakah*, the Hebrew word for charity, means giving to the vulnerable. In Judaism, giving to the poor is an act of justice and righteousness. It is the performance of a commandment (mitzvah), giving the poor their due, which was prescribed in the Torah and then further articulated via Rabbinic teachings such as the writings of Maimonides in the late 12th century.[5] Similarly, in Christianity giving is not optional, but rather an essential practice of one's Christian faith—not only because Christians share the injunctions from the Hebrew Bible, but also because of Jesus's teachings concerning love for one's neighbor in the New Testament.[6] In Islam, *Zakat*, the Arabic word for charity, constitutes

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[3] To the best of my knowledge, only Liang and Renneboog (2017a) examine corporate philanthropy across many countries, although with a different research question. They investigate whether corporate donations enhance shareholder wealth, whereas this study aims to explain cross-country variation in corporate giving.

[4] Another difference between my study and that of Du et al. (2014a) is that they proxy for religiosity using the number of famous Buddhist monasteries and Taoist temples around the firm's location. However, these are historically constructed and say very little about the present-day number of religious adherents. I use a more comprehensive measure of religiosity that encompasses the cognitive, behavioral, and affective components of religiosity, one that is well supported in the religion literature (Cornwall et al., 1986; Parboteeah et al., 2008).

[5] Deuteronomy (15:8) says: "If there is a poor man among your brothers within any of the gates in the land that the LORD your God is giving you, you are not to harden your heart or shut your hand from your poor brother. Instead, you are to open your hand to him and freely loan him whatever he needs. Be careful not to harbor this wicked thought in your heart: "The seventh year, the year of release, is near", so that you look upon your poor brother begrudgingly and give him nothing. He will cry out to the LORD against you, and you will be guilty of sin" (Deuteronomy 15:8).

[6] The Bible says: "So when you give to the needy, do not announce it with trumpets, as the hypocrites do in the synagogues and on the streets, to be honored by others. Truly I tell you, they have received their reward in full. But when you give to the needy, do not let your left hand know what your right hand is doing" (Matthew 6:2–3).

1 of the 5 basic tenets.[7] In addition to the required *zakat*, many Muslims make additional donations (*sadaqa*).

Religious and spiritual traditions outside of these three Abrahamic faiths also contain teachings that encourage individuals to engage in some degree or type of charitable giving—though the teachings are not always neatly prescribed in texts as in the Abrahamic traditions. *Dana* is a Sanskrit and Pali word that is often translated as "generosity" or "charitable giving" and is a prominent spiritual act in Hindu, Buddhist, Jain, and Sikh traditions. The word can also be literally translated as "seed", in this sense considered a means to cultivate generosity in the giver.[8]

Given the importance of charity in most religions, several studies have examined whether an individual's religiosity is positively associated with the probability of giving and the amount of personal giving. Reitsma et al. (2006) find that among those more willing to donate are regular churchgoers, dogmatically convinced doctrinaire individuals, and persons who take seriously the consequences of their religiosity in everyday life. Numerous other studies show that consistent church-goers donate significantly more money than do less frequent attendees (Regnerus et al., 1998; Scheepers and Grotenhuis, 2005). Smith and Stark (2009) find that religious attendance is positively associated with philanthropic giving in 90 percent of the 145 countries they studied. Neumayr (2015) finds that in the Austrian context, people who regularly attend religious services have a 185 percent higher probability of giving compared to those who do not regularly attend religious services. More recently, Umer (2021) finds that in the US context, individuals who regularly attend religious services donate more compared to non-regular attendees. He also finds that in Pakistan, Muslims offering on average four or five daily prayers donate more than those offering only one prayer a day.

3. Hypotheses development

Extant evidence shows that religiosity induces more individual giving, but whether religiosity encourages corporate giving is unclear. On the one hand, religious teachings do not require companies to donate and insights about individual donations may not apply to corporate giving because the primary goal of firms is to generate profits (Gautier and Pache, 2015). Furthermore, some scholars, such as Friedman (1970) argue that corporate philanthropy is a waste of shareholders' money. Consistent with this view, Brown et al. (2006) show that corporate donations allow managers and directors to support their own pet charities. Similarly, Masulis and Reza (2015) find that CEO charity connections are associated with a higher likelihood of corporate donations and a higher amount of corporate donations, whereas CEO ownership reduces the likelihood and amount of corporate philanthropy. Moreover, prior evidence shows that religiosity is negatively associated with corporate misconduct (e.g., Abdelsalam et al., 2021; Chourou et al., 2020; Dyreng et al., 2012; McGuire et al., 2012). These arguments suggest that religiosity is unlikely to prompt more corporate giving.

There are, however, two channels through which religiosity can positively affect corporate philanthropy. The first channel is managers' own preferences (supply-side) and the second channel is managers' response to stakeholder preferences (demand-side).

3.1. Managers' own preferences

A significant body of scholarship supports the notion that the actions, thoughts, and behaviors of individuals who participate in – or identify with or have been otherwise shaped by – a religious tradition are likely going to be shaped by those same religious teachings (e.g., Geertz, 2008; Giddens, 1986; Mead, 1913; McGuire, 2008). As Gandhi (2006) suggests, multiple embodied sources of information – including the religious and spiritual teachings that one is exposed to – combine together to inform and instruct one's personal agency. Therefore, one could surmise that a manager might take her religious convictions (as an individual) and apply them to her life as a manager. Consistent with this argument, Senger (1970) finds that more religious managers are more socially and humanistically motivated. More recently, Chatjuthamard-Kitsabunnarat et al. (2014) show that religion motivates managers to treat other stakeholders and the society at large more favorably. Given these studies, we can expect more religious managers to donate more.

Non-religious managers of firms located in more religious areas are also likely to donate more compared to their counterparts at firms located in less religious areas because of the influence of their personal ties and more generally to conform to social norms. Lim and MacGregor (2012) find that non-religious individuals are more likely to volunteer if they have close friends with religious affiliations, highlighting the importance of social ties in explaining the association between religion and prosocial behavior. Putnam and Campbell (2010), for their part, show that the more friends an individual has within a religious congregation, the more likely he or she is to donate money or volunteer.[9] More recently, Kim et al. (2021) find that local religious culture affects householders' investment decisions, regardless of their own religious preferences.[10] Thus, we can expect managers of firms located in more religious areas are likely to be stronger donors than those of firms located in less religious areas.

3.2. Managers' responses to stakeholders' demands

Bénabou and Tirole (2010) argue that one of the motivations behind corporate philanthropy is stakeholders' desire. They explain that while stakeholders can do good on their own instead of relying on corporations to do so on their behalf, there are several advantages in delegating philanthropy to the firm, including lower information and transaction costs with corporate philanthropy when compared to individual philanthropy (Bénabou and Tirole, 2010). Stakeholder influence on corporate giving can also be explained through the lens of institutional theory, which suggests that firms need to respond to institutional pressures (DiMaggio and Powell, 1983; Scott, 1995). Managers seek to act in ways that significant actors in their environment (customers, suppliers, shareholders, employees, and others) consider appropriate. This is because following established conventions helps support organizational continuity and survival (Hatch, 1997). Applying institutional theory, Marquis et al. (2007) present a model of how institutional pressures at the community level shape corporate

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[7] The word *zakat* is found in the Qur'an, for example, in Surats 7:156, 19:31, 19:55, 21:73, 23:4, 27:3, 30:39, 31:4, and 41:7. In Surat al-Tawbah, verse 103, the Qur'an says: "Take, [O, Muhammad], from their wealth a charity by which you purify them and cause them increase, and invoke [Allah's blessings] upon them. Indeed, your invocations are reassurance for them. And Allah is Hearing and Knowing" (Surat al-Tawbah, verse 103).

[8] "Four types of Dana are distinguished: dakshina, bhiksha, bheeka, and annadana. Dakshina is a pecuniary gift to the temple. Bhiksha also concerns giving to the temple: giving goods and food to the monks (sanyasis). Bheeka is giving to the poor and the needy. Finally, annadana is the most common form of Dana and concerns sharing food with others" (Carabain and Bekkers, 2012: 421).

[9] According to Durkheim (1912/1995), religiosity is important to charity for two reasons: (1) beliefs and corresponding norms, and (2) integration into a group that reinforces these norms.

[10] Dyreng et al. (2012) argue that managers would conform to the proscribed religious social norms to avoid the disutility from norm deviation sanctions.

social actions. Muller et al. (2014) develop a framework in which employees affect the likelihood, scale, and form of corporate philanthropy. More recently, Jeong and Kim (2019) develop an institutional theory of corporate giving under the consideration of social legitimacy and economic efficiency. At the empirical level, Zaheer et al. (2015) explore how formal and informal institutions affect the legitimacy of MNCs' CSR marketing practices in the host country of Pakistan. They find that MNCs respond to social/religious norms, and this is because their legal and social legitimacy would be brought into question if they do not conform to prevailing norms.[11] In an international sample, Brammer et al. (2007) find that most religious groups hold companies responsible for supporting charities and other community projects, and prior literature shows that when making decisions, managers cater to investors' and other stakeholders' demands (e.g., Baker and Wurgler, 2004; Cook and Luo, 2021; Ucar, 2016) including decisions related to CSR engagements.[12] To the extent that most religious groups expect firms to support charities, managers of firms located in more religious countries face higher pressures to donate. Managers tend to cater to stakeholder demands because failure to do so can lead to adverse effects on the firm and/or the manager (e.g., Dai et al., 2021). Given the above discussion, I test the following hypothesis:

Hypothesis 1. Corporate donation is higher (lower) in countries with higher (lower) religiosity levels.

As discussed previously, the potential positive association between religiosity and corporate donations can stem either from managers' own preferences or managers' responses to stakeholders' demands. To disentangle these two channels, I examine whether the religiosity-donation association is different between firms whose stakeholders are mainly local and those with some foreign stakeholders. If the main driver of the religiosity-donation association is managers' own preferences, we would not observe any differences in the religiosity-donation association between the two subsamples. However, if the main driver of the religiosity-donation association is stakeholder demands, we would observe a stronger association between local religiosity and corporate donations in firms with mainly local stakeholders compared to those with foreign stakeholders. This is because internationalization reduces the influence of domestic stakeholders. As Stulz and Williamson (2003) show, a country's natural openness to international trade mitigates the influence of religion on creditor rights. And Hope et al. (2008) find that a firm's degree of internationalization mitigates the likelihood to hire a Big 4 auditor in "more secretive" countries. Eun et al. (2015), for their part, find that trade and financial openness weaken the effect of domestic culture on stock price comovements. More recently, Griffin et al. (2021) document that firm internationalization mitigates the role of individualism in shaping firm CSR engagements. In light of these studies, I formulate my second hypothesis as follows:

Hypothesis 2. A firm's degree of internationalization does not affect the religiosity-donation association.

In Schwartz and Carroll's (2003) three-domain model of CSR, corporate philanthropy is subsumed under the ethical and/or economic domains. Under the ethical domain, corporate donation is simply an example of an ethically-motivated activity. Under the economic domain, corporate philanthropy is based primarily on economic motives. Corporate philanthropy generates positive moral capital among communities and stakeholders, which provides shareholders with insurance-like protection—one that contributes to shareholder wealth (Godfrey, 2005).[13] The findings at the empirical level are, however, mixed. Seifert et al. (2004) show that donations do not affect a firm's financial performance. Fich et al. (2009) find a negative association between corporate philanthropy and firm performance. Conversely, Fry et al. (1982) provide evidence that corporate giving is a profit-motivated expense. Similarly, Lev et al. (2010) show that charitable contributions are positively associated with future revenue, and Wang and Qian (2011) find a positive association between corporate giving and firm performance. Su and Sauerwald (2018) argue that the controversy regarding the relationship between corporate donations and firm performance is contingent upon whether corporate governance mechanisms can stimulate the financial benefit of corporate philanthropy. In an international setting, Liang and Renneboog (2017a) document that corporate philanthropy enhances shareholder wealth. More recently, Gao et al. (2022) find a positive relationship between corporate giving and corporate acquisitions in terms of both acquisition volume and value.

I add to this literature by examining whether the effect of corporate donations on firm value is contingent on the level of religiosity prevailing in the area where the firm is located. In more religious countries, stakeholders expect firms to donate. Firms that do not meet stakeholder expectations are likely to be punished (lower market share, less motivated employees, and so on). Thus, the positive association between donation and firm performance/value, if any, is likely to be stronger in more religious countries. It is possible, however, that firms located in less religious countries donate mainly for strategic motives (e.g., branding themselves as philanthropic in order to increase the public's image of the company and thus increase profits), while those located in more religious countries donate mainly out of altruism. In this case, the donation-performance association, if any, would be lower in more religious countries. Finally, if firms set their donations at an optimal level, we would not observe any association between future firm performance and corporate philanthropy (Himmelberg et al., 1999). Given these conflicting arguments, whether the association between donation and firm performance/value, if any, is different in less and more religious countries is an empirical question. Thus, my third hypothesis is as follows:

Hypothesis 3. The effect of corporate donation on firm performance and value, if any, is contingent on the level of religiosity prevailing in the country where the firm is located.

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[11] For instance, a manager of a pharmaceutical MNC reported the following: *We do CSR-related work; for instance, we have donated money and blankets for the flood victims and this is the norm here in this country, as everyone tries to help each other on the basis of a common religion. We have to follow this norm [doing charity work] as the Muslim religion is a way of life in Pakistan and we do not want to offend anyone by not doing anything for needy people* (Zaheer et al., 2015: 476). Similarly, a manager of an Oil and Gas MNC conveyed: *CSR represents our compassion for humankind and this is based on the religious values of the country in which we are operating. We have built care and compassion into our CSR-related work and this is part of our religious belief system. Our company has increased its donations to charity organizations and schools by 5%–7% during 2012 (Zaheer et al., 2015: 476).*

[12] For instance, Maignan and Ralston (2002) examine CSR engagements in France, the Netherlands, the United Kingdom, and the United States and find that one of the main motivations for firms to behave in socially responsible ways, is the pressure of stakeholders. Jha and Cox (2015) find that firms from high social capital areas exhibit higher CSR performance and Attig and Brockman (2017) show that prosocial attitudes of residents affect firm CSR engagement. Dai et al. (2021) find that socially responsible corporate customers infuse similar socially responsible business behavior in suppliers. In an international context, Griffin et al. (2021) document that firms in more individualistic societies exhibit higher CSR performance, suggesting that managers consider stakeholder CSR expectations and act accordingly.

[13] Luo et al. (2018) find that the insurance-like benefits of philanthropy are opportunistically used by petroleum firms as a shield for more oil spills, suggesting that philanthropy may benefit firms at the cost of social welfare.

4. Methodology

4.1. Model

To test the first hypothesis, I estimate the following regression:

$$Donation = \alpha_0 + \alpha_1 \,(religiosity) + \alpha_2 \,(control\ variables)$$
$$+ \ Industry\ FE + Year\ FE + \varepsilon.$$

Similar to Jeong and Kim (2019) and others, I standardize the dependent variable across firms by dividing corporate donations by total sales. I then take the natural logarithm of one plus scaled corporate donations. Finally, I multiply the logarithmic function by 10^3, because corporate donations represent a small fraction of sales (Liang and Renneboog, 2017a).

Following prior studies (e.g., Abdelsalam et al., 2021; Blau, 2018; Chen et al., 2016; Jalal and Khaksari, 2020), I measure religiosity using data from the World Values Survey (WVS). Parboteeah et al. (2008) stress the importance of examining the cognitive, affective, and behavioral components of religiosity. For the cognitive component, I use responses to the question, "What is your religious denomination?" to calculate the percentage of respondents who report having a religious affiliation. For the affective component, I calculate the percentage of people who respond with "very important" to the question, "How important is religion in your life?" For the behavioral component, I use answers to the question, "How often do you attend religious services?" to calculate the proportion of respondents who attend religious services more than once a week. I also calculate the average of these three elements of religiosity (cognitive, behavioral, and affective). The sample covers the period 2002–2018, so I use the last three waves of the World Values Survey (WVS): wave 4: 1999–2004; wave 5: 2005–2009; and wave 6: 2010–2014.[14],[15]

I control for several variables at the country level. First, I control for differences in stages of economic development across countries, using the logarithm of gross domestic product (GDP) per capita (in USD). I gather GDP from the World Bank. Second, I control for the legal origin of the country where the firm is located using a dummy variable that takes the value of one if the firm is located in a civil-law country, and zero otherwise. Third, I control for the degree of investor protection at the country level using the antidirector rights index of Spamann (2010). Fourth, I control for corporate tax rates at the country level because corporate donations are tax deductible in most countries around the world, and the tax advantage depends, among other things, on the tax rate.[16] I gather tax data in the present study from the Tax Foundation.

Following prior literature (Adams and Hardwick, 1998; Brown et al., 2006; Masulis and Reza, 2015; Liang and Renneboog, 2017a), I control for firm size, firm performance, leverage, R&D to sales, R&D indicator, capital expenditures to assets, Tobin's Q and corporate governance quality. Firm size is measured using the logarithm of a firm's total assets book value (in USD). I

proxy for firm performance using ROA (net income/book value of total assets). Leverage is the ratio of long-term debt to total assets. R&D to sales is the ratio of R&D expenditures to sales. I replace missing R&D observations by zero and add a dummy variable (R&D indicator) that equals zero if R&D expenditures data are missing and one otherwise. Capital expenditure is the ratio of capital expenditures to total assets. Tobin's Q is the market value over book value of total assets: [(total assets – book value of common equity + market value of common equity)/total assets]. I use the Asset4 governance pillar to proxy for corporate governance quality.[17] Accounting data come from Worldscope. I winsorize all firm-level variables at the 1% level to account for extreme outliers. Finally, I add industry fixed effects (Fama–French 49 industries classifications) and year fixed effects.[18] I use Tobit regressions that address the lower limit censoring at zero of the dependent variable, firm donation, and cluster the standard errors by country.[19]

4.2. Sample selection

The sample begins with publicly-listed firms, for which donation data are available from the Refinitiv ESG (formerly Thomson Reuters Asset4) database over the period 2002–2018. I then retain only those firms that have firm-level information available in the Worldscope database. Finally, I merge the data with the WVS data, per capita income, country legal origin, tax data, and revised anti-director rights index data. The final sample comprises 13,233 firm-year observations from 41 countries, pertaining to 2489 unique firms.

5. Results

Table 1 reports descriptive statistics of the dependent and testing variables by country. The table shows that firms in Brazil, a very religious country, donate 17 times more, as a percentage of their sales (0.17% of their total sales), than do firms located in China (0.009% of their total sales), a much less religious country.

Table 2 presents descriptive statistics for the key variables. On average, firms donate 0.20% of their sales. The average value of religiosity is 0.3631 with a standard deviation of 0.1605, a value indicating a wide variation in religiosity levels across countries. In the sample, the least religious country is China, whereas the most religious country is Morocco. On average, 65% of interviewed individuals report being affiliated with a religious group; 33% report finding religion very important to their lives; and 10% report attending religious services more than once per week. As for firm characteristics, the average sample firm has US$ 68,674.76 million of total assets, an ROA of 7.8%, a leverage ratio of 26%, R&D expenditures of 1.4% of total sales, capital expenditures of 5% of total assets, and a Tobin's Q of 1.65. These figures are comparable to those reported by Liang and Renneboog (2017a) and Griffin et al. (2021).

Table 3 displays the correlation matrix. The table shows a positive and significant correlation between corporate donations and religiosity, providing initial support that firms located in more religious countries donate more than those located in less religious countries. It also shows that correlations between independent variables are low to moderate, suggesting the absence of multicollinearity issues in the regression analysis.

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[14] Wave 6 data, for instance, covers 60 countries and societies around the world and more than 85,000 respondents.

[15] Because the WVS data come in waves, I interpolate and extrapolate data to determine the missing country-year observations. As Hilary and Hui (2009) note, "religiosity is reasonably stable over time" (: 467). Therefore, filling in missing values using linear interpolation and extrapolation methods is a reasonable solution to address the missing observations issue. Linear interpolation and extrapolation methods are commonly used in religiosity studies (see for instance Abdelsalam et al., 2021). As a robustness check, I restrict the sample to years where WVS has data and find similar results.

[16] Lee (2020), for instance, finds that the level of corporate philanthropy is relatively lower for firms with tax haven headquarters than those with US headquarters.

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[17] The governance pillar has five categories: board functions, board structure, compensation policy, shareholder policy, and vision-and-strategy.

[18] Following prior literature on religiosity (e.g., Abdelsalam et al., 2021; Kanagaretnam et al., 2015), I do not add country fixed effects. Rather, I cluster the standard errors by country.

[19] The results remain the same when I cluster the standard errors by firm.

Table 1
Descriptive statistics by country.

Country	N	Total donations to sales	Religiosity	Affiliation	Importance	Attendance
Argentina	16	0.0018	0.3392	0.7588	0.1903	0.0686
Australia	789	0.0007	0.2557	0.5628	0.1630	0.0414
Brazil	449	0.0017	0.5420	0.8599	0.5292	0.2370
Canada	903	0.0013	0.3602	0.6928	0.3364	0.0514
Chile	91	0.0002	0.3398	0.7597	0.1957	0.0640
China	715	0.0001	0.0590	0.1540	0.0236	0.0005
Colombia	10	0.0011	0.5091	0.7857	0.5890	0.1526
Egypt	14	0.0013	0.6978	1.0000	0.9407	0.1526
Finland	1	0.0002	0.3520	0.8618	0.1752	0.0188
France	14	0.0005	0.2167	0.5005	0.1335	0.0160
Germany	367	0.0003	0.2209	0.5361	0.1105	0.0163
Hong Kong	676	0.0003	0.1522	0.3047	0.1060	0.0460
Hungary	3	0.0004	0.2941	0.7027	0.1605	0.0191
India	711	0.0010	0.6593	1.0086	0.7645	0.2048
Indonesia	217	0.0007	0.7251	0.9909	0.8938	0.2906
Italy	12	0.0003	0.4329	0.8803	0.3443	0.0740
Japan	912	0.0003	0.1775	0.4600	0.0604	0.0121
Jordan	8	0.0076	0.7574	1.0000	0.9412	0.3309
Korea	631	0.0010	0.3522	0.5157	0.2983	0.2428
Malaysia	154	0.0007	0.6688	0.9856	0.8666	0.1542
Mexico	141	0.0008	0.5112	0.8180	0.5829	0.1327
Morocco	6	0.0035	1.0666	1.0000	0.8850	1.3147
Netherlands	257	0.0003	0.1668	0.3607	0.1096	0.0302
New Zealand	233	0.0001	0.3055	0.6472	0.2113	0.0580
Nigeria	8	0.0019	0.8062	0.8758	0.8952	0.6476
Norway	6	0.0001	0.2642	0.6794	0.1054	0.0079
Pakistan	8	0.0005	0.6604	1.1458	0.9414	0.1059
Peru	14	0.0011	0.5016	0.9025	0.5097	0.0926
Philippines	104	0.0011	0.6555	0.8997	0.8611	0.2057
Poland	118	0.0005	0.4685	0.9423	0.4311	0.0321
Romania	4	0.0044	0.4998	0.9805	0.4709	0.0479
Russia	233	0.0013	0.3160	0.7686	0.1620	0.0175
Singapore	147	0.0004	0.4377	0.8019	0.3947	0.1164
South Africa	748	0.0008	0.5106	0.8087	0.5424	0.1808
Spain	362	0.0009	0.2930	0.7514	0.0957	0.0328
Sweden	150	0.0004	0.2333	0.6129	0.0749	0.0120
Switzerland	11	0.0006	0.3344	0.8047	0.1715	0.0269
Thailand	144	0.0008	0.5668	0.9949	0.5724	0.1331
Turkey	171	0.0007	0.5752	0.9899	0.6223	0.1135
UK	183	0.0002	0.2619	0.5104	0.2037	0.0716
U.S.	3,492	0.0010	0.3994	0.6805	0.4056	0.1121

Table 2
Descriptive statistics of regression variables.

Variable	Mean	S.D.	p5	p50	p95
Total donations	0.002	0.005	0.000	0.001	0.008
Religiosity	0.363	0.161	0.069	0.363	0.659
Affiliation	0.650	0.214	0.173	0.679	0.995
Importance	0.338	0.224	0.049	0.343	0.820
Attendance	0.101	0.084	0.009	0.103	0.243
GDP (USD)	33,771.520	19,381.650	2,104.163	44,538.730	54,541.720
Civil law	0.381	0.486	0.000	0.000	1.000
ADR	3.790	1.062	1.000	4.000	5.000
Tax rate	30.629	6.965	17.000	30.000	39.290
ROA	0.078	0.090	−0.012	0.068	0.229
Leverage	0.259	0.170	0.007	0.246	0.566
Firm size (USD)	68,674.760	243,757.500	790.460	11,408.390	274,864.800
R&D to sales	0.014	0.048	0.000	0.000	0.082
R&D dummy	0.401	0.490	0.000	0.000	1.000
Tobin's Q	1.656	1.115	0.852	1.252	3.784
Capital expenditures	4.955	4.865	0.065	3.781	14.306
Governance score	54.964	30.577	7.070	59.780	94.510

Table 4 reports the regression results of the first hypothesis. In column one, I proxy for religiosity using the average of its cognitive (affiliation), affective (importance), and behavioral (attendance) components. Columns 2, 3, and 4 report the results for the variables affiliation, importance, and attendance, respectively. Across all columns, I find positive and significant coefficients for religiosity, suggesting that firms located in countries with higher levels of religiosity donate more than do firms located in countries that rank lower in religiosity. The coefficient estimate of 3.853 reported in the first column indicates that one standard deviation increase in religiosity would result in an increase in the dependent variable of 30.49% (3.853*0.1605/2.028) from its

Table 3
Correlation matrix.

		(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)
Total donations	(1)	1.000													
Religiosity	(2)	0.098*	1.000												
GDP (USD)	(3)	0.019*	−0.477*	1.000											
Civil law	(4)	−0.058*	−0.269*	−0.200*	1.000										
ADR	(5)	0.037*	0.314*	−0.137*	−0.124*	1.000									
Tax rate	(6)	0.044*	0.219*	0.235*	−0.272*	−0.180*	1.000								
ROA	(7)	0.031*	0.173*	−0.121*	−0.044*	0.041*	0.063*	1.000							
Leverage	(8)	−0.050*	0.013	−0.006	0.039*	−0.038*	0.052*	−0.125*	1.000						
Firm size	(9)	−0.079*	−0.191*	0.127*	0.167*	−0.216*	0.060*	−0.227*	0.072*	1.000					
R&D to sales	(10)	0.117*	−0.067*	0.142*	0.010	−0.091*	0.174*	−0.004	−0.083*	−0.036*	1.000				
R&D dummy	(11)	−0.014	−0.085*	0.066*	0.114*	−0.089*	0.205*	0.148*	−0.019*	−0.037*	0.368*	1.000			
Tobin's Q	(12)	0.059*	0.201*	−0.102*	−0.127*	−0.001	0.141*	0.585*	−0.126*	−0.346*	0.193*	0.176*	1.000		
Capital expenditures	(13)	0.046*	0.063*	−0.029*	−0.044*	0.029*	−0.013	0.090*	0.090*	−0.238*	−0.056*	0.064*	0.113*	1.000	
Governance score	(14)	0.045*	0.080*	0.422*	−0.590*	−0.171*	0.332*	−0.007	0.022*	0.086*	0.048*	−0.039*	0.052*	0.037*	1.000

Note: This table reports correlations among the variables. Total donations is the logarithm of (1+total donations scaled by sales)*10^3. Religiosity is the average of the three components of religiosity: (1) affiliation, (2) importance, and (3) attendance. GDP is the logarithm of GDP per capita (in USD). ADR is the antidirector rights index of Spamann (2010). Civil law is a dummy variable that takes the value of one if the firm is headquartered in a civil law country and zero otherwise. Tax rate is country level corporate tax rate. ROA is Net income divided by book value of total assets. Leverage is the ratio of long-term debt to total assets. Firm size is the logarithm of a firm's total-assets book value (in USD). R&D to sales is the ratio of R&D expenditures to sales. R&D indicator is a dummy variable that equals zero if R&D expenditures data are missing and one otherwise. Capital expenditures is the ratio of capital expenditures to total assets. Tobin's Q is the market value over book value of total assets: [(total assets – book value of common equity + market value of common equity)/total assets]. Governance score is Asset4 governance pillar.
* $p < .05$.

Table 4
Effect of religiosity on corporate donations.

	Total donations	Total donations	Total donations	Total donations
Religiosity	3.8531***			
	(3.25)			
Affiliation		1.9307**		
		(2.51)		
Importance			2.5415***	
			(3.00)	
Attendance				7.3121***
				(3.36)
GDP	0.4702***	0.3022**	0.4785***	0.4065***
	(3.19)	(2.03)	(3.23)	(3.36)
Civil law	0.2932	0.1376	0.4116	0.2294
	(0.73)	(0.31)	(0.98)	(0.65)
ADR	−0.0063	0.0168	0.0783	−0.0004
	(−0.04)	(0.09)	(0.56)	(−0.00)
Tax rate	0.0105	0.0198	0.0150	0.0172
	(0.34)	(0.60)	(0.49)	(0.69)
ROA	1.2219	1.3386	1.3421	1.2437
	(0.90)	(1.02)	(0.98)	(0.87)
Leverage	−1.0084	−1.0116	−0.9406	−0.9963
	(−1.53)	(−1.57)	(−1.43)	(−1.51)
Firm size	−0.0976	−0.1004	−0.1117	−0.1291
	(−0.77)	(−0.77)	(−0.87)	(−1.03)
R&D to sales	9.7082***	9.8128***	9.6882***	9.7270***
	(3.23)	(3.29)	(3.20)	(3.25)
R&D dummy	−0.3263*	−0.3286*	−0.3478*	−0.3919**
	(−1.65)	(−1.65)	(−1.73)	(−1.97)
Tobin's Q	−0.0371	−0.0285	−0.0382	−0.0369
	(−0.46)	(−0.34)	(−0.46)	(−0.48)
Capital expenditure	−0.0017	−0.0015	−0.0008	−0.0028
	(−0.08)	(−0.07)	(−0.04)	(−0.13)
Governance score	−0.0022	−0.0017	−0.0012	0.0011
	(−0.49)	(−0.35)	(−0.25)	(0.24)
Constant	−4.1771*	−2.6297	−4.1464*	−2.7747*
	(−1.95)	(−1.28)	(−1.89)	(−1.69)
Observations	13,233	13,233	13,233	13,233
Year FE	Yes	Yes	Yes	Yes

Table 4 (*continued*).

	Total donations	Total donations	Total donations	Total donations
Industry FE	Yes	Yes	Yes	Yes
Clustering	Country	Country	Country	Country

Note: This table reports results of the effect of religiosity on firm donations. Total donations is the logarithm of (1+total donations scaled by sales)*10^3. Religiosity is the average of the three components of religiosity: (1) affiliation, (2) importance, and (3) attendance. GDP is the logarithm of GDP per capita (in USD). ADR is the antidirector rights index proposed by Spamann (2010). Civil law is a dummy variable that takes the value of one if the firm is headquartered in a civil law country and zero otherwise. Tax rate is country level corporate tax rate. ROA is Net income divided by book value of total assets. Leverage is the ratio of long-term debt to total assets. Firm size is the logarithm of a firm's total-assets book value (in USD). R&D to sales is the ratio of R&D expenditures to sales. R&D indicator is a dummy variable that equals zero if R&D expenditures data are missing and one otherwise. Capital expenditures is the ratio of capital expenditures to total assets. Tobin's Q is the market value over book value of total assets: [(total assets – book value of common equity + market value of common equity)/total assets]. Governance score is Asset4 governance pillar. FE stands for fixed effects.

* *p* < .10
** *p* < .05
*** *p* < .01.

mean. Thus, the results are not only statistically significant but also economically meaningful.

The results also show that a country's level of development is positively associated with corporate donation. This finding is consistent with that of Cai et al. (2016), who document greater CSR engagement in countries with higher income per capita. As for firm-level variables, I find that R&D expenditures are positively associated with corporate giving. This result is consistent with the views of Navarro (1988) and Brown et al. (2006) that firms with high R&D expenditures benefit most from charitable contributions. It is also consistent with Bereskin et al.'s (2016) findings that firms use corporate philanthropy to promote innovation.

To test the second hypothesis, I use three different proxies for a firm's degree of internationalization: (i) the percentage of foreign assets in total assets, (ii) the percentage of foreign sales in total sales, and (iii) the percentage of foreign holdings. The first proxy captures the dependence of a firm on foreign resources while the second proxy captures the dependence of a firm on foreign consumer markets. The third proxy captures the effect of foreign versus local shareholders. The results are reported in Table 5. Similar to Brammer et al. (2009), I find that the degree of firm-level internationalization does not affect corporate donations. However, I find that the interaction term between religiosity and a firm's degree of internationalization is negative and significant, suggesting that local religiosity matters less for firms with higher foreign assets, foreign sales, and foreign shareholders. This result is consistent with prior findings showing that internationalization weakens the role of national culture on managers' CSR decisions (e.g., Griffin et al., 2021). It also suggests that managers of firms located in more religious areas donate more not because of their personal preferences but to respond to stakeholders' demands.

The third hypothesis states that the effect of donations on firm performance and value, if any, is contingent on the degree of religiosity prevailing in the area where the firm is located. I use Tobin's Q to proxy for firm value and return on assets (ROA) to proxy for firm performance. Tobin's Q is the market value over book value of total assets; return on assets (ROA) is the ratio of net income before extraordinary items to book assets. For each of these metrics, I use the contemporaneous value as well as the one-year ahead value. I regress these measures on (i) corporate donations, (ii) religiosity, (iii) the interaction between religiosity and corporate donations, and (iv) a set of control variables. I employ a two-stage least squares (2SLS) regression to deal with potential reverse causality concerns in the relationship between donations and firm value and performance and cluster the standard errors at the firm level.[20] I use average peer firm donations made in a given year as an instrument for corporate donations

(e.g., Liang and Renneboog, 2017a). Peer firms are those located in the same country and operating in the same industry as the focal firm in a given year. This choice is supported by Marquis and Tilcsik's (2016) finding that industry and community peers influence corporate philanthropy. Peer firm donations are likely to affect the focal firm donations; however, it is unlikely to have any effect on the focal firm performance or value. Thus, the instrument meets the relevance as well as the exclusion criteria. Unreported first-stage regression results show that average donations made by firms located in the same country and operating in the same industry as the focal firm during a given year loads positively and significantly (p-value=0.000), suggesting that the instrument meets the relevance criteria. Table 6 presents the second-stage regression results. In columns 1 and 2, I use the contemporaneous values of Tobin's Q and ROA as dependent variables, respectively, while columns 3 and 4 display results for the one-year ahead values of Tobin's Q and ROA, respectively. I find that donation loads positively while the interaction term between religiosity and donations loads negatively across all columns. The coefficients are, however, not statistically significant, suggesting that firms spend the optimal level on corporate philanthropy: when the demand for donations from society is high, firms respond by donating more.[21]

Because most of the benefits derived from donations, such as goodwill and reputation, are intangible, they might not show up immediately. In unreported regressions, I use up to five years ahead of the dependent variables and find similar results. Corporate giving does not appear to affect contemporaneous or future firm value and firm performance. This is the case for firms located in more religious countries as well as those located in less religious countries.

6. Robustness tests

I subject the results to a series of robustness checks. First, I deal with the potential issue that my results might suffer from sample selection bias. Second, I address endogeneity issues in several ways. I add several control variables to the regression, I use a two-stage least squares (2SLS) regression model and employ a natural experiment. Third, I address the issue of potential self-selection of locations by firms. Fourth, I use country-year regressions. Finally, I check whether the results hold using alternative measures of the dependent and independent variables.

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[20] My results remain the same when I cluster the standard errors by country.

[21] I also test the hypothesis using endogenous variables instead of the instruments. Unreported results show that donation is positively associated with Tobin's Q but not with ROA. They also show that the positive association between donation and Tobin's Q is lower for firms located in more religious countries. These results should however be interpreted with caution as they may suffer from endogeneity issues.

Table 5
Effect of firm internationalization.

VARIABLES	Total donations	Total donations	Total donations
Religiosity	4.7460***	4.8576***	4.3670***
	(3.22)	(3.27)	(3.64)
Foreign Assets	0.0129		
	(1.42)		
Religiosity*Foreign Assets	−0.0629**		
	(−2.55)		
Foreign Sales		0.0106	
		(1.53)	
Religiosity*Foreign Sales		−0.0494**	
		(−2.36)	
Foreign ownership			0.0086
			(0.84)
Religiosity*Foreign ownership			−0.0556**
			(−2.15)
GDP	0.4316***	0.4252***	0.4644***
	(2.93)	(2.99)	(3.17)
Civil law dummy	0.3071	0.2363	0.3309
	(0.64)	(0.49)	(0.84)
RADRI	0.0211	0.0171	−0.0074
	(0.13)	(0.11)	(−0.05)
Rate	0.0134	0.0135	0.0079
	(0.43)	(0.44)	(0.26)
ROA	0.6087	0.7566	1.3015
	(0.41)	(0.50)	(0.97)
Leverage	−0.9678	−0.9470	−1.0757
	(−1.22)	(−1.20)	(−1.62)
Firm size	−0.0141	−0.0078	−0.0995
	(−0.09)	(−0.05)	(−0.80)
RD to sales	11.9966***	12.1067***	9.6164***
	(4.88)	(5.25)	(3.14)
RD dummy	−0.3720	−0.3207	−0.3509*
	(−1.54)	(−1.39)	(−1.73)
Tobin's Q	0.0463	0.0504	−0.0325
	(0.64)	(0.71)	(−0.41)
Capital expenditures	−0.0051	−0.0066	−0.0053
	(−0.20)	(−0.25)	(−0.24)
Governance score	0.0015	0.0019	−0.0024
	(0.41)	(0.52)	(−0.54)
Constant	−4.7044*	−4.7509*	−4.1667**
	(−1.84)	(−1.89)	(−2.06)
Observations	9,949	9,949	13,084
Year FE	Yes	Yes	Yes
Industry FE	Yes	Yes	Yes
Clustering	Country	Country	Country

Note: This table reports results of the effect of firm internationalization on the religiosity-donation association. Foreign assets is the percentage of foreign assets total assets. Foreign sales is the percentage of foreign sales to total sales. Foreign ownership is the free float foreign holdings. Religiosity is the average of the three components of religiosity: (1) affiliation, (2) importance, and (3) attendance. GDP is the logarithm of GDP per capita (in USD). ADR is the antidirector rights index of Spamann (2010). Civil law is a dummy variable that takes the value of one if the firm is headquartered in a civil law country and zero otherwise. Tax rate is country level corporate tax rate. ROA is Net income divided by book value of total assets. Leverage is the ratio of long-term debt to total assets. Firm size is the logarithm of a firm's total-assets book value (in USD). R&D to sales is the ratio of R&D expenditures to sales. R&D indicator is a dummy variable that equals zero if R&D expenditures data are missing and one otherwise. Capital expenditures is the ratio of capital expenditures to total assets. Tobin's Q is the market value over book value of total assets: [(total assets – book value of common equity + market value of common equity)/total assets]. Governance score is Asset4 governance pillar. FE stands for fixed effects.
* $p < .10$
** $p < .05$
*** $p < .01$.

Table 6
Effect of firm-level donation on firm value/firm performance.

VARIABLES	Tobin's Q	ROA	Future Tobin's Q	Future ROA
Total donations (*instrumented*)	0.0506	0.0194	0.0771	0.0143
	(0.47)	(1.29)	(0.60)	(0.87)
Total donations*Religiosity (*instrumented*)	−0.1820	−0.0307	−0.2549	−0.0237
	(−0.68)	(−0.88)	(−0.82)	(−0.64)
ROA	5.3727***		4.7930***	
	(14.50)		(12.67)	
Leverage	−0.2573**	−0.0766***	−0.1967	−0.0385***
	(−2.00)	(−6.29)	(−1.37)	(−3.36)

Table 6 (*continued*).

VARIABLES	Tobin's Q	ROA	Future Tobin's Q	Future ROA
Firm size	−0.1347***	−0.0010	−0.1211***	−0.0023
	(−10.06)	(−0.47)	(−8.64)	(−1.05)
R&D to sales	3.4359***	−0.3176***	3.5833***	−0.2969***
	(3.75)	(−7.08)	(3.20)	(−4.30)
R&D dummy	0.1078**	0.0121***	0.0703	0.0097**
	(2.44)	(2.84)	(1.47)	(2.07)
Capital expenditures	0.0189***	0.0001	0.0110***	−0.0006
	(4.64)	(0.18)	(2.64)	(−0.94)
Governance score	0.0015***	0.0001**	0.0016**	0.0001*
	(2.63)	(2.01)	(2.34)	(1.86)
Religiosity	0.5586	0.0771*	0.6745	0.0712
	(1.42)	(1.66)	(1.52)	(1.48)
Civil law	−0.0592	0.0028	−0.0497	0.0011
	(−1.16)	(0.55)	(−0.87)	(0.21)
GDP	−0.0712*	−0.0151***	−0.0705*	−0.0137***
	(−1.95)	(−3.74)	(−1.73)	(−3.23)
ADR	−0.0570***	−0.0032**	−0.0482***	−0.0025
	(−3.78)	(−2.12)	(−2.85)	(−1.52)
Tax rate	0.0087***	−0.0001	0.0111***	−0.0001
	(3.12)	(−0.48)	(3.50)	(−0.28)
Constant	2.7845***	0.2732***	2.7374***	0.2726***
	(7.01)	(8.11)	(6.60)	(7.45)
Observations	11,286	11,286	8,623	8,623
R-squared	0.4842	0.0608	0.4618	0.1456
Year FE	Yes	Yes	Yes	Yes
Industry FE	Yes	Yes	Yes	Yes
Clustering	Firm	Firm	Firm	Firm

Note: This table reports results of the effect of donation on firm value and firm performance using 2SLS. I instrument total donations using average donations of firms located in the same country and operating in the same industry as the focal firm during a given year. Total donations is the logarithm of $(1+\text{total donations scaled by sales})^*10^3$. Tobin's Q is the market value over book value of total assets: [(total assets – book value of common equity + market value of common equity)/total assets]. ROA is Net income divided by book value of total assets. Leverage is the ratio of long-term debt to total assets. Firm size is the logarithm of a firm's total-assets book value (in USD). R&D to sales is the ratio of R&D expenditures to sales. R&D indicator is a dummy variable that equals zero if R&D expenditures data are missing and one otherwise. Capital expenditures is the ratio of capital expenditures to total assets. Governance score is Asset4 governance pillar. Religiosity is the average of the three components of religiosity: (1) affiliation, (2) importance, and (3) attendance. GDP is Logarithm of GDP per capita (in USD). Civil law is a dummy variable that takes the value of one if the firm is located in a civil law country and zero otherwise. ADR is the antidirector rights index of Spamann (2010). Tax rate is country level corporate tax rate. FE stands for fixed effects.

* $p < .10$
** $p < .05$
*** $p < .01$.

6.1. Sample selection bias

Because firms are not mandated to disclose their donations, sample selection bias might be present (e.g., Su and Sauerwald, 2018). I use a Heckman two-stage selection model (Heckman, 1979) to deal with this potential issue. In the first stage, I calculate the probability of donation disclosure based on the sample of all firms available in the Refinitiv ESG database. I apply a probit regression model to determine the probability that a firm discloses corporate giving. I regress the disclosure choice variable on the same set of variables of my regression model and add a dummy variable that takes the value of one if the firm disclosed donations in the previous year and zero otherwise. A company is more likely to disclose its donations in the current year if it did in the previous year; however, whether the firm disclosed corporate donations in the previous year is unlikely to affect the amount of donations in the current year.

Column one of Table 7 reports first-stage regression results. It shows that larger firms, more profitable firms, well-governed firms, those with more capital expenditures, and those located in countries with higher investor protection are more likely to report their donations, while those located in richer countries and more religious countries are less likely to disclose such information. I also find that the likelihood of a firm disclosing donations in the previous year is a strong predictor of the likelihood it will report such information for the current year. Based on this first-stage probit regression model, I calculate the inverse Mills ratio

(IMR) which I add to the second-stage regression model. I use the four different proxies of religiosity as independent variables. Across all columns, I find that religiosity loads positively and significantly, confirming the results reported in Table 4.

6.2. Endogeneity issues

A potential concern in the estimations is that religiosity might be correlated with factors omitted from the model and which affect donations. I address this issue by controlling for other country-level determinants. First, I control for Hofstede's (1980) and Hofstede's (2001) national culture values as previous studies show that they affect CSR engagements (Ioannou and Serafeim, 2012; Griffin et al., 2021). I use the Hofstedean cultural dimensions of (a) power distance (pdi), (b) individualism (idv), (c) masculinity (mas), (d) uncertainty avoidance (uai), and (e) long-term orientation (ltowvs). The results are reported in Columns 1 to 5 of Table 8. They indicate that religiosity loads positively and significantly after controlling for national culture. The results also show that among cultural values, only masculinity is significantly associated with corporate giving. Firms located in countries with higher masculinity levels donate less. This result is explained by the fact that feminine values emphasize the importance of building relationships with people and helping others, while masculine values emphasize the importance of material success (Hofstede, 2001). It is also consistent with studies indicating that females

Table 7
Heckman procedure.

	Disclose	Total donations	Total donations	Total donations	Total donations
Disclose (lagged)	2.4584***				
	(80.07)				
Religiosity	−1.2073***	3.8768***			
	(−3.59)	(3.23)			
Affiliation			1.9457**		
			(2.49)		
Importance				2.5541***	
				(2.98)	
Attendance					7.3149***
					(3.36)
GDP	−0.4932***	0.4812***	0.3107**	0.4875***	0.4092***
	(−10.21)	(3.15)	(2.02)	(3.15)	(3.25)
Civil law	−0.1776*	0.2922	0.1361	0.4114	0.2289
	(−1.67)	(0.73)	(0.30)	(0.98)	(0.64)
ADR	0.0989***	−0.0117	0.0121	0.0743	−0.0017
	(3.01)	(−0.08)	(0.07)	(0.53)	(−0.01)
Tax rate	−0.0204***	0.0113	0.0205	0.0157	0.0175
	(−2.92)	(0.37)	(0.63)	(0.52)	(0.71)
ROA	0.8399***	1.2012	1.3216	1.3259	1.2383
	(5.07)	(0.90)	(1.02)	(0.98)	(0.88)
Leverage	−0.1259	−1.0039	−1.0082	−0.9366	−0.9948
	(−1.20)	(−1.53)	(−1.57)	(−1.43)	(−1.51)
Firm size	0.1642***	−0.1054	−0.1067	−0.1181	−0.1314
	(5.65)	(−0.87)	(−0.86)	(−0.97)	(−1.11)
R&D to sales	−0.0214	9.7103***	9.8148***	9.6899***	9.7279***
	(−0.27)	(3.23)	(3.29)	(3.20)	(3.24)
R&D dummy	0.0115	−0.3275*	−0.3294*	−0.3489*	−0.3924**
	(0.36)	(−1.67)	(−1.66)	(−1.75)	(−1.99)
Tobin's Q	0.0109	−0.0379	−0.0291	−0.0388	−0.0371
	(0.81)	(−0.46)	(−0.35)	(−0.46)	(−0.48)
Capital expenditures	0.0059***	−0.0017	−0.0014	−0.0007	−0.0027
	(2.89)	(−0.08)	(−0.07)	(−0.04)	(−0.13)
Governance score	0.0059***	−0.0025	−0.0020	−0.0015	0.0010
	(3.97)	(−0.57)	(−0.41)	(−0.31)	(0.22)
IMR		−0.0608	−0.0492	−0.0496	−0.0176
		(−0.55)	(−0.45)	(−0.44)	(−0.16)
Constant	3.2287***	−4.1221*	−2.5835	−4.1011*	−2.7529*
	(4.92)	(−1.96)	(−1.28)	(−1.91)	(−1.72)
Observations	43,554	13,233	13,233	13,233	13,233
Year FE	Yes	Yes	Yes	Yes	Yes
Industry FE	Yes	Yes	Yes	Yes	Yes

Note: This table reports results of the effect of religiosity on firm donations using a two-stage Heckman procedure to deal with potential sample selection bias. Total donations is the logarithm of (1+total donations scaled by sales)*10³. Religiosity is the average of the three components of religiosity: (1) affiliation, (2) importance, and (3) attendance. Country level controls include (i) GDP, the logarithm of GDP per capita (in USD), (ii) ADR, the antidirector rights index of Spamann (2010), (iii) Civil law, a dummy variable that takes the value of one if the firm is headquartered in a civil law country and zero otherwise, and (iv) Tax rate is country level corporate tax rate. Firm level controls include (i) ROA, net income divided by book value of total assets. Leverage is the ratio of long-term debt to total assets, (ii) Firm size, the logarithm of a firm's total-assets book value (in USD), (iii) R&D to sales, the ratio of R&D expenditures to sales, (iv) R&D indicator, a dummy variable that equals zero if R&D expenditures data are missing and one otherwise, (v) Capital expenditures, the ratio of capital expenditures to total assets, (vi) Tobin's Q, the market value over book value of total assets: [(total assets – book value of common equity + market value of common equity)/total assets], (vii) Governance score, Asset4 governance pillar. IMR is inverse Mills ratio. FE stands for fixed effects.
* $p < .10$
** $p < .05$
*** $p < .01$.

Table 8
Additional controls.

	(1)	(2)	(3)	(4)	(5)	(6)	(7)
Religiosity	3.8893***	3.8902***	2.6505***	3.8384***	3.3344***	4.4100***	9.8704***
	(3.10)	(3.19)	(2.62)	(2.75)	(2.80)	(3.20)	(6.01)
Pdi	0.0229						
	(1.59)						
Idv		−0.0006					
		(−0.05)					
Mas			−0.0266**				
			(−2.33)				
Uai				0.0013			
				(0.10)			
Ltowvs					−0.0076		
					(−0.62)		
Press freedom						0.0229*	

Table 8 (*continued*).

	(1)	(2)	(3)	(4)	(5)	(6)	(7)
						(1.66)	
Gov social spending							−0.1009***
							(−3.61)
Observations	12,455	12,455	12,455	12,455	13,233	10,938	8,700
Controls	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Year FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Industry FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes

Note: This table reports results after adding additional country-level control variables. Pdi, Idv, Mas, Uai and Ltowvs stand for Hofstede cultural values of power distance, individualism, masculinity, uncertainty avoidance, respectively. Press freedom is the Freedom of the Press index from Freedom House. Gov social spending is the government social spending per GDP (cash benefits, direct in-kind provision of goods and services, and tax breaks with social purposes). Total donations is the logarithm of (1+total donations scaled by sales)*10^3. Religiosity is the average of the three components of religiosity: (1) affiliation, (2) importance, and (3) attendance. Country level controls include (i) GDP, the logarithm of GDP per capita (in USD), (ii) ADR, the antidirector rights index of Spamann (2010), (iii) Civil law, a dummy variable that takes the value of one if the firm is headquartered in a civil law country and zero otherwise, and (iv) Tax rate is country level corporate tax rate. Firm level controls include (i) ROA, net income divided by book value of total assets. Leverage is the ratio of long-term debt to total assets, (ii) Firm size, the logarithm of a firm's total-assets book value (in USD), (iii) R&D to sales, the ratio of R&D expenditures to sales, (iv) R&D indicator, a dummy variable that equals zero if R&D expenditures data are missing and one otherwise, (v) Capital expenditures, the ratio of capital expenditures to total assets, (vi) Tobin's Q, the market value over book value of total assets: [(total assets – book value of common equity + market value of common equity)/total assets], (vii) Governance score, Asset4 governance pillar. FE stands for fixed effects.
* $p < .10$
** $p < .05$
*** $p < .01$.

donate more than males (Lasby and Barr, 2005; Grönlund and Pessi, 2016).

Second, I control for press freedom at the country level because El Ghoul et al. (2019) find that firms located in countries with greater media freedom engage in more CSR activities. I use the Freedom of the Press index from Freedom House. The results reported in Column 6 show that my inferences remain the same: religiosity loads positively and significantly. Moreover, I find that press freedom is positively associated with the amount of corporate donations.

Third, I control for government social spending per GDP (cash benefits, direct in-kind provision of goods and services, and tax breaks with social purposes) as there is less need for corporate philanthropy in countries with higher government social welfare. I gather data from the Organization for Economic Co-operation and Development (OECD). Results reported in Column 7 show that government social spending and corporate philanthropy are negatively associated, and that religiosity preserves its positive association with corporate donations.

To further address endogeneity issues, I use a 2SLS approach that (a) mitigates the effect of any potential measurement errors in the level of religiosity, (b) removes the estimation bias caused by an omitted correlated variable, and (c) addresses reverse causality issues. A good instrument should be correlated with religiosity (relevance condition)—influencing corporate donations only through its effect on religiosity (exclusion condition), which requires the instrument to be uncorrelated with the error term. I use religiosity lagged by ten years and population lagged by ten years as instruments.[22] These two instruments are unlikely to affect current corporate decisions, except through their effect on contemporaneous religiosity. Thus, the instruments meet the exclusion requirement.

Column 1 in Table 9 reports the results of the first-stage regression. In this regression, the dependent variable is religiosity and independent variables include religiosity lagged by ten years and population lagged by 10 years, and all control variables as specified in the baseline model. The coefficients of the two instruments are significant at the 1% level. Moreover, the F statistic for weak instruments is significant at the 1% level, suggesting that the instruments are not weak. Column 2 of Table 9 reports the second-stage regression results. I replace religiosity with its fitted

value, where the latter is generated from estimates in the first-stage regression. The Sargan and Basmann tests of overidentifying restrictions are both insignificant (Sargan test p-value = 0.8352 and Basmann test p-value = 0.8402), suggesting that the instruments are valid. The results indicate that the fitted religiosity remains positive and retains its significance at the 1% level. The results using 2SLS analysis show that religiosity loads positively and significantly.

I also run a quasi-natural experiment on an exogenous shock to donation demand, namely, the 2004 Indian Ocean earthquake and tsunami. The earthquake led to a surge in corporate donations (Liang and Renneboog, 2017b). I examine whether companies located in highly religious countries donated more than did firms located in less religious countries following the disaster. To the regression model, I add an interaction term between religiosity and a dummy variable that equals one for the year 2005 (the year following the disaster) and 0 otherwise. The results reported in Table 10 show that firms located in more religious countries donated more in 2005 than firms located in less religious countries. These results further support the positive effect of religiosity on corporate donation.

6.3. Self-selection issues

While unlikely, one could argue that firms self-select their locations according to how much they prefer to donate (i.e., firms willing to donate more establish their business in highly religious countries). To account for the possibility of firms self-selecting their locations, I employ a propensity score matching (PSM) treatment effect model. I partition the countries in the sample into less versus more highly religious countries using the median value of the variable religiosity. I predict the probability of a firm being located in one of the more highly religious countries using a logit model with the full set of firm-level control variables used in the regression model.[23] For each firm located in a highly religious country (i.e., the treatment sample), I match, without replacement, a firm located in a more modestly religious country (i.e., the control sample) using the closest propensity score with a caliper distance of 0.001. Using this strategy, I finish with a

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[22] Hilary and Hui (2009) also use lagged religiosity and lagged population as instruments.

[23] The results are robust when we construct propensity scores based on the entire control variable specified in Eq. (1). However, matching based on propensity scores constructed using firm level controls only results in the matched sample with the least bias.

Table 9
Regression results using 2SLS.

VARIABLES	(1) Religiosity	(2) Total donations
Religiosity (*instrumented*)		5.9525***
		(3.19)
Attendance (*lag10*)	0.7506***	
	(18.68)	
Population (*lag10*)	0.0087*	
	(1.80)	
Observations	1,041	1,041
R-squared	0.9640	0.4124
Controls	Yes	Yes
Year FE	Yes	Yes
Industry FE	Yes	Yes
Tests of overidentifying restrictions		
Sargan test p-value = 0.8352		
Basmann test p-value = 0.8402		

Note**:** The table reports estimates from two-stage least squares regressions (2SLS) of donations on Religiosity, using an instrumental variables approach. The first instrument, Attendance (lag10), is attendance lagged by 10 years. The second instrument, Population (lag10), is population lagged by 10 years. Total donations is the logarithm of (1+total donations scaled by sales)*10^3. Country-level controls include (i) GDP, the logarithm of GDP per capita (in USD), (ii) ADR, the antidirector rights index of Spamann (2010), (iii) Civil law, a dummy variable that takes the value of one if the firm is headquartered in a civil law country and zero otherwise, and (iv) Tax rate is the country level corporate tax rate. Firm-level controls include (i) ROA, net income divided by book value of total assets. Leverage is the ratio of long-term debt to total assets, (ii) Firm size, the logarithm of a firm's total-assets book value (in USD), (iii) R&D to sales, the ratio of R&D expenditures to sales, (iv) R&D indicator, a dummy variable that equals zero if R&D expenditures data are missing and one otherwise, (v) Capital expenditures, the ratio of capital expenditures to total assets, (vi) Tobin's Q, the market value over book value of total assets: [(total assets – book value of common equity + market value of common equity)/total assets], (vii) Governance score, Asset4 governance pillar. FE stands for fixed effects.
* $p < .10$
** $p < .05$
*** $p < .01$.

Table 10
Evidence from the 2004 Indian ocean earthquake and tsunami.

Variables	Total donations
Religiosity*Year2005	4.6919**
	(2.50)
Religiosity	3.4020***
	(4.12)
Observations	13,233
Controls	Yes
Year FE	Yes
Industry FE	Yes
Clustering	Country

Note: This table presents the results from a natural experiment: the 2004 Indian Ocean earthquake and tsunami. Total donations is the logarithm of (1+total donations scaled by sales)*10^3. Religiosity is the average of the three components of religiosity: (1) affiliation, (2) importance, and (3) attendance. Country level controls include (i) GDP, the logarithm of GDP per capita (in USD), (ii) ADR, the antidirector rights index of Spamann (2010), (iii) Civil law, a dummy variable that takes the value of one if the firm is headquartered in a civil law country and zero otherwise, and (iv) Tax rate is country level corporate tax rate. Firm level controls include (i) ROA, net income divided by book value of total assets. Leverage is the ratio of long-term debt to total assets, (ii) Firm size, the logarithm of a firm's total-assets book value (in USD), (iii) R&D to sales, the ratio of R&D expenditures to sales, (iv) R&D indicator, a dummy variable that equals zero if R&D expenditures data are missing and one otherwise, (v) Capital expenditures, the ratio of capital expenditures to total assets, (vi) Tobin's Q, the market value over book value of total assets: [(total assets – book value of common equity + market value of common equity)/total assets], (vii) Governance score, Asset4 governance pillar. FE stands for fixed effects.
* $p < .10$
** $p < .05$
*** $p < .01$.

sample of 5234 observations. The results are reported in Table 11. Panel A presents the firm attributes across the two subsamples. It shows that the two samples are well balanced after matching. The standardized difference in covariates between more religious and less religious groups (the bias) is low. The Rubin's B measure is 20.2 while the Rubin's R is 1.28. These values meet the thresholds outlined by Rubin (2001). Table 11, Panel B reports the results using the matched sample. The findings show that religiosity loads positively and significantly, confirming my inferences.

6.4. Country-level regressions

Because the testing variable is at the country level, regression analysis using firm-year observations is likely to give undue weight to a country with many firm-year observations. To address this issue, I conduct robustness tests using country-year observations. For every variable, I take the median value of all the firms in a country in a specific year as the value for a country-year observation. This way, each country enters the sample only once in a given year and receives an equal weight. Table 12 reports the results. Even though the total number of observations drops significantly (410 observations only), my inferences remain unchanged.

6.5. Other robustness checks

I conduct a battery of other robustness tests but do not report the results to conserve space. First, I conduct a placebo test where I use lobbying and political contributions scaled by total sales as the dependent variable. As expected, I find that religiosity does not load significantly. Second, in the year 2013, India mandated all Indian profit-making firms to spend 2% of average net profits in the preceding 3 years on CSR-related philanthropic activities. As a robustness check, I remove Indian firms from my sample and rerun the regressions. I find that my results hold. Third, in

Table 11

Regressions based on a propensity score matched sample.

Panel A. Firm attributes across the subsamples				
	Treated	Control		
	Mean	Mean	Difference	*t*-statistic	P value
ROA	0.083	0.074	0.009	3.880	0.000
Leverage	0.250	0.252	−0.001	−0.290	0.771
Firm size	9.324	9.377	−0.053	−1.120	0.261
R&D to sales	0.011	0.010	0.001	0.770	0.444
R&D dummy	0.384	0.360	0.024	1.800	0.072
Tobin's Q	1.644	1.561	0.083	2.960	0.003
Capital expenditures	4.944	4.801	0.143	1.070	0.286
Governance score	51.702	52.604	−0.902	−1.120	0.264

Panel B. Regressions using a propensity-score matched sample	
VARIABLES	Total donations
	3.0852***
Religiosity	
	(2.63)
Country level controls	Yes
Firm level controls	Yes
Year FE	Yes
Industry FE	Yes
Observations	5,234
Clustering	Country

Note: To generate the propensity score, I use a logistic regression with High religiosity as the dependent variable and independent variables as specified in the baseline model. I match without replacement a firm-year observation with *High religiosity* equal to one, a treatment observation, against another firm-year observation with *High religiosity* equal to zero, a control observation. I use the caliper matching method and match within a caliper of 0.0001, where caliper refers to the difference in the predicted probabilities between the treatment observation and the control observation. Panel A presents the firm attributes across these two subsamples. Panel B presents estimates of the main regression specification in the pooled sample of treatment and control firms using propensity score matching. Total donations is the logarithm of (1+total donations scaled by sales)*10^3. Religiosity is the average of the three components of religiosity: (1) affiliation, (2) importance, and (3) attendance. Country level controls include (i) GDP, the logarithm of GDP per capita (in USD), (ii) ADR, the antidirector rights index of Spamann (2010), (iii) Civil law, a dummy variable that takes the value of one if the firm is headquartered in a civil law country and zero otherwise, and (iv) Tax rate is country level corporate tax rate. Firm level controls include (i) ROA, net income divided by book value of total assets. Leverage is the ratio of long-term debt to total assets, (ii) Firm size, the logarithm of a firm's total-assets book value (in USD), (iii) R&D to sales, the ratio of R&D expenditures to sales, (iv) R&D indicator, a dummy variable that equals zero if R&D expenditures data are missing and one otherwise, (v) Capital expenditures, the ratio of capital expenditures to total assets, (vi) Tobin's Q, the market value over book value of total assets: [(total assets – book value of common equity + market value of common equity)/total assets], (vii) Governance score, Asset4 governance pillar. FE stands for fixed effects.
* $p < .10$
** $p < .05$
*** $p < .01$.

Table 12

Regression results using country-year observations.

Variables	Total donations	Total donations	Total donations	Total donations
Religiosity	3.5168***			
	(3.13)			
Affiliation		2.1207**		
		(2.30)		
Importance			1.8984**	
			(2.34)	
Attendance				2.5569***
				(3.06)
Controls	Yes	Yes	Yes	Yes
Year FE	Yes	Yes	Yes	Yes

Table 12 (*continued*).

Variables	Total donations	Total donations	Total donations	Total donations
Observations	410	410	410	410

Note: This table reports results using country-year observations. For every variable, I take the median value of all firms in a country in a specific year as the value for a country-year observation. Total donations is the logarithm of (1+total donations scaled by sales)*10^3. Religiosity is the average of the three components of religiosity: (1) affiliation, (2) importance, and (3) attendance. Country level controls include (i) GDP, the logarithm of GDP per capita (in USD), (ii) ADR, the antidirector rights index of Spamann (2010), (iii) Civil law, a dummy variable that takes the value of one if the firm is headquartered in a civil law country and zero otherwise, and (iv) Tax rate is country level corporate tax rate. Firm level controls include (i) ROA, net income divided by book value of total assets. Leverage is the ratio of long-term debt to total assets, (ii) Firm size, the logarithm of a firm's total-assets book value (in USD), (iii) R&D to sales, the ratio of R&D expenditures to sales, (iv) R&D indicator, a dummy variable that equals zero if R&D expenditures data are missing and one otherwise, (v) Capital expenditures, the ratio of capital expenditures to total assets, (vi) Tobin's Q, the market value over book value of total assets: [(total assets – book value of common equity + market value of common equity)/total assets], (vii) Governance score, Asset4 governance pillar. FE stands for fixed effects.
* $p < .10$
** $p < .05$
*** $p < .01$.

the main analysis, I interpolate and extrapolate the religiosity data to obtain missing country-year observations. As a robustness check, I restrict the data to years when the WVS reported data on religiosity and find that the results hold. Fourth, I scale total donations by total assets instead of scaling the donation data by sales and obtain similar results.

7. Conclusion

Despite a large volume of research on corporate philanthropy, little work has been done to explain why corporate donation varies across countries. I fill this gap in the literature by examining whether religiosity prevailing at the country level accounts for such variation. Using a large sample from 41 countries, I find that firms located in more religious countries donate more than those located in less religious countries. This positive association could stem either from managers' own preferences or managers' catering to shareholders' demands. I show that the degree of firm internationalization weakens the positive associa-tion between religiosity and corporate giving, suggesting that the religiosity-donation association is driven mainly by local stakeholders' demands rather than by managers' own preferences. Finally, I find that donations do not translate into higher firm valuations or performance, suggesting that managers set donations at an optimal level. This result holds for firms located in more religious countries as well as for those located in less religious countries.

CRediT authorship contribution statement

Lamia Chourou: Conceptualization, Methodology, Software, Writing – original draft, Writing – review & editing.

Declaration of competing interest

The authors declare that they have no known competing financial interests or personal relationships that could have appeared to influence the work reported in this paper.

Table A.1
Variables definitions.

Variables	Definition	Source
Total donations	Donations to charitable organizations scaled by sales: log (1 + total donations/sales) x 10^3	Refinitiv ESG, author calculation
Affiliation	The percentage of respondents who report having a religious affiliation when asked the question, "What is your religious denomination?"	WVS, author calculation
Importance	The percentage of people whose response is "very important" when asked the question, "How important is religion in your life?"	WVS, author calculation
Attendance	The proportion of respondents who report attending religious services more than once a week when asked the question, "How often do you attend religious services?"	WVS, author calculation
Religiosity	The average of Affiliation, Importance, and Attendance	WVS, author calculation
GDP	Logarithm of GDP per capita (in USD)	World Bank
ADR	Antidirector rights index: shareholder legal protection against management, based on Spamann's (2010) corrected version of the original index by La Porta et al. (1998)	Spamann (2010)
Civil law	Dummy variable that equals one for civil law countries and zero otherwise	La Porta et al. (1998)
Tax rate	Country level corporate tax rate	Tax Foundation
Pdi	"Power distance," which is defined as the extent to which the less powerful members of institutions and organizations within a country expect and accept that power is distributed unequally. A higher score indicates a large power distance between individuals	Hofstede (1980, 2001)
Idv	"Individualism," which refers to the degree of interdependence among members of a group and defines people's self-image in terms of "I" or "We." In individualist societies, people focus on themselves and their immediate family whereas in collectivist societies people belong to "in-groups" that take care of them in exchange for loyalty. A higher score indicates more individualism	Hofstede (1980, 2001)

Table A.1 (*continued*).

Variables	Definition	Source
Mas	A high score on the "masculinity/femininity" dimension indicates that a masculine society is driven by competition, achievement, and success, with success being defined by the "winner" or "best-in-field." A low score means that the dominant values in the feminine society consist of caring for others and quality of life. A feminine society is one where quality of life is the sign of success and standing out from the crowd is not admirable	Hofstede (1980, 2001)
Uai	"Uncertainty avoidance" captures how a society deals with the fact that the future is uncertain and the extent to which the members of a culture feel threatened by ambiguous or unknown situations and have created beliefs and institutions that try to avoid uncertainty. A higher score implies a higher level of uncertainty avoidance	Hofstede (1980, 2001)
Ltowvs	This dimension describes how every society has to maintain some links with its own past while dealing with the challenges of the present and future, and societies prioritize these two existential goals differently. Normative societies, which score low on this dimension, for example, prefer to maintain time-honored traditions and norms while viewing societal change with suspicion. Those with a culture which scores high, on the other hand, take a more pragmatic approach: they encourage thrift and efforts in modern education as a way to prepare for the future	Hofstede (1980, 2001)
Press freedom	Freedom of the press index	Freedom House
Gov social spending	Government social spending per GDP (cash benefits, direct in-kind provision of goods and services, and tax breaks with social purposes)	Organization for Economic Co-operation and Development (OECD).
ROA	Net income/ book value of total assets	Worldscope, author calculation
Leverage	Long-term debt/ total assets	Worldscope, author calculation
Firm size	Logarithm of firm's total assets book value (in USD)	Worldscope, author calculation
R&D to sales	R&D expenditures/ sales	Worldscope, author calculation
R&D dummy	Dummy variable that equals one if R&D expenditures are not missing	Worldscope, author calculation
Tobin's Q	Market value over book value of total assets: [(total assets – book value of common equity + market value of common equity)/ total assets]	Worldscope, author calculation
Capital expenditures	Capital expenditures/ total assets	Worldscope, author calculation
Sales growth	Yearly growth in net sales: (sales year t/ sales year t−1)/ (sales year t−1)	Worldscope, author calculation
Governance score	Asset4 governance pillar	Refinitiv ESG,
Foreign assets	Percentage of foreign assets to total assets	Worldscope, author calculation
Foreign sales	Percentage of foreign sales to total sales	Worldscope, author calculation
Foreign holdings	Percentage of free float foreign holdings	Datastream

Appendix

See Table A.1.

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