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Does Religion Mitigate Tunneling? Evidence from Chinese Buddhism

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Abstract In the Chinese stock market, controlling shareholders often use inter-corporate loans to expropriate a great amount of cash from listed firms, through a process called "tunneling." Using a sample of 10,170 firm-year observations from the Chinese stock market for the period of 2001–2010, I examine whether and how Buddhism, China's most influential religion, can mitigate tunneling. In particular, using firm-level Buddhism data, measured as the number of Buddhist monasteries within a certain radius around Chinese listed firms' registered addresses, this study provides strong evidence that Buddhism intensity is significantly negatively associated with tunneling. This finding is consistent with the view that Buddhism has important influence on corporate behavior and can serve as a set of social norms and/or an alternative mechanism to mitigate controlling shareholders' unethical tunneling behavior. In addition, my findings also reveal that the negative association between Buddhism intensity and tunneling is attenuated for firms that have high analyst coverage. The results are robust to various measures of Buddhism intensity and a variety of sensitivity tests.

Keywords Religion · Buddhism · Buddhism intensity · Tunneling · The controlling shareholder · Analyst coverage · Business ethics · Culture · Confucianism · China

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Introduction

Concentrated ownership is typical in European and Asian stock markets (Djankov et al. 2008; Faccio and Lang 2002; La Porta et al. 1999; Shleifer and Vishny 1986, 1997). Under concentrated ownership, controlling shareholders and minority shareholders may experience ethical conflicts when controlling shareholders unethically tunnel resources from listed firms (Johnson et al. 2000). In the Chinese stock market, controlling shareholders often view listed firms "as their own little ATM machines" (Asian Corporate Governance Association 2003; Kimber and Lipton 2005), and controlling shareholders tunnel huge sums of funds from listed firms using long-term, low interest rate inter-corporate loans (Jian and Wong 2010; Jiang et al. 2010). Tunneling through inter-corporate loans is always undisguised and traceable compared with other forms of expropriation such as related party transactions and transfer pricing, which require "fair value" tests (Jiang et al. 2010).

How to mitigate controlling shareholders' unethical tunneling behavior? Without doubt, previous literature (Clarke 2000, 2004; Fan and Wong 2005; Jiang et al. 2010) suggests that corporate governance is crucial and plays an important role in mitigating tunneling. In addition, extant studies, especially literature published in the *Journal of Business Ethics*, also argue that various ethical codes or ethical cultures can alleviate unethical behavior to some extent (Ehrhardt and Nowak 2001; Gaumnitz and Lere 2004; Petrick and Quinn 2000; Sims and Brinkmann 2003). Therefore, ethical codes should be able to alleviate controlling shareholders' tunneling. This could be the case in developed markets that have good corporate governance and mature business ethics. However, in emerging markets, corporate governance mechanisms are less effective and

ethical codes do not work well.[1] Therefore, researchers are recognizing that informal systems can serve as alternative and complementary mechanisms to corporate governance and ethical codes (Du 2012; El Ghoul et al. 2012b), which motivates this study to address whether and how Buddhism, as an informal system and a set of important social norms, can mitigate tunneling in the Chinese stock market.

Using a sample of 10,170 firm-year observations from the Chinese stock market for the period of 2001–2010, this study examines the influence of Buddhism on tunneling. Specifically, based on firm-level Buddhism data measured by the number of Buddhist monasteries within a certain radius around Chinese listed firms' registered addresses, this study provides strong evidence that Buddhism intensity is significantly negatively associated with tunneling. Moreover, my finding also suggests that the negative association between Buddhism intensity and tunneling is attenuated for firms with high analyst coverage, the proxy for strong external monitoring mechanism. The above results are robust to various measures of Buddhism intensity and a variety of sensitivity tests.

My study contributes to the extant literature in several ways. First, to the best of my knowledge and literature in hand, this paper is the first to investigate the impact of Buddhism on tunneling. Extant studies examine the associations between religion (religiosity) and business ethics, various dimensions of corporate social responsibility (e.g., corporate environmental responsibility, corporate philanthropic giving, etc.), economic growth across countries, emergency helping, owner–manager agency costs, corporate decision making, risk, financial reporting and earnings management, and equity pricing (Annis 1976; Barro and McCleary 2003; Callen et al. 2011; Conroy and Emerson 2004; Du 2012; Du et al. 2013a, b; Dyreng et al. 2012; El Ghoul et al. 2012b; Hilary and Hui 2009; Longenecker et al. 2004; McGuire et al. 2012; Miller 2000; Weaver and Agle 2002), but provide little evidence on the association between religion (Buddhism) and tunneling. My paper fills that gap by documenting strong evidence about the impact of Buddhism, China's most influential religion, on tunneling. Moreover, my study also distinguishes itself from Du (2012) that finds out significant negative association between Buddhism and owner–manager agency costs. However, tunneling reflects ethical conflicts between controlling shareholders and minority shareholders, rather than agency conflicts between management and shareholders. Therefore, findings in Du (2012) can not automatically lend support to the conclusion that religion, especially Buddhism, can mitigate tunneling. In this regard, an investigation of the impact of Buddhism on tunneling is essential and very important.

Second, this study adds to the existing ethical literature that focuses on establishing business ethics codes or cultures to curb unethical corporate behavior. In fact, as noted by Felo (2001), it is not the mere existence of an ethical program that will reduce the incidence of potential conflicts of interests. Rather, the involvement of the board of directors is a sufficient and necessary condition. In this study, following Gould (1995) and Vitell (2010), I argue that Buddhism can be viewed as a system to enrich the ethical environment of an organization by addressing the influence of Buddhism on tunneling. My findings suggest that Buddhism can mitigate controlling shareholders' unethical behavior and thus alleviate ethical conflicts between controlling shareholders and minority shareholders.

Third, using Chinese context, my paper adds to previous literature on the micro-effects of religion on corporate behavior. Most extant studies focus on U.S., but they provide little evidence on other countries outside of U.S., especially emerging markets. Do religious social norms exert influence in China? My study addresses this issue and finds that Buddhism can mitigate controlling shareholders' tunneling through inter-corporate loans, and thus suggests that Buddhism can affect specific corporate behavior in the Chinese stock market, echoing the findings in El Ghoul et al. (2012b).

Fourth, in my study, I refer to Du (2012) and use firm-level Buddhism variables that are different from those in extant literature. Prior studies use religion variables measured as the number of religious sites such as churches and mosques in a county or a region, the religious population to the total population, and the extent of religious participation (e.g., Barro and McCleary 2003; Hilary and Hui 2009; McGuire et al. 2012 etc.). However, Wines and Napier (1992) and Du (2012) argue that county-level or region-level religion variables may result in serious cross-sectional self-correlation of regression results. Therefore, to overcome the aforementioned weaknesses of county-level or/and region-level religion variables, I adopt firm-level Buddhism variables in this study.

Fifth, my study finds that analyst coverage attenuates the negative association between Buddhism intensity and tunneling, suggesting the substitutive effects between Buddhism intensity and analyst coverage on mitigating tunneling. This finding is very important and reveals that some informal institutions such as Buddhism can serve as an alternative monitoring role in emerging markets like China where formal systems are incomplete, which can borrow support from El Ghoul et al. (2012b).

[1] Chinese listed firms are still forming their codes of ethics, far behind their emphasis on economic development. Felo (2001) argues that ethics programs rely heavily on good corporate governance, and thus suggests that contemporary corporations should combine codes of ethics and corporate governance to alleviate ethical conflicts. However, the execution of ethical programs in Chinese listed firms less likely dependent on weak corporate governance.

Sixth, similar to Jiang et al. (2010), I use other receivables in financial statements as the proxy for tunneling. Other receivables provide a minimal direct measure (a floor) of tunneling. Even with this minimal estimate, the extent of tunneling through inter-corporate loans in the Chinese stock market is still impressive (Jiang et al. 2010). Therefore, my measure of tunneling using other receivables can contribute to the existing literature on how tunneling occurs.

Finally, this study also provides some interesting findings that Confucianism and culture can reduce tunneling. On one hand, results in this study will be more robust after incorporating the influence of Confucianism and culture on tunneling. On the other hand, the tunneling–mitigating roles of Confucianism and culture suggest other potential channels to alleviate tunneling in addition to corporate governance mechanisms, business ethics, and religion (Buddhism in my study).

The remainder of this paper is organized as follows. "Institutional Background and Hypotheses Development" section introduces the institutional background and develops research hypotheses. "Sample, Data, and Descriptive statistics" section describes sample construction, discusses the measure of variables used in this study, and reports descriptive statistics and correlation analysis. "Empirical Results" section discusses empirical model specifications and reports empirical analysis results. "Discussion on the Potential Endogeneity Between Tunneling and Buddhism" section addresses the concerns about the potential endogeneity between tunneling and Buddhism. "Additional Tests" section conducts a variety of additional tests. Finally, "Conclusions" section summarizes my conclusions.

Institutional Background and Hypotheses Development

Traditional agency studies focus on the conflicts between management and dispersed shareholders (e.g., Berle and Means 1932; Jensen and Meckling 1976; etc.), typically in the United States. In the international setting, however, concentrated ownership is more typical and the central agency problem is the conflicts between controlling shareholders and minority shareholders (Djankov et al. 2008; Faccio and Lang 2002; Jiang et al. 2010; La Porta et al. 1999; Shleifer and Vishny 1986, 1997). In particular, controlling shareholders can divert resources from listed firms through tunneling in various ways (Johnson et al. 2000). As an emerging economy and the biggest developing country in the world, China distinguishes itself from other developed economies and countries in terms of economic development, cultural and social factors, legal and political systems, and corporate governance mechanisms (Kimber and Lipton 2005). The complex interaction of these factors in the Chinese stock market provides researchers with a unique setting to understand the nature, scope, and channels of tunneling, and thus controlling shareholders' ethics related with tunneling.

In China, controlling shareholders adapt to the institutional setting and expropriate the interests of minority shareholders. First, many Chinese listed firms were separated from their parent corporations through initial public offerings (IPOs), known as equity carve-outs. To meet basic IPO requirements, high-quality assets are separated and packaged into listed firms, but parent corporations and other related parties are forced to hold some inferior assets. To maintain operations in subsidiary companies, controlling shareholders inevitably extract large business loans from listed firms (i.e., tunneling).[2] However, tunneling greatly harms listed firms' operations and the interests of minority shareholders (Bae et al. 2002; Cheung et al. 2006; Jiang et al. 2010; Peng et al. 2006). Second, in the Chinese stock market, shares owned by controlling shareholders are forbidden to trade over a very long period. Also, to assure their controlling power on listed firms, controlling shareholders are not inclined to trade their shares. These restrictions, taken together, motivate controlling shareholders to seek for other channels (e.g., tunneling) to compensate for not benefiting from share price appreciation.

Corporate governance and business ethics are two major channels to alleviate tunneling (e.g., Clarke 2004; Fan and Wong 2005; Jiang et al. 2010; Petrick and Quinn 2000; Sims and Brinkmann 2003). However, "in the Chinese stock market, standard corporate governance mechanisms, e.g., proxy by mail, proportionate representation, and class suits, are vacant for a long time. Even worse, an independent and efficient judicial system is lacking, so existing laws, regulations, and rules are performed poorly" (Du 2012, Par. 3). Without strong enforcement, investor protection laws are only *on paper*. Here are some illustrations: China has an anti-director rights score of 3 (Allen et al. 2005), which is lower than 65 % of sample countries (La Porta et al. 1998). The World Economic Forum in 2003 notes that China's corporate governance score ranked 44th among 49 economies (Liu 2006). The World Bank Report (2012) shows that China's Protecting Investors Index ranked 97th among 183 economies, worse than most other Asian economies (Du 2012). In addition, ethical codes in Chinese listed firms are still being formed; and thus, play a limited role in restraining controlling shareholders from trampling down the interests of minority shareholders. Human behavior closely depends on ethical intentions, so

[2] Of course, controlling shareholders sometimes transfer resources to listed firms to preserve the listing or financing privileges in the Chinese stock market, namely, propping behavior (Jian and Wong 2010).

controlling shareholders' ethical codes are crucial. In other words, lack of ethical culture is also likely responsible for unethical tunneling behavior to some extent.

Overall, because of weak corporate governance mechanisms and immature business ethics in the Chinese stock market, I turn to informal systems (institutions) and consider the potential channels to mitigate tunneling. North (1990; 2000) emphasizes the importance of informal institutions such as religion, customs, tradition, and norms, although they are often non-calculative and spontaneous. Williamson (2000), Aggarwal and Goodell (2009), Allen et al. (2005), and Pistor and Xu (2005) argue that informal institutions may have important impacts on formal systems like the law. In this regard, I can infer that informal systems like religion can play an important role in emerging markets to substitute incomplete formal systems. Therefore, in this study, I focus on addressing whether and how Buddhism, as an important informal system, can mitigate tunneling in the Chinese stock market.

When individuals strongly identify with their religion, they are likely to adhere to its expectations to avoid emotional discomfort (Callen et al. 2011; Conroy and Emerson 2004; Iannaccone 1998; Longenecker et al. 2004; Miller 2000; Weaver and Agle 2002). Therefore, religion can motivate them to behave themselves according to role expectations (Barnett et al. 1996; Sunstein 1996; Weaver and Agle 2002). In fact, religion provides specific ethical guidelines, emphasizes the importance of ethical behavior, and establishes "common knowledge" for judging whether behavior is ethical (McGuire et al. 2012; Weaver and Agle 2002). More importantly, religious consciousness civilizes individuals and, in turn, subtly influences organizational and social decisions (El Ghoul et al. 2012b; Hilary and Hui 2009). Overall, the community's religiosity, as a set of social norms, affects corporate decisions regardless of individual religious beliefs (Dyreng et al. 2012; Grullon et al. 2010; Kennedy and Lawton 1998; McGuire et al. 2012).

Buddhism takes root in China's feudal society and gains strong popular appeal. It has notably impacted Chinese philosophy and culture. However, we do not know whether Buddhism exerts as much influence on business activities in China as other religions do in many Western countries. In China, atheism is the fundamental doctrine of Chinese Communist Party, but more than 1.15 billion citizens of the People's Republic of China enjoy the freedom of religious belief (Du 2012).[3] In fact, for more than thirty years since the 1979 reform and opening, many Buddhist monasteries were repaired and reopened because the Chinese Communist Party has realized that religion can never be eradicated. Moreover, as noted by Du (2012), modern Chinese society, with its polarized rich and poor, encourages people to find comfort and transfer of resentment through Buddhist teachings. As a result, Buddhists are widespread in China, and thus Buddhism influences not only individual behavior but also, at least somewhat, corporate behavior in China.

Buddhism teaches desire as a source of suffering (*dukkha*), interdependence (*pratitya-samutpada*) and impermanence (*anitya*), and non-self (*anãtman*), well-known as the three core tenets of Buddhism (Pace 2013). An essential Buddhist platform is morality (Esposito et al. 2006; Pace 2013; Wiese 2011), which is viewed as one of the two legs of Buddhism (Esposito et al. 2006).[4] Moral doctrine plays a very important role in Buddhist behavior and is synthesized in the Four Immeasurables: compassion (*karuna*), loving kindness (*metta*), empathetic joy (*mudita*), and equanimity (*upekkha*). The three core tenets and the Four Immeasurables directly affect Buddhist ethical behavior.

The three core tenets of Buddhism can alleviate controlling shareholders' unethical expropriating behavior for the following reasons: First, to reach the final aim of any Buddhist, i.e., *nirvana*, Buddhism advocates and emphasizes that people should control their desires because desires are the source of suffering (Brazier 2003). The emphasis on freedom from desires inspires Buddhists to refrain themselves from pursuing materialistic desires (Barnhill 2004) and to treat possessions with balanced detachment (Pace 2013). Such detachment generates less-materialistic attitudes (Pace 2013; Wiese 2011) and encourages happiness and morality from observing human beings as they perform their daily routines, an ethical posture addressing frequent and daily acts (Pace 2013; Wiese 2011). Relevant to my study, expropriation is a sin of desire. Therefore, Buddhism is expected to be able to curb controlling shareholders' desires of tunneling. Second, interdependence and impermanence emphasize that everything is caused by everything else, and as a result, is also one of causes of everything else (Brazier 2003; Pace 2013). Therefore, every action has some future consequences in the net of connected causes (Pace 2013). In fact, Buddhism stresses sharing wealth rather than accumulating

[3] In China, 11 % are religious believers (The World Values Survey 2007, p. 59). Cultural Revolution persecutions caused many to keep their religious beliefs private. Therefore, the number of religious followers may be underestimated and may be 185–300 million (e.g., Jin and Qiu 2011; Lim 2010; Yang 2010). In addition, as reported in the Chinese Luxury Consumer White Paper (China's WealthY Hurun Reports Releases, 2012), 29 % of Chinese Luxury Consumers who own 6 million Chinese Yuan believe in Buddhism. Moreover, about 60 % of Chinese Luxury Consumers who own 100 million Chinese Yuan have their respective religious beliefs, and most of them are Buddhists. The results of the Chinese Luxury Consumer White Paper (2012) suggest that Buddhism's influence in China may be more important than that suggested by the World Values Survey (2007).

[4] Meditation is viewed as the other leg and wisdom as an emergent third element.

property (Gill and Lundsgaarde 2004; McCleary and Barro 2006; Scheve and Stasavage 2006). Although Buddhists emphasize individual morality rather than organizational ethical behavior (Norberg-Hodge 1997), Buddhists within organizations differ systematically from non-Buddhists in their preferences (Pace 2013; Wiese 2011), and thus are expected to take the lead in establishing the corporate ethical cultures. In particular, they prefer to earn their income by working harder rather than by expropriating or embezzling others' properties. Moreover, they expect to achieve greater contentment with fewer material goods. Therefore, interdependence and impermanence may strengthen the interests' harmonization between controlling shareholders and minority shareholders. In this regard, one can deduce that the impact of Buddhism on controlling shareholders' tunneling is negative. Third, the non-self in Buddhism advocates the strong interdependence between causes and results (Pace 2013), and therefore the non-self emphasizes altruism. As Harris (2011, p. 93) notes, "it would be irrational, and therefore unjustifiable, to prioritize the welfare of my own enduring self above the welfare of other persons." Based on the Harris (2011)'s argument, one can draw the conclusion that the non-self entails altruism and thus Buddhism can alleviate controlling shareholders' tunneling.

Further, I address the influence of the Four Immeasurables in Buddhism on tunneling. First, in Buddhism, compassion means that one treats the feeling of other people as his/her favor. In this regard, compassion may be associated with impermanence, one of the three core tenets in Buddhism (Pace 2013). In fact, compassion encourages a decrease in materialism, and therefore restrains followers from embezzlement. Second, loving kindness emphasizes one should take care of other persons and entail altruism. In other words, loving kindness can actively curb the tendency of materialism. Therefore, the doctrine of loving kindness in Buddhism can lend important support to the view that Buddhism can alleviate controlling shareholders' expropriating the interests of minority shareholders. Third, as noted by Pace (2013), sympathetic joy refers to altruistic joy, meaning that one shares his/her happiness with others or/and even one merely shares others' happiness. Obviously, tunneling contradicts the doctrine of sympathetic joy. Therefore, one can infer that the doctrine of sympathetic joy in Buddhism can alleviate controlling shareholders' unethical tunneling behavior. Fourth, equanimity refers to "a fair equidistance from extreme and thus one should not strive to gain a status that is superior to the status of others" (Pace 2013, Table 2). According to the equanimity, controlling shareholders and minority shareholders should have equal status. That is, controlling shareholders should not extract resources in an extreme manner (i.e., tunneling) from listed firms at the expense of minority shareholders. Overall, the Four Immeasurables in Buddhism curb the three components of possessions: centrality, happiness through possessions, and success through possessions (Richins and Dawson 1992; Wiese 2011).

In summary, tunneling (i.e., minority shareholder expropriation) is incompatible with the three core tenets and the Four Immeasurables in Buddhism. In other words, Buddhism can mitigate controlling shareholders from tunneling and will persuade them not to expropriate or embezzle the interests of minority shareholders through its three core tenets and four ethical virtues.

Of course, not all controlling shareholders are Buddhists. However, as noted by Hunt and Vitell (2006), religion, as a cultural factor as well as a personal characteristic, can affect ethical judgments and decision making. In this regard, managers and controlling shareholders in locations that have strong religiosity are likely to be influenced by stronger religious social norms. Hilary and Hui (2009) find that firms located in counties with higher religiosity display lower risk exposure. Moreover, a small but growing stream of studies (Kennedy and Lawton 1998; Dyreng et al. 2012; Grullon et al. 2010; McGuire et al. 2012) underlines the influence of religion, as a set of social norms, on business behavior, i.e., agency conflicts, accounting risks, lawsuits, restatements, and accrual management. More importantly, these extant studies argue and find that a community's religiosity affects corporate decisions and corporate behavior regardless of particular or individual religious beliefs. Overall, controlling shareholders may not be Buddhists, but they must be responsive to the moral or social religious norms of the surrounding region embraced by employees, customers, employers, and suppliers (El Ghoul et al. 2012b), and thus be affected by the surrounding populace who are Buddhists.

Based on the aforementioned discussions about the influence of Buddhism on tunneling, the three core tenets and the Four Immeasurables in Buddhism can lend support to the argument that tunneling is less severe in firms located in regions where Buddhism is more prevalent. Therefore, I formulate the following Hypothesis 1 in an alternative form:

Hypothesis 1 Ceteris paribus, Buddhism intensity is negatively associated with tunneling.

Extant studies find that external monitoring mechanisms play a moderating role in religion-based studies (Du 2012; El Ghoul et al. 2012b; McGuire et al. 2012). Especially, religious social norms reduce costly agency conflicts to a greater extent under low external monitoring context. For example, El Ghoul et al. (2012b) find that religion has greater (less) influence on firms' equity financing for firms with weak (strong) monitoring (regulation) mechanisms such as institutional ownership, suggesting external

monitoring mechanisms can attenuate the negative influence of religiosity on firms' equity financing. I expand those works to further examine the interactive influence of Buddhism and external monitoring mechanism on mitigating tunneling, and further predict that strong external monitoring mechanism attenuates Buddhism's negative influence on tunneling. In particular, following extant literature (e.g., Kim et al. 2011), I use analyst coverage as the proxy for external monitoring mechanism and examine the interactive effects between Buddhism and analyst coverage on mitigating tunneling. To address this issue, I formulate the following Hypothesis 2 in an alternative form:

Hypothesis 2 Ceteris paribus, the negative association between Buddhism intensity and tunneling is attenuated for firms with high analyst coverage.

Sample, Data, and Descriptive Statistics

Identification of Sample

The initial list in my sample includes all Chinese listed firms from 2001 to 2010. Panel A of Table 1 details the sample selection process. I begin with 18,650 firm-year observations, and then select my sample using the following criteria (Chu et al. 2011; Du 2012; Jiang and Wang 2008):[5] (1) I exclude firm-years pertaining to the banking, issuance, and other financial industries because of different financial characteristics. (2) I delete firm-years with transaction statuses of ST (Special Treatment), *ST, or PT (Particular Transfer). (3) I discard firm-years that have negative net assets or shareholders equity. (4) I exclude firm-years that issue shares to foreign investors (termed B-shares or H-shares). (5) I delete firm-years listed for less than one year in the Chinese stock market. (6) I exclude firm-years whose data required to measure firm-specific control variables are not available. Finally, I obtain a sample of 10,170 firm-year observations covering 1,507 firms. Then, I winsorize the top and bottom 1 % of each variable's distribution to control for the potential influence of extreme observations.[6]

Panel B of Table 1 reports sample distribution by year and industry. As Panel B shows, year or industry clustering is not severe except for two industries: petroleum, chemical, plastics, and rubber products (C4) and machinery, equipment, and instrument manufacturing (C7). Nevertheless, I report *t*-statistics based on standard errors adjusted for clustering at the firm and year level (Petersen 2009).

[5] The results remain qualitatively similar if I include these deleted firm-years based on criteria (2)–(4) and introduce three dummy variables (i.e., *ST*, *Negative assets*, and *CROSS*) into regressions.

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

Figure 1a provides the distribution of national key Buddhist monasteries in Chinese provinces. The number of Buddhist monasteries appears in parentheses under each province name. Moreover, I also visually plot Fig. 1b and c to show the longitude and latitude distributions of national key Buddhist monasteries in China (see Appendix 2 for the list) and Chinese listed firms, respectively.

Tunneling

Empirically identifying tunneling is difficult, since it is often structured as part of regular business transactions, such as purchase/sales of goods or assets (Jiang et al. 2010). Without insider knowledge, it is difficult to judge whether the transaction prices are fair, and thus it is more difficult to measure the amount of tunneled resources. Therefore, many prior studies (e.g., Bae et al. 2002; Cheung et al. 2006; etc.) on tunneling take an indirect approach, inferring tunneling from share price reactions around related party transactions involving controlling shareholders and listed firms. However, tunneling through inter-corporate loans is less ambiguous and easier to measure.

Business loans extended to controlling shareholders may be legitimate on the ground of internal capital markets. However, this argument does not preclude that business loans are used by controlling shareholders to tunnel, and the features of such business loans made by Chinese listed firms appear to be consistent with tunneling, rather than efficient arrangement of financing (Jian and Wong 2010; Jiang et al. 2010). Chinese listed firms prevalently lend to their controlling shareholders, often for large amounts, favorable terms, and for long terms without specific due dates, and even worse, controlling shareholders are often unwilling or unable to repay (Jiang et al. 2010). Among firms that loan to related parties, 83.74 % charge insignificant interest and 16.26 % report a mean interest rate of 0.55 %, far below average bank rate of 5 % to 10 % per year (Jian and Wong 2010). Nevertheless, even those firms charging interest received interest not in cash; rather, the interest payment was accrued to increase the loan balance. Overall, those large, long-term, low-or-zero-interest business loans are hardly part of an efficient arrangement of internal capital market within a business group. They appear to be more consistent with tunneling through an undisguised channel at the expense of the interests of minority shareholders. As a result, larger other-receivables-balance firms tend to have lower future profitability, more financial distress, and high likelihood of qualified opinions (Jiang et al. 2010).

Based on the aforementioned discussions, other receivables in financial statements can serve as the proxy for tunneling because they can capture controlling shareholders'

Table 1 Sample selection

Panel A: firm-year observations selection process	
Initial observations	18,650
Eliminate firm-years pertaining to the banking, insurance, and other financial industries	(221)
Eliminate firm-years with transaction status of ST, *ST, or PT	(1,323)
Eliminate firm-years that have negative net assets or shareholders equity	(49)
Eliminate firm-years that issue shares to foreign investors (termed B-shares or H-shares)	(1,141)
Eliminate firm-years listed for less than one year in the Chinese stock market	(988)
Eliminate firm-years whose data required to measure firm-specific control variables are not available	(4,758)
Available firm-year observations	10,170
Unique firms	1,507

Panel B: Sample distribution by year and industry

Industry	Year										Total by industry	%
	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010		
A	18	15	24	24	30	26	26	25	24	22	234	2.30
B	5	7	16	18	20	17	18	23	26	26	176	1.73
C0	27	29	42	43	44	43	43	48	48	45	412	4.05
C1	30	31	35	39	45	46	45	49	48	46	414	4.07
C2	1	1	2	1	2	3	3	3	5	5	26	0.25
C3	15	16	17	19	22	19	21	26	28	29	212	2.08
C4	82	93	115	124	130	123	124	134	143	128	1,196	11.76
C5	22	23	26	30	36	40	38	55	58	60	388	3.81
C6	67	68	91	100	103	99	97	108	105	105	943	9.27
C7	107	109	131	141	157	156	150	176	188	188	1,503	14.78
C8	45	51	63	66	81	82	71	76	73	77	685	6.74
C9	9	11	13	12	13	12	14	19	19	21	143	1.41
D	32	34	43	47	52	54	48	50	48	51	459	4.51
E	13	14	16	22	25	26	29	31	32	30	238	2.34
F	22	26	37	41	42	43	42	44	44	40	381	3.75
G	37	44	52	63	67	60	62	71	73	83	612	6.02
H	65	65	74	78	81	74	73	75	76	80	741	7.29
J	19	25	43	44	49	49	45	55	58	81	468	4.60
K	25	26	30	29	31	31	29	35	36	33	305	3.00
L	6	8	8	9	9	8	6	8	9	9	80	0.79
M	61	60	59	58	59	55	54	51	50	47	554	5.45
Total by year	708	756	937	1,008	1,098	1,066	1,038	1,162	1,191	1,206	10,170	
%	6.96	7.43	9.21	9.91	10.80	10.48	10.21	11.43	11.71	11.86		100

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

undisguised and traceable expropriation of minority shareholders through inter-corporate loans and need not undergo the same "fair value" tests as other forms of tunneling such as related party transactions and transfer pricing (Aharony et al. 2010; Jiang et al. 2010). Therefore, in this study, I use other receivables deflated by total assets at the beginning of the year as the proxy for tunneling, which I label *TUL*.

Buddhism Intensity

Prior U.S. studies (e.g., Hilary and Hui 2009; McGuire et al. 2012) adopt the number of religious sites in a county or region, the religious proportion of the total population, or/and the extent of religious participation as proxies for religion. In China, most Buddhists go to monasteries

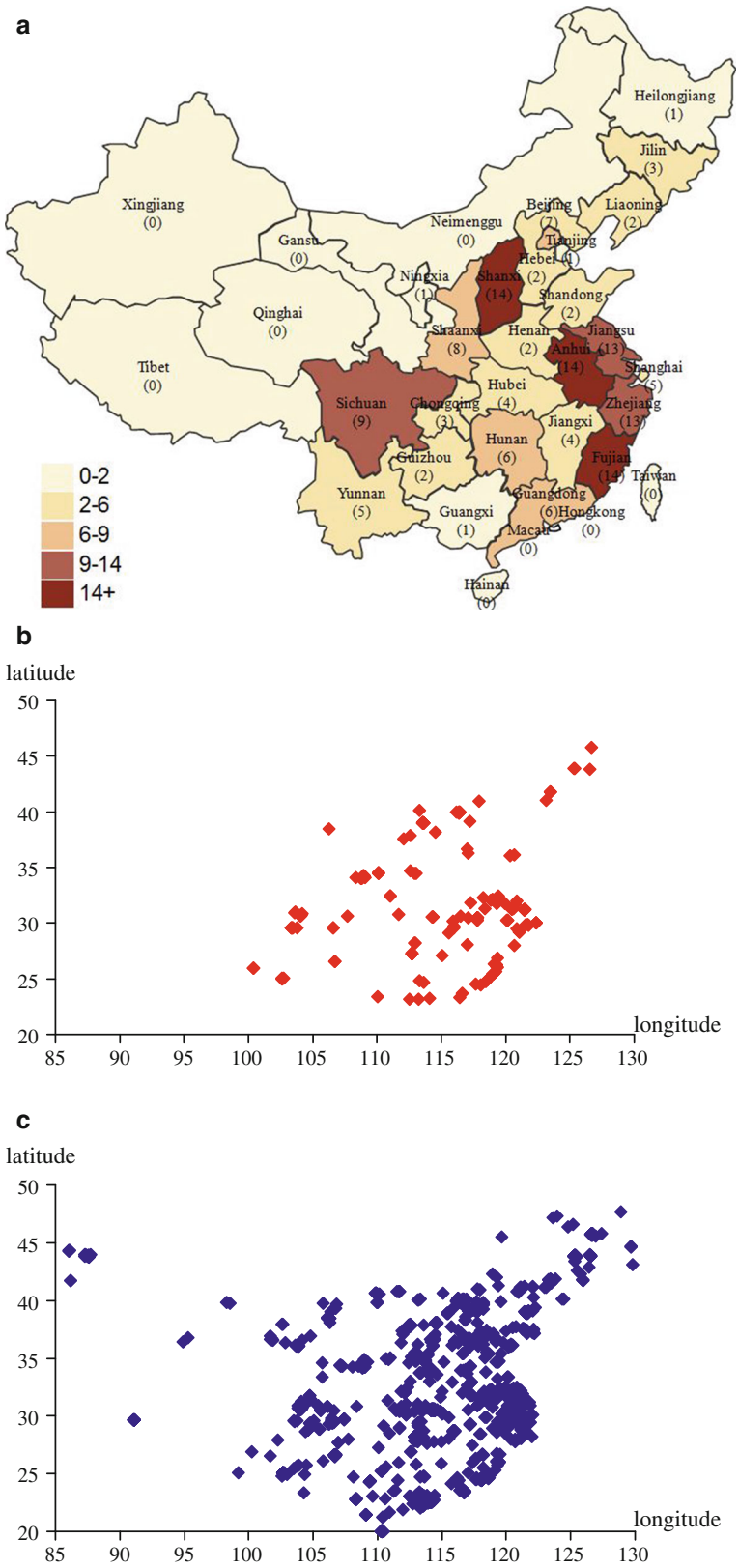

Fig. 1 **a** A map of the locations of national key Buddhist monasteries in China. **b** The longitude and latitude distributions of national key Buddhist monasteries in China. **c** The longitude and latitude distributions of Chinese listed firms. *Note* [1] **a** follows Du (2012) and displays the following one-to-one relationships between various colors and the different numbers of national key Buddhist monasteries: "": [0, 2); "": [2, 6); "": [6, 9); "": [9, 14); "": [14, $+\infty$). [2] **b** and **c** visually plot the longitude and latitude distributions of national key Buddhist monasteries in China and Chinese listed firms, respectively

irregularly for Buddhist ceremonies and rituals, unlike Christians who attend churches in regular patterns (Du 2012). Moreover, many Buddhists are conservative and discreet, so it is difficult to gather accurate statistics about their numbers (Du 2012). Therefore, in this study, I follow Du (2012) and adopt the number of Buddhist monasteries

within a certain radius around a listed firm's registered address to measure the variable of *BUD*, the label for Buddhism intensity.

Moreover, China has approximately sixteen thousand Buddhist monasteries (Chen 2003), and all have different effects on the surrounding population and listed firms. Data and information limitations make it difficult for me to count them all. Therefore, based on a list issued by the State Council of the People's Republic of China in 1983, to calculate and define the variable of *BUD*, I follow Du (2012) and use the most popular (i.e., national key) Buddhist monasteries, which have more far-reaching influence because of their religious heritage and intergenerational inheritance. In particular, following Du (2012), I adopt the following procedures to measure Buddhism variables:

First, I collect and sort the registered addresses of each firm-year and each Buddhist monastery based on the *CSMAR* (China Stock Market and Accounting Research), respectively.

Second, I use "*Google*-earth" to obtain the longitude and latitude of each firm's registered address and the location of each Buddhist monastery, respectively.

Third, I calculate the distance between the registered address of each firm-year and the location of each Buddhist monastery according to their respective longitudes and latitudes.

Step I: I label the longitude and latitude of a firm-year (a Buddhist monastery) as μ_F and ω_F (μ_B and ω_B), respectively, and then I calculate the central angle (α):

$$\cos\alpha = \sin\omega_F \times \sin\omega_B + \cos\omega_F \times \cos\omega_B \times \cos(\mu_F - \mu_B) \quad (1)$$

Step II: I calculate the *arc* length of per radian:

$$rad = \frac{40075.04}{360^\circ} \times \frac{180^\circ}{\pi} \quad (2)$$

In Eq. (2), 40075.04 denotes the perimeter of the earth equator (unit: km).

Step III: Following Rising (2000) and Du (2012), I calculate the distance between a firm-year and a Buddhist monastery:

$$Distance = rad \times \left(\frac{\pi}{2} - \arctan\left(\frac{\cos a}{\sqrt{1-\cos^2 a}}\right)\right) \quad (3)$$

Finally, I define *BUD100*, *BUD200*, and *BUD300* as the number of Buddhist monasteries within a radius of 100, 200, and 300 km around a listed firm's registered address, respectively.

The firm-level religion (Buddhism) variable has two advantages over the county-/region-level religion variables. First, the firm-level religion variable is measured based on the distance between a listed firm and a religious site in nature, so it can capture the influence of Buddhist monasteries located in two or more provinces. However, the county-/region-level religion variable has no such advantage (Du 2012; Wines and Napier 1992). Second, county-level or region-level religion variables may result in serious cross-sectional self-correlation of regression results, but the firm-level religion variable can overcome this problem (Wines and Napier 1992).

Control Variables

To isolate the incremental role of Buddhism in mitigating tunneling, I specify the following control variables: (1) *C/V*, computed as the percentage of cash flow rights (*C*) to the percentage of voting rights (*V*) of the controlling shareholders (Fan and Wong 2005). (2) *MANSHR*, calculated as the percentage of common shares owned by top managers. (3) *INDR*, equaling the number of independent directors scaled by the number of directors in the boardroom. (4) *LNBOARD*, measured as the natural log of the number of directors in the boardroom. (5) *DUAL* is an indicator variable, equaling 1 if the CEO and the chairman of the board are the same person and 0 otherwise. (6) *SIZE*, computed as the natural log of total assets (Jiang et al. 2010). (7) *LEV*, measured as total liabilities scaled by total assets; (8) *ROS*, measured as net income scaled by sales revenue. (9) *BIG4* is a dummy variable, equaling 1 when the auditor is a Big 4 accounting firm (including affiliated firms) according to the official rank of the Chinese Institute of certified public accountants and 0 otherwise (Fan and Wong 2005). (10) *LISTAGE*, specified as the number of years since a firm's IPO. (11) *STATE*, a dummy variable, equaling 1 when the ultimate controlling shareholder of a listed firm is a central or local government agency or government controlled SOE and 0 otherwise (Jiang et al. 2010). (12) *FINANCE*, a dummy variable, equaling to 1 if the firm is located within 100 km from the nearest city center of the three financial centers (Beijing, Shanghai, and Shenzhen) (El Ghoul et al. 2012a). (13) *CULTURE* is the inverse proxy for business culture, measured as the distance between a listed firm and the nearest cultural center (in thousand kilometers). (14) *CONFUCIAN* is the inverse proxy for Confucianism,[7] measured as the distance (in thousand kilometers) between a listed firm and the nearest Confucianism center. (15) *GDP_PC*, measured as GDP *per capita* (in thousand *RMB*) in the province in which a listed firm locates. (16) I also control for 10 calendar years and 21 industries fixed effects. Appendix 1 outlines definitions and data sources for the regression variables.

[7] Please note that Confucianism has important influence on ethical philosophy in China. I thank one referee's valuable suggestion that I should consider the influence of Confucianism on tunneling.

Table 2 Descriptive statistics

Variables	*N*	Mean	Std. Dev.	Min	Q1	Median	Q3	Max
TUL	10,170	0.0447	0.0667	0.0002	0.0069	0.0201	0.0526	0.5075
BUD100	10,170	3.3614	3.5011	0	0	2	7	11
BUD200	10,170	8.1313	7.3596	0	2	6	14	29
BUD300	10,170	14.6073	12.3523	0	4	11	23	43
ANALYST	10,170	0.9272	1.0849	0	0	0.6931	1.7918	4.2767
C/V	10,170	0.8414	0.2367	0.0866	0.7000	1	1	1
MANSHR	10,170	0.0186	0.0835	0	0	0.0001	0.0003	0.7838
INDR	10,170	0.3232	0.0986	0.0000	0.3333	0.3333	0.3636	0.8000
LNBOARD	10,170	2.2193	0.2161	1.0986	2.1972	2.1972	2.3979	2.9444
DUAL	10,170	0.1295	0.3358	0	0	0	0	1
SIZE	10,170	21.4043	0.9866	19.1673	20.7183	21.2976	21.9829	25.6209
LEV	10,170	0.4681	0.2489	0	0.2910	0.5065	0.6635	0.9189
ROS	10,170	0.0445	0.2344	−3.4814	0.0183	0.0520	0.1075	0.6379
BIG4	10,170	0.0376	0.1901	0	0	0	0	1
LISTAGE	10,170	8.2690	4.0143	2	5	8	11	21
STATE	10,170	0.6733	0.4690	0	0	1	1	1
FINANCE	10,170	0.2403	0.4273	0	0	0	0	1
CULTURE	10,170	0.3256	0.3711	0.0005	0.0841	0.1986	0.4088	2.6049
CONFUCIAN	10,170	0.4169	0.3745	0.0002	0.1683	0.3200	0.5852	2.4818
GDP_PC	10,170	26.4705	17.5463	3.0000	12.8100	20.8700	38.4860	76.0740

Note All the variables are defined in Appendix 1. In Table 2, I winsorize the top and bottom 1 % of each variable's distribution to control for the potential influence of extreme observations

Descriptive Statistics and Pearson Correlation Analysis

Table 2 reports descriptive statistics of the variables used in my study. The mean (median) value of *TUL*, the dependent variable, is 0.0447 (0.0201), suggesting that the amount of controlling shareholders' tunneling through inter-corporate loans reaches 4.47 % of total assets at the beginning of the year on average. The mean values of *BUD100*, *BUD200*, and *BUD300* are 3.3614, 8.1313, and 14.6073, respectively. These results reveal that about 3.3640, 8.1313, and 14.6073 Buddhist monasteries are located within a radius of 100, 200, and 300 km around a listed firm's registered address, respectively. The mean value of *ANALYST* is 0.9272, meaning that the number of analysts following the firm is 1.53 ($e^{0.9272}-1$) on average.

The mean and median values of *C/V* are 0.8414 and 1, respectively, revealing the basic characteristics of the voting rights and the cash flow rights of Chinese listed firms. The mean (median) value of *MANSHR* is about 1.86 % (0.01 %) with a relatively large standard deviation of 0.0835, suggesting that top managers in Chinese listed firms owned a relatively low percentage of stakes on average. The mean (median) and Q1 (Q3) values of *INDR* are 0.3232 (0.3333) and 0.3333 (0.3636), which are around 0. 3333 (i.e., 1/3) with small up and down fluctuations, so I can deduce that many Chinese listed firms appoint independent directors, not to improve the quality of corporate governance or protect the interests of minority shareholders but to pander to the oversight requirements of China Securities Regulatory Commission (CSRC) (Du 2012).[8] *LNBOARD* has a mean value of 2.2193, meaning an average of nine directors on the corporate board ($e^{2.2193}$). The mean value of *DUAL* is 0.1295, suggesting that the CEO and the chairman of the board are the same person for about 12.95 % of Chinese listed firms. *SIZE* has a mean (median) value of 21.4043 (21.2976), with a standard deviation of 0.9866. The mean (median) value of *LEV* is 46.81 % (50.65 %), suggesting that Chinese listed firms experience a relatively high leverage level during the sample period. *ROS* has a mean value of 0.0445 with a relatively large standard deviation of 0.2344, suggesting the average return on sales is 4.45 % and return on sales varies greatly in different firms. The mean value of *BIG4* is 0.0376, suggesting that only 3.76 % of firms hire a BIG4 auditor. The mean (median) value of *LISTAGE* is 8.2690 (8.0000), with a relatively large standard deviation of 4.0143. The mean value of *STATE* indicates that a central

[8] The China Securities Regulatory Commission (CSRC) mandatorily requires that the ratio of independent directors in all Chinese listed firms must reach 1/3 from July 1, 2003.

local government agency or a government-controlled state-owned enterprise is the ultimate controlling shareholder in about 67.33 % of firm-years in the sample. The variable *FINANCE* has a mean value of 0.2403, meaning that 24.03 % of firm-years are located within 100 km from the nearest city center of the three financial centers (i.e., Beijing, Shanghai, and Shenzhen) and should experience more monitoring intensity. The mean value of *CULTURE* indicates that the distance between a firm and the nearest well-known cultural center is about 325.6 km on average. *CONFUCIAN* has a mean value of 0.4169, suggesting that the distance between a firm-year observation and the nearest well-known Confucianism center is about 416.9 km on average. *GDP_PC* has a mean value of 26.4705 (in thousand *RMB*) with a standard deviation of 17.5463, suggesting that the average province-level GDP *per capita* in China is about 26,470.5 *Yuan* (about $ 4,263) and GDP *per capita* varies greatly in different provinces.

With respect to *Pearson* correlation analysis of the variables presented in Table 3, *TUL* is significantly negatively correlated with *BUD100, BUD200*, and *BUD300* at the 5, 1, and 1 % level, respectively. These results lend preliminary support to Hypothesis 1 and suggest that higher Buddhism intensity *does* mitigate tunneling to a larger extent. *TUL* is also significantly negatively correlated with *ANALYST* at the 1 % level, meaning that analyst coverage can serve as an important mechanism to mitigate tunneling. Those results, taken together, motivate this study to examine the substitutive effects between Buddhism intensity and analyst coverage on mitigating tunneling.

Next, I turn to the Pearson correlation between tunneling (*TUL*) and control variables. I find that *TUL* is significantly negatively correlated with *C/V*, *MANSHR*, *INDR*, *LNBOARD*, *SIZE*, *ROS*, *BIG4*, and *STATE*. Moreover, *TUL* displays significantly positive correlations with *LEV*, *CULTURE*, and *CONFUCIAN*. These results suggest a need to control for these variables when examining the effects of Buddhism intensity on tunneling.

Moreover, as expected, the coefficients of pair-wise correlation among other control variables are generally low, suggesting that multicollearity is not a serious problem when I include the variables in my regression analyses simultaneously.

Empirical Results

Multivariate Test of Hypothesis 1

Hypothesis 1 predicts that Buddhism intensity is negatively associated with tunneling. To test Hypothesis 1, I estimate Eq. (4) to link tunneling and Buddhism intensity, firm-specific variables, industry dummies, and year dummies:

$$\begin{aligned} TUL =& \alpha_0 + \alpha_1 BUD + \alpha_2 C/V + \alpha_3 MANSHR + \alpha_4 INDR \\ &+ \alpha_5 LNBOARD + \alpha_6 DUAL + \alpha_7 SIZE + \alpha_8 LEV \\ &+ \alpha_9 ROS + \alpha_{10} BIG4 + \alpha_{11} LISTAGE + \alpha_{12} STATE \\ &+ \alpha_{13} FINANCE + \alpha_{14} CULTURE + \alpha_{15} CONFUCIAN \\ &+ \alpha_{16} GDP\_PC + (Industry\ Dummies) \\ &+ (Year\ Dummies) + \varepsilon \end{aligned} \quad (4)$$

In Eq. (4), the coefficient on *BUD* captures the influence of Buddhism intensity on tunneling, and a significantly negative coefficient on *BUD* (α_1) means that Hypothesis 1 is supported. Table 4 reports the multivariate regression analysis of Hypothesis 1. All reported *t*-statistics are based on standard errors adjusted for clustering at the firm level and the year level (Petersen 2009; similarly hereinafter).

As shown in Columns (1)–(3) of Table 4, the coefficients on *BUD100*, *BUD200*, and *BUD300* are negative and significant at the 1 % level across all columns (−0.00056 with $t = -2.69$, −0.00035 with $t = -3.93$, and −0.00026 with $t = -4.83$, respectively). These results are consistent with Hypothesis 1 and suggest that Buddhism intensity is significantly negatively associated with tunneling, i.e., higher Buddhism intensity mitigates tunneling to a greater extent. In addition to statistical significance, these coefficient estimates are economically significant. In particular, when *BUD100, BUD200,* and *BUD300* increase by one standard deviation, tunneling (deflated by total assets at the beginning of the year) decreases by about 0.196, 0.258, and 0.321%, respectively. These amounts equal about 4.38, 5.77, and 7.18 % of the mean value of *TUL* (0.0447), respectively.[9] Moreover, the absolute magnitude of the coefficients on *BUD100*, *BUD200*, and *BUD300* tends to decline when the distance criteria are expanded, consistent with findings in Du (2012).

With respect to the control variables in Table 4, my findings reveal the following aspects: (1) *C/V* displays a significantly negative coefficient on *BUD100*, indicating that higher ratio of cash flow right to control right can alleviate tunneling to some extent. (2) The coefficients on *LNBORAD* are significantly negative at the 1 % level in Columns (1)–(3), suggesting that the greater size of board of directors can reduce controlling shareholders' tunneling to a greater

[9] This study re-estimates Eq. (4) using three dummy variables, *DBUD100*, *DBUD200,* and *DBUD300*, equaling to 1 if the number of Buddhist monasteries within a radius of 100, 200, and 300 km around a listed firm's registered address is greater than or equal to 1 and 0 otherwise, respectively. Non-tabulated results show that the coefficients on *DBUD100*, *DBUD200*, and *DBUD300* are negative and significant (−0.00210 with $t = -1.73$, −0.00541 with $t = -2.63$, and −0.00742 with $t = -2.82$, respectively), providing additional support to Hypothesis 1. Moreover, these coefficients on *DBUD100*, *DBUD200*, and *DBUD300* suggest that tunneling will decrease about 0.210, 0.541, and 0.742 % when the number of Buddhist monasteries within a radius of 100, 200, and 300 km around a listed firm's registered address switches from 0 to 1 (or greater than 1), equaling about 4.70, 12.10, and 16.60 % of the mean value of *TUL* (0.0447).

Table 3 Pearson Correlation Matrix

	Variable	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
(1)	TUL	1									
(2)	BUD100	−0.0237	1								
		(0.0168)									
(3)	BUD200	−0.0599	0.7434	1							
		(<.0001)	(<.0001)								
(4)	BUD300	−0.0726	0.6953	0.9231	1						
		(<.0001)	(<.0001)	(<.0001)							
(5)	ANALYST	−0.2807	0.0072	0.0189	0.0251	1					
		(<.0001)	(0.4659)	(0.0572)	(0.0113)						
(6)	C/V	−0.0456	−0.0305	−0.0243	−0.0220	−0.0023	1				
		(<.0001)	(0.0021)	(0.0141)	(0.0267)	(0.8141)					
(7)	MANSHR	−0.0744	0.0277	0.0748	0.0778	0.1689	0.0862	1			
		(<.0001)	(0.0052)	(<.0001)	(<.0001)	(<.0001)	(<.0001)				
(8)	INDR	−0.1391	0.0032	0.0116	0.0129	0.2835	−0.0710	0.0986	1		
		(<.0001)	(0.7437)	(0.2437)	(0.1925)	(<.0001)	(<.0001)	(<.0001)			
(9)	LNBOARD	−0.0510	−0.0116	−0.0247	−0.0178	0.0627	0.0569	−0.0744	−0.1331	1	
		(<.0001)	(0.2441)	(0.0128)	(0.0721)	(<.0001)	(<.0001)	(<.0001)	(<.0001)		
(10)	DUAL	0.0024	−0.0029	0.0169	0.0308	0.0292	−0.0143	0.1321	0.0411	−0.1003	1
		(0.8108)	(0.7684)	(0.0888)	(0.0019)	(0.0033)	(0.1506)	(<.0001)	(<.0001)	(<.0001)	
(11)	SIZE	−0.1749	0.0216	0.0057	0.0168	0.4720	0.0515	−0.1186	0.1344	0.1918	−0.0798
		(<.0001)	(0.0295)	(0.5636)	(0.0897)	(<.0001)	(<.0001)	(<.0001)	(<.0001)	(<.0001)	(<.0001)
(12)	LEV	0.1149	−0.0539	−0.0443	−0.0598	−0.1330	−0.0322	−0.0731	−0.0631	0.0310	−0.0307
		(<.0001)	(<.0001)	(<.0001)	(<.0001)	(<.0001)	(0.0012)	(<.0001)	(<.0001)	(0.0017)	(0.0019)
(13)	ROS	−0.3079	0.0539	0.0546	0.0636	0.2097	0.0455	0.0569	0.0318	0.0469	−0.0096
		(<.0001)	(<.0001)	(<.0001)	(<.0001)	(<.0001)	(<.0001)	(<.0001)	(0.0013)	(<.0001)	(0.3318)
(14)	BIG4	−0.0598	0.1318	0.0992	0.0899	0.1083	−0.0120	−0.0099	0.0435	0.0413	0.0024
		(<.0001)	(<.0001)	(<.0001)	(<.0001)	(<.0001)	(0.2265)	(0.3161)	(<.0001)	(<.0001)	(0.8120)
(15)	LISTAGE	0.0141	0.0672	0.0190	0.0001	0.0780	−0.0761	−0.2620	0.2295	−0.0746	−0.0647
		(0.1545)	(<.0001)	(0.0553)	(0.9947)	(<.0001)	(<.0001)	(<.0001)	(<.0001)	(<.0001)	(<.0001)
(16)	STATE	−0.0199	−0.0391	−0.0745	−0.0707	−0.0774	0.3884	−0.2968	−0.1676	0.1839	−0.1365
		(0.0443)	(0.0001)	(<.0001)	(<.0001)	(<.0001)	(<.0001)	(<.0001)	(<.0001)	(<.0001)	(<.0001)
(17)	FINANCE	−0.0036	0.4436	0.2285	0.2729	0.0468	0.0093	0.0465	0.0093	0.0071	0.0326
		(0.7150)	(<.0001)	(<.0001)	(<.0001)	(<.0001)	(0.3462)	(<.0001)	(0.3501)	(0.4721)	(0.0010)
(18)	CULTURE	0.0303	0.2165	0.1414	0.0809	0.0047	−0.0122	0.0579	−0.0007	−0.0065	−0.0061
		(0.0023)	(<.0001)	(<.0001)	(<.0001)	(0.6379)	(0.2198)	(<.0001)	(0.9426)	(0.5150)	(0.5362)

Table 3 continued

	Variable	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
(19)	CONFUCIAN	0.0655	−0.3888	−0.5225	−0.5164	−0.0389	0.0243	−0.0610	0.0208	0.0137	0.0184
		(<.0001)	(<.0001)	(<.0001)	(<.0001)	(0.0001)	(0.0142)	(<.0001)	(0.0362)	(0.1660)	(0.0640)
(20)	GDP_PC	−0.0004	0.0083	0.0145	0.0053	−0.0106	−0.0032	−0.0150	0.0299	−0.0209	−0.0054
		(0.9707)	(0.3999)	(0.1430)	(0.5942)	(0.2845)	(0.7497)	(0.1299)	(0.0026)	(0.0347)	(0.5845)

	Variable	(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)	(19)	(20)
(11)	SIZE	1									
(12)	LEV	0.0776	1								
		(<.0001)									
(13)	ROS	0.1613	−0.0701	1							
		(<.0001)	(<.0001)								
(14)	BIG4	0.1999	−0.0392	0.0531	1						
		(<.0001)	(0.0001)	(<.0001)							
(15)	LISTAGE	0.2163	−0.0123	−0.0242	−0.0153	1					
		(<.0001)	(0.2147)	(0.0145)	(0.1228)						
(16)	STATE	0.1842	0.0026	0.0089	0.0329	0.0517	1				
		(<.0001)	(0.7911)	(0.3669)	(0.0009)	(<.0001)					
(17)	FINANCE	0.0972	−0.0771	0.0733	0.1503	0.1086	0.0199	1			
		(<.0001)	(<.0001)	(<.0001)	(<.0001)	(<.0001)	(0.0447)				
(18)	CULTURE	0.0219	0.0149	0.0292	0.0333	0.0224	−0.0787	−0.0078	1		
		(0.0274)	(0.1332)	(0.0032)	(0.0008)	(0.0241)	(<.0001)	(0.4287)			
(19)	CONFUCIAN	−0.0035	0.0184	−0.0505	−0.0466	0.0086	0.0363	−0.0278	−0.1085	1	
		(0.7215)	(0.0630)	(<.0001)	(<.0001)	(0.3881)	(0.0003)	(0.0050)	(<.0001)		
(20)	GDP_PC	−0.0101	0.0003	−0.0055	−0.0246	0.0863	0.0083	0.0064	−0.0182	0.0211	1
		(0.3095)	(0.9771)	(0.5761)	(0.0130)	(<.0001)	(0.4042)	(0.5207)	(0.0669)	(0.0331)	

Note *p* value is presented in parentheses. All the variables are defined in Appendix 1

Table 4 Regression results of tunneling on Buddhism intensity and other determinations

Variables	The dependent variable: TUL					
	(1)		(2)		(3)	
	Coefficient	*t*-value	Coefficient	*t*-value	Coefficient	*t*-value
BUD100	−0.00056***	−2.69				
BUD200			−0.00035***	−3.93		
BUD300					−0.00026***	−4.83
C/V	−0.00487*	−1.68	−0.00469	−1.62	−0.00469	−1.62
MANSHR	−0.00325	−0.58	−0.00234	−0.42	−0.00253	−0.46
INDR	−0.01315	−1.06	−0.01351	−1.09	−0.01344	−1.08
LNBOARD	−0.01148***	−3.86	−0.01153***	−3.88	−0.01146***	−3.85
DUAL	0.00113	0.61	0.00127	0.69	0.00140	0.76
SIZE	−0.00495***	−6.69	−0.00492***	−6.65	−0.00486***	−6.57
LEV	0.02198***	8.94	0.02198***	8.94	0.02182***	8.89
ROS	−0.07279***	−11.12	−0.07268***	−11.09	−0.07257***	−11.07
BIG4	−0.00871***	−4.25	−0.00859***	−4.20	−0.00878***	−4.30
LISTAGE	0.00184***	11.01	0.00183***	10.90	0.00181***	10.75
STATE	−0.00559***	−3.41	−0.00571***	−3.48	−0.00577***	−3.52
FINANCE	−0.00105	−0.60	−0.00175	−1.13	−0.00108	−0.69
CULTURE	0.26125***	3.39	0.24541***	3.22	0.22962***	3.05
CONFUCIAN	0.00687***	3.86	0.00531***	2.85	0.00438**	2.30
GDP_PC	−0.00023*	−1.65	−0.00022	−1.58	−0.00022	−1.61
Constant	0.19531***	12.12	0.19657***	12.22	0.19660***	12.23
INDUSTRY	YES		YES		YES	
YEAR	YES		YES		YES	
Number of Obs.	10,170		10,170		10,170	
adj.R^2	23.06 %		23.11 %		23.16 %	
F-value (*p*-value)	39.47***(<.0001)		39.49***(<.0001)		39.56***(<.0001)	

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

extent. (3) The coefficients on *SIZE* are negative and significant at the 1 % level across all cases, meaning that firm size is negatively associated with tunneling. (4) *LEV* displays significantly positive coefficients at the 1 % level in Columns (1)–(3), suggesting a catalytic effect of debts on tunneling. (5) The coefficients on *ROS* are negatively significant at the 1 % level across all columns, suggesting that better profitability can decrease tunneling. (6) The coefficients on *BIG4* are negative and significant at the 1 % level in Columns (1)–(3), implying that hiring a BIG4 auditor to audit annual financial reporting can alleviate tunneling more than hiring a non-BIG4 auditor. (7) The coefficients on *LISTAGE* are significantly positive at the 1 % level in Columns (1)–(3), suggesting that tunneling is more prevalent in older firms. (8) The coefficients on *STATE* are negative and significant at the 1 % level across all columns, indicating that tunneling is significantly higher for non-state-owned enterprises than for state-owned enterprises. (9) *CULTURE*, the inverse proxy for business culture, displays significantly positive coefficients in all columns, meaning that worse (better) business culture can increase (reduce) tunneling to some extent. (10) The coefficients on *CONFUCIAN*, the inverse proxy for Confucianism, are significantly positive across all cases, revealing that weaker (stronger) Confucianism intensity can aggravate (mitigate) tunneling. These results lend strong support that Confucianism, a system of social and ethical philosophy with major influence in China, can play an important role in alleviating tunneling in the Chinese stock market. (11) The coefficient on *GDP_PC* is negative and significant at the 10 % level in Column (1), suggesting that tunneling is significantly less extensive for listed firms located in provinces with faster regional development than their counterparts. (12) Except for the aforementioned variables, I find no others that significantly influence tunneling.

Multivariate Test of Hypothesis 2

Hypothesis 2 predicts that the negative association between Buddhism intensity and tunneling is attenuated for firms with high analyst coverage. To test Hypothesis 2, I introduce analyst

coverage (*ANALYST*, measured as "log (1 + the number of analysts following)") and the interaction between Buddhism and analyst coverage (i.e., *BUD* × *ANALYST*) into Eq. (5) to examine their interactive effects on mitigating tunneling.

$$\begin{aligned} TUL = {} & \beta_0 + \beta_1 BUD + \beta_2 BUD \times ANALYST + \beta_3 ANALYST \\ & + \beta_4 C/V + \beta_5 MANSHR + \beta_6 INDR + \beta_7 LNBOARD \\ & + \beta_8 DUAL + \beta_9 SIZE + \beta_{10} LEV + \beta_{11} ROS + \beta_{12} BIG4 \\ & + \beta_{13} LISTAGE + \beta_{14} STATE + \beta_{15} FINANCE \\ & + \beta_{16} CULTURE + \beta_{17} CONFUCIAN + \beta_{18} GDP\_PC \\ & + (Industry\,Dummies) + (Year\,Dummies) + \zeta \end{aligned} \quad (5)$$

In Eq. (5), if the coefficient on *BUD* × *ANALYST* is positive and significant ($\beta_2 > 0$), Hypothesis 2 is supported by empirical evidence. Moreover, significantly negative coefficients on *BUD* and *ANALYST* (β_1 and β_3) are consistent with Hypothesis 1 and theoretical expectation. Table 5 reports multivariate results of Hypothesis 2.

As shown in Columns (1)–(3) of Table 5, the coefficients on *BUD100*, *BUD200*, and *BUD300* are negative and significant at the 1 % level across all columns (−0.00080 with $t = -2.80$, −0.00053 with $t = -4.21$, and −0.00040 with $t = -5.17$, respectively), lending additional support to Hypothesis 1. Moreover, the absolute magnitude of the coefficients on *BUD100*, *BUD200*, and *BUD300* displays a declining tendency when the distance criteria are expanded, consistent with those in Table 4 and findings in Du (2012). Without regard to the influence of analyst coverage, these coefficients imply that when *BUD100, BUD200,* and *BUD300* increase by one standard deviation, tunneling

Table 5 Regression results of tunneling on Buddhism intensity, analyst coverage, and other determinations

Variables	The dependent variable: TUL					
	(1)		(2)		(3)	
	Coefficients	*t*-value	Coefficients	*t*-value	Coefficients	*t*-value
BUD100	−0.00080***	−2.80				
BUD200			−0.00053***	−4.21		
BUD300					−0.00040***	−5.17
BUD100 × ANALYST	0.00025*	1.91				
BUD200 × ANALYST			0.00018***	3.06		
BUD300 × ANALYST					0.00013***	3.76
ANALYST	−0.00299***	−3.73	−0.00368***	−4.22	−0.00422***	−4.70
C/V	−0.00496*	−1.71	−0.00469	−1.62	−0.00474	−1.64
MANSHR	−0.00157	−0.28	−0.00072	−0.13	−0.00097	−0.18
INDR	−0.01294	−1.04	−0.01305	−1.05	−0.01283	−1.04
LNBOARD	−0.01104***	−3.71	−0.01109***	−3.72	−0.01101***	−3.70
DUAL	0.00121	0.65	0.00139	0.75	0.00150	0.81
SIZE	−0.00403***	−4.58	−0.00397***	−4.51	−0.00389***	−4.42
LEV	0.02154***	8.77	0.02158***	8.79	0.02152***	8.77
ROS	−0.07185***	−10.88	−0.07154***	−10.82	−0.07132***	−10.78
BIG4	−0.00870***	−4.32	−0.00852***	−4.23	−0.00868***	−4.31
LISTAGE	0.00175***	10.10	0.00175***	10.03	0.00172***	9.84
STATE	−0.00568***	−3.45	−0.00573***	−3.48	−0.00575***	−3.50
FINANCE	−0.00088	−0.50	−0.00143	−0.91	−0.00070	−0.45
CULTURE	0.26257***	3.38	0.24664***	3.21	0.23188***	3.05
CONFUCIAN	0.00663***	3.73	0.00490***	2.63	0.00391**	2.05
GDP_PC	−0.00023*	−1.65	−0.00022	−1.58	−0.00022	−1.58
Constant	0.17695***	9.42	0.17812***	9.54	0.17824***	9.54
INDUSTRY	YES		YES		YES	
YEAR	YES		YES		YES	
Number of Obs.	10,170		10,170		10,170	
adj.R^2	23.12 %		23.20 %		23.28 %	
F-value (*p*-value)	41.65*** (<.0001)		41.30*** (<.0001)		41.39*** (<.0001)	

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

decreases by about 0.280, 0.390, and 0.494 %, respectively. Furthermore, these amounts equal about 6.26, 8.72, and 11.05 % of the mean value of *TUL*, respectively, which are economically significant.

More important, the coefficients on *BUD100* × *ANALYST*, *BUD200* × *ANALYST*, and *BUD300* × *ANALYST* are significantly positive across all cases (0.00025 with $t = 1.91$, 0.00018 with $t = 3.06$, and 0.00013 with $t = 3.76$, respectively), indicating that the negative association between Buddhism intensity and tunneling is attenuated for firms with high analyst coverage. This finding is consistent with Hypothesis 2 and suggests the substitutive effects between Buddhism and analyst coverage on mitigating tunneling. Moreover, considering the factor of analyst coverage, these coefficients imply that when *BUD100, BUD200,* and *BUD300* increase by one standard deviation, tunneling decreases by about 0.192, 0.258, and 0.333 %, equaling about 4.30, 5.77, and 7.45 % of the mean value of *TUL*. Obviously, these amounts are economically significant.

As expectation, the variable of *ANALYST* has significantly negative coefficients across all cases (−0.00299 with $t = -3.73$, −0.00368 with $t = -4.22$, and −0.00422 with $t = -4.70$, respectively), accompanying with an increasing tendency on the absolute magnitude of their coefficients. In addition, when *ANALYST* increases by one standard deviation in Columns (1)–(3), these coefficients suggest that tunneling decreases by about 0.324, 0.340, and 0.458 %, equaling about 7.25, 7.61, and 10.25 % of the mean value of *TUL*, respectively. Also, these results are economically significant.

With respect to control variables, their signs and significances are qualitatively similar to those in Table 4. *TUL* is significantly negatively (positively) associated with *C/V*, *LNBOARD*, *SIZE*, *ROS*, *BIG4*, *STATE*, and *GDP_PC* (*LEV*, *LISTAGE*, *CULTURE*, and *CONFUCIAN*).

Further Tests Using Other Buddhism Variables Based on Different Distance Criteria

In Tables 4 and 5, I test Hypotheses 1 and 2 using three Buddhism variables, i.e., *BUD100*, *BUD200*, and *BUD300*. Next, I re-estimate Eqs. (4) and (5) and further test Hypotheses 1 and 2 using other Buddhism variables based on various distance criteria. In particular, to further ensure robust results of Hypotheses 1 and 2, I tighten or relax the distance criteria and use the same procedure to define different Buddhism variables: (1) 120, 140, 160, 180, 220, 240, 260, and 280 km, which are in 20 km intervals; (2) 150 km and 250 km which are in 50 km intervals. Table 6 reports results of main variables using above Buddhism variables based on different distance criteria for brevity.

As shown in Columns (1)–(10) of Panel A, the coefficients on *BUD_R* are negative and significant across all columns, additionally supporting Hypothesis 1. Moreover, results in Columns (1)–(10) of Panel B show that the coefficients on *BUD* × *ANALYST* in Columns (3)−(10) are significantly positive but those in Columns (1) and (2) are insignificantly positive. These results, overall, lend additional support to Hypothesis 2, suggesting that high analyst coverage attenuates the negative association between Buddhism intensity and tunneling.

Further Tests Using Province-Level Buddhism Variables

Next, I re-estimate Eqs. (4) and (5) using province-level Buddhism variables (*BUD_PRO*) to provide additional evidence for Hypotheses 1 and 2. *BUD_PRO*, similar to county-/region-level religion variables in extant studies (e.g., Barro and McCleary 2003; Hilary and Hui 2009; McGuire et al. 2012; etc.), is measured as the number of Buddhist monasteries in each Chinese province.

As shown in Column (1) of Table 7, the coefficient on *BUD_PRO* is negative and significant at the 1 % level (−0.00040 with $t = -3.72$). This result is consistent with Hypothesis 1 and suggests that province-level Buddhism intensity is significantly negatively associated with tunneling.

In Column (2), the coefficient on *BUD_PRO* is negative and significant at the 1 % level (−0.00067 with $t = -4.47$), additionally supporting Hypothesis 1. More importantly, the coefficient on *BUD_PRO* × *ANALYST* is positive and significant at the 1 % level (0.00028 with $t = 3.93$), suggesting that the negative association between province-level Buddhism intensity and tunneling is attenuated for firms with high analyst coverage. This result again supports Hypothesis 2. Moreover, the coefficient on *ANALYST* is significantly negative at the 1 % level (−0.00418 with $t = -4.62$), meaning that analyst coverage can reduce tunneling, consistent with those findings in Table 5.

Discussion on the Potential Endogeneity Between Tunneling and Buddhism

Using Change Models to Control for the Potential Endogeneity Between Tunneling and Buddhism

Hilary and Hui (2009) address the concerns about the potential endogeneity between religion and corporate behavior (i.e., the direction of causality). In addition, extant studies argue that firms' locations or registered addresses are always likely exogenous and motivated by tax purposes, labor costs, production inputs, customers, and suppliers (Loughran and Schultz 2005; Loughran 2007; John

Table 6 Further tests using other Buddhism variables based on different distance criteria

Variables	The dependent variable: TUL									
	Section A: 20 km intervals								Section B: 50 km intervals	
	(1) $R = 120$ km	(2) $R = 140$ km	(3) $R = 160$ km	(4) $R = 180$ km	(5) $R = 220$ km	(6) $R = 240$ km	(7) $R = 260$ km	(8) $R = 280$ km	(9) $R = 150$ km	(10) $R = 250$ km
Panel A: regression results of tunneling on Buddhism intensity and other determinations using other Buddhism variables based on different distance criteria										
BUD_R	−0.00054***	−0.00026*	−0.00048***	−0.00042***	−0.00031***	−0.00027***	−0.00024***	−0.00022***	−0.00028**	−0.00025***
	(−2.94)	(−1.69)	(−4.07)	(−4.39)	(−3.94)	(−4.08)	(−3.79)	(−3.81)	(−1.97)	(−4.01)
Control variables	Control	Control	Control	Control	Control	Control	Control	Control	Control	Control
Constant	0.19516***	0.19429***	0.19682***	0.19712***	0.19661***	0.19693***	0.19599***	0.19577***	0.19486***	0.19709***
	(12.15)	(12.09)	(12.22)	(12.23)	(12.22)	(12.23)	(12.17)	(12.19)	(12.11)	(12.24)
INDUSTRY/YEAR	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES
Number of Obs.	10,170	10,170	10,170	10,170	10,170	10,170	10,170	10,170	10,170	10,170
adj.R^2	23.08 %	23.03 %	23.12 %	23.13 %	23.11 %	23.12 %	23.11 %	23.11 %	23.04 %	23.12 %
F-(p-value)	39.49***	39.44***	39.46***	39.45***	39.48***	39.44***	39.51***	39.56***	39.44***	39.46***
	(<.0001)	(<.0001)	(<.0001)	(<.0001)	(<.0001)	(<.0001)	(<.0001)	(<.0001)	(<.0001)	(<.0001)
Panel B: regression results of tunneling on Buddhism intensity, analyst coverage and other determinations using other Buddhism variables based on different distance criteria										
BUD_R	−0.00073***	−0.00039*	−0.00072***	−0.00062***	−0.00047***	−0.00042***	−0.00036***	−0.00034***	−0.00044**	−0.00040***
	(−2.86)	(−1.75)	(−4.36)	(−4.60)	(−4.18)	(−4.52)	(−4.00)	(−4.08)	(−2.24)	(−4.41)
BUD × ANALYST	0.00019	0.00012	0.00024***	0.00020***	0.00016***	0.00016***	0.00012***	0.00011***	0.00016*	0.00014***
	(1.64)	(1.13)	(3.04)	(3.16)	(3.03)	(3.58)	(2.91)	(3.04)	(1.71)	(3.46)
ANALYST	−0.00298***	−0.00276***	−0.00368***	−0.00368***	−0.00368***	−0.00387***	−0.00366***	−0.00378***	−0.00305***	−0.00385***
	(−3.54)	(−3.17)	(−4.28)	(−4.27)	(−4.20)	(−4.50)	(−4.22)	(−4.26)	(−3.50)	(−4.44)
Control variables	Control	Control	Control	Control	Control	Control	Control	Control	Control	Control
Constant	0.17616***	0.17517***	0.17851***	0.17898***	0.17812***	0.17846***	0.17706***	0.17736***	0.17598***	0.17829***
	(9.42)	(9.38)	(9.55)	(9.57)	(9.53)	(9.55)	(9.46)	(9.50)	(9.42)	(9.55)
INDUSTRY/YEAR	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES
Number of Obs.	10,170	10,170	10,170	10,170	10,170	10,170	10,170	10,170	10,170	10,170
adj.R^2	23.13 %	23.08 %	23.20 %	23.21 %	23.20 %	23.22 %	23.19 %	23.20 %	23.10 %	23.22 %
F-(*p*-) value	41.50***	41.44***	41.30***	41.23***	41.27***	41.20***	41.22***	41.31***	41.39***	41.19***
	(<.0001)	(<.0001)	(<.0001)	(<.0001)	(<.0001)	(<.0001)	(<.0001)	(<.0001)	(<.0001)	(<.0001)

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

Table 7 Robustness checks of tunneling on province-level Buddhism intensity, analyst coverage, and other determinations

Variables	The dependent variable: TUL			
	(1)		(2)	
	Coefficient	*t*-value	Coefficient	*t*-value
BUD_PRO	−0.00040***	−3.72	−0.00067***	−4.47
BUD_PRO × ANALYST			0.00028***	3.93
ANALYST			−0.00418***	−4.62
C/V	−0.00495*	−1.71	−0.00481*	−1.67
MANSHR	−0.00052	−0.09	0.00076	0.14
INDR	−0.01308	−1.05	−0.01293	−1.05
LNBOARD	−0.01096***	−3.67	−0.01076***	−3.60
DUAL	0.00127	0.69	0.00124	0.67
SIZE	−0.00498***	−6.72	−0.00395***	−4.47
LEV	0.02207***	8.97	0.02164***	8.79
ROS	−0.07270***	−11.10	−0.07176***	−10.87
BIG4	−0.00947***	−4.66	−0.00877***	−4.34
LISTAGE	0.00179***	10.70	0.00170***	9.78
STATE	−0.00597***	−3.63	−0.00591***	−3.59
FINANCE	−0.00518***	−3.11	−0.00501***	−3.00
CULTURE	0.26078***	3.37	0.25722***	3.30
CONFUCIAN	0.00655***	3.63	0.00635***	3.52
GDP_PC	−0.00024*	−1.74	−0.00023*	−1.70
Constant	0.19757***	12.20	0.17824***	9.46
INDUSTRY	YES		YES	
YEAR	YES		YES	
Number of Obs.	10,170		10,170	
adj.R^2	23.10 %		23.22 %	
F-value (*p*-value)	39.38*** (<.0001)		40.93*** (<.0001)	

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

et al. 2011; El Ghoul et al. 2012b). However, in my study, the registered address is exogenous rather than motivated by tunneling. Therefore, the direction of causality or endogeneity between Buddhism intensity and tunneling is not a major threat. Nevertheless, I still re-estimate Eqs. (4) and (5) using change models to control for the potential endogeneity between tunneling and Buddhism intensity. Specifically, I reconstruct my sample including: (1) those that move from low-Buddhism-intensity locations to high-Buddhism-intensity locations; (2) those that move from high-Buddhism-intensity locations to low-Buddhism-intensity locations; and (3) those that do not change locations. In doing so, I can alleviate the potential endogeneity or the reverse causality between Buddhism and tunneling.

First, I refer to El Ghoul et al. (2012a) and conduct *t*-tests to capture the changes in tunneling for relocating firms. Similarly, following El Ghoul et al. (2012a), the base year to calculate the difference in *TUL* is year "−1." Results in Panel A-1 of Table 8 show that tunneling is significantly lower for firms moving to locations that have increasing Buddhism intensity in year $t + 2$, $t + 3$,…, $t + 6$. However, results in Panel A-2 show that tunneling does not become significantly higher (even insignificantly lower) for decreasing Buddhism intensity on the whole.[10]

Second, Columns (1)–(5) of Panel B in Table 8 report regression results of Hypothesis 1 using the change model. ΔTUL is the change of the amount of tunneling, measured as "the change of other receivables deflated by total assets at the beginning of the year." ΔBUD_DIS_N is measured as "the average distance between the new registered address of a listed firm and the nearest N Buddhist monasteries"—"the average distance between the original registered address of a listed firm and the nearest N Buddhist monasteries" ($N = 1, 2, 3, 4, 5$). Therefore, ΔBUD_DIS_N is the inverse proxy for the change of Buddhism intensity.

As Columns (1)–(5) show, the coefficients on ΔBUD_DIS_N are positive and significant across all model

[10] These findings suggest the (quasi-) stickiness of Buddhism's influence on mitigating tunneling or the asymmetric influence between increased Buddhism intensity and decreased Buddhism intensity on the range of variation in tunneling (See Anderson et al. (2003) and Kama and Weiss (2013) for the definition of "stickiness"). I believe that this finding is interesting and worthy of further study.

Table 8 Regression results using change models to control the potential endogeneity between tunneling and Buddhism intensity

Panel A: mean value differences applied for firm-years that change their locations

Year relative to relocation year	(1): △BUD_DIS_1		(2): △BUD_DIS_2		(3): △BUD_DIS_3		(4): △BUD_DIS_4		(5): △BUD_DIS_5	
	Mean	*t*-test	Mean	*t*-test	Mean	*t*-test	Mean	*t*-test	Mean	*t*-test
Panel A-1: mean value differences applied for firm-years that move to high-Buddhism-intensity locations										
$t = -1$	0.0553		0.0538		0.0550		0.0532		0.0520	
$t = 1$	0.0539	−0.19	0.0524	−0.20	0.0521	−0.42	0.0512	−0.28	0.0514	−0.09
$t = 2$	0.0409	−2.21**	0.0412	−2.00**	0.0428	−1.96*	0.0427	−1.67*	0.0420	−1.64
$t = 3$	0.0410	−2.01**	0.0412	−1.85*	0.0412	−2.05**	0.0425	−1.55	0.0407	−1.71*
$t = 4$	0.0343	−3.18***	0.0345	−3.08***	0.0348	−3.24***	0.0346	−2.94***	0.0337	−3.00***
$t = 5$	0.0342	−3.18***	0.0362	−2.57**	0.0358	−2.86***	0.0347	−2.73***	0.0356	−2.48**
Panel A-2: mean value differences applied for firm-years that move to low-Buddhism-intensity locations										
$t = -1$	0.0396		0.0410		0.0403		0.0420		0.0427	
$t = 1$	0.0387	−0.20	0.0395	−0.27	0.0398	−0.09	0.0406	−0.25	0.0409	−0.32
$t = 2$	0.0411	0.29	0.0405	−0.09	0.0393	−0.18	0.0392	−0.51	0.0402	−0.46
$t = 3$	0.0375	−0.39	0.0363	−0.82	0.0364	−0.69	0.0354	−1.17	0.0372	−0.95
$t = 4$	0.0341	−0.97	0.0337	−1.21	0.0336	−1.11	0.0344	−1.28	0.0348	−1.29
$t = 5$	0.0339	−0.86	0.0312	−1.53	0.0313	−1.37	0.0328	−1.42	0.0317	−1.67*

Panel B: regression results of Hypotheses 1 and 2 using change models

Variable	The dependent variable: ΔTUL									
	Section A: Hypothesis 1					Section B: Hypothesis 2				
	(1) $N = 1$ Coefficient (*t*-value)	(2) $N = 2$ Coefficient (*t*-value)	(3) $N = 3$ Coefficient (*t*-value)	(4) $N = 4$ Coefficient (*t*-value)	(5) $N = 5$ Coefficient (*t*-value)	(6) $N = 1$ Coefficient (*t*-value)	(7) $N = 2$ Coefficient (*t*-value)	(8) $N = 3$ Coefficient (*t*-value)	(9) $N = 4$ Coefficient (*t*-value)	(10) $N = 5$ Coefficient (*t*-value)
ΔBUD_DIS_N	0.00013**	0.00012*	0.00014**	0.00014**	0.00016**	0.00022***	0.00020***	0.00023***	0.00023***	0.00023***
	(1.98)	(1.90)	(2.16)	(2.29)	(2.44)	(2.68)	(2.59)	(2.86)	(2.94)	(3.04)
ΔBUD_DIS_N						−0.00010*	−0.00009*	−0.00010*	−0.00009*	−0.00009*
×ANALYST						(−1.83)	(−1.78)	(−1.90)	(−1.86)	(−1.83)
ANALYST						−0.00056	−0.00057	−0.00058	−0.00058	−0.00059
						(−0.58)	(−0.59)	(−0.59)	(−0.60)	(−0.60)
ΔC/V	−0.00640	−0.00637	−0.00633	−0.00633	−0.00631	−0.00651	−0.00653	−0.00650	−0.00651	−0.00650
	(−1.34)	(−1.33)	(−1.33)	(−1.32)	(−1.32)	(−1.36)	(−1.37)	(−1.36)	(−1.36)	(−1.36)
ΔMANSHR	−0.00871	−0.00871	−0.00868	−0.00869	−0.00870	−0.00838	−0.00837	−0.00835	−0.00834	−0.00835
	(−0.54)	(−0.54)	(−0.53)	(−0.53)	(−0.54)	(−0.52)	(−0.51)	(−0.51)	(−0.51)	(−0.51)
ΔINDR	−0.01564	−0.01565	−0.01565	−0.01568	−0.01570	−0.01530	−0.01523	−0.01517	−0.01523	−0.01527
	(−1.48)	(−1.48)	(−1.48)	(−1.48)	(−1.48)	(−1.45)	(−1.44)	(−1.43)	(−1.44)	(−1.44)
ΔLNBOARD	0.00236	0.00233	0.00234	0.00237	0.00238	0.00236	0.00233	0.00234	0.00237	0.00238
	(0.54)	(0.53)	(0.53)	(0.54)	(0.54)	(0.54)	(0.53)	(0.53)	(0.54)	(0.54)

Table 8 continued

Panel B: regression results of Hypotheses 1 and 2 using change models

Variable	The dependent variable: ΔTUL									
	Section A: Hypothesis 1					Section B: Hypothesis 2				
	(1) $N = 1$ Coefficient(*t*-value)	(2) $N = 2$ Coefficient(*t*-value)	(3) $N = 3$ Coefficient(*t*-value)	(4) $N = 4$ Coefficient(*t*-value)	(5) $N = 5$ Coefficient(*t*-value)	(6) $N = 1$ Coefficient(*t*-value)	(7) $N = 2$ Coefficient(*t*-value)	(8) $N = 3$ Coefficient(*t*-value)	(9) $N = 4$ Coefficient(*t*-value)	(10) $N = 5$ Coefficient(*t*-value)
ΔDUAL	0.00219	0.00219	0.00219	0.00218	0.00219	0.00209	0.00208	0.00207	0.00206	0.00207
	(0.92)	(0.92)	(0.93)	(0.92)	(0.92)	(0.88)	(0.88)	(0.87)	(0.87)	(0.87)
ΔSIZE	0.03587***	0.03581***	0.03571***	0.03568***	0.03564***	0.03607***	0.03601***	0.03590***	0.03587***	0.03583***
	(13.97)	(13.94)	(13.89)	(13.88)	(13.86)	(13.94)	(13.92)	(13.87)	(13.86)	(13.84)
ΔLEV	0.00701*	0.00704*	0.00706*	0.00708*	0.00710*	0.00690*	0.00690*	0.00690*	0.00691*	0.00691*
	(1.72)	(1.72)	(1.73)	(1.73)	(1.74)	(1.69)	(1.69)	(1.69)	(1.69)	(1.69)
ΔROS	−0.01355***	−0.01355***	−0.01354***	−0.01353***	−0.01354***	−0.01356***	−0.01357***	−0.01356***	−0.01355***	−0.01355***
	(−5.04)	(−5.04)	(−5.04)	(−5.04)	(−5.04)	(−5.05)	(−5.05)	(−5.05)	(−5.04)	(−5.04)
ΔBIG4	−0.00392	−0.00394	−0.00402	−0.00400	−0.00399	−0.00344	−0.00339	−0.00340	−0.00340	−0.00340
	(−0.81)	(−0.82)	(−0.83)	(−0.83)	(−0.83)	(−0.71)	(−0.70)	(−0.70)	(−0.70)	(−0.70)
ΔSTATE	−0.00791***	−0.00789***	−0.00787***	−0.00787***	−0.00786***	−0.00787***	−0.00784***	−0.00780***	−0.00779***	−0.00777***
	(−2.83)	(−2.83)	(−2.82)	(−2.82)	(−2.81)	(−2.82)	(−2.81)	(−2.79)	(−2.79)	(−2.78)
ΔFINANCE	0.00522	0.00568	0.00890	0.01095	0.01370	0.00666	0.00730	0.01201	0.01449	0.01750
	(0.47)	(0.51)	(0.78)	(0.94)	(1.14)	(0.60)	(0.65)	(1.04)	(1.22)	(1.43)
ΔCULTURE	0.31097	0.31041	0.31328	0.32338	0.32353	0.33973	0.33381	0.32971	0.33402	0.32675
	(0.55)	(0.55)	(0.56)	(0.58)	(0.58)	(0.60)	(0.59)	(0.59)	(0.59)	(0.58)
ΔCONFUCIAN	−0.01334	−0.01556	−0.02184	−0.02737	−0.03445	−0.01217	−0.01564	−0.02296	−0.02831	−0.03528
	−(0.59)	(−0.68)	(−0.92)	(−1.11)	(−1.34)	(−0.54)	(−0.68)	(−0.97)	(−1.15)	(−1.37)
ΔGDP_PC	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
	(1.12)	(1.13)	(1.14)	(1.15)	(1.17)	(1.14)	(1.16)	(1.17)	(1.19)	(1.21)
Constant	−0.01409	−0.01412	−0.01413	−0.01419	−0.01425	−0.01262	−0.01267	−0.01271	−0.01278	−0.01285
	(−0.40)	(−0.40)	(−0.40)	(−0.41)	(−0.41)	(−0.36)	(−0.36)	(−0.36)	(−0.37)	(−0.37)
FIRM	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES
YEAR	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES
Number of Obs.	8,539	8,539	8,539	8,539	8,539	8,539	8,539	8,539	8,539	8,539
R^2	15.38 %	15.38 %	15.39 %	15.39 %	15.40 %	15.42 %	15.42 %	15.44 %	15.44 %	15.45 %
F-value (*p*-value)	2.89***	2.89***	2.89***	2.89***	2.89***	2.89***	2.89***	2.89***	2.89***	2.90***
	(<.0001)	(<.0001)	(<.0001)	(<.0001)	(<.0001)	(<.0001)	(<.0001)	(<.0001)	(<.0001)	(<.0001)

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

specifications (0.00013 with $t = 1.98$, 0.00012 with $t = 1.90$, 0.00014 with $t = 2.16$, 0.00014 with $t = 2.29$, and 0.00016 with $t = 2.44$, respectively), suggesting that tunneling becomes significantly higher when a firm moves from a location of high Buddhism intensity to a location of low Buddhism intensity. In particular, tunneling increases by about 0.013, 0.012, 0.014, 0.014, and 0.016 % when the average distance increases by one kilometer between a listed firms' relocation and the nearest N ($N = 1, 2,\ldots, 5$) Buddhist monasteries, respectively.

Finally, as shown in Columns (6)–(10) of Panel B in Table 8, the coefficients on ΔBUD_DIS_N are significantly positive across all columns, providing additional support to Hypothesis 1. In addition, the coefficients on $\Delta BUD\_DIS\_N \times ANALYST$ are negative and significant across all model specifications (-0.00010 with $t = -1.83$, -0.00009 with $t = -1.78$, -0.00010 with $t = -1.90$, -0.00009 with $t = -1.86$, and -0.00009 with $t = -1.83$, respectively), providing additional support to Hypothesis 2. Taken together, these results suggest that relocating from high Buddhism intensity location to low Buddhism intensity location increases tunneling, but the tunneling-decreasing effect is attenuated for firms with high analyst coverage.

Using Other Procedures to Control for the Potential Endogeneity Between Tunneling and Buddhism

In addition to the change models in Table 8, I also conduct two other procedures to address the concerns about the potential endogeneity between Buddhism intensity and tunneling.[11]

(1) Following El Ghoul et al. (2012b), I re-estimate Eqs. (4) and (5) using firm-year observations before the start of my sample period (i.e., 2001). Non-tabulated results are qualitatively similar to those in Tables 4 and 5.

(2) Extant studies argue that listed firms in some industries display particularly pronounced tendencies to locate in areas reflecting the nature of their production process. Following Du (2012), Du et al. (2013a), El Ghoul et al. (2012b), Loughran and Schultz (2005), and John et al. (2011), I reduce the full sample to agriculture, mining, construction, transportation, warehousing, information technology, wholesale and retail, and production and supply of electricity, steam, and tap water,[12] and then re-estimate Eqs. (4) and (5) to alleviate the potential endogeneity address between Buddhism intensity and tunneling. Non-tabulated results are qualitatively similar to those in Tables 4 and 5.

Additional Tests

Additional Test Using Subsamples Divided by the Nature of Ultimate Owners

To examine whether Buddhism asymmetrically influences state-owned enterprises (SOEs) and non-state-owned enterprises (non-SOEs), I divide my sample into the SOE subsample and the non-SOE subsample to re-estimate Eqs. (4) and (5). Table 9 reports the results of Hypotheses 1 and 2.

As shown in Columns (1a)–(1c) and (2a)–(2c) of Table 9, the coefficients on *BUD100*, *BUD200*, and *BUD300* are negative and significant in all columns except for (2a). Those results suggest that Hypothesis 1, which predicts that Buddhism intensity is negatively associated with tunneling, is valid for both SOEs and non-SOEs on the whole. Furthermore, I conduct Chow (1960) test and *t* test to investigate the differences between the two sub-samples and the coefficients' differences on *BUD100*, *BUD200*, and *BUD300*, respectively. As shown in the last row, the differences between the SOE subsample and the non-SOE subsample are significant in all cases, suggesting the rationality of conducting subsamples tests. Moreover, results in the second row from the bottom show that coefficients' differences on *BUD200* and *BUD300* are significantly positive, but insignificantly positive for *BUD100*. Overall, these results mean that the negative association between Buddhism and tunneling is more pronounced for the non-SOE subsample than for the SOE subsample.

As shown in Columns (3a)–(3c) and (4a)–(4c) of Table 9, the coefficients on *BUD100* × *ANALYST*, *BUD200* × *ANALYST* and *BUD300* × *ANALYST* in the non-SOE subsample are significantly positive across all columns (0.00043 with $t = 1.72$, 0.00025 with $t = 2.53$, and 0.00019 with $t = 3.44$, respectively). However, in the SOE subsample, only the coefficient on *BUD300* × *ANALYST* is significantly positive at the 10 % level. Overall, these results suggest that Buddhism and analyst coverage have more pronounced interactive effects in mitigating tunneling for the non-SOE subsample than for the SOE subsample. Chow (1960) test reveals that there are significant differences in sub-samples. The *t* test also suggests that differences in the coefficients on *BUD100* × *ANALYST*, *BUD200* × *ANALYST* and *BUD300* × *ANALYST* between two sub-samples are significantly negative on the whole.

Why do differences exist between the SOE subsample and the non-SOE subsample? I offer the following potential

[11] The non-tabulated results for the robustness checks are available from the author upon request (similarly hereinafter).

[12] Note that the industry of information technology is not in the list of El Ghoul et al. (2012b), Loughran and Schultz (2005), and John et al. (2011). However, under the context of China, firms in the industry of information technology are inclined to locate in some cities or provinces such as Beijing, Shanghai, Shenzhen, etc. These selected industries are similar to Du (2012) and Du et al (2013a).

Table 9 Regression results using subsamples according to the nature of the ultimate owners

Variables	The dependent variable: TUL											
	Section A: Hypothesis 1						Section B: Hypothesis 2					
	(1)			(2)			(3)			(4)		
	The state-owned enterprises subsample			The non-state-owned enterprises subsample			The state-owned enterprises subsample			The non-state-owned enterprises subsample		
	(1a) $R = 100$ Coefficient (*t*-value)	(1b) $R = 200$ Coefficient (*t*-value)	(1c) $R = 300$ Coefficient (*t*-value)	(2a) $R = 100$ Coefficient (*t*-value)	(2b) $R = 200$ Coefficient (*t*-value)	(2c) $R = 300$ Coefficient (*t*-value)	(3a) $R = 100$ Coefficient (*t*-value)	(3b) $R = 200$ Coefficient (*t*-value)	(3c) $R = 300$ Coefficient (*t*-value)	(4a) $R = 100$ Coefficient (*t*-value)	(4b) $R = 200$ Coefficient (*t*-value)	(4c) $R = 300$ Coefficient (*t*-value)
BUD_R	−0.00050*	−0.00024**	−0.00019***	−0.00055	−0.00042***	−0.00030***	−0.00063*	−0.00035**	−0.00027***	−0.00102*	−0.00071***	−0.00052***
	(−1.88)	(−2.06)	(−2.58)	(−1.49)	(−2.79)	(−3.46)	(−1.86)	(−2.33)	(−2.81)	(−1.81)	(−3.09)	(−4.02)
BUD_R × ANALYST							0.00011	0.00012	0.00008*	0.00043*	0.00025**	0.00019***
							(0.73)	(1.53)	(1.74)	(1.72)	(2.53)	(3.44)
ANALYST							−0.00395***	−0.00451***	−0.00478***	−0.00088	−0.00169	−0.00267
							(−4.14)	(−4.34)	(−4.43)	(−0.59)	(−1.05)	(−1.63)
C/V	−0.00545	−0.00532	−0.00513	−0.00470	−0.00480	−0.00510	−0.00591	−0.00573	−0.00559	−0.00479	−0.00476	−0.00499
	(−1.43)	(−1.40)	(−1.35)	(−1.04)	(−1.07)	(−1.13)	(−1.55)	(−1.50)	(−1.47)	(−1.06)	(−1.06)	(−1.11)
MANSHR	−0.02889	−0.02926	−0.03001	−0.00221	−0.00171	−0.00199	−0.01449	−0.01376	−0.01448	−0.00288	−0.00195	−0.00238
	(−0.80)	(−0.81)	(−0.84)	(−0.34)	(−0.27)	(−0.31)	(−0.40)	(−0.38)	(−0.40)	(−0.45)	(−0.31)	(−0.38)
INDR	−0.01579	−0.01618	−0.01628	−0.01721	−0.01716	−0.01662	−0.01595	−0.01619	−0.01628	−0.01643	−0.01627	−0.01515
	(−1.09)	(−1.12)	(−1.13)	(−0.72)	(−0.72)	(−0.69)	(−1.11)	(−1.12)	(−1.13)	(−0.68)	(−0.68)	(−0.63)
LNBOARD	−0.01407***	−0.01414***	−0.01408***	−0.00875	−0.00864	−0.00860	−0.01355***	−0.01355***	−0.01351***	−0.00865	−0.00879	−0.00865
	(−4.18)	(−4.20)	(−4.19)	(−1.40)	(−1.39)	(−1.38)	(−4.04)	(−4.04)	(−4.02)	(−1.38)	(−1.40)	(−1.38)
DUAL	0.00155	0.00155	0.00167	0.00050	0.00073	0.00089	0.00154	0.00158	0.00168	0.00066	0.00082	0.00099
	(0.57)	(0.57)	(0.61)	(0.20)	(0.29)	(0.35)	(0.57)	(0.58)	(0.62)	(0.26)	(0.33)	(0.39)
SIZE	−0.00374***	−0.00369***	−0.00367***	−0.00693***	−0.00699***	−0.00686***	−0.00223**	−0.00218**	−0.00215**	−0.00729***	−0.00723***	−0.00705***
	(−4.08)	(−4.00)	(−3.98)	(−5.37)	(−5.40)	(−5.30)	(−2.04)	(−1.99)	(−1.96)	(−4.69)	(−4.65)	(−4.52)
LEV	0.02197***	0.02200***	0.02188***	0.01957***	0.01962***	0.01950***	0.02139***	0.02152***	0.02146***	0.02014***	0.02002***	0.02008***
	(7.33)	(7.34)	(7.30)	(4.49)	(4.50)	(4.48)	(7.14)	(7.18)	(7.15)	(4.63)	(4.60)	(4.62)
ROS	−0.07973***	−0.07961***	−0.07949***	−0.06250***	−0.06244***	−0.06247***	−0.07834***	−0.07803***	−0.07784***	−0.06243***	−0.06211***	−0.06196***
	(−9.25)	(−9.23)	(−9.21)	(−6.31)	(−6.31)	(−6.31)	(−9.07)	(−9.03)	(−9.00)	(−6.20)	(−6.17)	(−6.15)
BIG4	−0.00702***	−0.00702***	−0.00706***	−0.01556***	−0.01538***	−0.01580***	−0.00674***	−0.00680***	−0.00682***	−0.01665***	−0.01600***	−0.01630***
	(−3.00)	(−3.01)	(−3.03)	(−3.57)	(−3.54)	(−3.64)	(−2.93)	(−2.95)	(−2.96)	(−3.85)	(−3.71)	(−3.78)
LISTAGE	0.00156***	0.00156***	0.00155***	0.00224***	0.00221***	0.00216***	0.00145***	0.00145***	0.00143***	0.00229***	0.00227***	0.00222***
	(7.61)	(7.62)	(7.54)	(7.11)	(7.00)	(6.85)	(6.87)	(6.90)	(6.79)	(6.96)	(6.90)	(6.68)
FINANCE	−0.00306	−0.00400**	−0.00326	0.00276	0.00219	0.00235	−0.00273	−0.00367*	−0.00293	0.00297	0.00279	0.00312
	(−1.30)	(−2.01)	(−1.60)	(0.91)	(0.76)	(0.82)	(−1.16)	(−1.84)	(−1.43)	(0.98)	(0.97)	(1.09)
CULTURE	0.13842	0.12100	0.11330	0.39763***	0.37867***	0.35530***	0.13999	0.12278	0.11443	0.39672***	0.37763***	0.35539***
	(1.36)	(1.19)	(1.13)	(3.42)	(3.33)	(3.16)	(1.37)	(1.21)	(1.13)	(3.39)	(3.30)	(3.15)
CONFUCIAN	0.00370*	0.00307	0.00233	0.01227***	0.00939***	0.00838**	0.00356*	0.00283	0.00206	0.01179***	0.00856**	0.00749**
	(1.71)	(1.36)	(1.00)	(3.64)	(2.66)	(2.38)	(1.65)	(1.25)	(0.89)	(3.47)	(2.42)	(2.12)

Table 9 continued

Variables	The dependent variable: TUL											
	Section A: Hypothesis 1						Section B: Hypothesis 2					
	(1)			(2)			(3)			(4)		
	The state-owned enterprises subsample			The non-state-owned enterprises subsample			The state-owned enterprises subsample			The non-state-owned enterprises subsample		
	(1a) $R = 100$ Coefficient(*t*-value)	(1b) $R = 200$ Coefficient(*t*-value)	(1c) $R = 300$ Coefficient(*t*-value)	(2a) $R = 100$ Coefficient(*t*-value)	(2b) $R = 200$ Coefficient(*t*-value)	(2c) $R = 300$ Coefficient(*t*-value)	(3a) $R = 100$ Coefficient(*t*-value)	(3b) $R = 200$ Coefficient(*t*-value)	(3c) $R = 300$ Coefficient(*t*-value)	(4a) $R = 100$ Coefficient(*t*-value)	(4b) $R = 200$ Coefficient(*t*-value)	(4c) $R = 300$ Coefficient(*t*-value)
GDP_PC	−0.00044***	−0.00043***	−0.00042***	0.00006	0.00006	0.00006	−0.00045***	−0.00044***	−0.00043***	0.00004	0.00005	0.00004
	(−2.90)	(−2.83)	(−2.83)	(0.20)	(0.22)	(0.20)	(−2.96)	(−2.86)	(−2.85)	(0.13)	(0.16)	(0.15)
Constant	0.18151***	0.18129***	0.18180***	0.21814***	0.22118***	0.21978***	0.15014***	0.15034***	0.15082***	0.22708***	0.22927***	0.22782***
	(9.05)	(9.05)	(9.07)	(7.29)	(7.40)	(7.37)	(6.40)	(6.43)	(6.44)	(6.51)	(6.63)	(6.60)
INDUSTRY	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES
YEAR	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES
Number of Obs.	6,847	6,847	6,847	3,323	3,323	3,323	6,847	6,847	6,847	3,323	3,323	3,323
Adjusted-R^2	22.10 %	22.11 %	22.14 %	26.78 %	26.87 %	26.94 %	22.24 %	22.25 %	22.29 %	26.80 %	26.92 %	27.07 %
F-value (*p*-value)	27.29***	27.21***	27.29***	17.49***	17.59***	17.56***	29.66***	29.63***	29.54***	17.18***	17.14***	17.17***
	(<.0001)	(<.0001)	(<.0001)	(<.0001)	(<.0001)	(<.0001)	(<.0001)	(<.0001)	(<.0001)	(<.0001)	(<.0001)	(<.0001)
Coefficient diff. test (*t*-value)				0.34	1.90*	1.99*				−1.60	−1.71*	−1.92*
				[(1a) *V.S* (2a)]	[(1b) *V.S* (2b)]	[(1c) *V.S* (2c)]				[(3a) *V.S* (4a)]	[(3b) *V.S* (4b)]	[(3c) *V.S* (4c)]
Chow test (*F*-value)				3.16***	3.06***	3.26***				3.13***	2.92***	3.14***

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

explanations: First, CEOs and/or chairmen in SOEs are quasi-government officials, as well as Chinese Communist Party members, and thus they are inclined to atheism. Second, tunneling in SOEs is a typical phenomenon rooted in Chinese institutional background. Therefore, religious atmosphere or intensity can only play a very limited role. Finally, since its inception in the 1990s, the Chinese stock market helped state-owned enterprises raise money to be "off poverty and out of plight" (*Tuo Pin Jie Kun* in Chinese). For state-owned enterprises, to assure the state's controlling power, the shares owned by governments and their agencies can not trade in the Chinese stock market. This restriction will tempt controlling shareholders to tunnel from listed firms as the compensation for not benefiting from share price appreciation. As a result, religious influence, and thus the interactive effect between Buddhism and analyst coverage on corporate decisions in SOEs is relatively weak.

Other Additional Tests

Though not tabulated for brevity, I also re-estimate Eqs. (4) and (5) using three robust procedures.

(1) I re-estimate Eqs. (4) and (5) using two subsamples according to *C/V*: (1) the no separation (between cash flow rights and control rights) subsample ($C/V = 1$) *V.S.* the separation subsample ($C/V < 1$); and (2) the high separation subsample *V.S.* the low separation subsample. Hypothesis 1 is supported for all subsamples, but Hypothesis 2 is supported only in the no-separation and the low-separation subsamples, suggesting that analyst coverage can attenuate the negative association between Buddhism intensity and tunneling under the context of better internal monitoring.

(2) I consider Taoism, another religion in China, and introduce Taoism (*TAO*)[13] into Eqs. (4) and (5) to examine competitive influence between Buddhism and Taoism on tunneling. Regression results reveal that Hypotheses 1 and 2 are supported only for Buddhism, but not for Taoism. These results suggest that different religions asymmetrically influence tunneling. These results can borrow support from findings in Du (2002). Du (2012) documents strong evidence that Buddhism, China's most influential religion, can influence corporate behavior than Taoism, specifically, Buddhism reduce owner–manager agency costs, but Taoism has not such effect.

(3) Figures 1a–c show that Buddhist monasteries are unequally distributed in China. Therefore, I delete firms located in provinces, municipalities, and autonomous regions without Buddhist monasteries and re-estimate Eqs. (4) and (5). Non-tabulated results are qualitatively similar to those in Tables 4 and 5.

Conclusions

Extant studies have documented a great deal of empirical evidence about tunneling and its channels (e.g., Atanasov et al. 2010; Johnson et al. 2000), but provide little about how tunneling is conducted, and what alternative mechanism can mitigate controlling shareholders' unethical tunneling behavior in emerging markets like China. In this study, I focus on tunneling, an unethical behavior in which controlling shareholders typically use inter-corporate loans in the Chinese stock market. I find that Buddhism intensity is significantly negatively associated with tunneling, and analyst coverage can attenuate the negative association between Buddhism intensity and tunneling.

My findings have several ethical implications. First, in emerging markets where concentrated ownership is more typical, ethical conflicts between controlling and minority shareholders are the core challenge of corporate governance. Therefore, emerging markets particularly need ethics that are primarily concerned with protecting minority shareholders from unscrupulous controlling shareholders (Kimber and Lipton 2005). I find that religion, especially Buddhism, influences social norms and thereby serves as an alternative mechanism to mitigate controlling shareholders' unethical tunneling.

Second, in the aftermath of recent financial crises, we must reconsider the concept of *shareholder supremacy* because "The relentless emphasis on the importance of shareholder value, especially the interests of controlling shareholders, has created the conditions for the disconnection of corporations from their essential moral underpinnings" (Clarke 2005). Under shareholder supremacy, controlling shareholders use market imperfections to embezzle significant cash resources from listed firms through inter-corporate loans. Failure to control unethical tunneling behavior damages business operations and, in turn, damages long-term benefits for shareholders.

Third, my finding shows that analyst coverage attenuates the negative association between Buddhism and tunneling. This finding echoes the argument in Du (2012) that argues and finds that religion can serve as an important informal system to supplement formal institutions, and thus influence corporate decision, especially in emerging markets like China.

[13] *TAO* is measured as the number of Taoist temples within a radius of N kilometers ($N = 100, 200, 300$ km) around a listed firm's registered address.

Fourth, I also find the tunneling-decreasing roles of Confucianism and culture in the Chinese context. This finding echoes the emphasis on informal systems in Williamson (2000), Aggarwal and Goodell (2009), Allen et al. (2005), and Pistor and Xu (2005), as well as the view that Confucianism and culture can be viewed as a system of social and ethical philosophy with major influence in China. More importantly, this finding also implies that Confucianism and culture are two important informal channels to mitigate tunneling in the Chinese stock market.

Finally, to alleviate controlling shareholders' unethical tunneling through inter-corporate loans, corporate governance, and business ethics should be complementary (Diacon and Ennew 1996). Excessive emphasis on business ethics or corporate governance is inadequate. Informal systems, Buddhism in my study, can be an alternative to standard corporate governance mechanisms. In fact, in emerging markets like China, informal system arrangements such as religion, corporate governance, and business ethics are equally important to mitigate tunneling.

My study, of course, has its limitations. I adopt other receivables as the proxy for tunneling, but the magnitude of tunneling is almost certainly *greater* than I estimate (Jiang et al. 2010). Moreover, tunneling through related party transactions is universal in rule-based economies such as in the United States and Europe, so my evidence provides only a *minimal* direct measure of tunneling. Moreover, because of data limitations, I cannot test the impact of other religions such as Islam and Christianity on tunneling. Future research should extend to various religions and examine their competitive or asymmetric influences on tunneling and other corporate behavior in different institutional settings. In addition, relevant to the context of China, it is worthy of exploring the impact of cultural factor and Confucianism on tunneling and other corporate decisions.

In closing, it is very important to establish control procedures to enhance business integrity and to assure that controlling shareholders conduct themselves ethically. Does corporate governance drive business ethics, or do business ethics drive corporate governance? Perhaps business ethics and corporate governance are interrelated, and ultimately they equally influence one another (Kimber and Lipton 2005). In fact, business ethics and corporate governance together suggest some crucial issues. Moreover, in emerging markets like China where standard corporate governance mechanisms are under construction, ethical codes are being formed, and laws and regulations are enforced less effectively (Du 2012; Du et al. 2013a), informal systems like Buddhism, may serve as an alternative to alleviate controlling shareholders' unethical tunneling and protect the interests of minority shareholders. To mitigate tunneling, this study calls for interdisciplinary studies in the context of cross-country comparisons. Note that current studies in psychology and anthropology have strongly supported community religiosity effects on individual behaviors. In conjunction, as suggested by Conroy and Emerson (2004), Du (2012), Du et al. (2013a, b), Kennedy and Lawton (1998), and Longenecker et al. (2004), researchers should further explore religion as a set of social norms to affect business ethics and corporate decision-making.

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Appendix 1: Variable Definitions

Variable	Definition	Data source
TUL	the amount of tunneling, measured as other receivables deflated by total assets at the beginning of the year	CSMAR
BUD100	The number of Buddhist monasteries within a radius of 100 km around a listed firm's registered address (Du 2012)	Author's Calculation (*A'C*)
BUD200	The number of Buddhist monasteries within a radius of 200 km around a listed firm's registered address (Du 2012)	Author's Calculation (*A'C*)
BUD300	The number of Buddhist monasteries within a radius of 300 km around a listed firm's registered address (Du 2012);	Author's Calculation (*A'C*)
ANALYST	The natural log of (1 + the number of analysts following)	*A'C* based on CSMAR

Appendix 1 continued

Variable	Definition	Data source
C/V	The cash flow rights deflated by the voting rights; V is an ultimate controlling shareholder's voting rights, equaling to the ownership stake at the weakest link along the control chains connecting the ultimate controlling shareholder (Claessens et al. 2000; Fan and Wong 2005); *C* is the sum of the products of the ownership stake along all the paths connecting the ultimate controlling shareholder and the listed firm (Claessens et al. 2000; Fan and Wong 2005)	*A'C* based on CSMAR
MANSHR	The percentage of shares owned by a firm's managers	*A'C* based on CSMAR
INDR	The ratio of the number of independent directors to the number of diretors in the board of directors	CSMAR
LNBOARD	The natural log of the number of directors in the boardroom	CSMAR
DUAL	An indicator variable that is equal to 1 if the CEO and the chairman of the board are the same person, and 0 otherwise	CSMAR
SIZE	Firm size, measured by the natural log of total assets (Jiang et al. 2010)	*A'C* based on CSMAR
LEV	The ratio of total liabilities to total assets (Jiang et al. 2010)	CSMAR
ROS	Returns on sales revenue, measured as net income scaled by sales revenue	CSMAR
BIG4	A dummy variable, equaling to 1 when the auditor is a Big 4 accounting firm (including affiliated firms) according to the official rank of the Chinese Institute of certified public accountants and 0 otherwise (Fan and Wong 2005)	www.cicpa.org.cn
LISTAGE	The number of years since a firm's IPO	CSMAR
STATE	A dummy variable, equaling to 1 when the ultimate controlling shareholder of a listed firm is a (central or local) government agency or government controlled state-owned enterprises and 0 otherwise (Jiang et al. 2010).	CSMAR
FINANCE	A dummy variable, equaling to 1if the firm is located *within* 100 km from the nearest city center of the three financial centers (i.e., Beijing, Shanghai, and Shenzhen) (El Ghoul et al. 2012a).	*A'C* based on El Ghoul et al. (2012a)
CULTURE	Business cultural variable, equaling to the distance (in thousand kilometers) between a listed firm and the nearest cultural center (Please note that China has ten well-known cultural centers, i.e., *Jin*, *Hui*, *Yue*, *Min*, *Zhe*, *Yong*, *Su*, *Lu*, *Gan*, and *Qin*)	Author's calculation (*A'C*)
CONFUCIAN	Confucianism variable, measured as the distance (in thousand kilometers) between a listed firm and the nearest Confucianism center (Please note that China has seven well-known Confucianism centers, i.e., *Lu*, *Luo*, *Shu*, *Min*, *Linchuan*, *Zhedong*, *Taizhou*)	Author's calculation (*A'C*)
BUD_R	The number of Buddhist monasteries within a radius of *R* kilometers around a listed firm's registered address (Du 2012)	Author's calculation (*A'C*)
GDP_PC	GDP *per capita* (in thousand *RMB*) in the province in which a listed firm locates	China statistical yearbook
BUD_PRO	Province-level religion intensity, equaling to the number of Buddhist monasteries in a province	Author's calculation (*A'C*)
ΔTUL	The change of the amount of tunneling, measured as the change of "other receivables deflated by total assets at the beginning of the year"	*A'C* based on CSMAR
ΔBUD_DIS_N	The change of Buddhism intensity for a relocated firm, measured as "the average distance between the new registered address of a listed firm and the nearest *N* Buddhist monasteries ($1 \leq N \leq 5$)"—"the average distance between the original registered address of a listed firm and the nearest *N* Buddhist monasteries ($1 \leq N \leq 5$)."	Author's calculation (*A'C*)

Appendix 2: A List of National Key Buddhist Monasteries in China

Name of B. M.	Province	Name of B. M.	Province	Name of B. M.	Province	Name of B. M.	Province	Name of B. M.	Province
Mingjiao Si	Anhui	Nan Putuo Si	Fujian	Zhusheng Si	Hunan	Chongshan Si	Shanxi	Baoguang Si	Sichuan
Yingjiang Si	Anhui	Guanghua Si	Fujian	Fuyan Si	Hunan	Shanghuayan Si	Shanxi	Wuyou Si	Sichuan
Qianyuan Si	Anhui	Cishou Si	Fujian	Nantai Si	Hunan	Xuanzhong Si	Shanxi	Baoguo Si	Sichuan
Langya Si	Anhui	Guangxiao Si	Fujian	Shangfeng Si	Hunan	Xiantong Si	Shanxi	Wangnian Si	Sichuan
Guangji Si	Anhui	Wanfu Si	Fujian	Banruo Si	Jilin	Tayuan Si	Shanxi	Hongchun Ping	Sichuan
Huacheng Si	Anhui	Kaiyuan Si	Fujian	Dizang Si	Jilin	Pusa Ding	Shanxi	Xixiang Chi	Sichuan
Roushen Dian	Anhui	Longshan Si	Fujian	Guanyin Gusha	Jilin	Shuxiang Si	Shanxi	Jin Ding	Sichuan
Baisui Gong	Anhui	Nanshan Si	Fujian	Linggu Si	Jiangsu	Luohou Si	Shanxi	Dabei Yuan	Tianjin
Ganlu Si	Anhui	Zhitihuayan Si	Fujian	Xixia Si	Jiangsu	Jinge Si	Shanxi	Yuantong Si	Yunnan
Zhiyuan Si	Anhui	Liurong Si	Guangdong	Hanshan Si	Jiangsu	Guangzong Si	Shanxi	Qiongzhu Si	Yunnan
Tiantai Si	Anhui	Nanhua Si	Guangdong	Xiyuan Rongdong Si	Jiangsu	Bishan Si	Shanxi	Huating Si	Yunnan
Zhantan Lin	Anhui	Yumen Si	Guangdong	Lingyanshan Si	Jiangsu	Shifang Tang	Shanxi	Zhusheng Si	Yunnan
Huiju Si	Anhui	Qingyun Si	Guangdong	Jiangtian Si	Jiangsu	Dailuo Ding	Shanxi	Tongwa Dian	Yunnan
Shangchan Tang	Anhui	Lingshan Si	Guangdong	Dinghui Si	Jiangsu	Guanyin Dong	Shanxi	Lingyin Si	Zhejiang
Guangji Si	Beijing	Kaiyuan Si	Guangdong	Tianning Si	Jiangsu	DaciEn Si	Shaanxi	Jingci Si	Zhejiang
Fayuan Si	Beijing	Xishi An	Guangxi	Xingfu Si	Jiangsu	Daxingshan Si	Shaanxi	Qita Si	Zhejiang
Foyasheli Ta	Beijing	Hongfu Si	Guizhou	Guangjiao Si	Jiangsu	Wolong Si	Shaanxi	Tiantong Si	Zhejiang
Guanghua Si	Beijing	Qianming Si	Guizhou	Daming Si	Jiangsu	Guangren Si	Shaanxi	Ayuwang Si	Zhejiang
Tongjiao Si	Beijing	Jita Yuan	Hebei	Gao Si	Jiangsu	Xingjiao Si	Shaanxi	Dafo Si	Zhejiang
Yonghe Gong	Beijing	Puning Si	Hebei	Longchang Si	Jiangsu	Xiangji Si	Shaanxi	Puji Si	Zhejiang
Xihuang Si	Beijing	Baima Si	Henan	Nengren Si	Jiangxi	Jingye Si	Shaanxi	Fayu Si	Zhejiang
Luohan Si	Chongqing	Shaolin Si	Henan	Donglin Si	Jiangxi	Caotang Si	Shaanxi	Huiji Si	Zhejiang
Ciyun Si	Chongqing	Jile Si	Heilongjiang	Zhenru Si	Jiangxi	Yufo Si	Shanghai	Guoqing Si	Zhejiang
Shuanggui Tang	Chongqing	Guiyuan Si	Hubei	Jingju Si	Jiangxi	Jing An Si	Shanghai	Gaoming Si	Zhejiang
Yongquan Si	Fujian	Baotong Si	Hubei	Banruo Si	Liaoning	Longhua Si	Shanghai	Fangguang Si	Zhejiang
Xichan Si	Fujian	Wuzu Si	Hubei	CiEn Si	Liaoning	Chenxiang Ge	Shanghai	Jiangxin Si	Zhejiang
Linyang Si	Fujian	Yuquan Si	Hubei	Haibaota Si	Ningxia	Yuanming Tang	Shanghai		
Dizang Si	Fujian	Yuelushan Si	Hunan	Xingguo Chansi	Shandong	Shaojue Si	Sichuan		
Xuefeng Chongsheng Si	Fujian	Kaifu Si	Hunan	Zhanshan Si	Shandong	Wenshu Yuan	Sichuan		

Note (1) Appendix 2 reports the list of national key Buddhist monasteries in China based on the State Council of the People's Republic of China (1983). Moreover, Appendix 2 reports the names of national key Buddhist monasteries in Chinese *pinyin* rather than in English because there are not generally accepted English expressions for many Buddhist monasteries' names. (2) Some Buddhist monasteries have the same names but they locate in different provinces (Du 2012; Du et al. 2013a, b). (3) Appendix 2 suggests that some Buddhist monasteries abut each other (e.g., Fayu Si and Huiji Si in Pu tuo Mountain in Zhejiang province), and thus this study re-estimates Eqs. (1) and (2) by merging adjacent Buddhist monasteries to define Buddhism variables (as a result, the number of most popular Buddhist monasteries is reduced to some extent). Non-tabulated results reveal that the results remain qualitatively similar

References

Aggarwal, R., & Goodell, J. W. (2009). Markets and institutions in financial intermediation: National characteristics as determinants. *Journal of Banking & Finance, 33*, 1770–1780.

Aharony, J., Wang, J., & Yuan, H. (2010). Tunneling as an incentive for earnings management during the IPO process in China. *Journal of Accounting and Public Policy, 29*, 1–26.

Allen, F., Qian, J., & Qian, M. (2005). Law, finance, and economic growth in China. *Journal of Financial Economics, 77*(1), 57–116.

Anderson, M. C., Banker, R. D., & Janakiraman, S. N. (2003). Are selling, general, and administrative costs "Sticky"? *Journal of Accounting Research, 41*(1), 47–63.

Annis, L. V. (1976). Emergency helping and religious behavior. *Psychological Reports, 39*, 151–158.

Asian Corporate Governance Association. (2003). *CG watch: Corporate governance in Asia 2003*. Available at: www.acga-asia.org.

Atanasov, V., Boone, A., & Haushalter, D. (2010). Is there shareholder expropriation in the United States? An analysis of

publicly traded subsidiaries. *Journal of Financial and Quantitative Analysis, 45*(1), 1–26.
Bae, K. H., Kang, J. K., & Kim, J. M. (2002). Tunneling or value added? Evidence from mergers by Korean business groups. *Journal of Finance, 57*(6), 2695–2740.
Barnett, T., Bass, K., & Brown, G. (1996). Religiosity, ethical ideology and intentions to report a peer's wrongdoing. *Journal of Business Ethics, 15*(11), 1161–1175.
Barnhill, D. L. (2004). Good work: An engaged Buddhist response to the dilemmas of consumerism. *Buddhist–Christian Studies, 24*, 55–63.
Barro, R. J., & McCleary, R. M. (2003). Religion and economic growth across countries. *American Sociological Review, 68*(5), 760–781.
Berle, A., & Means, G. (1932). *The modern corporation and private property*. New York: Macmillan.
Brazier, C. (2003). *Buddhist psychology. Liberate your mind, embrace your life*. London: Robinson.
Callen, J. L., Morel, M., & Richardson, G. (2011). Do culture and religion mitigate earnings management? Evidence from a cross-country analysis. *International Journal of Disclosure and Governance, 8*, 103–121.
Chen, H. (2003). Brief overview of law and religion in the People's Republic of China, A. *Brigham Young University Law Review, 29*(2), 465–474.
Cheung, Y. L., Jing, L., Rau, R., & Stoutaitis, A. (2006). Tunneling, propping, and expropriation: Evidence from connected party transactions in Hong Kong. *Journal of Financial Economics, 82*(2), 343–386.
China's WealthY Hurun Report Releases. (2012). The Chinese luxury consumer white paper. Available at: http://www.hurun.net/usen/NewsShow.aspx?nid=188.
Chow, G. C. (1960). Tests of equality between sets of coefficients in two linear regressions. *Econometrica, 28*, 591–605.
Chu, A., Du, X., & Jiang, G. (2011). Buy, lie, or die: An investigation of Chinese ST firms' voluntary interim audit motive and auditor independence. *Journal of Business Ethics, 102*(1), 135–153.
Claessens, S., Djankov, S., & Lang, L. H. P. (2000). The separation of ownership and control in East Asian corporations. *Journal of Financial Economics, 58*(1/2), 81–112.
Clarke, T. (2000). Hemorrhaging tigers: The power of international financial markets and the weaknesses of Asian modes of corporate governance. *Corporate Governance: An International Review, 8*(2), 101–116.
Clarke, T. (2004). Cycles of crisis and regulation: The enduring agency and stewardship problems of corporate governance. *Corporate Governance: An International Review, 12*(2), 153–161.
Clarke, T. (2005). Accounting for Enron: Shareholder value and stakeholder interests. *Corporate Governance: An International Review, 13*(5), 598–612.
Conroy, S. J., & Emerson, T. L. N. (2004). Business ethics and religion: Religiosity as a predictor of ethical awareness among students. *Journal of Business Ethics, 50*, 383–396.
Diacon, S. R., & Ennew, C. T. (1996). Can business ethics enhance corporate governance? Evidence from a survey of UK insurance executives. *Journal of Business Ethics, 15*, 623–634.
Djankov, S., La Porta, R., Lopez-de-Silanes, F., & Shleifer, A. (2008). The law and economics of self-dealing. *Journal of Financial Economics, 88*(3), 430–465.
Du, X. (2012). Does religion matter to owner-manager agency costs? Evidence from China. *Journal of Business Ethics, Forthcoming,*. doi:10.1007/s10551-012-1569-y.
Du, X., Jian, W., Du, Y., Feng, W., & Zeng, Q. (2013a). Religion, the nature of ultimate owner, and corporate philanthropic giving: Evidence from China. *Journal of Business Ethics,*. doi:10.1007/s10551-013-1804-1.
Du, X., Jian, W., Zeng, Q., & Du, Y. (2013b). Corporate environmental responsibility in polluting industries: Does religion matter? *Journal of Business Ethics, Forthcoming,*. doi:10.1007/s10551-013-1888-7.
Dyreng, S. D., Mayew, W. J., & Williams, C. D. (2012). Religious social norms and corporate financial reporting. *Journal of Business Finance & Accounting, 39*(7–8), 845–875.
Ehrhardt, O., & Nowak, E. (2001). Private benefits and minority shareholder expropriation: Empirical evidence from IPOs of German Family-Owned firms. CFS Working paper.
El Ghoul, S., Guedhami, O., Ni, Y., Pittman, J. A., & Saadi, S. (2012a). Does information asymmetry matter to equity pricing? Evidence from firm's geographic location. *Contemporary Accounting Research* (forthcoming). Available at: SSRN. http://ssrn.com/abstract=1676023.
El Ghoul, S., Guedhami, O., Ni, Y., Pittman, J., & Saadi, S. (2012b). Does religion matter to equity pricing? *Journal of Business Ethics, 111*(4), 491–568.
Esposito, J. L., Fasching, D. J., & Lewis, T. (2006). *World religions today*. Oxford: Oxford University Press.
Faccio, M., & Lang, L. H. P. (2002). The ultimate ownership of Western European corporations. *Journal of Financial Economics, 65*(3), 365–395.
Fan, J. P. H., & Wong, T. J. (2005). Do external auditors perform a corporate governance role in emerging markets? Evidence from East Asia. *Journal of Accounting Research, 43*(1), 35–72.
Felo, A. J. (2001). Ethics programs, board involvement, and potential conflicts of interest in corporate governance. *Journal of Business Ethics, 32*(3), 205–218.
Gaumnitz, B. R., & Lere, J. C. (2004). A classification scheme for codes of business ethics. *Journal of Business Ethics, 49*(4), 329–335.
Gill, A., & Lundsgaarde, E. (2004). State welfare spending and religiosity: A cross-national analysis. *Rationality and Society, 16*(4), 399–436.
Gould, S. J. (1995). Researcher introspection as a method in consumer research: Applications, issues, and implications. *Journal of Consumer Research, 21*(4), 719–722.
Grullon, G., Kanatas, G., & Weston, J. P. (2010). Religion and corporate (mis) behavior. Working paper.
Harris, S. (2011). Does anātman rationally entail altruism? *Journal of Buddhist Ethics, 18*, 93–123.
Hilary, G., & Hui, K. W. (2009). Does religion matter in corporate decision making in America? *Journal of Financial Economics, 93*, 455–473.
Hunt, S. D., & Vitell, S. J. (2006). The general theory of marketing ethics: A revision and three questions. *Journal of Macromarketing, 26*(2), 1–11.
Iannaccone, L. R. (1998). Introduction to the economics of religion. *Journal of Economic Literature, XXXVI*, 1465–1496.
Jensen, M., & Meckling, W. (1976). Theory of the firm: Managerial behavior, agency costs, and ownership structure. *Journal of Financial Economics, 3*(4), 305–360.
Jian, M., & Wong, T. J. (2010). Propping through related party transactions. *Review of Accounting Studies, 15*(1), 70–105.
Jiang, G., Lee, C. M. C., & Yue, H. (2010). Tunneling through intercorporate loans: The China experience. *Journal of Financial Economics, 98*(1), 1–20.
Jiang, G., & Wang, H. (2008). Should earnings thresholds be used as delisting criteria in stock market? *Journal of Accounting and Public Policy, 27*(5), 409–419.
Jin, Z., & Qiu, Y. (2011). *Annual report on religions in China (In Chinese)*. China: Social Sciences Academic Press.
John, K., Knyazeva, A., & Knyazeva, D. (2011). Do shareholders care about geography? *Journal of Financial Economics, 101*, 533–551.
Johnson, S., La Porta, R., Lopez-de-Silanes, F., & Shleifer, A. (2000). Tunneling. *American Economic Review, 90*(2), 22–27.

Kama, I., & Weiss, D. (2013). Do earnings targets and managerial incentives affect sticky costs? *Journal of Accounting Research, 51*(1), 201–224.

Kennedy, E. J., & Lawton, L. (1998). Religiousness and business ethics. *Journal of Business Ethics, 17*(2), 163–175.

Kim, J.-B., Li, Y. H., & Zhang, L. D. (2011). Corporate tax avoidance and stock price crash risk: Firm-level analysis. *Journal of Financial Economics, 100*, 639–662.

Kimber, D., & Lipton, P. (2005). Corporate governance and business ethics in the Asia-Pacific Region. *Business & Society, 44*(2), 178–210.

La Porta, R., Lopez-de-Silanes, F., & Shleifer, A. (1999). Corporate ownership around the world. *Journal of Finance, 54*(2), 471–517.

La Porta, R., Lopez-de-Silanes, F., Shleifer, A., & Vishny, R. W. (1998). Law and finance. *Journal of Political Economy, 106*(6), 1113–1155.

Lim, L. (2010). Chinese turn to religion to fill a spiritual vacuum. Working paper, Available at: http://www.npr.org/templates/story/story.php?storyId=128544048.

Liu, Q. (2006). Corporate governance in China: Current practices, economic effects, and institutional determinants. *CES ifo Economic Studies, 52*(2), 415–453.

Longenecker, J. G., McKinney, J. A., & Moore, C. W. (2004). Religious intensity, evangelical Christianity, and business ethics: An empirical study. *Journal of Business Ethics, 55*(4), 371–384.

Loughran, T. (2007). Geographic dissemination of information. *Journal of Corporate Finance, 13*, 675–694.

Loughran, T., & Schultz, P. (2005). Liquidity: Urban versus rural firms. *Journal of Financial Economics, 78*, 341–374.

McCleary, R. M., & Barro, R. J. (2006). Religion and economy. *Journal of Economic Perspectives, 20*(2), 49–72.

McGuire, S. T., Omer, T. C., & Sharp, N. Y. (2012). The impact of religion on financial reporting irregularities. *The Accounting Review, 87*(2), 645–673.

Miller, A. S. (2000). Going to hell in Asia: The relationship between risk and religion in a cross cultural setting. *Review of Religious Research, 42*(1), 5–18.

Norberg-Hodge, H. (1997). *Buddhism in the global economy*. Mimeo (International Society for Ecology and Culture).

North, D. C. (1990). *Institutions, institutional change and economic performance*. Cambridge: Cambridge University Press.

North, D. C. (2000). The new institutional economics: Taking stock, looking ahead. *Journal of Economic Literature, 38*(3), 595–613.

Pace, S. (2013). Does religion affect the materialism of consumers? An empirical investigation of Buddhist ethics and the resistance of the self. *Journal of Business Ethics, 112*(1), 25–46.

Peng, W., Wei, K. C. J., & Yang, Z. (2006). Tunneling or propping: Evidence from connected transactions in China. Working paper.

Petersen, M. A. (2009). Estimating standard errors in finance panel data sets: Comparing approaches. *Review of Financial Studies, 22*(1), 435–480.

Petrick, J. A., & Quinn, J. F. (2000). The integrity capacity construct and moral progress in business. *Journal of Business Ethics, 23*(1), 3–18.

Pistor, K., & Xu, C. (2005). Governing stock markets in transition economics: Lessons from China. *American Law and Economics Review, 7*(1), 184–210.

Richins, M. L., & Dawson, S. (1992). A consumer values orientation for materialism and its measurement: Scale development and validation. *Journal of Consumer Research, 19*(3), 301–316.

Rising, B. (2000). SPHDIST: Stata module to compute spherical distances. Statistical software components S372502 (Boston College Department of Economics). Available at: http://ideas.repec.org/c/boc/bocode/s372502.html#refs.

Scheve, K., & Stasavage, D. (2006). Religion and preferences for social insurance. *Quarterly Journal of Political Science, 1*, 255–286.

Shleifer, A., & Vishny, R. W. (1986). Large shareholders and corporate control. *Journal of Political Economy, 94*(3), 461–488.

Shleifer, A., & Vishny, R. W. (1997). A survey of corporate governance. *Journal of Finance, 52*(2), 737–783.

Sims, R. R., & Brinkmann, J. (2003). Enron ethics (or: Culture matters more than codes). *Journal of Business Ethics, 45*(3), 243–256.

Sunstein, C. R. (1996). Social norms and social rules. *Columbia Law Review, 96*(4), 903–968.

The State Council of the People's Republic of China. (1983). The report on the determination of China key Buddhism monasteries and Taoism temples. Available at: http://www.simiao.net/.

The World Values Survey. (2007). China. Available at: http://www.wvsevsdb.com/wvs/WVSDocumentation.jsp.

The World Bank. (2012). Doing business 2012: Doing business in a more transparent world. Available at: http://www.doingbusiness.org/Rankings?ajax=1&excel=1&regionID=0&tercile=0&incomeID=0.

Vitell, S. J. (2010). The role of religiosity in business and consumer ethics: A review of the literature. *Journal of Business Ethics, 90*(2), 155–167.

Weaver, G. R., & Agle, B. R. (2002). Religiosity and ethical behavior in organizations: A symbolic interactionist perspective. *The Academy of Management Review, 27*(1), 77–97.

Wiese, H. (2011). Moderation, contentment, work, and alms—A Buddhist household theory. *The Journal of Socio-Economics, 40*, 909–918.

Williamson, O. E. (2000). The new institutional economics: Taking stock, looking ahead. *Journal of Economic Literature, 38*, 595–613.

Wines, W. A., & Napier, N. K. (1992). Toward an understanding of cross-cultural ethics: A tentative model. *Journal of Business Ethics, 11*(11), 831–841.

Yang, F. G. (2010). Religion in China under communism: A shortage economy explanation. *Journal of Church and State, 52*(1), 3–33.