The Impact of Religiosity on Earnings Quality: International Evidence from the Banking Sector

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Abstract

We examine the impact of religiosity on earnings quality, utilising a global sample of 1,283 listed banks headquartered in 39 countries and covering the period 2002–2018. Using instrumental variables two-stage least squares regressions, we demonstrate that religiosity has a significant positive impact on banks' earnings quality. We further show that the impact of religiosity becomes more pronounced among banks headquartered in countries where religion is an important element of national identity and in countries with weak legal protection. We show that the effects of religiosity are more intense during the global financial crisis period. Overall, these findings support the notion that high religiosity tends to reduce unethical activities by managers and can function as an alternative control mechanism for minimising agency costs. Our empirical investigation is robust to alternative model sample specification.

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1 Introduction

In the last decades, the recurrent corporate collapses have given rise to a wave of criticism with regard to the role and effectiveness of formal institutions, such as conventional governance and regulatory structures (Tonoyan, Strohmeyer, Habib, & Perlitz, 2010). At the same time, academic interest has been directed toward exploring the roles of informal institutions, especially religiosity, in influencing management behaviour and the quality of financial reporting (see Callen, Morel, & Richardson, 2011; Kanagaretnam, Lobo, & Wang, 2015).[1]

Previous researchers have shown that high levels of religiosity affect managers and the organisations they control (Leventis, Dedoulis, & Abdelsalam, 2018; Longenecker, McKinney, & Moore, 2004; McCullough & Willoughby, 2009; McGuire, Omer, & Sharp, 2012; Vitell, 2009; Abdelsalam, Duygun, Matallín-Sáez & Tortosa-Ausina, 2017) since religious norms convert emotions of guilt and shame into a sense of accountability among actors, directing them towards choosing ethical decision making.[2] However, a few questions remain unexplored: (a) Does earnings quality differ between countries where religion is part of the national identity and therefore adherence is more pronounced? (b) Does the impact of religiosity on earnings quality differ between countries in accordance with the strength of formal institutions? (c) Does the impact of religiosity on earnings quality differ during a crisis period? Our paper aims to fill these gaps.

We argue that although the influence of these religious social norms may function in a similar manner across different countries (see Gallego-Alvarez, Rodríguez-Domínguez, & Martín Vallejo, 2020; Horak & Yang, 2018; Leventis et al., 2018), the magnitude of their influence in shaping economic decisions differs between countries. This is due to the varying levels of adherence to religious norms and the different qualities of institutional governance between nations (Halikiopoulou & Vasilopoulou, 2013; North, 1994). The classic sociological literature from the 1930s to early 1960s (e.g., Blake & Davis, 1964; LaPiere, 1954; Parsons, 1937) suggests that certain behaviour is normative when it is socially requested or is considered

[1] Informal institutions are defined as generally unwritten social norms, customs or traditions that collectively shape thoughts and behaviours (Berman, 2013). Religion is a form of social norm that can strongly influence the decisions and actions of an individual or groups (Kanagaretnam et al., 2015; Kennedy & Lawton, 1998; Weaver & Agle, 2002).

[2] In general, 'open criticism' and 'withdrawal of social support' are a form of control mechanism by society for those who violate such norms. Conversely, those who comply with the norms may receive "higher levels of social recognition and respect" (Kanagaretnam et al., 2015, p. 280).

appropriate. We also show that the impact of religious norms varies depending on its perceived importance and its significance in groups' and nations' identity. When religion becomes an integral part of a community's or a nation's identity, it is institutionalised and generates influential collective values (Llobera, 1994).

In addition, North (1994) notes that informal institutions act as a complement to conventional formal institutions, especially when the latter become less effective. Empirical investigations are supportive of this notion and demonstrate that informal institutions play an important role in countries with weak formal institutions, such as legal protection and law enforcement (see for example, Ang, Cheng, & Wu, 2015; Guiso, Sapienza, & Zingales, 2004; Qian, Cao, & Cao, 2018). For instance, empirical evidence from Italy (Guiso et al., 2004) and China (Ang et al., 2015) indicates that religion impacts on decision-making frameworks, although the level of such an impact varies depending on the strength of the countries' formal institutions.

Surveys show that nearly 84 per cent of the global population is associated with faith or religious beliefs (Sherwood, 2018). It is also argued that a large number of people become more spiritual during crises (Orman, 2019) due to the fear of socio-economic consequences, such as job losses, poverty, depression, slow growth for firms and other associated uncertainties.[3] Under such circumstances, religion plays a key role in strengthening social solidarity and deploying strategies to deal with adversities (Norenzayan & Hansen, 2006; Pargament, Tarakeshwar, Ellison, & Wulff, 2001). It also brings a sense of spiritual belonging and tranquillity (Bentzen & Gokmen, 2020). As religion promotes the importance of ethical behaviour and renounces manipulation, we argue that its role in reducing unethical practices (and subsequently increasing earnings quality) becomes more pronounced during crisis periods.

Our study extends previous studies, such as Callen et al. (2011) and Kanagaretnam et al. (2015) by examining the association between religious social norms and earnings quality in the context of the banking sector. We use a sample of 7,619 bank-year observations of 1,283 listed

[3] For example, a more recent survey suggests that over 50 per cent of American citizens sought help from God with prayers to bring an end to the Covid-19 pandemic, which led to a financial crisis (PEW Research Center, 2020).

banks headquartered in 39 countries, covering the period 2002–2018, for our tests.[4] We consider the size of our sample with a view to enhancing the generalisability of the religiosity effects on earnings quality. Although the previous literature has documented that religiosity affects firm behaviour, it does not show how the impact differs from one country to another. Indeed, cross-national surveys, such as the ones from the PEW Research Center and the International Social Survey Programme, reinforce this notion.

We utilize religiosity at the country of corporate headquarters, since headquarters constitute the place where business decisions and policies are made (Pirinsky & Wang, 2006; Rubin, 2008). Using instrumental variables two-stage least squares (IV-2SLS) regressions, we demonstrate that religiosity has a significant positive impact on banks' earnings quality. We further demonstrate that the impact of religiosity is more pronounced among banks headquartered in countries where religion is an important element of national identity. Furthermore, the impact is more pronounced for banks headquartered in countries with weak legal protection, as well as during the global financial crisis. Our findings are consistent with the earlier predictions about the rationality of religion as a control instrument for unethical corporate decisions as well as the interaction of religion with institutional settings to influence corporate behaviours. We offer new insights into the influence of religiosity on earnings quality and how the magnitude of the relationship differs between countries according to their level of adherence to religious social norms. We document evidence on the varying degree of adherence to religious norms across countries on how religiosity serves as a monitoring mechanism in reducing the agency costs associated with the levels of banks' earnings quality. Our sensitivity analyses support the notion that increased religious norms can restrain unethical activities by the managers as agents of the shareholders, thereby minimising the risk of failure.

Our study responds to prior calls for further research on the ways social norms influence bank behaviour (Fungáčová, Nuutilainen, & Weill, 2016; Stulz & Williamson, 2003). It thereby contributes to the existing literature in several ways. First, we provide empirical evidence on

[4] Our focus on banks is motivated by the following factors. First, banks are important institutions through which the financial system of every country is built, and the integrity of financial markets is at stake when banks' investors cast doubts on the quality of their financial information (Barro & McCleary, 2003; Callen & Fang, 2013). Second, banks are opaque and more complex than non-financial firms, given their unique role in mobilising and allocating funds, thereby boosting capital formation and stimulating productivity (Levine, 2004). Third, banks are subjected to heavy regulation and supervisory actions (Beatty & Liao, 2014; Cornett, McNutt, & Tehranian, 2009). Fourth, the existence of deposit insurance schemes increases the risk of fraud and self-dealing in the banking industry by reducing incentives for the thorough scrutiny of banks' operations (Macey & O'Hara, 2003). Finally, banks have been widely accused of many unethical activities, e.g. money laundering, fake bids, insider trading, and excessive manipulation of earnings (Herzog, 2019).

the institutional role of social norms in shaping corporate decisions towards earnings quality within the banking sector across countries, thus extending knowledge on corporate behaviours (Chircop, Johan, & Tarsalewska, 2020; Chourou, He, & Zhong, 2020). Second, our study contributes to prior work by showing that the geographical location, the strength of formal institutions, and the importance of religion to national identity influence banks' earnings quality. We are, therefore, able to extend the current literature on the supplementary role of informal institutions (North, 1994; Pevzner, Xie, & Xin, 2015). This contribution is particularly important to policymakers when designing and implementing systems of regulatory measures for soundness and stability of the banks across countries (Adhikari & Agrawal, 2016). Third, we contribute to the important debate on the nexus between religiosity and corporate accountability, focusing particularly on earnings quality during a crisis period. This contribution is useful to both policymakers and shareholders in understanding areas of priorities concerning corporate behaviours during a crisis period.

The rest of the paper is organised as follows: Section 2 reviews the prior literature, describes the theoretical underpinning, and develops our hypotheses. Section 3 discusses the data selection and methodology used. Section 4 presents the empirical findings; Section 5 presents the sensitivity testing and robustness of our results, and Section 6 concludes the paper.

2 Literature Review, Theory and Hypotheses Development

2.1 Social Norms and Banks' Earnings Quality

Social norms are rules or expectations of behaviour that encompass a group's consensus on the ontological interpretation of appropriate behaviours. They are widely viewed by sociologists as a mechanism for explaining social order (Durkheim, 1965; Parsons, 1953) and certain social behaviours (Weber, 1930). The expectations can be descriptive about what individuals or organisations are likely to do or normative in terms of what they ought to do, which collectively dictates actors' cognitions, behaviours, actions and emotions (Eriksson, 2015). Initially introduced by Perkins and Berkowitz (1986), social norms theory provides a useful framework for understanding patterns of behaviour based on the sanctioning and rewarding systems embedded in the norms for noncompliance as well as compliance with such norms, respectively (Leventis et al., 2018; Weaver & Agle, 2002).

In a conceptualised form, religiosity is a prime example of social norms and refers to the extent of adhering to prevailing religious beliefs, codes, values, practices and promulgations.

Although ethical behaviour is not exclusively attributable to religious adherence, recent research evidence within social sciences suggests a strong positive association between the two (Vitell, 2009). Religion provides a mechanism through which social norms, such as honesty and risk aversion, are promoted to influence behaviours (Dyreng, Mayew, & Williams, 2012). With the promulgation of a joint set of principles and beliefs by influential religions, this can be presumed to be a set of code of actions and virtues for good ethical behaviour (Melé & Fontrodona, 2017). As such, religious norms interact with individuals as well as corporate decision-making in promoting an anti-manipulative ethos that covers earnings management practices (Callen & Fang, 2015; Iannaccone, 1998; McGuire et al., 2012). Prior research suggests that highly religious individuals are less likely to view accounting manipulation as an acceptable practice (Conroy & Emerson, 2004; Longenecker et al., 2004). Therefore, it is widely argued that firms located in religious countries are less likely to be associated with unstable financial performance because of lower degrees of risk exposure (Hilary & Hui, 2009) and less likely to have irregularities in their financial reporting owing to an aversion to litigation risk (McGuire et al., 2012). Corporations within countries with high religiosity are influenced by the prevailing religious norms (Callen & Fang, 2015; Dyreng et al., 2012), which subsequently affect corporate decisions (Adhikari & Agrawal, 2016; Chircop et al., 2020). For example, US firms located in highly religious areas are associated with lower variances in equity returns and return on assets (Hilary & Hui, 2009) and stock price volatility (Blau, 2017).

Leventis et al. (2018) provide a useful summary of the mechanisms through which religious location can influence corporate behaviour around role expectations. The first mechanism is associated with the intensity of religiosity. This mechanism proposes that the presence of a high concentration of religious individuals within a given territory could translate into a high proportion of religious individuals at different stages of an organisation. This, in turn, translates into a general alignment of corporate attributes and decisions to reflect the prevailing social norms of the local community (Hilary & Hui, 2009). The second mechanism entails the role that religiously adherent staff can play in whistleblowing on irregular and unethical practices perpetrated by the firm. Firms are highly likely to refrain from such unwarranted and unethical practices for fear of being exposed by religiously adherent individuals within the firm because such exposure could be costly (Callen & Fang, 2015; Javers, 2011). The final mechanism relates to the location effect, wherein a large proportion of religiously adherent individuals are able to influence the behaviours, actions and decisions of managers of an organisation that may not have any religious inclination (Dyreng et al., 2012).

The influence is achieved through the social interactions that guide behaviours within the boundaries of the endorsed religious norms practised in the location in order to avoid societal sanctions and negative reactions (Callen & Fang, 2015; Dyreng et al., 2012; McGuire et al., 2012). The recent literature (such as Gallego-Alvarez et al., 2020) supports the notion that the values advocated by major religions are similar across a sample of 18 countries. It indicates a consistent pattern of higher levels of adherence to norms and are associated with the implementation of better corporate ethical behaviours.

Within the context of the social norms literature, normative beliefs and peer influences are instrumental in changing behaviours within corporate settings. Religious norms shape peer behaviour and promote appropriate corporate ethical decisions and practices (Dyreng et al., 2012; Leventis et al., 2018; Weaver & Agle, 2002). However, despite the popular conception of the positive impact of geographical religiosity on the behaviours of individuals and corporations, another strand of the literature argue that religiosity has little or no impact on corporations' ethical decisions (i.e., Callen et al., 2011; Walker, Smither, & DeBode, 2012; Weaver & Agle, 2002). An individual proclaiming religiosity may possess an extrinsic motivation that is linked to 'positive self-perception' rather than the actual group's needs and this leads to moral hypocrisy (Batson & Thompson, 2001; Batson, Thompson, Seuferling, Whitney, & Strongman, 1999; Graafland, 2017). This is usually a result of the misperception of common norms caused by underestimating the consequences of deviation from the group's acceptable norms, thus leading to a lack of engagement with the desired behaviour (Helmke & Levitsky, 2004).

Evidence of earnings management in banks has been well documented in the literature (Beatty & Liao, 2014; Bushman & Williams, 2012; Cornett et al., 2009). In the context of banks, Kanagaretnam et al. (2015) observe a lower probability of reporting asset deterioration in countries with higher adherence to religious norms. Moreover, corporations in these countries have a lower propensity to backdate options, practice aggressive earnings management, and be involved in securities lawsuits (Grullon, Kanatas, & Weston, 2010). Both the theoretical and empirical perspectives indicate a positive relationship between religious social norms and a firm's earnings quality. Consequently, we propose our main hypothesis (H_1) as follows:

H_1: There is a positive association between religiosity and earnings quality.

2.2 Religiosity, National Identity and Banks' Earnings Quality

It is widely argued that national identity is formed based on the collective narratives of the majority, as culture and politics continue to interact (Triandafyllidou & Wodak, 2003). There has long been a theoretical debate on how religion interacts with identity (Brubaker, 2012; Santiago, 2012). However, the nature and outcome of the interactions differ from one country/region to another, depending on the historical evolution of their identity. For example, until the fall of the Iron Curtain and collapse of the Soviet Union between 1989 and 1991, Central and Eastern Europe were dominated by atheist regimes. Today, however, many of the governments in the region have a state official religion or an unofficial preferred faith (Fox & Sandler, 2005; Harry, 2014). Hence, the importance of religion to national identity can be viewed as being varied across Europe. This is often attributed to the varied historical struggle and quest to create a distinct identity, potentially impacting on their policies (see McCleary & Barro, 2006).

Within the context of the nation-state, religion is established as an important determinant of economic beliefs (Guiso et al., 2004). As such, a country where religion is important to national identity is highly likely to produce a set of economic attitudes consistent with its dominant religious beliefs. Thus, a mimic isomorphism pattern will be followed by both individuals and firms via circumventing any form of behaviour not listed within societal norms just to avoid societal punishment. Consistent with North's theory of institutional change, formal institutions are viewed as the crystallisation of informal ones (North, 1990) and both co-evolve through the functioning of different organisations. This provides a strong rationale for the notion that informal institutions (e.g., religion) can complement formal institutions in dictating how individuals, firms, and governments behave in attaining their economic objectives. Employees with a membership of either religious or union groups with distinct values are found to adhere to the groups' norms and rules (Tajfel, 1982; Turner, Brown, & Tajfel, 1979), which induces them to make ethically sound decisions in accordance with religious norms for recognition and legitimacy. The importance of religion as part of national identity influences the social norms by upholding negative sanctions with a view to enforcing normative behaviour. Religion, as an informal institution, becomes more influential when recognised as part of national identity, thus forming a strong connection and interaction between the state and religious institutions. This is because the latter dominate the political landscape (Horak & Yang, 2018). Against this background, we extend our hypothesis as:

H_{2A}: The association between religiosity and earnings quality is more pronounced in countries where religion is an important element of national identity.

2.3 Religiosity, Formal Institutions and Banks' Earnings Quality

Formal institutions involve documented and accepted sets of rules and regulations introduced to structure the economic and legal set-up of a given country to protect the rights of investors and prevent unethical behaviour. The strength of the governance infrastructure (e.g., legal framework) may be weak, depending on the institutional settings (North, 1990; Powell & DiMaggio, 1991). Therefore, the role of informal institutions in mitigating earnings manipulations becomes vital in understanding interactions with formal institutions.

Informal institutions are perceived as a consensus around unconsciously designed societal traditions, norms, customs, cultures, ideologies, templates as well as undocumented codes of conduct (Denzau & North, 1994; North, 1990). Where the above elements are enshrined in religious beliefs and accepted by societies as norms, personal and institutional behaviours are guided by consensus, which can be transmitted through generations by observation/imitation or teaching (Tonoyan et al., 2010). Therefore, individuals' decisions are influenced by institutions and eventually signal which of the choices is (un)acceptable in addition to establishing the socialisation of norms and behaviours into a given society (Bruton, Fried, & Manigart, 2005; Peng & Heath, 1996). This form of boundary, or the set of beliefs that collectively shape behaviours for ethical judgement in the overall interest of an organisation, is voluntary and therefore informally institutionalised (Pearce, 2013).

Arguably, formal institutions can influence both individuals and organisations to behave in strict compliance with a pre-defined framework, created and enforced by recognised authorities (Mallor, Barnes, Bowers, & Langvardt, 2013). It is expected that when formal institutions are strong, high compliance will be in force and firms will comply to avoid punishment. However, where formal institutions are weak, the success of firms in upholding ethical judgement can be determined by the informal institutions. Therefore, investors have the choice to entrench either or both ethical values and legal protection in the business context (Pearce & Doh, 2005; Smith, Wokutch, Harrington, & Dennis, 2016). The decision by a firm to embark on earnings manipulation will be highly discouraged and perceived as unethical because of the religious social norms if the formal institutional framework is less effective in detecting such manipulations (Dyreng et al., 2012). This notion supports the typology of informal institutions (Helmke & Levitsky, 2004) in that the relationship between formal and

informal institutions depends on the effectiveness of, and compatibility with, the actors' goals in the institutions. In this regard, religiosity becomes more influential and complements the weak formal institutions (Horak & Yang, 2018). In the light of potential cross-country variations in formal institutions' effectiveness, we extend our hypothesis and expect that:

H_{2B}: The association between religiosity and earnings quality is more pronounced in countries with weak formal institutions.

2.4 Religiosity, Crisis and Banks' Earnings Quality

The 2008 crisis placed financial institutions – most particularly banks – at the hit-hard centre, which resulted in stock crashes, job losses, huge liabilities, and failed and rescued banks, with states increasingly reluctant to intervene (Hawtrey & Johnson, 2009). A major strand of the literature holds the view that earnings manipulations are likely to increase during financial crises, primarily because of the underlying quest for managers to maintain their compensation and exploit the flexibility in the accounting standards (Ahmad-Zaluki, Campbell, & Goodacre, 2011; Cimini, 2015; Gorgan, Gorgan, Florentin, & Pitulice, 2012). This view is consistent with agency theory, which purports that the selfish interests of the managers, coupled with information asymmetry, generally result in exploitation at the expense of the owners (Healy, 1985; Kothari, 2001; Schipper, 1989). Empirical evidence suggests high earnings manipulations, especially in the early stages of the financial crisis when earnings were on the rise (Türegün, 2020). Various reasons are identified in the literature as drivers of earnings management practices during financial crises. For example, management may react to different phases of the business cycle (i.e., expansionary vs. contractionary phases) in order to maintain consistent earnings, including during the period of crisis (Johnson, 1999; Kumar & Vij, 2017). More particularly, for financial institutions such as banks, studies indicate that rating agencies play a crucial role in deterring earnings management practices by downgrading the credit scores of securities found to be evasive (Gode & Sunder, 1993). In view of the effect of the additional cost of capital/borrowing following downgrading, banks may be motivated to circumvent this by embarking on off-balance-sheet adjustments in order reallocate risky assets to special purpose vehicles from their statement on their financial position (Henderson, 2000).

In contrast, it is well documented in another strand in the literature that religiosity plays a role in shaping individuals' behaviour and resilience to cope with major life events/changes (e.g., Koenig, King, & Carson 2012; McDougle, Konrath, Walk, & Handy, 2015). The psychology of religion indicates that people are likely to be more religious as a way of

maintaining their tranquillity during a financial crisis than in a non-crisis period (Díez-Esteban, Farinha, & García-Gómez, 2019). A crisis period is a time when individuals' adherence to religion increases as a result of rising uncertainties, such as a fear of losing jobs. The period is associated with uncertainties and financial difficulty. As such, people attain well-being and psychological and spiritual stability during this period by becoming more religious (Halikiopoulou & Vasilopoulou, 2013) and by benefiting from strong religious community support and social belonging (Orman, 2019). Therefore, the prominent yet universal role religiosity plays in providing a moral framework and deterring unethical decisions can equally apply in the functioning of both financial and non-financial institutions, particularly during financial crises (Marshall, 2008). This is because a crisis period involves strengthening social capital to enable the members of religious groups or societies to cope with the crisis (Steenekamp, Du Toit, & Kotzé, 2015).

Despite the increasing relevance of this strand of the literature, little evidence is documented about how religious individuals may behave when making decisions about firms during a period of crisis. Studies on the impact of religiosity on banks during financial crises are quite limited (Adhikari & Agrawal, 2016).[5] Furthermore, the conclusion is mixed on the impact of the financial crisis on firms' earnings management behaviour across the world (Kumar & Vij, 2017). Evidence from Europe suggests that the overall level of earnings manipulation for 16 countries in the continent dropped significantly during the crisis (Filip & Raffournier, 2014).

We argue that religious norms help individuals within groups to build social capital prior to the crisis period, which eventually results in the calmness, stability and resilience needed to cope with a crisis through communitarian mechanisms (Woolcock & Narayan, 2000). The mechanisms enable the community-oriented activities that religion helps with by bringing religious people together and providing a sense of belonging. This develops into working at cross-purposes as a community and placing the society's collective interests above those of individuals in the hope of reward, either from the supreme being or through societal recognition of an exemplary pattern of behaviours encouraged by religious social norms (Halikiopoulou & Vasilopoulou, 2013). This evidence is further strengthened by a recent survey which showed that over 50 per cent of American citizens sought help from God with prayers during

[5] However, the evidence suggests that Islamic banks (as compared to conventional banks) were generally insulated against the negativities of the crisis due to the constraints imposed by their moral framework (Hasan & Dridi, 2010).

the crisis instigated by the Covid-19 pandemic (PEW Research Center, 2020). The prospect of religiosity in providing a positive pathway characterised by self-sacrifice and moral judgement could lead to improved earnings quality because individuals build more resilience with increased spirituality during crisis periods (Orman, 2019). Thus, with bank managers acting as agents of socialisation, the effect of adherence to religious norms on earnings quality is more emphasised during a crisis than a non-crisis period. Thus, our hypothesis is extended as follows:

H_{2C}: The association between religiosity and earnings quality is more pronounced during crisis periods.

3 Research Design

3.1 Measuring Earnings Quality

To measure banks' earnings quality, we rely on data provided by the StarMine database. We choose the StarMine earnings quality score (*EARNQUAL*) as our dependent variable for various reasons. First, recent studies highlight that the explanatory power of accrual-based measures has dramatically declined (Bushman, Lerman, & Zhang, 2016). Second, *EARNQUAL* represents a quantitative assessment, conducted by StarMine analysts' team, of the degree to which a firm's earnings are reliable and likely to persist. To evaluate a firm's earnings, StarMine uses a multi-factor approach comprising four components: (a) the accruals component, capturing the changes in operating assets (both current and non-current) and liabilities during the last four quarters; (b) the cash flow component, measuring the contribution of net cash flow from operations and cash flow from investment to the firm's earnings; (c) the operating efficiency component, reflecting the effectiveness of the firm in controlling the cost of sales, the level of sales which can be generated from a given asset base, and the changes in asset turnover; and (d) the exclusions component, analysing the degree to which reported earnings reflect operating earnings. Third, StarMine produces an overall score reflecting a firm's earnings quality as compared to other securities trading in the same exchange and reporting to the same regulatory body. This property is particularly important as it enables us to objectively compare a firm's earnings quality relative to all other firms in the same region. StarMine's score ranges from 0 to 100, with 100 representing the highest rank. Fourth, the composition of the multi-factor earnings quality model is designed to provide higher ranks for stocks whose earnings are backed by cash flows and other sustainable sources, while it

penalises firms that are driven by accruals and other less sustainable sources. In particular, low *EARNQUAL* values are indicative of potentially low earnings sustainability over the subsequent twelve months.

3.2 Measuring Religiosity as Part of Social Norms

We follow Kanagaretnam et al. (2015), McGuire et al. (2012), and Parboteeah, Hoegl, and Cullen (2008) and define adherence to religious norms by capturing three distinct dimensions of religiosity, namely: (a) the cognitive, (b) the affective, and (c) the behavioural. We use data from the World Values Survey (WVS), specifically responses to questions about religious importance, religious affiliation, and religious services attendance that collectively determine adherence to religious norms as part of social norms. In particular, we create a measure of religiosity (*RELIG*), definable as the principal component of the proportion of respondents who indicate that (a) religion is important to them (*REL_IMP*), (b) they are affiliated with a religion (*REL_MEMB*), and (c) they attend religious services (*REL_SERV*). These three important components can define identity from the religious norms perspective.

3.3 Empirical Model

We build our model specification by considering previous studies (e.g., Abdelsalam, Dimitropoulos, Elnahass, & Leventis, 2016; Kanagaretnam et al., 2015) and state our model as follows:

$$\begin{aligned}\text{EARNQUAL} = {} & \beta_0 + \beta_1\text{RELIG} + \beta_2\text{INST\_OWN} + \beta_3\text{GOV\_OWN} + \beta_4\text{EBT} + \beta_5\text{SIZE} + \\ & \beta_6\text{LEVERAGE} + \beta_7\text{GROWTH} + \beta_8\text{BIG4} + \beta_9\text{CFO} + \beta_{10}\text{GDPGR} + \beta_{11}\text{CORRUP} + \\ & \beta_{12}\text{POP} + \beta_{13}\text{MALE} + \sum\text{YEAR} + \varepsilon\end{aligned} \quad \textbf{(1)}$$

All the variables of our empirical model are estimated in terms of the US dollar. *EARNQUAL* denotes the earnings quality metric (as presented in section 3.1). *RELIG* represents the principal components of the three religion variables *REL_IMP*, *REL_MEMB*, and *REL_SERV* (see section 3.2 for a description). We include several firm-level variables to control for cross-sectional differences in bank characteristics that may influence the relationship between religiosity and earnings quality. We include the percentage of stocks owned by institutional (*INST_OWN*) and governmental investors (*GOV_OWN*). We anticipate a negative coefficient with banks' earnings quality as institutional investors can encourage short-term managerial behaviour among firm managers and increase earnings management

(Bhide, 1993), while state-owned firms are associated with higher earnings management (Megginson, Nash, & Van Randenborgh, 1994; Shleifer, 1998).

In Eq. (1), *EBT* denotes earnings before taxes deflated by lagged total assets (Abdelsalam et al., 2016). It represents a measure of a bank's capacity to use its assets to generate earnings in advance of its contractual relations and loan loss provisions (Leventis, Dimitropoulos, & Anandarajan, 2011). A positive coefficient is expected. We measure bank size as the natural logarithm of total assets (*SIZE*). Considering that larger banks are more visible to the public (Leventis & Dimitropoulos, 2012) and, thus, are less likely to engage in aggressive earnings management (Cornett et al., 2009), we anticipate a positive coefficient for *SIZE*. *LEVERAGE* represents the ratio of total debt to common equity and we expect a negative coefficient with earnings quality as levered banks are more likely to manage accounting earnings upward for capital adequacy requirements and regulatory scrutiny reasons (Cornett et al., 2009; Leventis & Dimitropoulos, 2012). *GROWTH* captures the change in total assets and enters in our model as a measure of growth opportunities (Kanagaretnam et al., 2015). On the one hand, firms with increased growth opportunities were found to be associated with less discretionary accruals (Lai, 2009), especially when they experience increased monitoring. On the other hand, Chen, Elder, and Hung (2010) demonstrate that high investment opportunities increase the likelihood of earnings management as controls in high-growth firms are less likely to be effective (Anderson, Francis, & Stokes, 1993). Thus, we cannot infer any predictions about the sign of this coefficient.

BIG4 is an indicator variable that equals one if the bank is audited by a Big Four audit firm (Deloitte, PricewaterhouseCoopers, Ernst & Young, and KPMG), and zero otherwise. Banks audited by *BIG4* firms are expected to report financial statements of enhanced quality and, consequently, are less likely to practice earnings management (Gul, Tsui, & Dhaliwal, 2006). We also control for net cash flow from operating activities deflated by average total assets (*CFO*) as a proxy for bank financial performance. We expect that highly performing banks are less likely to manipulate their accounting numbers (Abdelsalam et al., 2016).

In Eq. (1), we also control for demographic characteristics bounded with religiosity. Following prior studies, we augment our model for the natural logarithm of the country's population (*POP*) and the percentage of male residents (*MALE*) (Hilary & Hui, 2009), both retrieved on an annual basis through the World Bank. We conclude our model for country-level macro-economic conditions by including the annual growth in GDP (*GDPGR*) (Kanagaretnam

et al., 2015) and the level of control for corruption in the country (Abdelsalam et al., 2016), derived through World Bank's World Governance Indicators, as Leuz, Nanda, and Wysocki (2003) document that corruption is a significant determinant of corporate accounting quality. *CORRUP* takes values between zero and 100, with the highest value indicating the highest level of perception of corruption, meaning more corruption in terms of the government and officials. Throughout our analysis, we standardise *CORRUP* to be between zero and one. The standard errors of all the regression estimates are adjusted using heteroskedasticity corrected and clustered robust standard errors, clustered on banks. ε denotes the error term. Finally, we control for year dummies and winsorise all continuous variables at the top and bottom 1 per cent to mitigate the effect of outliers; we present the variable definitions in Appendix I.

3.4 Instrumental Variables Approach

The literature advocates the existence of an interrelationship between religiosity and the quality of institutions, indicating a bidirectional version of causality (Berggren & Bjørnskov, 2013).[6] Additionally, previous studies raise concerns about the potential endogeneity between religion and corporate behaviour (Callen & Fang, 2015; Hilary & Hui, 2009; Jiang, John, Li, & Qian, 2018) with respect to potential omitted unobservable factors affecting people's faith in religion and earnings quality. To control for potential endogeneity, we adopt an instrumental variable two-stage least squares (IV-2SLS) and use the Fox (2011) level of state regulation of religion (*SCX*) as an instrumental variable. We differentiate from previous studies (i.e., Barro & McCleary, 2003; McCleary & Barro, 2006) in the way we measure the state regulation of religion, and instead of using a binary measure, we include a scale indicating the level to which each state is willing to restrict some or all religions. *SCX* takes values from zero to five and captures the exact level of official restrictions on religion. We expect a negative relation between *SCX* and *RELIG* since the higher the restrictions imposed, the higher the decrease in the efficiency of religion providers and, therefore, the lower the rates of religious services attendance (Barro & McCleary, 2003; McCleary & Barro, 2006). Although state regulation of religion is likely to be related to religiosity, there is no obvious reason why it should affect a bank's earnings quality.

[6] For example, Berggren and Bjørnskov (2013, p. 179) evidence that religiosity can affect formal institutions through the political process (i.e., "*religiosity influences voters, who may try to influence politicians either directly or through interest groups*"), while the authors also claim that higher-quality institutions are associated with a widespread feeling of certainty and security that reduces the need for the comfort that religiosity might bring.

3.5 Data Collection Procedure

To test our predictions, we construct a global sample of all listed banks with common support across the Orbis Bank Focus and StarMine databases. We consider the period from 2002 to 2018. We omit 444 banks as the country of their corporate headquarters is not covered by the World Values Survey. Our data requirements on the control variables in Eq. (1) drop a further 329 banks due to missing financial information and 12 due to missing ownership structure data. Following Beck, Demirgüç-Kunt, and Merrouche (2013), our sample selection criteria require at least two bank-year observations for each bank within one country and at least two banks in one country, and thus we eliminate 16 banks. Our final sample comprises 1,283 banks (translated into 7,619 bank-year observations) scattered across 39 countries (see Table 1). The right side of Table 1 shows the composite measure of religiosity (*RELIG*) and its constituents, as per country. The table shows that China, Japan, and Sweden are among the bottom three, while Ghana, Morocco, and the Philippines are among the top three in terms of the importance of religion, affiliation with religion, and attendance of religious services.

[Insert Table 1 about here]

4 Empirical Results

4.1 Univariate Analysis

We provide the descriptive statistics of the variables included in the analysis in Table 2. The mean value of the dependent variable suggests that the average bank is ranked approximately 44th as compared to all other securities trading in the same region (*EARNQUAL* = 44.30). The mean level of earnings before taxes is 1.7 per cent of total assets, similar to the values reported by Abdelsalam et al. (2016). The average bank has a leverage ratio of 0.85 and exhibits a positive growth (7.6 per cent) in its total assets, which is lower compared to the values reported in Kanagaretnam et al. (2015). Finally, *BIG4* audit firms audit 46.5 per cent of our sample banks.

[Insert Table 2 about here]

Table 3 presents the Pearson correlation coefficients among the sample variables. The largest correlation coefficients observed are those between *CFO* and *EBT* (0.58), and *CFO* and *LEVERAGE* (-0.53), and thus suggest no serious problem of multicollinearity. This is also verified by the low values of the mean-variance inflation factors (VIFs), which do not exceed

5.53 across all models and are even lower than the cut-off value of 10 (Studenmund, 2016). Finally, we observe that the main variable of interest, *RELIG*, exhibits a positive and statistically significant coefficient (at 1%) with *EARNQUAL*.

[Insert Table 3 about here]

4.2 Multivariate Analysis

Column 1 of Table 4 presents the impact of religiosity on the earnings quality of the bank compared to all other securities trading in the same region (*EARNQUAL*) using an IV-2SLS approach. Hence, we suppress the first-stage results for the sake of brevity, while we report the coefficient of the instrument for religiosity, namely *SCX*. We observe that *RELIG* has a significant positive impact on earnings quality (p-value ≤ 0.01) after controlling for numerous bank-level and country-level control variables, and thus we accept H_1. The Hausman statistic is significant (p-value ≤ 0.01). This indicates that IV-2SLS is the preferred estimation relative to the OLS. The partial R-squares and the F-statistics indicate that the instrument is highly correlated with the endogenous variable. The high F-statistic of 64.17 is above the threshold of 10 (Staiger & Stock, 1997) and suggests a strong instrument.

[Insert Table 4 about here]

Referring to the control variables in Column 1 of Table 4, most of the coefficients have the predicted sign. The negative coefficients of *INST_OWN* and *GOV_OWN* corroborate the findings of previous studies (Bhide, 1993; Megginson et al., 1994; Shleifer, 1998). *EBT* and *SIZE* have positive coefficients, supporting the notion that more profitable and larger banks, respectively, have higher earnings quality (Cornett et al., 2009). *LEVERAGE* is positive and significant at the 10 per cent level. The positive sign contrasts the findings of previous studies (Cornett et al., 2009; Leventis & Dimitropoulos, 2012). The negative and statistically significant coefficient for *GROWTH* is consistent with the findings of Chen et al. (2010). *BIG4* is positive and significant (p-value ≤ 0.01) and indicates that BIG4 clients have better quality earnings (Gul et al., 2006). Finally, the magnitude of *CORRUP* corroborates with Leuz et al. (2003) as earnings quality increases with higher control for corruption.

Next, we test our sub-hypotheses regarding the variations in the effect of religiosity. In particular, we expect the effect of religiosity to vary due to cross-country differences. In order to assess the validity of our sub-hypotheses, we empirically test the effect of religiosity on banks' earnings quality in the several forms: (a) across banks located in countries where

religion is important to national identity (H_{2A} in subsection 4.2.1), (b) across banks located in countries with poor legal protection (H_{2B} in subsection 4.2.2), and (c) during the global financial crisis period (H_{2C} in subsection 4.2.3). We present these results in the sub-sections below.

4.2.1 Religiosity, National Identity and Banks' Earnings Quality

Prior studies (Halikiopoulou & Vasilopoulou, 2013) highlight the existence of cross-country variations in the perceptions of religion. For example, the PEW Research Center reports that only 17 per cent and 25 per cent of respondents from Sweden and the Netherlands, respectively, indicate that religion is very important or somewhat important to their national identity.[7] On the contrary, 71 per cent and 51 per cent of respondents from Poland and the US, respectively, highlight the importance of religion to their national identity. These differences in the extent of religiosity across countries can cause a variation in our results.

To test this prediction, we collect data for the importance of religion on national identity from two sources. First, we consider the cross-national survey of the PEW Research Center of 2016 across 13 countries. Second, we collect data from the International Social Survey Programme (ISSP), which conducted three cross-national surveys during 1995, 2003 and 2013 for 44 countries.[8] Both organisations asked participants how important the "*dominant denomination*" is for being a truly "*survey country nationality*". Using data from both sources, we create an aggregate measure, defined as the sum of the percentage of respondents indicating that religion is very important or somewhat important to their national identity. To overcome the issue of missing data because of the discontinued participation of certain countries in the surveys, we use linear interpolation/extrapolation to fill any missing observations.[9]

In Column 2 of Table 4, we test H_{2A} and incorporate the interaction term between *RELIG* and an indicator that equals one if more than 50 per cent of respondents of the aforementioned sources indicated that religion is very important or somewhat important to their national identity (*REL_IMPORT_NAT_ID*), and zero otherwise. The coefficient of *RELIG*×*REL_IMPORT_NAT_ID* is positive and statistically significant (p-value ≤ 0.05).

[7] For more information on the "Global Attitudes and Trends" survey, conducted by the PEW Research Center, please visit http://www.pewglobal.org/dataset/spring-2016-survey-data/ (Accessed 12 June, 2020).

[8] For more information on the ISSP's cross-national surveys, please visit https://www.gesis.org/issp/modules/issp-modules-by-topic/national-identity/ (Accessed 12 June, 2020).

[9] Linear interpolation/extrapolation is a common practice in the prior literature (see for example Dyreng et al., 2012; Kumar, Page, & Spalt, 2011).

Comparing the coefficient of the interaction term with that of *RELIG* in our baseline model (Column 1), religiosity has a stronger effect on a bank's earnings quality when it is an important element of a nation's identity. Despite the observed negative coefficient of *REL_IMPORT_NAT_ID* (*p*-value ≤ 0.05), the relative impact of the interaction term has a higher magnitude, suggesting that the effect of religiosity strengthens in countries where religion is an important element of national identity, and thus we accept H_{2A}.

4.2.2 Religiosity, Legal Protection and Banks' Earnings Quality

In this section, we assess whether the effect of religiosity strengthens with weak country formal institutions (H_{2B}). We use the legal rights index from the *Doing Business Project* for 189 economies, similar to Qian et al. (2018), to capture the strength of a country's legal protection.[10] Using the sample median of legal protection, we create an indicator variable (*LOW_LEGAL_PROT*) that equals one if the country's legal protection index is lower than the sample median, and zero otherwise. Column 3 in Table 4 indicates that the coefficient of the interaction term *RELIG*×*LOW_LEGAL_PROT* is positive and significant (*p*-value ≤ 0.01), suggesting that the impact of religiosity on banks' earnings quality is more prominent in countries with lax legal protection. Therefore, our evidence confirms the notion that informal institutions have larger effects in regions where formal institutions are less effective (Guiso et al., 2004; North, 1994; Qian et al., 2018), and thus we accept H_{2B}.

4.2.3 Religiosity, Global Financial Crisis and Banks' Earnings Quality

We also examine whether the effect of religiosity on banks' earnings quality varies over time, and in particular during the global financial crisis period. We create an indicator (*CRISIS*) that equals one for the crisis period (i.e., 2007-2009), and zero otherwise. The coefficient of *RELIG*×*CRISIS* is positive and significant (*p*-value ≤ 0.01, Column 4 of Table 4), while the *CRISIS* coefficient is statistically insignificant. Comparing the coefficient of the interaction term with that of *RELIG* alone, the impact of religiosity is more than doubled during the financial crisis. Such evidence is supportive of our last sub-hypothesis (H_{2C}) and also consistent with the notion that the effect of religiosity is stronger during recessions and periods of turbulence in the market (Adhikari & Agrawal, 2016; Jiang et al., 2018).

[10] The index ranges from 0 to 12, and higher values indicate better legal protection. Details of the index can be found at http://www.doingbusiness.org/ (Accessed 12 June, 2020).

5 Sensitivity Analysis

5.1 Alternative Measures of Religiosity

Given that there are various ways to measure religiosity, we conduct additional tests to probe the robustness of our inferences for a significant association between religiosity and bank earnings quality. In this regard, we use the components of our measure of religiosity (*RELIG*), namely *REL_IMP*, *REL_MEMB*, and *REL_SERV*, as alternative measures of religiosity. Panel A of Table 5 reports these additional tests, in which the coefficients of all three measures are positive and statistically significant (p-value ≤ 0.01). For this and all subsequent tests reported in Table 5, we suppress the coefficient estimates for the remaining control variables of Eq. (1), which can be found in the online appendix.

[Insert Table 5 about here]

5.2 Alternative Measures of Earnings Quality

In line with the prior literature (i.e., Pevzner et al., 2015), we examine whether our results are robust when using the logarithmic transformation (*Ln(EARNQUAL)*) of the earnings quality measure – this is to address the concern that the original measure has a skewed distribution. We also employ two alternative specifications of the *EARNQUAL* proxy. First, we use the quality of the accruals component (*EQ_ACCR*), which captures the changes in operating assets (both current and non-current) and liabilities during the last four quarters. Second, we follow Kanagaretnam et al. (2015) and capture earnings management through discretionary loan loss provisions (*ALLP*).[11] We report the results in Panel B of Table 5. The coefficient of *RELIG* remains positive and statistically significant (p-value ≤ 0.01) when the dependent variable is *Ln(EARNQUAL)* or *EQ_ACCR* (Columns 1 and 2 of Panel B, respectively). When the dependent variable is *ALLP* (Column 3 of Panel B), the coefficient of *RELIG* becomes negative and statistically significant (p-value ≤ 0.05), which affirms the findings of the previous literature regarding the negative relation between religiosity and earnings management (Kanagaretnam et al., 2015).

[11] We calculate *ALLP* through a two-stage procedure. First, we regress loan loss provisions (*LLP*) on total loans outstanding, change in total loans outstanding, net loan charge-offs, beginning non-performing loans, change in non-performing loans, and loan categories. In the second stage, we estimate discretionary *LPP* using the residuals from our first-stage results (*ALLP*).

5.3 Alternative Sampling

In this sub-section, we probe the robustness of our results using alternative sample constructs. First, we mitigate concerns related to the high representation of certain countries in our sample by excluding banks headquartered in the US, in Japan, or in both countries. Second, we exclude banks with total assets less than $500 million and or $1 trillion to accommodate concerns related to the positive association between bank size and earnings manipulation propensity (Beatty, Bin, & Petroni, 2002). Repeating our analyses using the aforementioned sample constructs (see Panel C of Table 5) does not alter our inferences as the coefficient of *RELIG* remains positive and statistically significant (p-value ≤ 0.01).

5.4 Alternative Model Specifications and Variable Omission

Beyond the aforementioned tests, we also examine the robustness of our inferences when augmenting Eq. (1) with additional control variables. We begin with the incorporation of alternative specifications of the control variables used in Eq. (1), namely size, leverage and growth opportunities. Specifically, we control for (a) the natural logarithm of market capitalisation (*LnMCAP*), (b) the ratio of total debt to total assets (*LEV*), and (c) the market to book ratio (*MB*). Panel D of Table 5 (Columns 1 to 3) reveals that our inferences are not sensitive to alternative constructs of the control variables as the coefficient of *RELIG* is positive and significant (p-value ≤ 0.01).

Next, we replace the ownership structure variables with the percentage of shares held by the ultimate shareholder (*ULT_OWN*). We intend to capture controlling shareholders' ability to control the firm by determining strategic corporate business decisions and how management is monitored and compensated (Jensen & Meckling, 1976; Zou & Adams, 2008). Column 4 of Panel D informs that the coefficient of *RELIG* remains positive and significant (p-value ≤ 0.01), while *ULT_OWN* has a negative and significant coefficient (p-value ≤ 0.01). The relative impact of *ULT_OWN* is stronger, as compared to *RELIG*, and supports the findings by Chen et al. (2010) for controlling shareholders being associated with higher earnings management.

In addition to these tests, we include a battery of country-level controls to mitigate the omitted variables concerns regarding the multinational nature of our study and to isolate the potential effects arising from country cultural and demographic factors. Hence, for the sake of brevity, we do not tabulate the following tests but present them in the online appendix. First, we account for Hofstede's (2001) country-level cultural variables. Second, we augment the

model for country-level institutional factors, such as (a) the World Bank's country governance indicators (Kaufmann & Kraay, 2017), (b) common law legal origin (La Porta, Lopez-de-Silanes, & Shleifer, 1999), (c) investor protection (Pevzner et al., 2015), (d) the quality of the audit function and the degree of accounting enforcement in each country (Brown, Preiato, & Tarca, 2014), and (e) income inequalities. Finally, we control for demographic characteristics bounded with religiosity using the natural logarithm of the per capita income and the percentage of female residents, since Iannaccone (1998) considers gender and income as influential determinants of religious participation at the individual level. Incorporating all the aforementioned variables does not alter our inferences as the coefficient of *RELIG* remains positive and statistically significant at 5% or better.

6 Conclusion

Our study explores how the degree of religiosity in the country of corporate headquarters impacts the earnings quality of banks. The empirical analyses are consistent with the earlier predictions about the importance of religion as an informal control instrument for checking unethical corporate decisions. We demonstrate that religiosity has a significant positive impact on earnings quality after controlling for various bank-level and country-level variables. We also show that the effect of religiosity on banks' earnings quality becomes more pronounced among banks headquartered in countries where religion is an important element of national identity and in countries with weak legal protection. Additionally, we provide evidence that the effects of religiosity are more than doubled during the global financial crisis period. A range of sensitivity tests lends support to the notion that religiosity can restrain the unethical activities of managers acting as agents of their shareholders, thereby minimising the risk of bank failure.

In light of the above findings, our paper contributes to prior studies in the earnings quality literature by highlighting the positive influence of religiosity on the earnings quality of banks. Furthermore, our study contributes to the understanding of the institutional effect of religious social norms (by focusing particularly on its informal characteristics) on the degree of earnings quality, particularly in jurisdictions with weak formal institutions. This contribution has a strong implication for the development of an effective regulatory framework by the policymakers, which could lead to a less costly but more efficient regulatory policy. The positive influence of religiosity on earnings quality is equally useful to investors, because it provides a comprehensive framework for considering investments, particularly in less developed countries that may have weak formal institutions but strong religiosity. Moreover,

we provide distinctive evidence through the lens of social norms theory on how the level of religious social norms collectively influences banks' earnings quality for certain countries where religion is part of their national identity compared to other countries where religion is not part of their national identity. The implication of this contribution for political office holders is important. For example, politicians can benefit by building a considerable national image and reputation that can enhance investors' confidence and attract better foreign direct investment into their countries. Finally, this study contributes to the important debate on the nexus between religiosity and the earnings quality of banks during crisis periods. This contribution has implications for both regulators and societies. Although our study considers the 2008 financial crisis, its findings offer some lessons for banks regarding their response to the Covid-19 crisis, thereby potentially supporting the fact that people tend to be more spiritual and socially supportive during crises. This demonstrates the strength of religion in providing some sort of emotional succour and consistency in corporate decision making during a crisis.

The foregoing contributions, we note the following limitations in our research design that could potentially impact our results. First, the religiosity variable is taken as a country-level average measure, although it may be different across decision-makers within banks. Second, we assume that decision-making responsibility lies with the management and is influenced by the degree of religiosity of the large controlling shareholders. However, our data for the individual banks do not capture the religiosity of the shareholders; rather, we assume that they behave within the scope of the country average. These are potential avenues for future research.

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Appendix I – Variable Definitions

Variable	Definition
Dependent variable:	
EARNQUAL	Earnings quality of the firm compared to all other securities trading in the same region, with higher values indicating higher rated firms. *Data source*: StarMine.
Religiosity variables:	
RELIG	The first principal component of: (a) the percentage of respondents that indicates religion is important to them (*REL_IMP*), (b) the percentage of respondents say that they are a religious person (*REL_MEMB*), and (c) the percentage of respondents say that they attend religious services (*REL_SERV*). *Data source*: WVS
REL_IMP	The percentage of respondents that indicates religion is important to them. *Data source*: WVS
REL_MEMB	The percentage of respondents says that they are a religious person. *Data source*: WVS
REL_SERV	The percentage of respondents says that they attend religious services. *Data source*: WVS
Control variables:	
INST_OWN	The percentage of stocks held by institutional investors. *Data source*: BankScope.
GOV_OWN	The percentage of stocks held by government or government bodies. *Data source*: BankScope.
EBT	Earnings before taxes deflated by lagged total assets. *Data source*: BankScope.
SIZE	The natural logarithm of year-end total assets. *Data source*: BankScope.
LEVERAGE	The ratio of total debt to total common equity. *Data source*: BankScope.
GROWTH	The annual growth rate of total assets. *Data source*: BankScope.
BIG4	One if auditor is a Big Four, zero otherwise. *Data source*: BankScope.
CFO	Cash flow from operating activities deflated by average total assets. *Data source*: BankScope.
Macroeconomic variables:	
GDPGR	The annual growth rate of the country's GDP. *Data source*: World Bank.
CORRUP	Control of corruption captures perceptions of the extent to which public power is exercised for private gain, including both petty and grand forms of corruption, as well as "capture" of the state by elites and private interests. Percentile rank indicates the country's rank among all countries covered by the aggregate indicator, with 0 corresponding to the lowest rank, and 100 to the highest rank. We standardise the index to be between zero and one. *Data source*: World Bank.
POP	Natural logarithm of the country's population. *Data source*: World Bank.
MALE	The percentage of male residents in the country. *Data source*: World Bank.
Variables in interactions:	
REL_IMPORT_NAT_ID	One if more than 50 percent of respondents of the surveys conducted by the PEW Research Center or the International Social Survey Programme (ISSP) indicate that religion is very important or somewhat important to their national identity, zero otherwise. *Data source*: PEW Research Center and ISSP.
LOW_LEGAL_PROT	One if the country's legal protection index is lower than the sample median, zero otherwise. *Data source*: Doing Business Project.
CRISIS	One for the years 2007-2009, zero otherwise.
Instrument:	
SCX	Indicates the official restrictions on religion, and takes the values of: (a) 0 if no (other) religions are illegal and there are no significant restrictions on minority religions; (b) 1. if no religions are illegal and no limitations are places on them but some religions have benefits not given to others due to some form of official recognition or status not given to all religions; (c) 2 if no religions are illegal but some or all (other) religions have practical limitations placed upon them; (d) 3 if no religions are illegal but some or all (other) religions have legal limitations placed upon them; (e) 4 if some (other) religions or atheism are illegal; and (f) 5 if all (other) religions are illegal. *Data source*: The Religion and State Project (Fox, 2011).

(continued on next page)

Appendix continued

Variable	Definition
Variables in sensitivity tests:	
ACCRQUAL	Quality of the accruals component of StarMine's earnings quality model, where a firm is compared to all other securities trading in the same region, with higher values indicating higher rated firms. The accruals component captures changes in operating assets (both current and non-current) and liabilities during the last four quarters. *Data source*: StarMine.
ALLP	Is the error term from a regression, in which we regress LLP on total loans outstanding, change in total loans outstanding, net loan charge-offs, beginning non-performing loans, change in non-performing loans, and loan categories. *Data source*: BankScope and own calculations.
LnMCAP	Natural logarithm of market capitalisation. *Data source*: BankScope
LEV	The ratio of total debt to total assets. *Data source*: BankScope
MB	Market to book ratio. *Data source*: BankScope
ULT_OWN	The percentage of stocks held by the ultimate shareholder. *Data source*: BankScope

Table 1 Country distribution of observations and mean values of religiosity measures.

No	Country	Banks	Obs	Percent	Mean value			
					REL_IMP	REL_MEMB	REL_SERV	RELIG
1	Argentina	8	49	0.59	0.562	0.678	0.359	0.227
2	Australia	24	118	1.42	0.311	0.413	0.169	0.122
3	Bahrain	14	100	1.20	0.869	0.760	0.859	1.084
4	Brazil	23	137	1.65	0.894	0.797	0.650	0.050
5	Chile	10	58	0.70	0.589	0.503	0.366	0.083
6	China	60	247	2.97	0.106	0.125	0.029	0.273
7	Colombia	10	59	0.71	0.854	0.825	0.639	0.064
8	Cyprus	4	19	0.23	0.799	0.783	0.352	0.420
9	Egypt	9	16	0.19	0.995	0.923	0.594	0.250
10	Germany	34	175	2.11	0.380	0.495	0.193	0.146
11	Ghana	6	24	0.29	0.985	0.970	0.838	0.243
12	India	67	393	4.73	0.913	0.888	0.592	0.070
13	Japan	135	1,181	14.22	0.186	0.210	0.106	0.314
14	Jordan	24	138	1.66	0.995	0.804	0.572	0.123
15	Kazakhstan	7	25	0.30	0.550	0.617	0.196	0.324
16	Lebanon	6	29	0.35	0.770	0.636	0.616	0.384
17	Malaysia	16	95	1.14	0.968	0.537	0.643	1.391
18	Mexico	16	26	0.31	0.838	0.742	0.622	0.099
19	Morocco	6	12	0.14	0.984	0.897	0.915	0.292
20	Netherlands	7	36	0.43	0.252	0.438	0.164	0.332
21	New Zealand	2	9	0.11	0.361	0.427	0.188	0.064
22	Nigeria	21	73	0.88	0.975	0.959	0.906	0.530
23	Pakistan	38	163	1.96	0.975	0.997	0.496	0.763
24	Peru	26	79	0.95	0.802	0.815	0.590	0.088
25	Philippines	19	85	1.02	0.981	0.807	0.854	0.637
26	Poland	13	88	1.06	0.796	0.862	0.672	0.296
27	Romania	3	12	0.14	0.838	0.814	0.431	0.249
28	Russia	26	125	1.51	0.418	0.531	0.133	0.265
29	Rwanda	2	7	0.08	0.723	0.959	0.782	1.284
30	Singapore	10	52	0.63	0.767	0.531	0.448	0.324
31	South Africa	13	72	0.87	0.839	0.800	0.690	0.206
32	South Korea	36	167	2.01	0.542	0.325	0.357	0.708
33	Spain	10	62	0.75	0.320	0.400	0.192	0.123
34	Sweden	9	42	0.51	0.262	0.312	0.091	0.039
35	Thailand	34	153	1.84	0.877	0.320	0.402	2.274
36	Tunisia	19	114	1.37	0.981	0.651	0.456	0.621
37	Turkey	51	223	2.69	0.927	0.835	0.372	0.716
38	Ukraine	10	44	0.53	0.608	0.683	0.240	0.418
39	United States Of America	467	3,798	45.73	0.682	0.687	0.441	0.012
	Total	**1,295**	**8,305**	**100**	**-**	**-**	**-**	**-**

Note: This table present the bank distribution and the mean values of our religiosity measure and its constituents as per country. *REL_IMP* is the percentage of respondents that indicates religion is important to them (based on the WVS). *REL_MEMB* is the percentage of respondents says that they are a religious person (based on the WVS). *REL_SERV* is the percentage of respondents says that they attend religious services (based on the WVS). *RELIG* is the first principal component of *REL_IMP*, *REL_MEMB*, and *REL_SERV*.

Table 2 Descriptive statistics

Variable	N	Min	25th	Mean	Median	75th	Max	StDev
EARNQUAL	8,305	1.00	24.00	43.30	42.00	62.00	100.00	24.31
RELIG	8,305	0.00	0.02	0.23	0.07	0.27	2.27	0.39
INST_OWN	8,305	0.00	0.22	0.50	0.50	0.78	1.00	0.32
GOV_OWN	8,305	0.00	0.00	0.04	0.01	0.02	1.00	0.12
EBT	8,305	-0.06	0.01	0.02	0.01	0.02	0.17	0.03
SIZE	8,305	9.71	14.28	15.74	15.64	17.20	21.35	2.19
LEVERAGE	8,305	0.10	0.86	0.85	0.89	0.92	0.97	0.15
GROWTH	8,305	-0.31	-0.01	0.08	0.05	0.13	0.77	0.16
CFO	8,305	0.01	0.03	0.07	0.04	0.06	0.58	0.08
GDPGR	8,305	-0.10	0.02	0.03	0.02	0.03	0.09	0.02
CORRUP	8,305	0.08	0.57	0.75	0.89	0.90	1.00	0.23
POP	8,305	0.89	4.43	5.10	5.68	5.77	7.24	1.23
MALE	8,305	0.46	0.49	0.50	0.49	0.50	0.63	0.02

Note: This table presents descriptive statistics of the variables used in our analysis. The continuous variables are winsorized at the 1st and 99th percentiles. *EARNQUAL* is the rank of earnings quality of the firm in the country of corporate headquarters, derived through StarMine database, with higher values indicating higher rated firms. *RELIG* is the first principal component of: (a) the percentage of respondents that indicates religion is important to them (*REL_IMP*), (b) the percentage of respondents say that they are a religious person (*REL_MEMB*), and (c) the percentage of respondents say that they attend religious services (*REL_SERV*). *INST_OWN* is the percentage of stocks owned by institutional investors. *GOV_OWN* is the percentage of stocks owned by the government or governmental agencies. *EBT* is earnings before taxes deflated by lagged total assets. *SIZE* is the natural logarithm of year-end total assets. *LEVERAGE* is the ratio of total debt to total common equity. *GROWTH* is the annual growth rate of total assets. *CFO* is cash flow from operating activities deflated by average total assets. *GDPGR* is the annual growth rate of GDP. *CORRUP* is the control of corruption, which captures perceptions of the extent to which public power is exercised for private gain, including both petty and grand forms of corruption, as well as "capture" of the state by elites and private interests. Percentile rank indicates the country's rank among all countries covered by the aggregate indicator, with 0 corresponding to the lowest rank, and 100 to the highest rank. We standardise *CORRUP* to be between zero and one. *POP* is the natural logarithm of the country's population. *MALE* is the percentage of male residents in the country of corporate headquarters. The observations use to capture the variables from the accounting measures are in thousands of US dollars. All variables are defined in Appendix I.

Table 3 Pearson correlation matrix (N = 8,305)

Variable	1	2	3	4	5	6	7	8	9	10	11	12	13
1. EARNQUAL	1.00												
2. RELIG	0.05***	1.00											
3. INST_OWN	-0.03**	0.11***	1.00										
4. GOV_OWN	-0.05***	0.14***	-0.14***	1.00									
5. EBT	0.17***	0.10***	0.08***	-0.03***	1.00								
6. SIZE	-0.02*	-0.30***	0.19***	0.15***	-0.16***	1.00							
7. LEVERAGE	-0.03***	-0.09***	-0.04***	0.06***	-0.48***	0.45***	1.00						
8. GROWTH	-0.17***	0.05***	0.04***	-0.03**	0.26***	-0.02*	0.02*	1.00					
9. CFO	0.08***	0.06***	0.09***	-0.03**	0.58***	-0.32***	-0.53***	0.06***	1.00				
10. GDPGR	-0.09***	0.24***	0.09***	0.16***	0.16***	0.05***	-0.09***	0.13***	0.04***	1.00			
11. CORRUP	0.07***	-0.32***	-0.12***	-0.24***	-0.13***	0.04***	0.13***	0.02*	-0.10***	-0.38***	1.00		
12. POP	0.01	0.00	-0.10***	0.01	-0.03***	0.06***	0.12***	0.13***	-0.07***	0.16***	0.11***	1.00	
13. MALE	-0.05***	0.28***	0.00	0.19***	0.04***	0.01	-0.08***	0.06***	-0.01	0.37***	-0.22***	-0.17***	1.00

Note: This table correlation coefficients of the variables used in our main analysis. All variables are winsorized at the 1st and 99th percentiles. Values with asterisks *, **, and *** indicate significance at the 10, 5, and 1 % levels, respectively (2-tailed). All variables are defined in Appendix I.

Table 4 Religiosity, importance of religion to national identity, weak legal protection, financial crisis and banks' earnings quality, using IV-2SLS

Dependent Variable:	Exp. Sign.	(1) EARNQUAL	(2) EARNQUAL	(3) EARNQUAL	(4) EARNQUAL
RELIG	+	4.395***	22.518**	-0.988	4.086***
		(3.51)	(2.56)	(-0.35)	(3.21)
RELIG×REL_IMPORT_NAT_ID	?		40.331**		
			(2.11)		
RELIG×LOW_LEGAL_PROT	?			8.446***	
				(2.94)	
RELIG×CRISIS	?				9.383***
					(3.78)
REL_IMPORT_NAT_ID	?		-19.251**		
			(-2.27)		
LOW_LEGAL_PROT	?			2.850	
				(1.43)	
CRISIS	?				3.970
					(1.18)
INST_OWN	-	-3.586*	-0.627	-1.138	-5.378**
		(-1.71)	(-0.25)	(-0.42)	(-2.57)
GOV_OWN	-	-10.494***	-0.509	-8.861*	-11.681***
		(-2.59)	(-0.07)	(-1.83)	(-2.93)
EBT	+	260.777***	273.643***	266.565***	257.420***
		(11.10)	(7.43)	(10.89)	(10.67)
SIZE	+	0.858**	-0.071	0.455	1.245***
		(1.99)	(-0.15)	(0.88)	(2.86)
LEVERAGE	-	7.920*	11.396	11.018**	8.004*
		(1.94)	(1.64)	(2.48)	(1.89)
GROWTH	?	-36.213***	-41.648***	-33.748***	-34.934***
		(-15.67)	(-10.40)	(-13.50)	(-14.95)
BIG4	+	3.103***	-0.576	5.258***	1.961*
		(3.00)	(-0.36)	(4.19)	(1.79)
CFO	+	-1.826	-1.197	-3.557	0.674
		(-0.26)	(-1.63)	(-0.49)	(0.09)
GDPGR	?-	-132.249***	-172.507***	-95.586***	-177.088***
		(-4.86)	(-2.72)	(-2.61)	(-6.04)
CORRUP	?	11.113***	17.233***	12.844***	9.274***
		(3.49)	(4.35)	(2.68)	(2.86)
POP	?	1.116***	4.057***	2.634***	0.843**
		(3.07)	(3.05)	(4.27)	(2.28)
PCT_MALE	?	-43.336	-42.599***	-40.184	-34.904
		(-1.11)	(-3.16)	(-0.88)	(-0.89)
Intercept		27.715	27.955***	22.745	22.068
		(1.56)	(3.17)	(1.23)	3.970
Year dummies		Yes	Yes	Yes	Yes
Hausman test		13.377***	52.098***	31.386***	22.665***
Mean VIF		1.489	5.534	1.733	1.533
Observations		8,305	6,658	8,305	8,305
First stage	**Exp. Sign.**	**(1)**	**(2)**	**(3)**	**(4)**
SCX	-	-0.325***	-0.227***	-0.225***	-0.319***
		(-8.01)	(-7.71)	(-6.24)	(-8.05)
F-statistic		64.17	31.38	35.05	34.35
Partial R^2		0.0617	0.1123	0.0486	0.0634
SCX×REL_IMPORT_NAT_ID	?		-0.354***		
			(-11.95)		
SCX×LOW_LEGAL_PROT	?			-0.185***	
				(-4.65)	
SCX×CRISIS	?				-0.274***
					(-4.47)

(continued on next page)

Table 4 continued

Dependent Variable:	Exp. Sign.	(1) EARNQUAL	(2) EARNQUAL	(3) EARNQUAL	(4) EARNQUAL
F-statistic			17.93	70.37	62.41
Partial R^2			0.0251	0.0741	0.0727

Firm-controls	Yes	Yes	Yes	Yes
Macro-controls	Yes	Yes	Yes	Yes
Year dummies	Yes	Yes	Yes	Yes

Note: The dependent variable across all models is *EARNQUAL*, and represents the rank of earnings quality of the firm in the country of corporate headquarters, derived through StarMine database, with higher values indicating higher rated firms. Column 1 indicates the effect of religiosity on earnings quality of global banks. The next three columns present the joint effect of religiosity and: (a) an indicator interaction variable signalling that is located in a country where religion is important to national identity (Column 2); (b) an indicator interaction variable signalling that is located in a country with weak legal protection (Column 3); and (c) an indicator for the global financial crisis (years 2007 and 2008). The *z-statistics* in parentheses are based on heteroskedasticity corrected and clustered robust standard errors, clustered on banks. The continuous variables are winsorized at the 1st and 99th percentiles. For the sake of brevity, we suppress all other control variables included in the first-stage and indicate only the coefficient of the instrument (*SCX*). We further present the *F*-statistic and Partial R^2 for the instrumental variables used for *RELIG* and its interaction separately (i.e., the first statistics correspond to *SCX*, while the *F*-statistic and Partial R^2 at the bottom of the table refer to the interacted variables). All variables are defined in Appendix I.

* p < 0.10, ** p < 0.05, *** p < 0.01

Table 5 Robustness tests

Panel A: Alternative measures of religiosity			
	(1)	**(2)**	**(3)**
Dependent variable:	**EARNQUAL**	**EARNQUAL**	**EARNQUAL**
REL_IMP	34.607***		
	(3.31)		
REL_MEMB		52.715***	
		(2.84)	
REL_SERV			20.653***
			(3.79)
Control variables	Yes	Yes	Yes
Year dummies	Yes	Yes	Yes
Hausman test	17.017***	20.192***	5.632**
Mean VIF	1.498	1.482	1.489
Observations	8,305	8,305	8,305
First stage	**(1)**	**(2)**	**(3)**
SCX	-0.041***	-0.027***	-0.069***
	(-5.94)	(-4.29)	(-14.49)
F-statistic	35.33	18.37	210.02
Partial R^2	0.0359	0.0188	0.1762
Control variables	Yes	Yes	Yes
Year dummies	Yes	Yes	Yes
Panel B: Alternative measures of the dependent variable			
	(1)	**(2)**	**(3)**
Dependent variable:	**Ln(EARNQUAL)**	**ACCRQUAL**	**ALLP**
RELIG	0.133***	2.831***	-0.001**
	(3.20)	(2.82)	(-2.10)
Control variables	Yes	Yes	Yes
Year dummies	Yes	Yes	Yes
Hausman test	11.499***	9.881***	29.482***
Mean VIF	1.493	1.494	1.579
Observations	8,305	8,283	4,574
First stage	**(1)**	**(2)**	**(3)**
SCX	-0.325***	-0.326***	-0.546***
	(-8.01)	(-8.03)	(-9.88)
F-statistic	64.17	64.45	97.70
Partial R^2	0.0617	0.062	0.2633
Control variables	Yes	Yes	Yes
Year dummies	Yes	Yes	Yes
Panel C: Alternative sample constructs			

	(1)	**(2)**	**(3)**	**(4)**	**(5)**
Empirical test:	**Excluding US & Japan**	**Excluding US**	**Excluding Japan**	**Excluding small banks (Total Assets < 500 mil)**	**Excluding small banks (Total Assets < 1 tril)**
Dependent variable:	**EARNQUAL**	**EARNQUAL**	**EARNQUAL**	**EARNQUAL**	**EARNQUAL**
RELIG	2.284***	3.491***	3.938***	2.850***	2.728***
	(3.42	(3.51)	(3.92)	(3.26)	(3.90)
Control variables	Yes	Yes	Yes	Yes	Yes
Year dummies	Yes	Yes	Yes	Yes	Yes
Hausman test	13.362***	15.909***	24.565***	12.465***	16.973***
Mean VIF	1.604	1.705	1.463	1.501	1.498
Observations	3,326	4,507	7,124	7,569	6,846
First stage	**(1)**	**(2)**	**(3)**	**(4)**	**(5)**
SCX	-0.276***	-0.165***	-0.403***	-0.329***	-0.352***
	(-6.82)	(-4.65)	(-10.52)	(-7.22)	(-7.26)
F-statistic	46.48	21.58	110.58	52.17	52.64
Partial R^2	0.0711	0.0275	0.1477	0.0587	0.065
Control variables	Yes	Yes	Yes	Yes	Yes
Year dummies	Yes	Yes	Yes	Yes	Yes

(continued on next page)

Table 5 continued

Panel D: Alternative control variable constructs and ultimate ownership

	(1)	(2)	(3)	(4)
Dependent variable:	**EARNQUAL**	**EARNQUAL**	**EARNQUAL**	**EARNQUAL**
RELIG	4.876***	4.322***	4.358***	3.953***
	(3.80)	(3.38)	(3.30)	(3.48)
LnMCAP	1.423***			
	(3.82)			
LEV		-9.883**		
		(-2.07)		
MB			2.875***	
			(4.78)	
ULT_OWN				-9.909***
				(-5.33)
Control variables	Yes	Yes	Yes	Yes
Year dummies	Yes	Yes	Yes	Yes
Hausman test	13.911***	12.880***	9.704***	9.948***
Mean VIF	1.460	1.510	1.495	1.507
Observations	8,305	8,305	8,305	8,305
First stage	**(1)**	**(2)**	**(3)**	**(4)**
SCX	-0.331***	-0.318***	-0.310***	-0.348***
	(-7.59)	(-7.89)	(-7.31)	(-8.20)
F-statistic	57.66	62.26	53.42	67.2917
Partial R^2	0.0582	0.0597	0.0555	0.0642
Control variables	Yes	Yes	Yes	Yes
Year dummies	Yes	Yes	Yes	Yes

Note: This table presents the robustness tests of our results. Panel A presents results for alternative measures of religiosity. In Panel B we consider alternative measures of the dependent variable. Panel C presents robustness using alternative sample constructs. Panel D provides the analyses when considering for alternative constructs of the control variables and for ultimate ownership. The *z*-statistics in parentheses are based on heteroskedasticity corrected and clustered robust standard errors, clustered on banks. The continuous variables are winsorized at the 1st and 99th percentiles. For the sake of brevity, we suppress all other control variables and maintain only the variables of interest. We further present the *F*-statistic and Partial R^2 for the instrumental variables used for *RELIG*. All variables are defined in Appendix I.
* p < 0.10, ** p < 0.05, *** p < 0.01

Online Appendix for:

The Impact of Religiosity on Earnings Quality: International Evidence from the Banking Sector

This online appendix provides the following empirical results:

- Table IA 1 presents the impact of alternative measures of religiosity, namely *REL_IMP*, *REL_MEMB*, and *REL_SERV* on banks' earning quality.

- Table IA 2 presents the impact of religiosity on banks' earning quality, using alternative specifications of our dependent variable, namely a) the logarithmic transformation of the earnings quality measure, b) the quality of the accruals component (*ACCRQUAL*), and c) discretionary loan loss provisions (*ALLP*).

- Table IA 3 presents the impact of religiosity on banks' earning quality, using alternative sample constructs. We exclude banks: a) with corporate headquarters in the US or Japan (Column 1), b) with corporate headquarters in the US (Column 2), c) with corporate headquarters in Japan (Column 3), d) with total assets less than $500 million (Column 4), and e) with total assets less than $1 trillion (Column 5).

- Table IA 4 presents the impact of religiosity on banks' earning quality, using alternative specifications of the control variables used in our model, namely we control for a) the natural logarithm of market capitalisation (*LnMCAP*), b) the ratio of total debt to total assets (*LEV*), and c) the market to book ratio (*MB*). Additionally, we capture the effect of controlling shareholders on earnings management via controlling for the percentage of shares held by the ultimate shareholder (*ULT_OWN*).

- Table IA 5 presents the impact of religiosity on banks' earning quality, after controlling for cultural effects (Hofstede, 2001), namely including joint or individual country level cultural variables for power distance (*PDI*), individualism (*IDV*), masculinity (*MAS*), and uncertainly avoidance (*UAI*).

- Table IA 6 presents the impact of religiosity on banks' earning quality, after controlling for World Bank's country governance indicators (Kaufmann & Kraay, 2017), after standardising them to range between zero and one, namely government effectiveness (*GOVEFF*), political stability (*POLSTAB*), rule of law (*RULAW*), and regulatory quality (*REGQ*).

- Table IA 7 presents the impact of religiosity on banks' earning quality, after augmenting the model for additional country-level control variables. First, we follow Pevzner, Xie, and Xin (2015) and we operationalize investor protection (*INVPROT*) by combining the anti-self-dealing index of Djankov, La Porta, Lopez-de-Silanes, and Shleifer (2008) and the rule of law index of Kaufmann and Kraay (2017), each standardized to have values of between zero and one. Second, we incorporate in our model an index capturing the quality of audit function and degree of accounting enforcement in each country (*AUDIT_ENF*) developed by Brown, Preiato, and Tarca (2014).

- Table IA 8 presents the impact of religiosity on banks' earning quality, after controlling for common law legal origin (*COMLAW*) (La Porta, Lopez-de-Silanes, & Shleifer, 1999), for income inequalities (using the *GINI* coefficient), and for demographic characteristics bounded with religiosity (Iannaccone, 1998) (namely, the natural logarithm of the per capita income and the percentage of female residents (*FEMALE*).

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Appendix – Variable Definitions

Variable	Definition	Source
PDI	The power distance index is defined as "the extent to which the less powerful members of organizations and institutions (like the family) accept and expect that power is distributed unequally." In this dimension, inequality and power is perceived from the followers, or the lower level. A higher degree of the Index indicates that hierarchy is clearly established and executed in society, without doubt or reason. A lower degree of the Index signifies that people question authority and attempt to distribute power.	Geert Hofstede's website
IDV	This index explores the "degree to which people in a society are integrated into groups." Individualistic societies have loose ties that often only relate an individual to his/her immediate family. They emphasize the "I" versus the "we." Its counterpart, collectivism, describes a society in which tightly-integrated relationships tie extended families and others into in-groups. These in-groups are laced with undoubted loyalty and support each other when a conflict arises with another in-group.	Geert Hofstede's website
MAS	Masculinity is defined as "a preference in society for achievement, heroism, assertiveness and material rewards for success." Its counterpart represents "a preference for cooperation, modesty, caring for the weak and quality of life." Women in the respective societies tend to display different values. In feminine societies, they share modest and caring views equally with men. In more masculine societies, women are more emphatic and competitive, but notably less emphatic than the men. In other words, they still recognize a gap between male and female values. This dimension is frequently viewed as taboo in highly masculine societies.	Geert Hofstede's website
UAI	The uncertainty avoidance index is defined as "a society's tolerance for ambiguity," in which people embrace or avert an event of something unexpected, unknown, or away from the status quo. Societies that score a high degree in this index opt for stiff codes of behaviour, guidelines, laws, and generally rely on absolute Truth, or the belief that one lone Truth dictates everything and people know what it is. A lower degree in this index shows more acceptance of differing thoughts/ideas. Society tends to impose fewer regulations, ambiguity is more accustomed to, and the environment is more free-flowing.	Geert Hofstede's website
GOVEFF	Government Effectiveness captures perceptions of the quality of public services, the quality of the civil service and the degree of its independence from political pressures, the quality of policy formulation and implementation, and the credibility of the government's commitment to such policies. Percentile rank indicates the country's rank among all countries covered by the aggregate indicator, with 0 corresponding to lowest rank, and 100 to highest rank. We standardise the index to be between zero and one.	World Bank
POLSTAB	Political Stability and Absence of Violence/Terrorism measures perceptions of the likelihood of political instability and/or politically-motivated violence, including terrorism. Percentile rank indicates the country's rank among all countries covered by the aggregate indicator, with 0 corresponding to lowest rank, and 100 to highest rank. We standardise the index to be between zero and one.	World Bank
RULAW	Rule of Law captures perceptions of the extent to which agents have confidence in and abide by the rules of society, and in particular the quality of contract enforcement, property rights, the police, and the courts, as well as the likelihood of crime and violence. Percentile rank indicates the country's rank among all countries covered by the aggregate indicator, with 0 corresponding to lowest rank, and 100 to highest rank. We standardise the index to be between zero and one.	World Bank
REGQ	Regulatory Quality captures perceptions of the ability of the government to formulate and implement sound policies and regulations that permit and promote private sector development. Percentile rank indicates the country's rank among all countries covered by the aggregate indicator, with 0 corresponding to lowest rank, and 100 to highest rank. We standardise the index to be between zero and one.	World Bank

INVPROT	Sum of the anti-self-dealing index from Djankov et al. (2008) and the rule of law index from Kaufmann and Kraay (2017). First, we standardize both indices to have values of between zero and one. We then sum them up to create the investor protection index. The anti-self-dealing index is obtained from Djankov et al. (2008). The Kaufmann and Kraay (2017) rule of law measure is from www.govindicators.org.	Djankov et al. (2008) and Kaufmann and Kraay (2017)

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Appendix continued

Variable	Definition	Source
AUDIT_ENF	Is an index measuring the quality of audit function and degree of accounting enforcement as of 2008 (Brown et al., 2014).	Brown et al. (2014)
COMLAW	1 if the country's legal system is based on Common law country, 0 otherwise.	La Porta et al. (1999)
GINI	GINI index measures the extent to which the distribution of income (or, in some cases, consumption expenditure) among individuals or households within an economy deviates from a perfectly equal distribution. A Lorenz curve plots the cumulative percentages of total income received against the cumulative number of recipients, starting with the poorest individual or household. The Gini index measures the area between the Lorenz curve and a hypothetical line of absolute equality, expressed as a percentage of the maximum area under the line.	World Bank
GDP_CAP	Natural logarithm of the country's GDP per capita.	World Bank
FEMALE	The percentage of female residents in the country.	World Bank

Table IA 1 Alternative specifications of religiosity and earnings quality, using IV-2SLS

	(1)	(2)	(3)
Dependent Variable:	**EARNQUAL**	**EARNQUAL**	**EARNQUAL**
REL_IMP	34.607***		
	(3.31)		
REL_MEMB		52.715***	
		(2.84)	
REL_SERV			20.653***
			(3.79)
INST_OWN	-4.983*	-9.096**	-0.546
	(-1.94)	(-2.11)	(-0.38)
GOV_OWN	-13.800***	-15.510***	-6.602*
	(-2.85)	(-2.67)	(-1.89)
EBT	250.598***	250.120***	270.751***
	(9.77)	(9.04)	(12.43)
SIZE	1.234**	1.873**	0.233
	(2.24)	(2.27)	(0.81)
LEVERAGE	7.473*	2.165	10.560***
	(1.72)	(0.36)	(2.98)
GROWTH	-36.006***	-34.286***	-37.122***
	(-15.14)	(-13.19)	(-16.50)
BIG4	3.796***	4.018***	2.333**
	(3.24)	(3.02)	(2.48)
CFO	1.976	-2.094	-3.770
	(0.26)	(-0.26)	(-0.56)
GDPGR	-163.851***	-136.614***	-113.642***
	(-4.86)	(-4.31)	(-4.62)
CORRUP	14.281***	16.588***	7.083***
	(3.38)	(3.11)	(3.04)
POP	1.602***	0.131	1.257***
	(4.11)	(0.21)	(3.59)
PCT_MALE	-27.670	-72.416	-39.589
	(-0.72)	(-1.36)	(-1.08)
Intercept	-5.857	-5.977	29.685*
	(-0.32)	(-0.32)	(1.74)
Year dummies	Yes	Yes	Yes
Hausman test	17.017***	20.192***	5.632**
Mean VIF	1.498	1.482	1.489
Observations	8,305	8,305	8,305
First stage	**(1)**	**(2)**	**(3)**
SCX	-0.041***	-0.027***	-0.069***
	(-5.94)	(-4.29)	(-14.49)
F-Statistic	35.33	18.37	210.02
Partial R^2	0.0359	0.0188	0.1762
Firm-controls	Yes	Yes	Yes
Macro-controls	Yes	Yes	Yes
Year dummies	Yes	Yes	Yes

Note: This table presents the effect of alternative measures of religiosity on earnings quality of global banks. The z-statistics in parentheses are based on heteroskedasticity corrected and clustered robust standard errors, clustered on banks. The continuous variables are winsorized at the 1st and 99th percentiles. For the sake of brevity, we suppress all other control variables included in the first-stage and indicate only the coefficient of the instrument (*SCX*). All variables are defined in Appendix I of the paper.

* p < 0.10, ** p < 0.05, *** p < 0.01

Table IA 2 Religiosity and earnings quality, using alternative specifications of the dependent variable, using IV-2SLS

	(1)	(2)	(3)
Empirical test:	**Log transformation of EARNQUAL**	**Quality of accruals component**	**Discretionary loan loss provisions**
Dependent Variable:	**Ln(EARNQUAL)**	**ACCRQUAL**	**ALLP**
RELIG	0.133***	2.831***	-0.001**
	(3.20)	(2.82)	(-2.10)
INST_OWN	-0.186***	-3.947**	0.001**
	(-2.63)	(-2.36)	(2.19)
GOV_OWN	-0.398***	-1.410	0.003*
	(-3.01)	(-0.42)	(1.75)
EBT	8.229***	-115.790***	-0.158***
	(10.77)	(-7.23)	(-10.31)
SIZE	0.038***	0.289	0.000
	(2.68)	(0.92)	(0.21)
LEVERAGE	0.265*	-8.530***	0.006**
	(1.96)	(-2.95)	(2.35)
GROWTH	-1.285***	-53.081***	-0.001**
	(-16.04)	(-27.19)	(-2.06)
BIG4	0.095***	2.690***	-0.001**
	(2.81)	(3.32)	(-2.23)
CFO	-0.404*	2.874	0.042***
	(-1.79)	(0.49)	(5.09)
GDPGR	-4.145***	-49.161**	-0.011
	(-4.65)	(-2.26)	(-0.99)
CORRUP	0.525***	14.297***	0.001
	(5.13)	(5.70)	(0.83)
POP	0.034***	-0.117	-0.000***
	(2.73)	(-0.43)	(-3.03)
PCT_MALE	-1.487	-19.727	0.031**
	(-1.23)	(-0.67)	(2.49)
Intercept	2.872***	50.485***	-0.017**
	(5.32)	(4.01)	(-2.38)
Year dummies	Yes	Yes	Yes
Hausman test	11.499***	9.881***	29.482***
Mean VIF	1.493	1.494	1.579
Observations	8,305	8,283	4,574
First stage	**(1)**	**(2)**	**(3)**
SCX	-0.325***	-0.326***	-0.546***
	(-8.01)	(-8.03)	(-9.88)
F-Statistic	64.17	64.45	97.70
Partial R^2	0.0617	0.062	0.2633
Firm-controls	Yes	Yes	Yes
Macro-controls	Yes	Yes	Yes
Year dummies	Yes	Yes	Yes

Note: This table presents the effect of religiosity on earnings quality of global banks, using alternative specifications of the dependent variable: (a) converting the dependent variable into its natural logarithm (Column 1), (b) using the quality of the accruals component (Column 2), and (c) using discretionary loan loss provisions (Column 4). The z-statistics in parentheses are based on heteroskedasticity corrected and clustered robust standard errors, clustered on banks. The continuous variables are winsorized at the 1st and 99th percentiles. For the sake of brevity, we suppress all other control variables included in the first-stage and indicate only the coefficient of the instrument (*SCX*). All variables are defined in Appendix I of the paper.
* p < 0.10, ** p < 0.05, *** p < 0.01

Table IA 3 Religiosity and earnings quality using alternative sample constructs, using IV-2SLS

	(1)	(2)	(3)	(4)	(5)
Empirical test:	**Excluding US & Japan**	**Excluding US**	**Excluding Japan**	**Excluding small banks (Total Assets < 500 million)**	**Excluding small banks (Total Assets < 1 trillion)**
Dependent Variable:	**EARNQUAL**	**EARNQUAL**	**EARNQUAL**	**EARNQUAL**	**EARNQUAL**
RELIG	2.284***	3.491***	3.938***	2.850***	2.728***
	(3.42)	(3.51)	(3.92)	(3.26)	(3.90)
INST_OWN	-0.989	-4.929**	-1.372	-1.224	0.087
	(-0.55)	(-2.48)	(-0.88)	(-0.56)	(0.04)
GOV_OWN	0.913	-9.431*	-9.199**	-7.508*	-7.002*
	(0.22)	(-1.69)	(-2.54)	(-1.81)	(-1.66)
EBT	141.102***	143.118***	275.229***	382.307***	421.520***
	(5.50)	(5.69)	(11.64)	(11.48)	(12.34)
SIZE	1.389***	1.972***	0.463	0.029	-0.249
	(3.05)	(3.90)	(1.42)	(0.06)	(-0.51)
LEVERAGE	3.334	-4.544	13.988***	12.467**	21.277***
	(0.69)	(-0.96)	(3.67)	(1.99)	(3.10)
GROWTH	-20.950***	-19.230***	-37.755***	-39.832***	-40.536***
	(-5.73)	(-5.52)	(-15.41)	(-16.89)	(-16.77)
BIG4	4.219***	5.977***	3.338***	2.272**	2.543**
	(2.64)	(3.25)	(2.99)	(2.17)	(2.36)
CFO	27.896***	22.672***	-3.486	-33.341***	-37.668***
	(3.07)	(2.60)	(-0.49)	(-3.58)	(-3.80)
GDPGR	-1.524	-105.817**	-108.384***	-131.744***	-118.675***
	(-0.05)	(-2.30)	(-4.07)	(-4.44)	(-3.96)
CORRUP	-23.912***	1.128	9.747***	6.714**	6.267**
	(-4.31)	(0.11)	(3.79)	(2.16)	(2.06)
POP	-3.023***	-0.135	1.202***	1.077***	0.856**
	(-4.27)	(-0.11)	(3.26)	(2.87)	(2.27)
PCT_MALE	1.651	-49.025	-27.947	-8.082	1.453
	(0.05)	(-1.22)	(-0.82)	(-0.21)	(0.04)
Intercept	30.358*	33.868**	21.011	24.230	19.901
	(1.96)	(2.00)	(1.23)	(1.30)	(1.05)
Year dummies	Yes	Yes	Yes	Yes	Yes
Hausman test	13.362***	15.909***	24.565***	12.465***	16.973***
Mean VIF	1.604	1.705	1.463	1.501	1.498
Observations	3,326	4,507	7,124	7,569	6,846
First stage	**(1)**	**(2)**	**(3)**	**(4)**	**(5)**
SCX	-0.276***	-0.165***	-0.403***	-0.329***	-0.352***
	(-6.82)	(-4.65)	(-10.52)	(-7.22)	(-7.26)
F-Statistic	46.48	21.58	110.58	52.17	52.64
Partial R^2	0.0711	0.0275	0.1477	0.0587	0.065
Firm-controls	Yes	Yes	Yes	Yes	Yes
Macro-controls	Yes	Yes	Yes	Yes	Yes
Year dummies	Yes	Yes	Yes	Yes	Yes

Note: This table presents the effect of religiosity on earnings quality of global banks, using alternative sample constructs. In Columns 2 and 3, respectively, we remove banks headquartered in the US and JP, while in Column 1 we remove banks headquarter in either of the aforementioned countries. In Columns 4 and 5 respectively, we restrict our sample on banks with total assets higher than 500 million and 1 trillion. The z-statistics in parentheses are based on heteroskedasticity corrected and clustered robust standard errors, clustered on banks. The continuous variables are winsorized at the 1st and 99th percentiles. For the sake of brevity, we suppress all other control variables included in the first-stage and indicate only the coefficient of the instrument (*SCX*). All variables are defined in Appendix I of the paper.
* p < 0.10, ** p < 0.05, *** p < 0.01

Table IA 4 Religiosity and earnings quality after augmenting the model for alternative measures of size, leverage and growth opportunities, as well as for ultimate ownership, using IV-2SLS

	(1)	(2)	(3)	(4)
Dependent Variable:	**EARNQUAL**	**EARNQUAL**	**EARNQUAL**	**EARNQUAL**
RELIG	4.876***	4.322***	4.358***	3.953***
	(3.80)	(3.38)	(3.30)	(3.48)
LnMCAP	1.423***			
	(3.82)			
LEV		-9.883**		
		(-2.07)		
MB			2.875***	
			(4.78)	
ULT_OWN				-9.909***
				(-5.33)
INST_OWN	-5.605**	-3.570*	-6.331***	
	(-2.44)	(-1.69)	(-2.90)	
GOV_OWN	-11.553***	-10.469***	-9.751**	
	(-2.96)	(-2.58)	(-2.43)	
EBT	245.818***	263.820***	149.040***	259.820***
	(9.96)	(10.99)	(7.18)	(11.35)
SIZE		0.805*	1.200***	0.558
		(1.80)	(2.70)	(1.57)
LEVERAGE	8.209**		-2.877	8.876**
	(2.38)		(-0.70)	(2.30)
GROWTH	-37.557***	-36.394***		-36.775***
	(-15.80)	(-15.69)		(-16.14)
BIG4	2.768**	3.131***	4.021***	2.870***
	(2.51)	(3.05)	(3.90)	(2.94)
CFO	-3.270	-0.823	-2.446	-0.431
	(-0.45)	(-0.12)	(-0.34)	(-0.06)
GDPGR	-139.470***	-133.618***	-175.429***	-124.195***
	(-5.08)	(-4.97)	(-6.51)	(-4.58)
CORRUP	13.062***	11.055***	10.330***	7.526**
	(3.81)	(3.46)	(2.86)	(2.56)
POP	0.991***	1.143***	0.723*	0.701*
	(2.61)	(3.16)	(1.92)	(1.88)
MALE	-41.232	-41.541	-40.824	-52.347
	(-1.06)	(-1.06)	(-1.05)	(-1.38)
Intercept	30.004	35.608**	32.257*	42.116**
	(1.62)	(2.08)	(1.83)	(2.34)
Year dummies	Yes	Yes	Yes	Yes
Hausman test	13.911***	12.880***	9.704***	9.948***
Mean VIF	1.460	1.510	1.495	1.507
Observations	8,305	8,305	8,305	8,305
First stage	**(1)**	**(2)**	**(3)**	**(4)**
SCX	-0.331***	-0.318***	-0.310***	-0.348***
	(-7.59)	(-7.89)	(-7.31)	(-8.20)
F-Statistic	57.66	62.26	53.42	67.29
Partial R^2	0.0582	0.0597	0.0555	0.0642
Firm-controls	Yes	Yes	Yes	Yes
Macro-controls	Yes	Yes	Yes	Yes
Year dummies	Yes	Yes	Yes	Yes

Note: This table presents the effect of religiosity on earnings quality of global banks, after alternative bank-level control variables and accounting for the effect of ultimate ownership. The z-statistics in parentheses are based on heteroskedasticity corrected and clustered robust standard errors, clustered on banks. The continuous variables are winsorized at the 1st and 99th percentiles. For the sake of brevity, we suppress all other control variables included in the first-stage and indicate only the coefficient of the instrument (*SCX*). All variables are defined in Appendix I of the paper.
* p < 0.10, ** p < 0.05, *** p < 0.01

Table IA 5 Religiosity and earnings quality after including country level cultural variables, using IV-2SLS

	(1)	(2)	(3)	(4)	(5)
Dependent Variable:	**EARNQUAL**	**EARNQUAL**	**EARNQUAL**	**EARNQUAL**	**EARNQUAL**
RELIG	4.530***	3.124***	3.098***	3.018***	3.607***
	(3.94)	(2.65)	(2.62)	(3.13)	(4.22)
PDI	-0.149**	0.010			
	(-2.41)	(0.14)			
IDV	-0.180**		-0.001		
	(-2.29)		(-0.02)		
MAS	0.256***			0.051	
	(6.06)			(1.08)	
UAI	-0.319***				-0.089**
	(-6.35)				(-2.36)
INST_OWN	-2.568*	-2.257	-2.243	-1.367	-4.382***
	(-1.76)	(-1.16)	(-1.53)	(-0.86)	(-2.75)
GOV_OWN	-7.343**	-9.054**	-8.921**	-7.954**	-10.814***
	(-2.10)	(-2.13)	(-2.42)	(-2.21)	(-3.01)
EBT	268.983***	277.675***	277.562***	279.476***	270.841***
	(11.58)	(11.79)	(11.93)	(12.06)	(11.46)
SIZE	0.610*	0.357	0.360	0.241	0.701**
	(1.89)	(0.97)	(1.18)	(0.74)	(2.07)
LEVERAGE	11.207***	11.206***	11.169***	11.645***	9.933**
	(2.76)	(2.69)	(2.81)	(2.87)	(2.36)
GROWTH	-39.507***	-39.198***	-39.210***	-39.135***	-39.231***
	(-16.93)	(-16.58)	(-16.74)	(-16.62)	(-16.51)
BIG4	1.510	2.489**	2.477**	2.366**	2.452**
	(1.53)	(2.36)	(2.45)	(2.37)	(2.38)
CFO	-1.560	-3.637	-3.747	-4.335	-1.672
	(-0.22)	(-0.52)	(-0.54)	(-0.63)	(-0.23)
GDPGR	-124.263***	-102.550**	-100.417***	-96.508***	-119.848***
	(-3.62)	(-2.56)	(-2.83)	(-2.89)	(-3.58)
CORRUP	-0.005	9.000*	8.620	7.076***	5.828*
	(-0.00)	(1.67)	(1.10)	(2.89)	(1.74)
POP	0.987	2.562***	2.554***	2.327***	1.902***
	(1.11)	(5.82)	(2.97)	(4.59)	(4.29)
PCT_MALE	-654.303***	-268.699***	-269.823***	-257.877***	-364.936***
	(-5.95)	(-3.94)	(-3.22)	(-3.78)	(-5.04)
Intercept	361.683***	137.278***	138.720***	133.469***	192.092***
	(6.60)	(4.27)	(3.76)	(4.13)	(5.20)
Year dummies	Yes	Yes	Yes	Yes	Yes
Hausman test	31.889***	6.069**	16.75***	7.973***	36.24***
Mean VIF	3.380	1.880	2.360	1.678	1.777
Observations	7,644	7,644	7,644	7,644	7,644
First stage	**(1)**	**(2)**	**(3)**	**(4)**	**(5)**
SCX	-0.387***	-0.375***	-0.370***	-0.453***	-0.522***
	(-10.63)	(-8.46)	(-9.43)	(-9.58)	(-10.84)
F-statistic	112.95	71.66	88.91	91.79	117.55
Partial R^2	0.1337	0.079	0.1274	0.1339	0.1635
Firm-controls	Yes	Yes	Yes	Yes	Yes
Macro-controls	Yes	Yes	Yes	Yes	Yes
Year dummies	Yes	Yes	Yes	Yes	Yes

Note: This table presents the effect of religiosity on earnings quality of global banks, after controlling for country cultural effects. The z-statistics in parentheses are based on heteroskedasticity corrected and clustered robust standard errors, clustered on banks. The continuous variables are winsorized at the 1st and 99th percentiles. For the sake of brevity, we suppress all other control variables included in the first-stage and indicate only the coefficient of the instrument (*SCX*). All variables are defined in the Appendix or in Appendix I of the paper.

* p < 0.10, ** p < 0.05, *** p < 0.01

Table IA 6 Religiosity and earnings quality after augmenting the model for country governance indicators variables, using IV-2SLS

	(1)	(2)	(3)	(4)
Dependent Variable:	**EARNQUAL**	**EARNQUAL**	**EARNQUAL**	**EARNQUAL**
RELIG	4.323***	3.534***	5.995***	3.860***
	(3.66)	(3.77)	(3.72)	(2.70)
GOVEFF	48.322***			
	(3.83)			
POLSTAB		20.267***		
		(2.96)		
RULAW			-35.842***	
			(-3.08)	
REGQ				9.010
				(1.32)
INST_OWN	-3.020	-1.111	-5.653**	-3.126
	(-1.56)	(-0.72)	(-2.25)	(-1.43)
GOV_OWN	-7.799**	-7.722**	-12.377***	-9.025**
	(-2.07)	(-2.13)	(-2.88)	(-2.05)
EBT	265.688***	271.965***	252.110***	264.729***
	(11.58)	(12.50)	(10.17)	(11.16)
SIZE	0.595	0.376	1.258**	0.728
	(1.59)	(1.19)	(2.44)	(1.59)
LEVERAGE	9.867***	10.075***	5.550	8.604**
	(2.61)	(2.81)	(1.21)	(2.08)
GROWTH	-37.021***	-37.014***	-35.698***	-36.483***
	(-16.14)	(-16.34)	(-15.16)	(-15.79)
BIG4	3.050***	2.019**	3.153***	2.928***
	(3.06)	(2.14)	(2.92)	(2.79)
CFO	-2.121	-3.315	-1.502	-2.989
	(-0.31)	(-0.49)	(-0.20)	(-0.42)
GDPGR	-132.645***	-106.486***	-150.227***	-128.755***
	(-5.07)	(-4.30)	(-4.90)	(-4.72)
CORRUP	-26.613***	-7.975	47.143***	2.795
	(-3.25)	(-1.60)	(3.56)	(0.36)
POP	0.774**	1.347***	1.211***	1.245***
	(2.10)	(3.75)	(3.20)	(3.40)
PCT_MALE	-27.413	19.929	-63.030	-29.680
	(-0.78)	(0.61)	(-1.49)	(-0.72)
Intercept	15.360	7.082	31.990*	21.215
	(0.95)	(0.42)	(1.71)	(1.15)
Year dummies	Yes	Yes	Yes	Yes
Hausman test	9.671***	7.848***	18.345***	7.397***
Mean VIF	3.299	2.140	4.505	2.507
Observations	8,305	8,305	8,305	8,305
First stage	**(1)**	**(2)**	**(3)**	**(4)**
SCX	-0.329***	-0.418***	-0.265***	-0.292***
	(-9.33)	(-11.12)	(-7.15)	(-7.07)
F-statistic	87.02	123.74	51.18	50.02
Partial R^2	0.0733	0.1317	0.0393	0.0475
Firm-controls	Yes	Yes	Yes	Yes
Macro-controls	Yes	Yes	Yes	Yes
Year dummies	Yes	Yes	Yes	Yes

Note: This table presents the effect of religiosity on earnings quality of global banks, after controlling for country governance indicators. The z-statistics in parentheses are based on heteroskedasticity corrected and clustered robust standard errors, clustered on banks. The continuous variables are winsorized at the 1st and 99th percentiles. For the sake of brevity, we suppress all other control variables included in the first-stage and indicate only the coefficient of the instrument (*SCX*). All variables are defined in the Appendix or in Appendix I of the paper.
* p < 0.10, ** p < 0.05, *** p < 0.01

Table IA 7 Religiosity and earnings quality after controlling for investor protection and the degree of accounting enforcement, using IV-2SLS

	(1)	(2)
Dependent Variable:	**EARNQUAL**	**EARNQUAL**
RELIG	2.401***	3.032***
	(2.74)	(2.82)
INVPROT	7.221***	
	(2.98)	
AUDIT_ENF		0.306***
		(4.14)
INST_OWN	-1.455	-4.426**
	(-0.76)	(-2.52)
GOV_OWN	-4.695	-5.379
	(-1.19)	(-1.29)
EBT	267.753***	267.401***
	(11.92)	(11.67)
SIZE	0.305	0.733**
	(0.80)	(2.02)
LEVERAGE	10.244***	8.573**
	(2.69)	(2.20)
GROWTH	-37.367***	-38.688***
	(-16.35)	(-16.42)
BIG4	2.381**	2.271**
	(2.39)	(2.18)
CFO	-3.356	-3.092
	(-0.50)	(-0.45)
GDPGR	-73.561***	-59.423*
	(-2.72)	(-1.92)
CORRUP	-0.948	-5.830
	(-0.22)	(-1.12)
POP	1.587***	-0.146
	(4.01)	(-0.24)
MALE	-256.221***	-226.807***
	(-3.72)	(-3.26)
Intercept	136.487***	125.546***
	(4.39)	(4.01)
Year dummies	Yes	Yes
Hausman test	8.911***	10.214***
Mean VIF	1.994	2.000
Observations	8,305	7,855
First stage	**(1)**	**(2)**
SCX	-0.373***	-0.381***
	(-8.76)	(-8.49)
F-Statistic	76.73	72.03
Partial R^2	0.0763	0.0876
Firm-controls	Yes	Yes
Macro-controls	Yes	Yes
Year dummies	Yes	Yes

Note: This table presents the effect of religiosity on earnings quality of global banks, after controlling for additional country control variables. The z-statistics in parentheses are based on heteroskedasticity corrected and clustered robust standard errors, clustered on banks. The continuous variables are winsorized at the 1st and 99th percentiles. For the sake of brevity, we suppress all other control variables included in the first-stage and indicate only the coefficient of the instrument (*SCX*). All variables are defined in the Appendix or in Appendix I of the paper.
* p < 0.10, ** p < 0.05, *** p < 0.01

Table IA 8 Religiosity and earnings quality after augmenting the model for country control variables and for demographic variables bounded with religiosity, using IV-2SLS

	(1)	(2)	(3)	(4)
Dependent Variable:	**EARNQUAL**	**EARNQUAL**	**EARNQUAL**	**EARNQUAL**
RELIG	5.684**	3.796**	4.085***	4.085***
	(2.05)	(2.43)	(3.37)	(3.37)
COMLAW	-4.568			
	(-0.81)			
GINI		-0.217		
		(-0.98)		
GDP_CAP			5.803***	5.803***
			(5.76)	(5.76)
FEMALE				30.913
				(0.87)
INST_OWN	-3.993	-2.074	-3.633*	-3.633*
	(-1.61)	(-1.16)	(-1.74)	(-1.74)
GOV_OWN	-12.238**	-6.488*	-6.520	-6.520
	(-2.23)	(-1.68)	(-1.63)	(-1.63)
EBT	261.336***	273.438***	268.581***	268.581***
	(11.06)	(12.17)	(11.60)	(11.60)
SIZE	0.849**	0.556	0.659	0.659
	(1.97)	(1.31)	(1.59)	(1.59)
LEVERAGE	7.955*	9.487**	9.230**	9.230**
	(1.93)	(2.37)	(2.32)	(2.32)
GROWTH	-35.854***	-36.915***	-36.753***	-36.753***
	(-14.79)	(-15.98)	(-15.93)	(-15.93)
BIG4	3.706**	3.028***	3.166***	3.166***
	(2.48)	(2.76)	(3.09)	(3.09)
CFO	-2.170	-2.513	-4.369	-4.369
	(-0.30)	(-0.37)	(-0.62)	(-0.62)
GDPGR	-143.235***	-62.044**	-50.633*	-50.633*
	(-4.35)	(-2.17)	(-1.86)	(-1.86)
CORRUP	15.977*	9.836***	-11.568***	-11.568***
	(1.88)	(3.06)	(-3.06)	(-3.06)
POP	1.958*	2.011***	0.866**	0.866**
	(1.93)	(3.80)	(2.44)	(2.44)
MALE	-17.981	-301.146***	-30.913	
	(-0.50)	(-3.65)	(-0.87)	
Intercept	9.592	161.754***	22.645	-8.268
	(0.40)	(3.96)	(1.41)	(-0.37)
Year dummies	Yes	Yes	Yes	Yes
Hausman test	9.816***	5.988**	8.879***	8.879***
Mean VIF	1.739	1.607	2.073	2.073
Observations	8,293	8,144	8,305	8,305
First stage	**(1)**	**(2)**	**(3)**	**(4)**
SCX	-0.151***	-0.280***	-0.334***	-0.334***
	(-4.14)	(-7.26)	(-8.68)	(-8.68)
F-Statistic	17.11	52.77	75.42	75.42
Partial R^2	0.0213	0.0575	0.0672	0.0672
Firm-controls	Yes	Yes	Yes	Yes
Macro-controls	Yes	Yes	Yes	Yes
Year dummies	Yes	Yes	Yes	Yes

Note: This table presents the effect of religiosity on earnings quality of global banks, after controlling for additional country control variables (Columns 1 & 2) and for demographic characteristics bounded with religiosity (Columns 3 & 4). The z-statistics in parentheses are based on heteroskedasticity corrected and clustered robust standard errors, clustered on banks. The continuous variables are winsorized at the 1st and 99th percentiles. For the sake of brevity, we suppress all other control variables included in the first-stage and indicate only the coefficient of the instrument (*SCX*). All variables are defined in the Appendix or in Appendix I of the paper.
* p < 0.10, ** p < 0.05, *** p < 0.01