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Does religiosity affect financing activity? Evidence from Indonesia

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Abstract

We examine the role of religiosity on the financing activities in both Islamic and conventional banks in Indonesian provinces by using five different measures of religiosity: number of Islamic schools, *hajj* application, number of Islamic seminary schools, number of Mosques, and number of certified *halal* products. Based on regression analysis, the results show that both Islamic and conventional banks provide more financing in religious provinces. Religiosity also helps in reducing the volume of non-performing financing. Our the results are still qualitatively valid after taking into account endogeneity issue that emanates from omitted variables (i.e., unobservable beliefs, ideas, and attitudes), and possible reverse causality between religiosity and the total amount of financing at the province level.

KEYWORDS
conventional bank, financing, Islamic bank, non-performing finance, religiosity

1 | INTRODUCTION

It is generally held that religion (and/or religiosity) plays an important role in creating and delineating moral values (Hofstede et al., 2010) and influences the behavior of people (Weber, 1930). Existing literature examined the relationship between religiosity and business decision making (Hilary & Hui, 2009) including financing activities (Al-Azzam et al., 2012; Baele et al., 2014; Chen et al., 2016; Gyapong et al., 2021; He & Hu, 2016). This literature suggests that there is a positive association between religiosity and the amount of finance in Protestant cultures (He & Hu, 2016). But the role of religiosity on the financing activities in Islamic cultures is yet unexplored. The purpose of this study is to fill this gap and advance the literature on the role of Islam in the business context.

Weber views Islam as a religion that is not compatible with economic development because of the predetermination concept (Sukidi, 2006; Turner, 1974), that is, everything has been decided by God so that Islam cannot shape a strong positive attitude to economic activities as documented in Calvinism (Guiso et al., 2003). Moreover, the fatalistic approach in Islam hinders entrepreneurial activities which in turn negatively affects financing activities (Eze et al., 2021). Other studies, however, show that Islam encourages productivity (Soufani et al., 2015), encourages self-reliance (Ali & Al-Owaihan, 2008), encourages hard work, and condemns idleness (Abeng, 1997; Elfakhani & Ahmed, 2013; Gümüsay, 2015; Ramadani et al., 2015). In fact, very little research has been performed so far about the relationship between Islam and access to finance. If Islam has a positive/negative impact on the credit access of firms, then firms in more religious areas can have a competitive advantage/disadvantage. This can be relevant for entrepreneurs (when they have to decide where to establish their firms) and for policymakers to address any possible bias. Our study aims to address the following question: "Do banks in areas of higher Islam religiosity provide more financing and have fewer non-performing financing?". This is an important question since Muslim population nowadays constitute 24.9% of total population in the world and makes them the second biggest population after Christianity (pewresearch.org).

Drawing from social norm theory (Cialdini et al., 1990), we build four arguments on why Islamic beliefs may affect financial institutions' decision to provide finance. First, Islam stimulates proper behavior by asking Muslims to emulate the Prophet Muhammad's virtues focused on "Speak the truth when you talk, keep a promise when you make it, when you are trusted with something fulfil your trust" (Hadith narrated by Tirmidhi) (Abuznaid, 2009). In the context of financing relationships, this means one should reimburse the funds firms have been entrusted with. Actually, research has shown that religious people are more trustworthy (Tan & Vogel, 2008) and that trustworthy behavior pays in financing activities (Howorth & Moro, 2006, 2012; Kautonen et al., 2020; Moro & Fink, 2013; Palazuelos et al., 2018; Wijaya et al., 2021). Second, empirical evidence suggests that a religious individual is less likely to engage in high-risk activities (Miller & Hoffmann, 1995) and that Islamic banks face lower credit risk than their counterparts because their (Islamic) clients are more risk-averse (Abedifar et al., 2013) therefore it is not a surprise that firms headquartered in religious areas benefit from a lower cost of debt and greater access to financing facilities (He & Hu, 2016). Third, Islam sets strict ethical and moral rules, such as not misappropriating other people's property (Al-Azzam et al., 2012; Baele et al., 2014). Thus, followers of Islam are expected to be more likely to repay their debts as supported by empirical evidence: Islamic religiosity is negatively associated with late repayment (Al-Azzam et al., 2012) as well as with the default rate/the probability of bankruptcy (Chen et al., 2016). Fourth, Islamic beliefs encourage Muslim people to be trustworthy (Beekun & Badawi, 2005), competent (Uddin, 2003), to perform necessary investigations and verifications before taking action (Uddin, 2003), to implement teamwork (Rice, 1999), to take individual responsibility (Rice, 1999), to fulfill obligations, to be honest/truthful, keeping the word/promise (Abuznaid, 2009; Ishak & Osman, 2016; Rice, 1999; Uddin, 2003), to care for the environment (Rice, 1999) and to be benevolent (Ali et al., 2013). Empirical evidence shows that Islamic banks (entities with strict religious orientation) are less likely to manage earnings and adopt more conservative accounting policies (Abdelsalam et al., 2016). Moreover, firms located in highly religious areas are less likely to have accounting restatement, accounting irregularities, and earning manipulation (e.g., Grullon et al., 2010; McGuire et al., 2012). Moreover, they disclose a high-quality management earnings forecasts (Chourou et al., 2020). All in all, religious people/firms are expected to be a lower credit risk which matches what Islamic and conventional banks look for in their customers.

Our research relies on Indonesian data at the provincial level (33 provinces) for the period 2013–2018 and looks at the total amount of financing provided, and at the percentage of non-performing finance. We focus on one country to address two issues faced by past research at a multiple-country level. First, different countries have different cultures, different institutions, different economic development, etc. before any difference in religiosity. In fact, past research tried to consider these aspects by including controls, but the approach does not completely solve the problem. Second, in larger countries there can be very different levels of religiosity in different areas (as in the case of Indonesia). Research in multi-country settings do not control for the heterogeneity at country level meaning that the results obtained can be misleading. Third, as mentioned by Pryor (2007), different schools of Muslim jurisprudence provide different interpretations of Islamic doctrines, and often they do not agree on specific issues. These differences exist at country level while cross-country analysis assumes that the interpretation is homogeneous among countries. All in all, it is easier to isolate the role of Islam in a one-country study by looking at different levels of religiosity in different areas of the country so as to reduce the confounding role of additional variables.

We find that both Islamic and non-Islamic banks tend to extend more credit to firms operating in provinces characterized by a greater Islamic religiosity. At the same time, we find a weak relationship between non-performing loans and Islamic religiosity. We also replicate the analysis considering Islamic and non-Islamic banks separately and find that the role of religion is more relevant in Islamic banks than in non-Islamic ones. Thus, we conclude that Islam in Indonesia shapes positive attitudes that support the financing activity in general, while it has a more marginal role on the quality of finance (non-performing finance). Intriguingly, our results suggest that Islam and Calvinism influence the economic behavior of actors via different channel: Islam stimulates the cooperation among actors reducing transaction costs (cooperation channel) while Calvinism stimulates competition among actors to show that they are successful and among the chosen (competition channel).

Our study makes several contributions: (1) we complement existing literature that explores the impact of religiosity on business decision making (Hilary & Hui, 2009); (2) we extend previous research by focusing on the impact of Islam on bank financing activities; and (3) we extend previous research by comparing the role of religiosity considering both Islamic and conventional banks. Moreover, our results have important implications for both firms and policymakers. As far as firms are concerned, our results suggest that they may have a greater chance of obtaining credit from Islamic banks operating in areas with a large Muslim population because these banks are good at exploiting the relational dimension of religiosity when it turns to take financing decisions. As far as policymakers are concerned, our results suggest possible biases between areas with high/low religiosity in terms of access to finance and, thus, impacting a firm's ability to grow.

The rest of the paper is organized as follows: Section 2 discusses the literature review and provides testable hypotheses. Data and methodology are presented in Section 3. Section 4 covers data analysis followed by the conclusion.

2 | LITERATURE REVIEW AND HYPOTHESIS DEVELOPMENT

Religion can shape attitudes toward economic activities. Weber (1930) shows that the protestant ethic of English Puritanism not only allows for the acquisition of goods, but also that it is

lawful and in line with God's will as long as the wealth is not accumulated for wealth's sake, it is not used to gain a *rentier* position or its accumulation's purpose is not just for the enjoyment of life (Weber, 1930). Empirical research provides support to Weber's arguments: economic growth is positively associated with the growth rate of Protestant adherents (Grier, 1997); Christian tradition is more positively associated with attitudes that are conducive to economic growth than other beliefs (Guiso et al., 2003); and beliefs in hell and heaven, which could inspire positive attitudes toward economic activities, are positively associated with economic growth (Barro & McCleary, 2003).

What about the role of Islam? Kuran (1997) reports three contrasting views about the impact of Islamic beliefs on economic development. The first view is the "economic irrelevant thesis". This approach argues that Islamic beliefs do not play any role in economic development. The empirical evidence to support this argument is mainly linked to the fact that the Muslim population share has no significant impact on GDP growth or unemployment rate (Pryor, 2007). The second view – the "economic advantage" – is based on the verses from *Quran* that try to encourage effort and enrichment.[1] This approach argues that Islamic teaching provides guidelines about financial regulations, contracting guidelines, distributional instruments, and behavioral norms that support economic growth. The evidence provided to support this theory is the economic growth during the 7th century in regions under Muslim rule (Lewis & Churcill, 2009). Finally, there is the "economic disadvantage" theory that argues that Islamic teaching is static and does not change thus causing the ossification of Muslim knowledge. Lewis (1993) as cited by Kuran (1997) argues that the education system in Islam emphasizes knowledge acquisition but not knowledge discovery and expansion. The scientific method, such as experiment and observation, is absent. Lewis (1993) as cited by Kuran (1997) acknowledges that the freedom of innovation (the gate of *ijtihad*) typical of early Islam, when scholars, jurists, and theologians were free to perform *ijtihad* to resolve the issues that have not been resolved in the scripture, stopped somewhere in between the 9th and 11th centuries compromising the development of knowledge.

Empirical research finds mixed results of the impact of Islam on economic growth so that no final answer has been given as to which one of the three views discussed above best describes the role of Islam in the economy. Muslim population share is found to be negatively associated with economic growth (Barro & McCleary, 2003) and Islam is found to be negatively associated with attitudes that are conducive to economic growth (Guiso et al., 2003). In contrast, Noland's (2005) work on cross countries data, finds that Islamic beliefs are not inimical to growth. Furthermore, regressions run on three groups of sub-national data, that is, India, Malaysia, and Ghana suggest that Muslim population share is positively associated with growth in Ghana but negatively associated with growth in Malaysia and no association in India (Noland, 2005). Pryor (2007) found the share of Muslims to have no impact on the economic growth in developing countries. The mixed results suggest the specific role that Islam can have in different socio-political contexts and the importance of exploring the role of Islam at a country level.

Recent literature has tried to examine the impact of the area's religiosity level on business decision making, including in financial institution like banks. The behavior of individual who live in high religious areas will be shaped by religion since religion plays an important role in creating and delineating moral values (Hofstede et al., 2010) that, in turn, affect working practices. In the case of banks' employees, this implies that religion may affect bank's decision making in financing activities. This is in line with what Schneider (1987 p. 441) propose "attraction to an organization, selection by it and attrition from it yield particular kinds of persons in an organization. These people determine organizational behavior". In the same vein, descriptive and injunctive norms do have an impact on human action (Cialdini et al., 1990). The descriptive norm describes what is typical or normal "If everyone is doing it, it must be a sensible things to do" while injunctive norms specify what ought to be done (morally approved or disapproved conduct) (Cialdini et al., 1990). People who live in high religiosity area try to conform to the norms, values, and religious teachings, including Islam, which lines up with what banks are seeking from their customers. For instance, people who live in high religiosity areas will try to their best to repay the financing even in a difficult situation, avoid excessive risk-taking action, and behave in a trustworthy manner.

As far as the role of religiosity and the amount of financing is concerned, there are three main reasons why religiosity in general and Islam specifically may support financing activities, especially in dealing with the most important risk in banking activities, i.e., credit risk. The first argument is related to the role of religiosity on risk preferences. Individuals have different preferences in terms of risk-taking behavior (Miller & Hoffmann, 1995) and religiosity affects such preference because of Malinowski's (1925) statement: "Religiosity is related to the desire to control those things that cannot be controlled given the level of technological sophistication of society (e.g., weather and disease), and it is also a way of dealing with fear and death" (Miller & Hoffmann, 1995, p. 65). Thus, Miller and Hoffmann (1995) argue that religious people are less likely to take part in excessive risk. Empirical evidence suggests that the frequency of attending religious services and the respondents' perception of how important religion is in their life are negatively associated with the amount of money gambled in Las Vegas (Diaz, 2000). Similarly, Jewish merchants in Alsace, who used to act as middlemen in the livestock distribution before the mid-twentieth century, were religious, thrifty, but also keen to avoid excessive risk, meaning they avoided conducting business outside their expertise, and they did not hold animals more than 15 days to cut capital invested and expenses (Dana, 2006). In India, groups with strong religious beliefs are found to be negatively associated with the cost of debt, i.e., the interest rate offered by the lenders (Li et al., 2019). Hilary and Hui (2009) find that firms located in more religious US States tend to have low-risk exposure (variance in equity returns and ROA), less investment in R&D activity (high-risk investment) but enjoy high profitability. Similarly,

companies headquartered in US States with higher (Christian tradition) religiosity levels are found to be charged lower spreads and offered larger loan amounts (He & Hu, 2016), suggesting they are perceived as a low-risk group. In the same vein, firms headquartered in high-religiosity counties tend to have lower bond spreads (Jiang et al., 2018). Recently, in a study on risk-taking by US hedge fund managers, Gao et al. (2017) show that religiosity, measured as the religious beliefs of a country's population where hedge funds are headquartered, affects the level of riskiness of hedge fund managers' portfolios. They found that hedge fund managers in religious countries took fewer risks with their investments than those where religiosity was less of a factor. As far as the risk in Islam is concerned, the religious teaching forbids activities such as gambling and games of chances (*maysir*) and undertaking excessively risky contracts (*gharar*) (Pryor, 2007). Thus, we contend that people who live in Islam-religious areas may refrain from engaging in high-risk projects, in line with the bank's preferences. Indirect supporting evidence is provided by Abedifar et al. (2013) who found that Islamic banks that are located in countries with more than 90% Muslim population have lower credit risk compared to conventional banks.

The second argument is based on the behavior of firms that are located in high religiosity areas, since they are found to show high ethical attitudes. Du et al. (2014) find a positive relationship between diffusion of Buddhism, measured by the distance between monasteries from the company address, and corporate environmental responsibility (CER). Buddhist teaching may prevent people from environmental exploitation. Similarly, companies located in high religiosity areas are negatively associated with accounting irregularities and accounting restatement (McGuire et al., 2012), have lower earning manipulation (Grullon et al., 2010), and have higher quality of management earnings forecasts (Chourou et al., 2020). The logic is that those who operate in more religious areas are more prone to being aligned with the norms, and try to avoid misbehavior that can trigger sanctions and penalties from society, as well as avoiding the implied negative label associated with such a behavior (Cialdini et al., 1990). Moreover, in their review paper, Jamali et al. (2020) show that religion be the primary driver for CSR in the areas with high levels of Islam religiosity. High ethical attitudes such as trustworthiness (Beekun & Badawi, 2005), benevolence (Ali et al., 2013), competency (Uddin, 2003), investigation and verification before action (Uddin, 2003), teamwork (Rice, 1999), individual responsibility (Rice, 1999), fulfilling obligations, honesty/truthfulness, keeping the word/promise (Abuznaid, 2009; Ishak & Osman, 2016; Rice, 1999; Uddin, 2003), and care for the environment (Rice, 1999) conform to Islamic teaching. These attitudes are markedly appreciated by banks and thus, can arguably support the financing decisions in both Islamic and conventional banks. Evidence from the Islamic context can be found in the MENA region where firms with strict religious orientation (Islamic banks) follow more conservative accounting policy for recognizing loan loss provisions (LLPs): the increase in both current and future NPL will increase current LLPs and Islamic banks are less likely to manipulate their income numbers (Abdelsalam et al., 2016).

The third argument is based on findings that suggest that religious people are perceived as trustworthy by bankers, facilitating credit access to this group of people. Experimental studies provide support for this notion. For example, a proposer's decision to trust improves along with the religiosity of the responder (Tan & Vogel, 2008). Interestingly, literature in bank lending and trust shows that the higher the banker's trust is in their borrowers the more credit is available (e.g., Hernández-Cánovas & Martínez-Solano, 2010; Moro & Fink, 2013; Palazuelos et al., 2017) and the lower the interest rate charged (Howorth & Moro, 2012). This literature supports the view that a trustworthy borrower will not exploit the monitoring problem faced by the banker. Trust is also believed to reduce the effort to enforce the contract and monitor the trustee (Chiles & McMackin, 1996). Muslim people are asked to emulate Prophet Muhammad's virtues that are focused on "Speak the truth when you talk, keep a promise when you make it, when you are trusted with something fulfill your trust" (Hadith narrated by Tirmidhi) (Abuznaid, 2009). Prophet Muhammad practiced these virtues tangibly. He (p) is a very trustworthy person and people named him *al-ameen* (the trustworthy), as He (p) never cheats people and His enemies never accuse Him of lying (Beekun, 2012). All these characteristics are believed to lower the credit risk in financing activities as well.

All in all, we might expect that bankers highly appreciate people practicing Islam, and firms that are located in Islamic areas may access more financing because Islamic religious teaching is in line with what the bankers look for in customers (low risk). Thus, we propose the following hypothesis:

Hypothesis 1 Islamic and conventional banks in areas with high Islamic religiosity provide more financing.

If Islam stimulates a lower risk-taking behavior, banks should benefit from it by incurring less non-performing finance. Our argument is built based on the intention of repaying the loan. Based on cross countries study, Chen et al. (2016) found that religiosity is negatively associated with the default rate/probability of bankruptcy. Another study found that micro finance institutions located in more religious areas have lower loan losses (Gyapong et al., 2021). Also, firms in high religiosity areas have less financial distress measured by their Altman Z-score (Gharbi et al., 2021). Interestingly, in Pakistan, the same borrower is less likely to default on Islamic financing products than on the traditional financing products obtained from the same bank (Baele et al., 2014). In the same vein, Islamic religiosity, measured as the frequency of five-time prayers of the members in a loan group, is negatively associated with the late repayment (Al-Azzam et al., 2012). The reason for such behavior can be explained by the fact that default is seen as a form of misappropriation of other people's property, something that cannot be tolerated in Islam (Baele et al., 2014). Furthermore, the Prophet Muhammad said, "the best among you are those best in paying off debt" (Hadith narrated

by Bukhari) (Al-Azzam et al., 2012). Thus, bankers are more confident when they provide financing to people who will try their best to repay their financing contract even in the most difficult situations.

All in all, Islamic religious teaching encourages people not to default on their financing and firms located in an area of high Islamic religiosity will be more risk-averse and should be less prone to defaulting. Thus, we propose the following hypothesis:

Hypothesis 2 Islamic and conventional banks in areas with strong Islamic religiosity have fewer non-performing finance.

Finally, since Islamic banks can have a strong alignment to the approach of doing business with more religious people, it is easier for religious people to deal with Islamic banks. In other words, there could be a self-selection process whereby religious people orient themselves towards Islamic banks. Empirical evidence provides support to our argument. The top four reasons of Islamic banking selection are the credibility of the *Sharia* advisory board, collective consideration of profit and religion, similarity with conventional bank products but compliance with *Sharia*, and religious preference (Sayani & Miniaoui, 2013). Religious orientation is also found to be an important criterion when selecting Islamic banks as shown by Mansour et al. (2010) and Naser et al. (2009). In addition, customers with high Islam religiosity tend to choose Islamic banking (Abou-Youssef et al., 2015; Usman et al., 2017; Wijaya et al., 2020). However, if this is the case, since religious people are at lower risk, Islamic banks can benefit from a lower amount of non-performing finance and should be able to provide more finance. Thus, we propose the following hypothesis:

Hypothesis 3a The impact of religiosity on the total amount of financing is stronger in Islamic banks than in their conventional counterparts.

Hypothesis 3b The impact of religiosity on the reduction in the number of non-performing finance is stronger in Islamic banks than in their conventional counterparts.

3 | VARIABLES DESCRIPTION AND METHODOLOGY

Indonesia is the country with the biggest Muslim population in the world. Based on the 2010 census conducted by the Central Agency on Statistics of Indonesia (BPS), 87.18% (207 million) of the population are Muslim, followed by Protestants (6.96%), Catholics (2.91%), Hindus (1.69%), Buddhists (0.72%) and Khonghucu (0.05%). Moreover, Islam in Indonesia has shown growth in the past (Table 1). However, as we will discuss later, there is heterogeneity in terms of Islamic presence in different provinces.

Interestingly, the significant growth of religiosity indicators has also been followed by the improvement in ease of doing business index (World Bank), reduction in corruption as measured by the perception index score (Transparency International), and improvement of entrepreneurship indicators such as government support, physical infrastructure, entrepreneurship education, and entrepreneurship finance (Global Entrepreneurship Monitoring). McKinsey predicted that Indonesia will be ranked 6th in the next 10 years as an economic power in the world.

3.1 | Dependent variable

We measure access to credit by using the credit provided by the banking system as the total amount of financing in each of the 33 Indonesian provinces from 2013 to 2018. The data used are provided by the Financial Service Authority of Indonesia. We have data for small Islamic banks, large Islamic banks, small conventional banks, and large conventional banks so that we can implement the analysis for all different types of banks. According to Financial Service Authority of Indonesia, small banks do not offer payment transfer services between banks and do not have foreign exchange, written payment instruction (cheques), and written transfer instructions (bilyet giro) services. To reduce heteroscedasticity, we take the natural logarithm of the total amount of financing. We explore the impact of religiosity on the quality of the financing provided by banks by using the ratio of non-performing finance (NPF) divided by the total amount of financing in small Islamic banks, large Islamic banks, small conventional banks, and large conventional banks. This metric is common in the financial industry as a measure of a bank's riskiness.

3.2 | Religiosity measurement and controls

Existing studies try to measure religiosity in several ways. In past studies, religiosity level was captured by using the ratio of the number of adherents to religion out of the population of a county (He & Hu, 2016; Hilary & Hui, 2009), the distance between firms and religious "infrastructure" such as Buddhist monasteries (Du et al., 2014), the number of churches, Mosques, temples at province level (Wang & Lin, 2014), and the gap between the number of *Fajr* prayers and *Maghrib* prayers in the Mosque (Wijaya, 2019). An alternative way is a direct approach (Ahmad et al. (2008) for the Islamic context and Allport and Ross (1967)) that measures religiosity at a personal level (by surveying them). For instance, Allport and Ross (1967) divided people's religious orientation into two groups; i.e. intrinsic (the person lives their religion actively) and extrinsic (person uses religion as a means to their end). Ahmad et al. (2008) divided the religiosity measurement into three groups *Sharia*, *akhlaq* (behavior), and faith. This measurement is comprehensive since a Muslim person's faith (cognitive/beliefs) and *akhlaq* (behavior) may not be aligned. However, this approach is quite complex to follow because the data access (surveys, etc.) is limited.

In line with Basedau et al. (2018), we rely on five religiosity proxies based on the province level data namely, the natural logarithm of the number of Islamic schools (sum of Islamic primary school, Islamic junior high school, and Islamic senior high school), the natural

TABLE 1 The progress of religiosity indicators in Indonesia

No	Religiosity proxies	Average growth (year to year)	Remark
1	Mosques and *Mushalla*	n/a	Around 260 thousand mosques and 297 thousand *mushalla* (small praying place), have been registered under ministry of religious affair per January 2020 (simas.kemenag.go.id)
2	Muslim fashion consumption	18.2% (2014 to 2017)	US$ 12.67 billion in 2014 to US$ 20 billion in 2017 (ikm.kemenperin.go.id)
3	The number of students in the Islamic primary schools	2.6% (2008 to 2017)	Students in the Islamic primary school have increased significantly from 2.91 million in 2008 to 3.68 million in 2017. Students in the general primary school have slightly decreased with average year to year decline 0.4% (BPS)
4	*Hajj* waiting list	n/a	Per January 2020, the waiting list in each province varies range from 10 to 30 years (haji.kemenag.go.id)
5	The amount of *Zakah*, *Infaq*, *Shadaqah*	33.7% (2008 to 2017)	The amount of *zakat*, *infaq*, *shadaqah* also extremely increased from IDR 920 Billion in 2008 to IDR 6224 Billion in 2017 (baznaz.go.id)
6	Islamic large banks assets (national data)	26.2% (2009 to 2018)	The growth of Islamic large bank outperforms the growth of conventional large banks; average year to year growth from 2009 to 2018 in conventional large banks is 13.4% (Financial Service Authority)
7	Islamic small banks assets (national data)	22.2% (2009 to 2018)	The growth of Islamic small bank outperforms the growth of conventional small banks; average year to year growth from 2009 to 2018 in conventional small banks is 15.4% (Financial Service Authority)
8	Islamic seminary school		25,758 Islamic seminary schools in 2009 to 27,719 in 2018 (Ministry of Religious Affair)

Source: Author's compilation.

logarithm of the number of Mosques, natural logarithm of the number of Islamic seminary schools, natural logarithm of the number of the *halal-certified* product, and the natural logarithm of the number of people who had applied for the pilgrimage of *hajj*. These proxies work well in our context as there is variability in their values in different provinces even if Indonesia is largely Muslim, there are also provinces with a Muslim population below 50% (e.g., Bali).

Islamic schools are religious organizations whose target is to disseminate the religious ideas and moral/ethics of Islam, such as doctrines, norms, and values. Thus, they may shape the behavior toward the economy and banking activities. Areas with more Islamic schools face greater dissemination of Islamic teaching. In fact, alongside general subjects, students in Islamic schools will be taught the Arabic language, History of Islam, *Aqidah*/*Akhlaq*, *Quran* and *Sunnah*, and *Fiqh*. This implies that we should expect that areas with more Islamic schools to have a large proportion of the current population to be willing to conform to the Islamic teachings in business situations. In such a context, any misbehavior in a financing contract will be perceived as an attitude that does not conform to Islamic teachings and would be socially sanctioned with stigma and exclusion and/or marginalization from the business and social life. Thus, banks can have greater trust in the regular repayment of the finance provided. Moreover, we could argue that individuals who put their children in Islamic school are expected to follow the Islamic guidance regarding the prudence principle, suggesting that these individuals are expected to be more risk-averse (see Miller, 2000). In other words, people living in the area with more Islamic schools are expected to select low-risk projects which are in line with the banker's preference. The data on the number of Islamic schools are obtained from the Central Agency on Statistics of Indonesia (BPS).

Hajj (annual pilgrimage to the holy city of Mecca) is a form of religious practice for Muslims. Using the number of people who perform the *hajj* at the province level may not capture the religiosity level properly as the Saudi government decides the annual quota for each country. Thus, we use the number of applications made for *hajj* in each province. The logic of this proxy is linked to the fact that *hajj* is one of the five pillars in Islam: Muslims should perform *hajj* at least once during their lifetime. Given that *hajj* can be financially expensive, Muslims need to work hard (or do extra work) to finance the trip. The fact that people need to work hard for *hajj* could shape their relationship with financing institutions (see also Geertz (1956) for the explanation that *hajj* is one of the mechanisms in introducing modernization of Islam in Indonesia). These people are expected to have high ethical attitudes in conducting their business and in their daily work as it does not make sense to perform *hajj* by using money obtained from unethical business activities or work. In addition, not only do people who try to do *hajj* have awareness of overall Islamic teachings but they also try to tailor their attitudes toward Islamic principles, including not defaulting in financing contracts and avoiding misusing money/properties that belong to others. The data about *hajj* applications are obtained from the ministry of religious affairs.

Mosques also promote religious ideas. In addition, according to social capital theory (Fukuyama, 2001; Karaçuka, 2018) attending prayer in Mosques can help the development of a network and support the establishment of trust. Existing studies document that trust is positively associated with more credit available to the borrower (Howorth

& Moro, 2006; Moro & Fink, 2013). This is because trust could reduce the monitoring efforts which is costly to both Islamic and conventional banks. Moreover, Islamic teaching disseminated during prayer in the Mosque, stresses not to default on financing contracts and not to misuse others' money/properties. Therefore, Mosques indirectly shape local social norms. Our variable is based on the number of Mosques registered under the Indonesian ministry of religious affairs.

Islamic seminary school (*pesantren*) is a form of religious actor/organization. This actor not only promotes religious ideas but also creates religious roles, i.e., *ulama* (preacher). The students can learn religious education, general education, vocational skill, and character development in *pesantren* in Indonesia (Lukens-Bull, 2001). Lukens-Bull (2001) mentions that many *pesantren* provide skill training such as welding, carpentry, sewing, computer and shop-keeping to help the student in the job market. People who send their children to study in Islamic seminary schools must have a strong religious background. These people are very likely to conform to other Islamic teachings including not defaulting on financing contracts and avoiding the misuse of others' money/property. Thus, parents who send their children to learn *Quran* and *Sunnah* and other Islamic teachings in the seminary are considered more risk-averse and are expected to select low-risk projects in their business activities. These data are obtained from the ministry of religious Affairs.

Certified halal product is a representation of both religious ideas and religious practices. The certification process at the province level is managed by a provincial *halal* authority. The companies that register their products at the provincial level are mainly small and medium enterprises. While the big companies need to certify their products with the national *halal* authority. These data are obtained from the *halal* authority of Indonesia under the body of the Indonesian Council of Ulama (LPPOM MUI). Muslims need to eat and use *halal* and *tayyib* (good) food/drink/cosmetics, etc. Consequently, Muslim people who conform to this teaching will also conform to other Islamic teachings, such as obtaining money from *halal* sources, not misusing other's money/properties, and obtaining money by conducting business/work that is in line with high ethical principles.

Drawing from previous literature, we employ three groups of control variables: province-level economics and democracy, firm factors, and banking factors (Chen et al., 2016; Delis et al., 2019; He & Hu, 2016). We also add the discount rate decided by the Central Bank of Indonesia as a control variable (national-level data). We control for bank characteristics using a dummy bank type (Islamic vs conventional banks). To measure the intensity of business activity, we rely on the number of micro-small manufacturing enterprises at province level to represent micro-small manufacturing enterprises in Indonesia. To control for province-level economic factors, we include the natural logarithm of real regional GDP per capita, the ratio of the working and economically active population, the ratio of the total population to square km in each province and both the foreign direct investment and domestic investment at province level. Following Delis et al. (2019), we also use the democracy index at province level. The score of this index consists of three main groups: civil liberty, political rights, and the institution of democracy.

3.3 | Methodology

The basic specifications are estimated using ordinary pooled least square regression by entering one variable at a time to control for possible collinearity of the measures of religiosity. However, our specifications can suffer from endogeneity because of omitted variables and reverse causality.

As far as the omitted variable is concerned, our research may suffer because of unobserved beliefs, ideas, and attitudes that affect religiosity. Thus, we select 3 instrumental variables related to natural disasters at the province level: the number of natural disasters lagged by 1 year, the number of dead and injured people in natural disasters lagged by 1 year, and the number of houses being completely destroyed and damaged by natural disasters lagged by 1 year. Our point is that a natural disaster may act as a shock that increases the people's religiosity and affects the opinion about religion in those that are not religious, as natural disasters challenge people's opinion about science's reliability. In such a context, people tend to look to religion as something that can help them deal with the psychological consequences of the disaster as well as helping find closure to deaths. Therefore, in the immediate aftermath of a calamitous event, we might expect stronger demand for "religious services" (school and Mosque) and more *hajj* applications. Thus, we expect that an increase in the amount of "religious services" as well as the number of *hajj* applications registered in the area after the shock. At the same time, we do not expect any impact from these shocks on the amount of finance provided by the banks or in the non-performing finance.

As far as the reverse causality is concerned, the total amount of financing might generate economic growth that may affect the resources that schools, Mosques, and seminars can access, thus influencing their quality and their number that, in turn, can increase the diffusion of religious ideas (see Barro & McCleary, 2003). To control for this possibility, we follow Hilary and Hui (2009) and re-estimate our model via 2SLS by selecting the natural logarithm of Islamic schools lagged by 3 years and the natural logarithm of Islamic seminary schools lagged by 3 years as instrumental variables.

3.4 | Descriptive statistics

Table 2 shows the descriptive statistics of the variables and Table 3 shows the mean of religiosity at the province level in Indonesia.

The statistics show that Jawa Timur has the highest number of Islamic schools and *hajj* applications and Jawa Barat has the highest number of Mosques and Islamic seminary schools and certified *halal* products. A relatively low number of Islamic schools, *hajj* applications, certified *halal* products, Islamic seminary schools and Mosques are found in Bali, Papua, Papua Barat, Nusa Tenggara Timur, and Sulawesi Utara. These 5 provinces have less than 50% Muslim population based on 2010 census (BPS). In addition, based on the 2010 census, the highest Muslim population share could be found in Aceh (98.2%) while the lowest Muslim population share could be found in Nusa Tenggara Timur (9.1%).

Table 4 shows the bank-related variables at the province level.

Kalimantan Tengah, a province where 74.3% of the population is Muslim, performs very well in terms of non-performing finance (NPFs) in large conventional banks (1.1%) but not in the case of large Islamic banks (4.3%). Maluku, which has a 51% Muslim population, has the lowest NPF in small conventional banks (0.4%) and followed by Sulawesi Tengah (1.2%), a province with a 77.7% Muslim population share. Interestingly, large Islamic banks in the Yogyakarta province, where the Muhammadiyah was founded, together with Kepulauan Riau, have lower non-performing finance than its counterparts (1.5% vs 2%). The lowest NPF in Islamic small banks could be found in Lampung (3.2%) followed by Kalimantan Tengah (4%). DKI Jakarta, as the capital city of Indonesia, outperforms other provinces in the total amount of financing and deposit. The highest amount of financing in large Islamic banks (outside DKI Jakarta) is found in Jawa Barat, Jawa Timur dan Jawa Tengah respectively. Outside of the Jawa islands (and DKI Jakarta), the highest amount of financing in large Islamic banks could be found in Sumatera Utara dan Aceh. It should be noted that, small Islamic banks are not yet established in 9 Provinces, such as Gorontalo, Jambi, Kalimantan Barat, Maluku, Papua Barat, Riau, Sulawesi Tengah, Sulawesi Tenggara, and Sulawesi Utara.

Tables 5 shows the control variables at the province level.

Jawa Barat has the highest population density, while Yogyakarta, where Muhammadiyah was founded, has the highest democracy index. The highest employment ratio (percentage of the working people divided by the total people of the working-age) could be found in Bali, the most popular tourist destination in Indonesia. Jawa Barat again has the highest amount of foreign direct investment, and Jawa Timur has the highest amount of domestic investment. Interestingly, 23% of micro and small manufacturing enterprises in Indonesia could be found in Jawa Tengah.

4 | MAIN RESULTS AND ROBUSTNESS CHECKS

4.1 | Religiosity, the total amount of financing, and non-performing finance (NPF)

Table 6 shows the impact of religiosity on the total amount of (the natural logarithm of) financing in banks (both Islamic and conventional banks). Because the specification suffers from multicollinearity, we decided to regress the religiosity proxies one by one.

Model 1 includes all of the control variables, such as economic factors, sector, and dummy type of bank, that is, 1 if Islamic bank,

TABLE 2 Statistic descriptive

Remarks	Variable	Obs.	Mean	SD	Min	Max
Per capita gross regional domestic product at current market prices by Province (thousand rupiahs)	GDP	725	50,524.72	40,835.6	12,379.02	248,305.9
Foreign direct investment realization by Province (million US$)	Foreign Inv	725	942.2909	1335.425	2	7124.9
Domestic direct investment realization by Province (billion rupiahs)	Domestic Inv	725	6816.948	10187.94	3.6	49097.4
Democracy Index by province level. These include civil liberties, political rights, and institutions of democracy	Democracy Index	725	71.41106	6.620856	52.61	85.58
Percentage of working to economically active by Province	Employment	725	94.76073	1.913711	89.88306	98.63445
Population density per sq.km by province	Population density	725	798.7241	2732.347	9	15,764
Percentage of micro and small manufacturing enterprises at Province level to total micro and small manufacturing enterprises in Indonesia	Enterprises	725	0.032038	0.0542729	0.0004151	0.2808421
Policy rate of Central Bank of Indonesia	Discount rate	725	6.183393	1.123975	4.56	7.54
Percentage Muslim population at province level to total population at province level	Muslim population share	725	0.789377	0.2589576	0.0905083	0.9819407
Sum of Islamic primary school, Islamic junior high school and Islamic senior high school at province level	Islamic school	725	1617.796	2634.772	79	12,886
Hajj application by province	Hajj	725	17,291.3	26,748.74	1190	133,421
Islamic seminary school (pesantren) by province	Islamic seminary	725	867.509	1865.414	5	9167
The number of Mosque registered under Ministry of Religious Affair at province level	Mosque	369	7013.967	12,080.31	146	50,082
The number of halal certification at province level	Halal	339	597.4779	1177.743	12	6402
Total amount of financing at province level (million rupiahs)	Total amount of financing	725	3.73	19.60	526.048	2,620,000,000
Percentage non-performing finance to total amount of financing at province level (NPF)	Non-performing financing	723	0.064932	0.0980354	0.0007854	1

TABLE 3 Muslim population share and religiosity proxies at province level

Province	Muslim share (%) 2010 census	Mosque 2016–2018	Islamic seminary 2013–2018	Islamic school 2013–2018	*Hajj* application 2013–2018	*Halal* 2016–2018
Aceh	0.981	4040	1096	1265	13,066	95
Bali	0.133	245	81	134	2035	199
Banten	0.946	4128	3576	2344	24,765	1174
Bengkulu	0.972	2852	56	272	4053	125
DI Yogyakarta	0.919	7767	279	326	8643	713
DKI Jakarta	0.853	1991	109	805	21,480	518
Gorontalo	0.978	2076	25	205	1652	80
Jambi	0.954	2561	195	856	8371	327
Jawa Barat	0.970	47,983	8236	7841	89,499	6402
Jawa Tengah	0.967	41,386	4055	6364	85,772	1123
Jawa Timur	0.963	38,221	5123	12,423	105,000	1692
Kalimantan Barat	0.592	3467	231	854	6066	242
Kalimantan Selatan	0.966	2566	222	1008	12,540	145
Kalimantan Tengah	0.743	1957	76	506	3771	28
Kalimantan Timur	0.853	2654	149	332	7438	389
Kepulauan Bangka Belitung	0.890	861	48	101	2461	178
Kepulauan Riau	0.793	1686	47	158	2798	658
Maluku	0.506	722	13	312	1922	56
Maluku Utara	0.742	974	16	332	2604	0
Nusa Tenggara Barat	0.964	3440	592	2140	15,346	513
Nusa Tenggara Timur	0.090	778	26	290	1818	0
Papua	0.158	166	20	96	2770	12
Papua Barat	0.3840	150	35	90	1544	0
Riau	0.8798	5836	198	1307	11,567	479
Sulawesi Barat	0.826	2129	74	411	3989	47
Sulawesi Selatan	0.896	10,337	268	1822	23,860	337
Sulawesi Tengah	0.777	2325	91	635	4226	134
Sulawesi Tenggara	0.952	1674	83	502	5076	178
Sulawesi Utara	0.3090	800	19	192	1294	104
Sumatera Barat	0.974	3958	217	758	10,095	427
Sumatera Selatan	0.968	6642	324	1184	14,644	163
Sumatera Utara	0.660	9223	167	2395	16,059	328
Lampung	0.954	3714	642	1747	15,092	293

otherwise 0. *ln* (*GDP*) is negative and not significant while both *ln* (*Foreign Inv*) and *ln* (*Domestic Inv*) are positive at a 5% level: the investment may stimulate the economic activities at province level that, in turn, increase the amount of financing. *Democracy index* and *Population density* are not significant while *Employment* is negatively associated with the total amount of financing. *Enterprises*, a proxy for the intensity of the economic activity is also positively associated to the amount of finance provided by financial institution while Central bank discount rate is not.

In Model 2 we add Muslim population share as a variable of interest (see Barro & McCleary, 2003; Noland, 2005; Pryor, 2007). Interestingly, it is not significant. Arguably, Muslim population share cannot capture the attitudes toward economic activities (see Basedau et al., 2018). Moreover, there is a chasm between those who define themselves as belonging to a religion and those who practice it. Thus, we might find non-practicing Muslims whose "weak" beliefs (faith) are not necessarily in line with their behavior (*akhlaq*). *ln* (*Islamic school*) is included in model 3 and it is positive and significant at the 1% level, suggesting that both Islamic and conventional banks, in areas with strong religiosity, provide more financing. Model 4 enters the *hajj* applications as a metric to measure the intensity of religiosity in the area: the variable is positive and significant. The same applies to the Seminary variable in regression 5 and the logarithm of the number of *halal* products

TABLE 4 NPF and financing in Islamic and conventional banks (from 2013 to 2018) at province level

Province	NPF large conventional Bank	NPF small conventional Bank	NPF large Islamic bank	NPF small Islamic banks	Financing large conventional Bank (IDR million)	Financing small conventional Bank (IDR million)	Financing large Islamic bank (IDR million)	Financing small Islamic banks (IDR million)
Aceh	0.031	0.09	0.036	0.106	29,200,000	142,000	8,420,000	123,000
Bali	0.019	0.045	0.026	0.199	63,000,000	8,410,000	1,760,000	5323
Banten	0.019	0.065	0.032	0.135	108,000,000	2,070,000	6,750,000	582,000
Bengkulu	0.018	0.078	0.036	0.379	15,100,000	46,767	916,000	112,000
DI Yogyakarta	0.02	0.047	0.015	0.064	29,200,000	3,760,000	2,890,000	324,000
DKI Jakarta	0.022	0.064	0.035	0.189	2,060,000,000	1,330,000	101,000,000	16,653
Gorontalo[a]	0.033	0.194	0.065		9,520,000	25,530	304,000	
Jambi[a]	0.024	0.111	0.048		29,800,000	566,000	2,260,000	
Jawa Barat	0.03	0.073	0.045	0.068	349,000,000	11,100,000	28,200,000	2,060,000
Jawa Tengah	0.025	0.06	0.027	0.07	227,000,000	18,000,000	14,500,000	698,000
Jawa Timur	0.023	0.061	0.034	0.066	389,000,000	8,450,000	21,300,000	1,140,000
Kalimantan Barat[a]	0.018	0.08	0.018		40,800,000	591,000	3,390,000	
Kalimantan Selatan	0.026	0.122	0.049	0.163	41,800,000	327,000	3,670,000	19,893
Kalimantan Tengah	0.011	0.044	0.043	0.04	20,500,000	260,000	878,000	7556
Kalimantan Timur	0.056	0.116	0.055	0.115	67,900,000	238,000	4,410,000	2223
Kepulauan Bangka Belitung	0.027	0.071	0.025	0.148	9,990,000	70,687	410,000	328,000
Kepulauan Riau	0.02	0.037	0.015	0.105	32,600,000	3,970,000	3,030,000	101,000
Maluku[a]	0.018	0.004	0.051		8,400,000	1,210,000	125,000	
Maluku Utara	0.019	0.036	0.023	0.039	6,300,000	49,512	226,000	27,593
Nusa Tenggara Barat	0.015	0.107	0.036	0.043	28,200,000	916,000	2,980,000	198,000
Nusa Tenggara Timur	0.018	0.049	0.031		21,200,000	412,000	212,000	
Papua	0.04	0.02	0.045	0.734	23,000,000	805,000	530,000	835
Papua Barat[a]	0.041	0.048	0.036		9,140,000	391,000	160,000	
Riau	0.032	0.13	0.041	0.096	56,900,000	871,000	4,310,000	50,032
Sulawesi Barat	0.022	0.026	0.073	0.659	5,440,000	14,913	226,000	896

(Continues)

TABLE 4 (Continued)

Province	NPF large conventional Bank	NPF small conventional Bank	NPF large Islamic bank	NPF small Islamic banks	Financing large conventional Bank (IDR million)	Financing small conventional Bank (IDR million)	Financing large Islamic bank (IDR million)	Financing small Islamic banks (IDR million)
Sulawesi Selatan	0.031	0.018	0.032	0.139	98,200,000	1,520,000	5,630,000	115,000
Sulawesi Tengah[a]	0.022	0.012	0.029		22,100,000	1,750,000	1,080,000	
Sulawesi Tenggara[a]	0.024	0.126	0.042		17,500,000	177,000	883,000	
Sulawesi Utara[a]	0.031	0.100	0.058		30,300,000	790,000	469,000	
Sumatera Barat	0.025	0.079	0.033	0.094	42,500,000	1,080,000	3,700,000	141,000
Sumatera Selatan	0.033	0.109	0.056	0.043	67,900,000	937,000	4,790,000	11,940
Sumatera Utara	0.025	0.075	0.069	0.064	185,000,000	898,000	8,980,000	95,321
Lampung	0.022	0.013	0.041	0.032	43,500,000	7,420,000	2,390,000	292,000

[a]Provinces with no small Islamic banks.

(regressions 7). At the same time, the number of Mosques is not significant. Overall, the results suggest an important association between Islam and banks' decision to provide financing in an area, supporting to hypothesis number 1. Our results are in line with previous studies which found a positive association between religiosity level based on the area and the amount of financing (Chen et al., 2016; He & Hu, 2016). Our results also support the argument that people who live in high-Islam religiosity areas conform to the norms, values, and teachings that banks are seeking from their customers, such as behaving in a trustworthy manner, having a high concern in ethical issues, and avoiding excessive risk-taking action.

To explore the determinants of non-performing finance in both Islamic and conventional banks, we again run regressions but using the non-performing finance to total financing (NPF) as our dependent variable. Table 7 shows the results of the impact of religiosity on NPF.

Model 8 presents the controls. The only variables that affect the non-performing finance are the GDP, Democracy index (marginally), employment, and the number of enterprises. Democracy index is negatively associated with NPF. This result is in line with Delis et al. (2019) who found that democracy is negatively associated with the cost of debt as a higher democracy index implies greater information for banks, which in turn can take proper financing decisions and reduce the NPF. The reduced number of significant controls has an effect on the R2 of all the regression related to NPF (R2 is systematically smaller than in the regressions in Table 6). At variance with the previous set of regressions, only two of the variables that try to catch the intensity of Islam are significant, that is, the number of Islamic schools in the area (negative relation and $p < .10$) and the number of certified *halal* products in the area (negative relation and $p < .10$). Our results provide marginal support to Hypothesis 2. In addition, the results are at variance with existing empirical studies that suggest that Islam religiosity, as measured by 5 times daily prayer, is negatively associated with days of late repayment (Al-Azzam et al., 2012), that Islamic loans are less likely to default during Ramadan, a period of greater religious orientation (Baele et al., 2014), and that religiosity is negatively related to default rate (Chen et al., 2016) and loan losses (Gyapong et al., 2021) .

4.2 | Religiosity, the total amount of financing, and non-performing finance (NPF) in different types of banks

The regressions in Table 7 show the dummy variable that captures bank type is always significant. This evidence suggests it is important to further explore the role of religiosity in different types of banks. Thus, we decided to re-estimate regressions by the type of financing: Islamic financing and conventional bank financing.

Table 8 reports the results based on Islamic banks' financing. Model 16 explores the role of the share of the Muslim population:

TABLE 5 Control variables at province level (2013–2018)

Province	Population density (per square km)	Democracy index	Employment (%)	Foreign invetsment (US$ million)	Domestic investment (IDR billion)	Real regional GDP per capita (IDR thousand)	Enterprises (%)
Aceh	87.16667	71.168	91.739	62.567	2858.002	26,927.08	0.022
Bali	722.5	78.05	98.256	608.967	1185.259	44,138.77	0.03
Banten	1249.5	72.102	90.853	2847.283	11,500.95	40,978.92	0.025
Bengkulu	95	70.357	96.076	65.533	1136.619	28,011.82	0.005
DI Yogyakarta	1180.833	81.378	96.712	53.5	1454.161	28,682.06	0.024
DKI Jakarta	15,397	80.31	92.693	3928.467	24,609.22	202,000	0.013
Gorontalo	101.5	73.632	95.989	21.917	996.918	26,137.02	0.006
Jambi	68.5	69.66	95.682	72.183	2835.89	48,385.02	0.007
Jawa Barat	1329.333	68.473	91.4	5935.483	27,505.78	33,825.05	0.135
Jawa Tengah	1033.167	69.627	94.934	1259.017	18,836.2	30,895.37	0.234
Jawa Timur	814.833	70.433	95.806	2105.55	38,863.32	45,594.6	0.194
Kalimantan Barat	32.833	75.842	95.661	773.8	6829.038	32,035.27	0.012
Kalimantan Selatan	103.666	73.152	95.483	391.117	5349.361	35,462.85	0.018
Kalimantan Tengah	16.5	73.128	96.025	682.317	4732.386	4,2611.67	0.006
Kalimantan Timur	25.833	74.587	92.618	1479.133	13,718.7	158,000	0.006
Kepulauan Bangka Belitung	84.5	75.493	95.815	92.033	1549.506	44,994.47	0.004
Kepulauan Riau	243.833	72.252	93.251	621.683	1222.459	103,000	0.005
Maluku	36.333	72.668	91.008	78.483	359.067	20,882.59	0.009
Maluku Utara	36.833	68.263	95.124	266.8	792.522	24,023.05	0.004
Nusa Tenggara Barat	262	66.667	95.381	426.9	2141.625	21,344.13	0.027
Nusa Tenggara Timur	106	76.823	96.688	65.417	1244.512	15,425.23	0.031
Papua	10	60.863	96.541	1457.067	608.737	51,107.65	0.003
Papua Barat	9	61.287	93.707	225.383	98.025	73,763.14	0.001
Riau	73.833	70.915	93.379	1048.483	8170.807	106,000	0.01
Sulawesi Barat	77.166	70.088	97.086	12.917	1061.249	26,496.37	0.006
Sulawesi Selatan	183.1667	69.767	94.685	446.583	3944.304	41,781.26	0.029
Sulawesi Tengah	47	72.135	96.25	1208.783	2194.891	39,035.08	0.015
Sulawesi Tenggara	66.333	67.69	96.06	355.867	1845.534	36,775.35	0.016
Sulawesi Utara	174.833	77.72	92.737	235.617	1883.056	39,302.95	0.012
Sumatera Barat	124.5	62.755	93.894	119.183	1712.248	36,012.88	0.022
Sumatera Selatan	88.333	75.647	95.199	1207.2	7939.498	42,569.47	0.017
Sumatera Utara	192	65.935	93.936	1073.6	6416.636	42,877.54	0.029
Lampung	235.5	67.063	95.23	133.267	5214.099	32,765.68	0.024

TABLE 6 The impact of religiosity on total amount of financing (in both Islamic and conventional banks)

Variables	Model 1	Model 2	Model 3	Model 4	Model 5	Model 6	Model 7
Ln (GDP)	−0.235	−0.229	0.166	−0.0310	0.0904	−0.208	−0.620
	(0.224)	(0.224)	(0.252)	(0.230)	(0.232)	(0.333)	(0.391)
Ln (Foreign Inv)	0.178**	0.201***	0.137*	0.153**	0.149**	0.175	0.229*
	(0.0729)	(0.0740)	(0.0751)	(0.0732)	(0.0732)	(0.117)	(0.123)
Ln (Domestic Inv)	0.122**	0.0947	−0.0315	−0.0404	−0.0628	0.124	0.0333
	(0.0578)	(0.0652)	(0.0758)	(0.0743)	(0.0727)	(0.0968)	(0.114)
Democracy index	0.0160	0.0173	0.0287*	0.0308*	0.0203	0.0101	0.00174
	(0.0158)	(0.0161)	(0.0166)	(0.0165)	(0.0157)	(0.0222)	(0.0246)
Employment	−0.135***	−0.123***	−0.0731	−0.0832*	−0.0493	−0.115*	−0.0251
	(0.0483)	(0.0475)	(0.0493)	(0.0483)	(0.0501)	(0.0681)	(0.0732)
Population density	0.0000846	0.0000833	0.0000644	0.0000455	0.0000927	0.0000961	0.0000976
	(0.0000618)	(0.0000619)	(0.0000621)	(0.0000632)	(0.0000616)	(0.0000888)	(0.0000883)
Enterprises	11.00***	10.87***	7.499***	6.071***	5.894***	9.245***	3.741
	(1.638)	(1.638)	(1.842)	(1.977)	(1.775)	(3.095)	(2.855)
Dummy bank type	−2.485***	−2.491***	−2.493***	−2.517***	−2.516***	−2.581***	−2.576***
	(0.173)	(0.173)	(0.171)	(0.171)	(0.171)	(0.246)	(0.256)
Discount rate	−0.115	−0.122	−0.0234	−0.0527	−0.143	−0.0402	−0.258
	(0.251)	(0.251)	(0.250)	(0.248)	(0.247)	(0.347)	(0.362)
Muslim share		0.352					
		(0.378)					
Ln (Islamic school)			0.444***				
			(0.136)				
Ln (Hajj)				0.536***			
				(0.140)			
Ln (Seminary)					0.413***		
					(0.0853)		
Ln (Mosque)						0.185	
						(0.144)	
Ln (Halal)							0.602***
							(0.143)
Constant	27.97***	26.56***	15.13**	16.28***	15.90***	24.43***	20.95**
	(5.672)	(5.649)	(6.550)	(6.150)	(6.019)	(7.906)	(8.271)
Dummy year	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Observations	725	725	725	725	725	369	339
R-squared	0.320	0.321	0.330	0.332	0.336	0.336	0.356
Adj. *R*-squared	0.307	0.307	0.3162	0.3183	0.323	0.3152	0.334
F values	32.9	30.67	31.71	32.5	32.95	20.19	18.07
p values of *F*	Sig. at 0.1%	Sig. at 0.1%	Sig. at 0.1%	Sig. at 0.1%	Sig. at 0.1%	Sig. at 0.1%	Sig. at 0.1%

Note: Robust standard errors in parentheses. The dependent variable is the natural logarithm of total amount of financing at province level. The independent variables are Percentage Muslim population at province level to total population at province level (Muslim share), natural logarithm of sum of Islamic primary school, Islamic junior high school and Islamic senior high school at province level (Ln (Islamic school)), natural logarithm of Hajj application by province (Ln (Hajj)), natural logarithm of the number of Islamic seminary school (pesantren) by province (Ln (Seminary)), natural logarithm of the number of Mosque registered under Ministry of Religious Affair at province level (Ln (Mosque)), natural logarithm of the number of halal certification at province level (Ln (Halal)). The controls are natural logarithm per capita gross regional domestic product at current market prices by province (Ln (GDP)), natural logarithm foreign direct investment realization by province (Ln (Foreign Inv)), natural logarithm domestic direct investment realization by province (Ln (Domestic Inv)), Democracy Index by province level (Democracy index), Percentage of working to economically active by province (Employment), Population density per sq.km by province (Population density), Percentage of micro and small manufacturing enterprises at province level to total micro and small manufacturing enterprises in Indonesia (Enterprises), Dummy bank type, 1 if Islamic Banks, otherwise 0 (Dummy bank type), Policy rate of Central Bank of Indonesia (Discount rate).

Abbreviation: OLS, ordinary least square.

***$p < .01$; **$p < .05$; *$p < .1$.

TABLE 7 The impact of religiosity on NPF (in both Islamic and conventional banks)

Variables	Model 8	Model 9	Model 10	Model 11	Model 12	Model 13	Model 14
Ln (GDP)	0.0159**	0.0156**	0.00347	0.0137**	0.0141**	0.0107	0.0131
	(0.00628)	(0.00626)	(0.00923)	(0.00683)	(0.00666)	(0.00882)	(0.0122)
Ln (Foreign Inv)	−0.00374	−0.00515	−0.00248	−0.00348	−0.00359	−0.000126	0.00116
	(0.00376)	(0.00326)	(0.00417)	(0.00382)	(0.00379)	(0.00730)	(0.00794)
Ln (Domestic Inv)	0.000906	0.00256	0.00567	0.00262	0.00190	−0.000673	−0.00446
	(0.00309)	(0.00320)	(0.00398)	(0.00407)	(0.00354)	(0.00583)	(0.00836)
Democracy index	−0.00166*	−0.00174*	−0.00205**	−0.00181*	−0.00168*	−0.00297**	−0.00306*
	(0.000873)	(0.000919)	(0.00101)	(0.000951)	(0.000880)	(0.00141)	(0.00157)
Employment	0.00429*	0.00358*	0.00237	0.00375*	0.00383*	0.00878**	0.00420
	(0.00233)	(0.00185)	(0.00177)	(0.00208)	(0.00220)	(0.00361)	(0.00258)
Population density	0.00000105	0.00000113	0.00000168	0.00000147	0.00000101	0.00000119	0.00000212
	(0.00000125)	(0.00000126)	(0.00000131)	(0.00000137)	(0.00000125)	(0.00000172)	(0.00000164)
Enterprises	−0.106**	−0.0981**	0.00301	−0.0541	−0.0788*	−0.170*	0.0552
	(0.0500)	(0.0469)	(0.0513)	(0.0516)	(0.0477)	(0.0872)	(0.129)
Dummy bank type	0.0363***	0.0366***	0.0365***	0.0366***	0.0364***	0.0429***	0.0467***
	(0.00774)	(0.00791)	(0.00777)	(0.00788)	(0.00780)	(0.0132)	(0.0137)
Discount rate	−0.0156	−0.0152	−0.0184	−0.0163	−0.0155	−0.00835	−0.0118
	(0.0140)	(0.0139)	(0.0142)	(0.0140)	(0.0140)	(0.0182)	(0.0194)
Muslim share		−0.0216					
		(0.0228)					
Ln (Islamic school)			−0.0138*				
			(0.00801)				
Ln (Hajj)				−0.00568			
				(0.00661)			
Ln (Seminary)					−0.00224		
					(0.00287)		
Ln (Mosque)						−0.00238	
						(0.00775)	
Ln (Halal)							−0.0190*
							(0.00976)
Constant	−0.306	−0.221	0.0931	−0.183	−0.241	−0.607**	−0.0679
	(0.217)	(0.175)	(0.215)	(0.200)	(0.209)	(0.287)	(0.269)

(Continues)

TABLE 7 (Continued)

Variables	Model 8	Model 9	Model 10	Model 11	Model 12	Model 13	Model 14
Dummy year	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Observations	723	723	723	723	723	369	339
R-squared	0.061	0.063	0.068	0.062	0.061	0.074	0.107
Adj. *R*-squared	0.043	0.044	0.0498	0.043	0.042	0.045	0.076
F values	3.08	2.91	2.86	2.94	2.92	1.99	1.47
p values of *F*	Sig. at 0.1%	Sig. at 0.1%	Sig. at 0.1%	Sig. at 0.1%	Sig. at 0.1%	Sig. at 5%	Not sig.

Note: Robust standard errors in parentheses. The dependent variable is the non-performing financing to total amount of financing at province level. The independent variables are Percentage Muslim population at province level to total population at province level (Muslim share), natural logarithm of sum of Islamic primary school, Islamic junior high school and Islamic senior high school at province level (Ln (Islamic school)), natural logarithm of Hajj application by province (Ln (Hajj)), natural logarithm of the number of Islamic seminary school (pesantren) by province (Ln (Seminary)), natural logarithm of the number of Mosque registered under Ministry of Religious Affair at province level (Ln (Mosque)), natural logarithm of the number of halal certification at province level (Ln (Halal)). The controls are natural logarithm per capita gross regional domestic product at current market prices by province (Ln (GDP)), natural logarithm foreign direct investment realization by province (Ln (Foreign Inv)), natural logarithm domestic direct investment realization by province (Ln (Domestic Inv)), Democracy Index by province level (Democracy index), Percentage of working to economically active by province (Employment), Population density per sq.km by province (Population density), Percentage of micro and small manufacturing enterprises at province level to total micro and small manufacturing enterprises in Indonesia (Enterprises), Dummy bank type, 1 if Islamic Banks, otherwise 0 (Dummy bank type), Policy rate of Central Bank of Indonesia (Discount rate).

Abbreviation: OLS, ordinary least square.

$^{***}p < .01$; $^{**}p < .05$; $^{*}p < .1$.

the variable is positive and significant in line with our previous result. The same applies to the number of Islamic schools (model 17 – positive and significant at $p < .01$), *hajj* applications (Model 18 – positive and significant at $p < .01$), seminaries (Model 19 – positive and significant at $p < .01$), Mosques (Model 20 – positive and significant at $p < .10$) and certified *halal* products (Model 21 – positive and significant at $p < .01$). Table 9 reports the results based on conventional banks' financing.

The effect of religiosity seems to be somewhat less pronounced: the share of the Muslim population is not significant, neither is the number of Mosques. At the same time, *ln* (*Islamic school*), *Ln* (*Hajj*), *ln* (*seminary*), *ln* (*halal*) are positively related to the amount of finance (the significance between $p < .10$ and $p < .05$). Overall, our evidence provides some support to Hypothesis 3 even if the role of religion in the case of conventional banks is greater than expected. However, our results are similar to existing literature, that is, corporate borrowers located in counties with a high level of religiosity have larger loan amounts (He & Hu, 2016) and religiosity is positively and significantly related to loan amount (Chen et al., 2016).

4.3 | Religiosity and non-performing finance in different types of banks

Table 10 shows the impact of religiosity on non-performing finance in Islamic banks (both large and small) or NPF.

In model 30, the share of the Muslim population is negative and not significant. The same applies to *Ln* (*Hajj*), and *ln* (*seminary*), and *ln* (*Mosque*) in models 32, 33, and 34. At the same time *ln* (*Islamic school*) is negatively and significantly related to the NPF ($p < .1$) as well as certified *halal* products ($p < .05$). All in all, the weak evidence we found in the regressions that include all the banks is confirmed when we look at Islamic banks.

Table 11 shows the impact of religiosity on NPF in conventional banks.

The share of the Muslim population (model 37) is significant (at $p < .05$) but in contrast with the hypothesis: it is positively related to NPF in conventional banks (at province level). This result seems to support the "economic disadvantage thesis" of Islam. However, further examination needs to be conducted as the share of the Muslim population is not the best variable to capture attitude toward economic activities (Basedau et al., 2018). Interestingly, none of the religiosity proxies are significant in predicting NPF in conventional banks (model 38 to 42). Thus, we might argue that the result in model 36 could be affected by the "weak" Muslim.[2]

4.4 | Further analysis in Islamic and conventional banks: Large vs small banks sub-samples

To have a deeper understanding of the role of religiosity on financing activity, we re-estimate our regressions by using different samples according to the size and the type of bank. Appendix 1

TABLE 8 The impact of religiosity on total amount of financing in Islamic banks

Variables	Model 15	Model 16	Model 17	Model 18	Model 19	Model 20	Model 21
Controls	***Included***						
Muslim share		1.585***					
		(0.554)					
Ln (*Islamic school*)			0.575***				
			(0.194)				
Ln (*Hajj*)				0.663***			
				(0.190)			
Ln (*Seminary*)					0.471***		
					(0.102)		
Ln (*Mosque*)						0.374*	
						(0.208)	
Ln (*Halal*)							0.763***
							(0.214)
Constant	39.54***	32.11***	22.37**	24.11***	24.30***	32.05***	28.28**
	(8.223)	(7.751)	(9.069)	(8.449)	(8.494)	(11.34)	(12.49)
Dummy year	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Observations	335	335	335	335	335	171	159
R-squared	0.170	0.187	0.190	0.191	0.195	0.212	0.254
Adj. *R*-squared	0.139	0.154	0.157	0.158	0.162	0.162	0.203
F values	8.27	7.98	8.51	8.99	11.25	6.37	6.07
p values of *F*	Sig. at 0.1%	Sig. at 0.1%	Sig. at 0.1%	Sig. at 0.1%	Sig. at 0.1%	Sig. at 0.1%	Sig. at 0.1%

Note: Robust standard errors in parentheses. The dependent variable is the natural logarithm of total amount of financing at province level. The independent variables are Percentage Muslim population at province level to total population at province level (Muslim share), natural logarithm of sum of Islamic primary school, Islamic junior high school and Islamic senior high school at province level (Ln (Islamic school)), natural logarithm of Hajj application by province (Ln (Hajj)), natural logarithm of the number of Islamic seminary school (pesantren) by province (Ln (Seminary)), natural logarithm of the number of Mosque registered under Ministry of Religious Affair at province level (Ln (Mosque)), natural logarithm of the number of halal certification at province level (Ln (Halal)). The controls (not reported but included) are natural logarithm per capita gross regional domestic product at current market prices by province (Ln (GDP)), natural logarithm foreign direct investment realization by province (Ln (Foreign Inv)), natural logarithm domestic direct investment realization by province (Ln (Domestic Inv)), Democracy Index by province level (Democracy index), Percentage of working to economically active by province (Employment), Population density per sq.km by province (Population density), Percentage of micro and small manufacturing enterprises at province level to total micro and small manufacturing enterprises in Indonesia (Enterprises), Policy rate of Central Bank of Indonesia (Discount rate).

Abbreviation: OLS, ordinary least square.

***$p < .01$; **$p < .05$; *$p < .1$.

shows the impact of religiosity on the total amount of financing in large Islamic banks while Appendix 2 shows the impact of religiosity on the total amount of financing in large conventional banks. Models 45–49 show that all the religiosity proxies are positive and significant ($p < .01$, except *halal* at $p < .05$) which are consistent with the results of the corresponding regression in Table 8. The share of the Muslim population is also positively associated with the total amount of financing (model 44). When we look at the large conventional banks; Islamic schools, *hajj* applications, seminary schools, and certified *halal* products (model 52, 53, 54, and 56) are positive and significant, but with improvement in significance level to 0.01 with respect to corresponding regression in Table 9 (model 24, 25, 26 and 28). Interestingly, Mosques, which do not influence the total amount of financing in previous regression (model 27 – Table 9), turn out to be positive and significant at $p < .01$ level. These results provide support to Hypothesis 1: both large Islamic and conventional banks provide more financing in areas where religiosity is greater.

Appendix 3 shows the impact of religiosity on the total amount of financing in small Islamic banks while Appendix 4 shows the impact of religiosity on the total amount of financing in small conventional banks. The share of the Muslim population is positive and significant at the 1% level (Model 58). The same applies to *Ln* (*Hajj*), *ln* (*seminary*), and *ln* (*halal*) which are positively associated with the total amount of financing at the 1% level. *ln* (*Islamic school*) is also positive and significant at the 10% level. With regard to the small conventional banks sub-sample in model 65 (Appendix 4), the share of the Muslim population is negatively associated with the total amount of financing, again this result could be driven by "weak" Muslims, as, in line with previous regression in Table 9, *ln* (*Islamic school*), *Ln* (*Hajj*), *ln* (*seminary*), and *ln* (*halal*) are positive and significant at the 10%, % 5, and 1% levels, respectively (model

TABLE 9 The impact of religiosity on total amount of finance in conventional banks

Variables	Model 22	Model 23	Model 24	Model 25	Model 26	Model 27	Model 28
Controls	***Included***						
Muslim share		−0.659					
		(0.530)					
Ln (*Islamic school*)			0.317*				
			(0.192)				
Ln (*Hajj*)				0.401*			
				(0.206)			
Ln (*Seminary*)					0.338**		
					(0.134)		
Ln (*Mosque*)						−0.00315	
						(0.200)	
Ln (*Halal*)							0.427**
							(0.211)
Constant	15.33*	17.61**	6.385	7.031	6.267	15.35	12.04
	(8.374)	(8.566)	(9.952)	(9.369)	(9.062)	(12.79)	(12.55)
Dummy year	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Observations	390	390	390	390	390	198	180
R-squared	0.205	0.208	0.210	0.213	0.218	0.197	0.216
Adj. *R*-squared	0.179	0.180	0.183	0.185	0.190	0.154	0.169
F values	8.09	7.59	7.71	7.81	8.06	4.60	4.66
p values of *F*	Sig. at 0.1%	Sig. at 0.1%	Sig. at 0.1%	Sig. at 0.1%	Sig. at 0.1%	Sig. at 0.1%	Sig. at 0.1%

Note: Standard errors in parentheses. The dependent variable is the natural logarithm of total amount of financing at province level. The independent variables are Percentage Muslim population at province level to total population at province level (Muslim share), natural logarithm of sum of Islamic primary school, Islamic junior high school and Islamic senior high school at province level (Ln (Islamic school)), natural logarithm of Hajj application by province (Ln (Hajj)), natural logarithm of the number of Islamic seminary school (pesantren) by province (Ln (Seminary)), natural logarithm of the number of Mosque registered under Ministry of Religious Affair at province level (Ln (Mosque)), natural logarithm of the number of halal certification at province level (Ln (Halal)). The controls (not reported but included) are natural logarithm per capita gross regional domestic product at current market prices by province (Ln (GDP)), natural logarithm foreign direct investment realization by province (Ln (Foreign Inv)), natural logarithm domestic direct investment realization by province (Ln (Domestic Inv)), Democracy Index by province level (Democracy index), Percentage of working to economically active by province (Employment), Population density per sq.km by province (Population density), Percentage of micro and small manufacturing enterprises at province level to total micro and small manufacturing enterprises in Indonesia (Enterprises), Policy rate of Central Bank of Indonesia (Discount rate).

Abbreviation: OLS, ordinary least square.

***$p < .01$; **$p < .05$; *$p < .1$.

66, 67, 68, and 70). All in all, the analysis shows that religiosity is positively associated with the total amount of financing in both Islamic and conventional small banks, providing further support for hypothesis number 1.

In the main regression, we find mixed evidence on the impact of religiosity on NPF. Appendix 5 shows the impact of religiosity on NPF in large Islamic banks while Appendix 6 reports the impact of religiosity on NPF in large conventional banks. Surprisingly, in the large Islamic banks' sample (Appendix 5), there is no significant effect of religiosity on NPF. In Appendix 6, Model 79 shows that the Muslim population share is negative and significant ($p < .05$). Interestingly, in previous conventional banks regression, none of the religiosity proxies were significant (see Table 11). However, religiosity impacts on NPF in the case of large conventional banks: *ln (Islamic school)*, is negative and significant at the 1% level (model 80); and *ln* (*Mosque*), is negative and significant at the 5% level (model 83). Appendix 7 shows the impact of religiosity on NPF in small Islamic Banks, while Appendix 8 shows the impact of religiosity on NPF in small conventional banks. The share of the Muslim population is negatively associated with NPF in small Islamic banks (model 86). The same applies to *ln* (*Islamic school*) (model 87 – negative and significant at the 1% level) and *Ln* (*Hajj*) (model 88 – negative and significant at the 10% level). Thus, the impact of religiosity on NPF is more pronounced when we look only at the small Islamic bank sub-sample, as religiosity is only marginally significant in the Islamic banks sample (see Table 10). Turning our attention to small conventional banks (Appendix 8), the share of the Muslim population is positively associated with NPF, which is again possibly driven by "weak" Muslims. All in all, we find support for Hypothesis 3 but only in the case of small Islamic banks, as we find that religiosity plays no role on NPF in the case of small conventional banks.

TABLE 10 The impact of religiosity on NPF in Islamic banks

Variables	Model 29	Model 30	Model 31	Model 32	Model 33	Model 34	Model 35
Controls	***Included***						
Muslim share		−0.0722					
		(0.0487)					
Ln (Islamic school)			−0.0300*				
			(0.0160)				
Ln (Hajj)				−0.0103			
				(0.0137)			
Ln (Seminary)					−0.00264		
					(0.00557)		
Ln (Mosque)						−0.00594	
						(0.0154)	
Ln (Halal)							−0.0395**
							(0.0180)
Constant	−0.695	−0.354	0.204	−0.456	−0.610	−0.899	0.387
	(0.463)	(0.356)	(0.437)	(0.415)	(0.444)	(0.617)	(0.682)
Dummy year	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Observations	334	334	334	334	334	171	159
R-squared	0.065	0.077	0.084	0.067	0.066	0.109	0.191
Adj. *R*-squared	0.030	0.040	0.047	0.029	0.027	0.053	0.136
F values	1.54	1.45	1.51	1.5	1.47	1.21	1.12
p values of *F*	Not sig. 0.1079	Not sig. 0.1353	Not sig. 0.1124	Not sig. 0.1142	Not sig. 0.1289	Not sig. 0.2858	Not sig. 0.3489

Note: Robust standard errors in parentheses. The dependent variable is the non-performing financing to total amount of financing at province level. The independent variables are Percentage Muslim population at province level to total population at province level (Muslim share), natural logarithm of sum of Islamic primary school, Islamic junior high school and Islamic senior high school at province level (Ln (Islamic school)), natural logarithm of Hajj application by province (Ln (Hajj)), natural logarithm of the number of Islamic seminary school (pesantren) by province (Ln (Seminary)), natural logarithm of the number of Mosque registered under Ministry of Religious Affair at province level (Ln (Mosque)), natural logarithm of the number of halal certification at province level (Ln (Halal)). The controls (not reported but included) are natural logarithm per capita gross regional domestic product at current market prices by province (Ln (GDP)), natural logarithm foreign direct investment realization by province (Ln (Foreign Inv)), natural logarithm domestic direct investment realization by province (Ln (Domestic Inv)), Democracy Index by province level (Democracy index), Percentage of working to economically active by province (Employment), Population density per sq.km by province (Population density), Percentage of micro and small manufacturing enterprises at province level to total micro and small manufacturing enterprises in Indonesia (Enterprises), Policy rate of Central Bank of Indonesia (Discount rate).

Abbreviation: OLS, ordinary least square.

***$p < .01$; **$p < .05$; *$p < .1$.

In summary, we found that banks, irrespective of their size and type, provide more financing in areas of higher religiosity. At the same time, the role of religiosity on NPF depends on the type and size of the banks as we can find that only large conventional banks and small Islamic banks have fewer NPF in higher religiosity areas.

4.5 | Robustness check

As far as the robustness check is concerned, we re-estimate the model using different dependent variables: the ratio of the natural logarithm of the total amount of financing at province level to the natural logarithm of the GDP at province level; the ratio of the total amount of financing at province level to the number of banks at province level. The regression results (untabulated) are qualitatively similar to those presented above.

Our model may be subjected to endogeneity problems as our main explanatory variables could suffer from reverse causality: financing activity may affect the religiosity level by increasing the number of resources that religious actors can access so that, in turn, they can increase their activity in terms of religious diffusion in the area. Following Hilary and Hui (2009) we select *ln* Islamic school lagged by 3 years and *ln* Islamic seminary school lagged 3 by years and then we run a 2SLS regressions. With regard to the impact of religiosity on the total amount of financing, the results are qualitatively in line with those reported in Tables 6 (untabulated).

Secondly, we cannot rule out that our IVs do not adequately capture religiosity so our regression may suffer from omitted variable

TABLE 11 The impact of religiosity on NPF in conventional banks

Variables	Model 36	Model 37	Model 38	Model 39	Model 40	Model 41	Model 42
Controls	***Included***						
Muslim share		0.0198**					
		(0.00853)					
Ln (*Islamic school*)			0.000844				
			(0.00326)				
Ln (*Hajj*)				−0.000973			
				(0.00375)			
Ln (*Seminary*)					−0.000573		
					(0.00233)		
Ln (*Mosque*)						0.00142	
						(0.00298)	
Ln (*Halal*)							0.000886
							(0.00351)
Constant	0.0584	−0.00842	0.0348	0.0784	0.0737	−0.321	−0.306
	(0.120)	(0.127)	(0.159)	(0.149)	(0.157)	(0.198)	(0.190)
Dummy year	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Observations	389	389	389	389	389	198	180
R-squared	0.065	0.077	0.065	0.065	0.065	0.053	0.060
Adj. *R*-squared	0.035	0.044	0.032	0.032	0.032	0.002	0.003
F values	2.83	3.46	2.64	2.61	2.64	1.98	2.09
p values of *F*	Sig. at 0.1%	Sig. at 0.1%	Sig. at 0.1%	Sig. at 0.1%	Sig. at 0.1%	Sig. at 5%	Sig. at 5%

Note: Robust standard errors in parentheses. The dependent variable is the non-performing financing to total amount of financing at province level. The independent variables are Percentage Muslim population at province level to total population at province level (Muslim share), natural logarithm of sum of Islamic primary school, Islamic junior high school and Islamic senior high school at province level (Ln (Islamic school)), natural logarithm of Hajj application by province (Ln (Hajj)), natural logarithm of the number of Islamic seminary school (pesantren) by province (Ln (Seminary)), natural logarithm of the number of Mosque registered under Ministry of Religious Affair at province level (Ln (Mosque)), natural logarithm of the number of halal certification at province level (Ln (Halal)). The controls (not reported but included) are natural logarithm per capita gross regional domestic product at current market prices by province (Ln (GDP)), natural logarithm foreign direct investment realization by province (Ln (Foreign Inv)), natural logarithm domestic direct investment realization by province (Ln (Domestic Inv)), Democracy Index by province level (Democracy index), Percentage of working to economically active by province (Employment), Population density per sq.km by province (Population density), Percentage of micro and small manufacturing enterprises at province level to total micro and small manufacturing enterprises in Indonesia (Enterprises), Policy rate of Central Bank of Indonesia (Discount rate).

Abbreviation: OLS, ordinary least square.

***$p < .01$; **$p < .05$; *$p < .1$.

bias. To explore this potential issue further, we use the following instruments: *ln* natural disaster events lagged by1 year, *ln* death and injury toll in natural disasters lagged by 1 year, and *ln* totally destroyed and damaged houses in natural disasters lagged by 1 year at the province level. We argue that natural disasters may act as an external shock that influences the religiosity level of the people because soon after a natural disaster, people tend to turn to religion to deal with the psychological shock of the disaster, to give closure to deaths, or to cope with the adverse situation they are facing. This implies that in the immediate aftermath we might expect stronger demand for "religious service" (more schools and more Mosques) and more *hajj* applications. All in all, we follow Malinowski's (1925) argument that religiosity is related to the desire to control those things that cannot be controlled given the level of technological sophistication of society (e.g., weather and disease), and is also a way of dealing with fear and death. With regard to the impact of religiosity on total amount financing, the results of instrumented regressions are qualitatively similar to those in Tables 6 (Untabulated). All in all, our robustness checks provide general further support to our original results.

5 | CONCLUSION

Prior studies report that religiosity can have a direct impact on the cost of debt, loan facilities, and default rates. We document that both Islamic and conventional banks are keen on providing financing in areas with certain degrees of religiosity. We also report that both conventional and Islamic banks located in Muslim religious areas have lower NPF, but the result is only marginally significant.

Muslim religiosity norms push for risk-averse behavior, high ethical manners, trustworthiness, and avoiding defaulting on commitments.

Since both Islamic and conventional banks prefer to deal with risk-averse customers and reduce the moral hazard, customers with high ethical tendencies are preferred. In fact, in areas characterized by a large Muslim population, even people that are not very religious can align their behavior to avoid social marginalization and social blaming. Consequently, banks that operate in these areas face low moral hazard and have customers that are more aligned with the values and doctrine of the religion (reduced risk of default). Banks' perceived lower risk implies a greater probability that they provide credit.

Interestingly, we document that the impact of religiosity on financing activities is only marginally stronger in Islamic banks compared to their conventional counterparts. However, religiosity plays a stronger role for conventional large banks especially in the case of NPF. Moreover, we also document that large Islamic banks and small Islamic banks in strong religious areas provide more financing. We also report that religiosity is negatively associated with NPF for small Islamic bank groups and in large conventional banks. Overall, we find that the impact of religiosity depends largely on the size and the type of the bank.

Our results contribute to the extant literature by expanding the knowledge of the role of religiosity in accessing finance as well as its impact on bank performance. Similarly, our analysis sheds light on the role of religion in reducing the risk incurred by the bank in terms of non-performing finance. We support the argument that the action of the people in high religiosity areas that is influenced by Islamic norms, values and teachings are beneficial to the financing activities (e.g., risk averse, trustworthy, behave in ethical ways, and intention to repay the financing) (Cialdini et al., 1990). Moreover, the individuals who live in high religiosity areas influence the decision making in banks, such as the provision of more financing to the people who live in the high religiosity areas (Schneider, 1987). Another feature of this study is the measurement of religiosity. Unlike prior studies that use the share of Muslim population as a measure of religiosity, we advance the literature by offering other specific measures so that our results better reflect the role of religiosity. Finally, our results contribute to the confutation of the Weberian position that Islamic world is less "entrepreneurial" and "economic oriented" than the Christian one (and particularly, the Calvinism). Our results suggest that Islam is in fact supportive to economy and economic growth but via a different channel vis-à-vis the channel proposed by Weber. Weber argues that in Calvinism, the stimulus is linked to the fact that success in terms of accumulation of wealth as the result of a methodical approach of God's teachings and an ethically driven hard-working behavior is seen as a signal that the individual has been "chosen". Thus, people are pushed to hard work and success that, in turn, can support economic growth. We find that Islam stimulates economic growth as well, but in this case by instilling ethical behavior among economic actors so that economic interaction can be facilitated (e.g. reduction in transaction costs because of more intense interaction, greater cooperation and greater level of trust among players). It may be argued that Islamic teaching stimulates growth via cooperation while Calvinism stimulates growth via competition.

The evidence we obtain has important implications for both firms and policymakers. Small firms typically struggle to feed the bank with hard information and can easily face rejections when applying for finance. At the same time, past research found that solid relationships between the bank and the firm can improve access to finance. Our results suggest that small and medium enterprises may have greater chances of obtaining credit from Islamic banks since they are good at exploiting the relational dimension of religiosity when they take financing decisions. However, this evidence is also important for policymakers as it suggests that they have to be aware of possible biases between areas with high/low religiosity in terms of access to finance and, thus, the firms' ability to grow: firms operating in areas where people have lower pressure to align with the social norms (i.e., low percentage of Muslim population) can be more constrained in accessing finance. Finally, the results are also relevant for regulators as religion appears to have a very marginal effect on the quality of financing. This implies that the control and regulation activity should not discriminate between Islamic and non-Islamic banks, as religion does not play a major risk mitigation role.

Our research also has some limitations. We use aggregated data at province level, and this can compromise our ability to take into consideration aspects that are specific to each bank (e.g. the number of assets of a bank, the number of branches, the staff, etc.). It could be interesting to expand the analysis at bank level to have a more detailed understanding of how religiosity can affect a banks' behavior according to their characteristics. Finally, future research can try to construct a religiosity index as a more solid alternative of capturing religiosity.

Notwithstanding the limitations of the dataset and context, this research indicates that Islamic beliefs play a more important role in financing relationships and in economic development than has heretofore been acknowledged.

CONFLICT OF INTEREST

The authors declare that they have no conflict of interest.

PEER REVIEW

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DATA AVAILABILITY STATEMENT

The data that support the findings of this study are available from the corresponding author upon reasonable request.

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ENDNOTES

[1] Kuran (1997) provides examples such as: "And when the service of prayer is over spread out in the land, and look for the bounty of God. and remember God a great deal that you may prosper" (Quran 62:10) and "do not forget your part in the world" (Quran 27:77).

[2] A weak Muslim is someone who does not follow strictly Islamic rules (e.g., does not pray every day, does not perform the compulsory *ibadat*).

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APPENDIX 1

THE IMPACT OF RELIGIOSITY ON TOTAL AMOUNT OF FINANCING IN LARGE ISLAMIC BANKS

Variables	Model 43	Model 44	Model 45	Model 46	Model 47	Model 48	Model 49
Controls	***Included***						
Muslim share		1.518***					
		(0.262)					
Ln (*Islamic school*)			0.812***				
			(0.0833)				
Ln (*Hajj*)				1.090***			
				(0.0682)			
Ln (*Seminary*)					0.619***		
					(0.0551)		
Ln (*Mosque*)						0.628***	
						(0.0911)	
Ln (*Halal*)							0.470**
							(0.186)
Constant	18.85***	13.60***	−4.039	−3.686	1.465	1.411	12.45
	(4.398)	(4.281)	(4.464)	(3.180)	(2.882)	(6.774)	(14.56)
Dummy year	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Observations	195	195	195	195	195	99	90
R-squared	0.729	0.776	0.830	0.886	0.852	0.801	0.756

Note: Robust standard errors in parentheses. The dependent variable is the natural logarithm of total amount of financing at province level. The independent variables are Percentage Muslim population at province level to total population at province level (Muslim share), natural logarithm of sum of Islamic primary school, Islamic junior high school and Islamic senior high school at province level (Ln (Islamic school)), natural logarithm of Hajj application by province (Ln (Hajj)), natural logarithm of the number of Islamic seminary school (pesantren) by province (Ln (Seminary)), natural logarithm of the number of Mosque registered under Ministry of Religious Affair at province level (Ln (Mosque)), natural logarithm of the number of halal certification at province level (Ln (Halal)). The controls are natural logarithm per capita gross regional domestic product at current market prices by province (Ln (GDP)), natural logarithm foreign direct investment realization by province (Ln (Foreign Inv)), natural logarithm domestic direct investment realization by province (Ln (Domestic Inv)), Democracy Index by province level (Democracy index), Percentage of working to economically active by province (Employment), Population density per sq.km by province (Population density), Percentage of micro and small manufacturing enterprises at province level to total micro and small manufacturing enterprises in Indonesia (Enterprises), Policy rate of Central Bank of Indonesia (Discount rate).
Abbreviation: OLS, ordinary least square.
***$p < .01$; **$p < .05$; *$p < .1$.

APPENDIX 2

THE IMPACT OF RELIGIOSITY ON TOTAL AMOUNT OF FINANCE IN LARGE CONVENTIONAL BANKS

Variables	Model 50	Model 51	Model 52	Model 53	Model 54	Model 55	Model 56
Controls	***Included***						
Muslim share		−0.230					
		(0.154)					
Ln (*Islamic school*)			0.370***				
			(0.0565)				
Ln (*Hajj*)				0.408***			
				(0.0593)			
Ln (*Seminary*)					0.209***		
					(0.0400)		
Ln (*Mosque*)						0.172***	
						(0.0640)	

APPENDIX 2 (Continued)

Variables	Model 50	Model 51	Model 52	Model 53	Model 54	Model 55	Model 56
Ln (*Halal*)							0.217***
							(0.0430)
Constant	19.16***	19.96***	8.734***	10.74***	13.56***	12.52***	15.70***
	(2.319)	(2.328)	(2.557)	(2.548)	(2.602)	(3.378)	(3.318)
Dummy year	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Observations	195	195	195	195	195	99	90
R-squared	0.848	0.850	0.880	0.881	0.869	0.877	0.892

Note: Robust standard errors in parentheses. The dependent variable is the natural logarithm of total amount of financing at province level. The independent variables are Percentage Muslim population at province level to total population at province level (Muslim share), natural logarithm of sum of Islamic primary school, Islamic junior high school and Islamic senior high school at province level (Ln (Islamic school)), natural logarithm of Hajj application by province (Ln (Hajj)), natural logarithm of the number of Islamic seminary school (pesantren) by province (Ln (Seminary)), natural logarithm of the number of Mosque registered under Ministry of Religious Affair at province level (Ln (Mosque)), natural logarithm of the number of halal certification at province level (Ln (Halal)). The controls are natural logarithm per capita gross regional domestic product at current market prices by province (Ln (GDP)), natural logarithm foreign direct investment realization by province (Ln (Foreign Inv)), natural logarithm domestic direct investment realization by province (Ln (Domestic Inv)), Democracy Index by province level (Democracy index), Percentage of working to economically active by province (Employment), Population density per sq.km by province (Population density), Percentage of micro and small manufacturing enterprises at province level to total micro and small manufacturing enterprises in Indonesia (Enterprises), Policy rate of Central Bank of Indonesia (Discount rate).
Abbreviation: OLS, ordinary least square.
***$p < .01$; **$p < .05$; *$p < .1$.

APPENDIX 3

THE IMPACT OF RELIGIOSITY ON TOTAL AMOUNT OF FINANCING IN SMALL ISLAMIC BANKS

Variables	Model 57	Model 58	Model 59	Model 60	Model 61	Model 62	Model 63
Controls	***Included***						
Muslim share		3.554***					
		(0.597)					
Ln (*Islamic school*)			0.407*				
			(0.222)				
Ln (*Hajj*)				0.808***			
				(0.250)			
Ln (*Seminary*)					0.541***		
					(0.133)		
Ln (*Mosque*)						0.225	
						(0.218)	
Ln (*Halal*)							1.140***
							(0.146)
Constant	72.01***	46.20***	58.74***	49.12***	48.58***	70.32***	42.58***
	(8.409)	(8.935)	(10.54)	(10.72)	(10.51)	(12.44)	(12.63)
Dummy year	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Observations	140	140	140	140	140	72	69
R-squared	0.518	0.589	0.532	0.551	0.553	0.585	0.751

Note: Robust standard errors in parentheses. The dependent variable is the natural logarithm of total amount of financing at province level. The independent variables are Percentage Muslim population at province level to total population at province level (Muslim share), natural logarithm of sum of Islamic primary school, Islamic junior high school and Islamic senior high school at province level (Ln (Islamic school)), natural logarithm of Hajj application by province (Ln (Hajj)), natural logarithm of the number of Islamic seminary school (pesantren) by province (Ln (Seminary)), natural logarithm of the number of Mosque registered under Ministry of Religious Affair at province level (Ln (Mosque)), natural logarithm of the number of halal certification at province level (Ln (Halal)). The controls are natural logarithm per capita gross regional domestic product at current market prices by province (Ln (GDP)), natural logarithm foreign direct investment realization by province (Ln (Foreign Inv)), natural logarithm domestic direct investment realization by province (Ln (Domestic Inv)), Democracy Index by province level (Democracy index), Percentage of working to economically active by province (Employment), Population density per sq.km by province (Population density), Percentage of micro and small manufacturing enterprises at province level to total micro and small manufacturing enterprises in Indonesia (Enterprises), Policy rate of Central Bank of Indonesia (Discount rate).
Abbreviation: OLS, ordinary least square.
***$p < .01$; **$p < .05$; *$p < .1$.

APPENDIX 4

THE IMPACT OF RELIGIOSITY ON TOTAL AMOUNT OF FINANCE IN SMALL CONVENTIONAL BANKS

Variables	Model 64	Model 65	Model 66	Model 67	Model 68	Model 69	Model 70
Controls	***Included***						
Muslim share		−1.087***					
		(0.370)					
Ln (*Islamic school*)			0.265*				
			(0.153)				
Ln (*Hajj*)				0.395**			
				(0.176)			
Ln (*Seminary*)					0.467***		
					(0.122)		
Ln (*Mosque*)						−0.178	
						(0.211)	
Ln (*Halal*)							0.637***
							(0.146)
Constant	11.49*	15.25**	4.036	3.325	−1.023	18.18*	8.366
	(6.515)	(6.000)	(7.267)	(7.707)	(8.569)	(10.73)	(10.79)
Dummy year	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Observations	195	195	195	195	195	99	90
R-squared	0.499	0.517	0.507	0.515	0.55	0.471	0.570

Note: Robust standard errors in parentheses. The dependent variable is the natural logarithm of total amount of financing at province level. The independent variables are Percentage Muslim population at province level to total population at province level (Muslim share), natural logarithm of sum of Islamic primary school, Islamic junior high school and Islamic senior high school at province level (Ln (Islamic school)), natural logarithm of Hajj application by province (Ln (Hajj)), natural logarithm of the number of Islamic seminary school (pesantren) by province (Ln (Seminary)), natural logarithm of the number of Mosque registered under Ministry of Religious Affair at province level (Ln (Mosque)), natural logarithm of the number of halal certification at province level (Ln (Halal)). The controls are natural logarithm per capita gross regional domestic product at current market prices by province (Ln (GDP)), natural logarithm foreign direct investment realization by province (Ln (Foreign Inv)), natural logarithm domestic direct investment realization by province (Ln (Domestic Inv)), Democracy Index by province level (Democracy index), Percentage of working to economically active by province (Employment), Population density per sq.km by province (Population density), Percentage of micro and small manufacturing enterprises at province level to total micro and small manufacturing enterprises in Indonesia (Enterprises), Policy rate of Central Bank of Indonesia (Discount rate).
Abbreviation: OLS, ordinary least square.
***$p < .01$; **$p < .05$; *$p < .1$.

APPENDIX 5

THE IMPACT OF RELIGIOSITY ON NPF IN LARGE ISLAMIC BANKS

Variables	Model 71	Model 72	Model 73	Model 74	Model 75	Model 76	Model 77
Controls	***Included***						
Muslim share		−0.00714					
		(0.00774)					
Ln (*Islamic school*)			0.00266				
			(0.00260)				
Ln (*Hajj*)				−0.000557			
				(0.00295)			
Ln (*Seminary*)					−0.00260		
					(0.00185)		
Ln (*Mosque*)						−0.00221	
						(0.00196)	

APPENDIX 5 (Continued)

Variables	Model 71	Model 72	Model 73	Model 74	Model 75	Model 76	Model 77
Ln (*Halal*)							−0.0557
							(0.0796)
Constant	−0.00523	0.0195	−0.0803	0.00629	0.0643	−0.184	−13.04***
	(0.124)	(0.126)	(0.155)	(0.151)	(0.154)	(0.135)	(4.896)
Dummy year	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Observations	195	195	195	195	195	99	90
R-squared	0.153	0.156	0.156	0.153	0.160	0.199	0.272

Note: Robust standard errors in parentheses. The dependent variable is the non-performing financing to total amount of financing at province level. The independent variables are Percentage Muslim population at province level to total population at province level (Muslim share), natural logarithm of sum of Islamic primary school, Islamic junior high school and Islamic senior high school at province level (Ln (Islamic school)), natural logarithm of Hajj application by province (Ln (Hajj)), natural logarithm of the number of Islamic seminary school (pesantren) by province (Ln (Seminary)), natural logarithm of the number of Mosque registered under Ministry of Religious Affair at province level (Ln (Mosque)), natural logarithm of the number of halal certification at province level (Ln (Halal)). The controls are natural logarithm per capita gross regional domestic product at current market prices by province (Ln (GDP)), natural logarithm foreign direct investment realization by province (Ln (Foreign Inv)), natural logarithm domestic direct investment realization by province (Ln (Domestic Inv)), Democracy Index by province level (Democracy index), Percentage of working to economically active by province (Employment), Population density per sq.km by province (Population density), Percentage of micro and small manufacturing enterprises at province level to total micro and small manufacturing enterprises in Indonesia (Enterprises), Policy rate of Central Bank of Indonesia (Discount rate).
Abbreviation: OLS, ordinary least square.
***$p < .01$; **$p < .05$; *$p < .1$.

APPENDIX 6

THE IMPACT OF RELIGIOSITY ON NPF IN LARGE CONVENTIONAL BANKS

Variables	Model 78	Model 79	Model 80	Model 81	Model 82	Model 83	Model 84
Controls	***Included***						
Muslim share		−0.00632**					
		(0.00300)					
Ln (*Islamic school*)			−0.00333***				
			(0.00118)				
Ln (*Hajj*)				−0.00125			
				(0.00102)			
Ln (*Seminary*)					−0.000917		
					(0.000570)		
Ln (*Mosque*)						−0.00204**	
						(0.00101)	
Ln (*Halal*)							0.00973
							(0.0627)
Constant	0.00140	0.0233	0.0953*	0.0272	0.0260	−0.134**	−11.45***
	(0.0480)	(0.0489)	(0.0525)	(0.0511)	(0.0505)	(0.0532)	(1.752)
Dummy year	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Observations	195	195	195	195	195	99	90
R-squared	0.337	0.354	0.372	0.341	0.342	0.425	0.365

Note: Robust standard errors in parentheses. The dependent variable is the non-performing financing to total amount of financing at province level. The independent variables are Percentage Muslim population at province level to total population at province level (Muslim share), natural logarithm of sum of Islamic primary school, Islamic junior high school and Islamic senior high school at province level (Ln (Islamic school)), natural logarithm of Hajj application by province (Ln (Hajj)), natural logarithm of the number of Islamic seminary school (pesantren) by province (Ln (Seminary)), natural logarithm of the number of Mosque registered under Ministry of Religious Affair at province level (Ln (Mosque)), natural logarithm of the number of halal certification at province level (Ln (Halal)). The controls are natural logarithm per capita gross regional domestic product at current market prices by province (Ln (GDP)), natural logarithm foreign direct investment realization by province (Ln (Foreign Inv)), natural logarithm domestic direct investment realization by province (Ln (Domestic Inv)), Democracy Index by province level (Democracy index), Percentage of working to economically active by province (Employment), Population density per sq.km by province (Population density), Percentage of micro and small manufacturing enterprises at province level to total micro and small manufacturing enterprises in Indonesia (Enterprises), Policy rate of Central Bank of Indonesia (Discount rate).
Abbreviation: OLS, ordinary least square.
***$p < .01$; **$p < .05$; *$p < .1$.

APPENDIX 7

THE IMPACT OF RELIGIOSITY ON NPF IN SMALL ISLAMIC BANKS

Variables	Model 85	Model 86	Model 87	Model 88	Model 89	Model 90	Model 91
Controls	***Included***						
Muslim share		−0.346***					
		(0.129)					
Ln (*Islamic school*)			−0.0818***				
			(0.0280)				
Ln (*Hajj*)				−0.0700*			
				(0.0365)			
Ln (*Seminary*)					−0.0183		
					(0.0199)		
Ln (*Mosque*)						−0.0356	
						(0.0313)	
Ln (*Halal*)							−0.237
							(0.142)
Constant	−1.424	1.118	1.258	0.550	−0.636	0.349	12.65
	(1.127)	(0.829)	(1.001)	(1.152)	(1.399)	(1.763)	(9.301)
Dummy year	Yes	Yes	Yes	Yes	Yes	Yes	No
Observations	139	139	139	139	139	72	69
R-squared	0.222	0.306	0.293	0.253	0.227	0.377	0.381

Note: Robust standard errors in parentheses. The dependent variable is the non-performing financing to total amount of financing at province level. The independent variables are Percentage Muslim population at province level to total population at province level (Muslim share), natural logarithm of sum of Islamic primary school, Islamic junior high school and Islamic senior high school at province level (Ln (Islamic school)), natural logarithm of Hajj application by province (Ln (Hajj)), natural logarithm of the number of Islamic seminary school (pesantren) by province (Ln (Seminary)), natural logarithm of the number of Mosque registered under Ministry of Religious Affair at province level (Ln (Mosque)), natural logarithm of the number of halal certification at province level (Ln (Halal)). The controls are natural logarithm per capita gross regional domestic product at current market prices by province (Ln (GDP)), natural logarithm foreign direct investment realization by province (Ln (Foreign Inv)), natural logarithm domestic direct investment realization by province (Ln (Domestic Inv)), Democracy Index by province level (Democracy index), Percentage of working to economically active by province (Employment), Population density per sq.km by province (Population density), Percentage of micro and small manufacturing enterprises at province level to total micro and small manufacturing enterprises in Indonesia (Enterprises), Policy rate of Central Bank of Indonesia (Discount rate).
Abbreviation: OLS, ordinary least square.
***$p < .01$; **$p < .05$; *$p < .1$.

APPENDIX 8

THE IMPACT OF RELIGIOSITY ON NPF IN SMALL CONVENTIONAL BANKS

Variables	Model 92	Model 93	Model 94	Model 95	Model 96	Model 97	Model 98
Controls	***Included***						
Muslim share		0.0457***					
		(0.0132)					
Ln (*Islamic school*)			0.00489				
			(0.00505)				
Ln (*Hajj*)				−0.000799			
				(0.00612)			
Ln (*Seminary*)					−0.000272		
					(0.00366)		
Ln (*Mosque*)						0.00488	
						(0.00557)	

APPENDIX 8 (Continued)

Variables	Model 92	Model 93	Model 94	Model 95	Model 96	Model 97	Model 98
Ln (*Halal*)							0.00267
							(0.00546)
Constant	0.106	−0.0433	−0.0300	0.122	0.113	−0.508	−0.442
	(0.194)	(0.200)	(0.248)	(0.247)	(0.237)	(0.336)	(0.305)
Dummy year	Yes	Yes	Yes	Yes	Yes	Yes	No
Observations	194	194	194	194	194	99	90
R-squared	0.133	0.180	0.137	0.133	0.133	0.122	0.161

Note: Robust standard errors in parentheses. The dependent variable is the non-performing financing to total amount of financing at province level. The independent variables are Percentage Muslim population at province level to total population at province level (Muslim share), natural logarithm of sum of Islamic primary school, Islamic junior high school and Islamic senior high school at province level (Ln (Islamic school)), natural logarithm of Hajj application by province (Ln (Hajj)), natural logarithm of the number of Islamic seminary school (pesantren) by province (Ln (Seminary)), natural logarithm of the number of Mosque registered under Ministry of Religious Affair at province level (Ln (Mosque)), natural logarithm of the number of halal certification at province level (Ln (Halal)). The controls are natural logarithm per capita gross regional domestic product at current market prices by province (Ln (GDP)), natural logarithm foreign direct investment realization by province (Ln (Foreign Inv)), natural logarithm domestic direct investment realization by province (Ln (Domestic Inv)), Democracy Index by province level (Democracy index), Percentage of working to economically active by province (Employment), Population density per sq.km by province (Population density), Percentage of micro and small manufacturing enterprises at province level to total micro and small manufacturing enterprises in Indonesia (Enterprises), Policy rate of Central Bank of Indonesia (Discount rate).

Abbreviation: OLS, ordinary least square.

$^{***}p < .01$; $^{**}p < .05$; $^{*}p < .1$.

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