Religious Beliefs, Information Asymmetry, and Bank Financing Risk

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Abstract

This study aimed to explore the relationship between religious beliefs (RB), information asymmetry (INFO_ASY), and bank financing (BFR). This study used survey research to collect data from the owners of micro, small, and medium enterprises (MSMEs) located in Punjab, Haryana, Maharashtra, Rajasthan, Himachal Pradesh, and the Utter Pradesh States. We asked the research participants about their perceptions of the relationship between religious beliefs, INFO_ASY, and BFR. The empirical analysis shows that RB reduces INFO_ASY between MSME owners and lenders. Results also show that a decrease in INFO_ASY reduces BFR for MSMEs. The results contribute to the literature on the relationship between religious beliefs, INFO_ASY, and BFR. Financial institutions, owners of MSMEs, financial management consultants, and other stakeholders may find results beneficial to decrease BFR. In addition, academia may find the results helpful in further studies on the relationship between religious beliefs, INFO_ASY, and BFR.

Keywords: Religious Beliefs, Information Asymmetry, Bank Financing Risk, India

JEL Classifications: G30, G32

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1. Introduction

Information asymmetry (e.g., the information gap between borrowers and lenders) is among the critical factors causing adverse selection problems, leading to bank financing risk for the borrowers (Gill and Wilson, 2021). In addition, the COVID-19 pandemic waves are impacting micro, small, and medium enterprises (MSMEs) (Gornicka, Ogawa, and Xu, 2021) in India, causing bank financing risk due to the increases in the chances of bankruptcy. Besides, micro and small enterprises face financial challenges (Gill, Mand, Bhullar, and Biger, 2022), causing external financing barriers. Earlier studies showed that credit markets are imperfect, and lenders prefer financially strong firms to provide financing by pledging assets to resolve adverse selection problems and prevent credit rationing (Stiglitz and Weiss, 1981; Bester, 1985). Another earlier study by Lean and Tucker (2001) showed that information asymmetry (INFO_ASY) is a critical reason for micro and small business firms facing financing challenges. However, religious beliefs play a critical role in decreasing INFO_ASY between capital suppliers and MSME owners by reducing unethical behaviour (Keith and Vitell, 2012). The decreased INFO_ASY between borrowers and lenders, in turn, reduces bank financing risk (Wittenberg-Moerman, 2010).

Bergh, Ketchen Jr., Heugens, and Boyd (2019) defined INFO_ASY as a state of condition in which one party in a relationship has more or better information than another. INFO_ASY from borrowers' sides can be considered unethical behaviour. For example, if MSME owners have better information on the risk of the projects because of the private information that was not disclosed to their lenders, it can be considered unethical. A study by Jones and Kavanagh (1996) showed that unethical behaviour of the management had become a severe issue for existing shareholders, investors, and other stakeholders. Thus, unethical behaviour of management (e.g., MSME owners) causes an agency problem between borrowers and banks (Jensen and Meckling, 1976).

Chen and Tang (2006) emphasized that unethical behaviour in organizations takes many forms, including but not limited to abusing a firm's resources, theft, and deception. Neill, Stovall, and Jinkerson (2005) described unethical activities as noncompliance. Therefore, INFO_ASY can be considered noncompliance from the borrowers' side, which can cause financial losses for the financial institutions and, thus, increase bank financing risk for the MSMEs. Reducing INFO_ASY between a borrower and a lender requires more conservative financial reporting to the banks from the firms (Ball, Bushman, and Vasvari, 2008).

Kaptein (2008) showed that corporate scandals could come through fraudulent bookkeeping. Fraudulent bookkeeping increases INFO_ASY between lenders and borrowers since the firm's interim and annual financial statements are prepared based on company books. Studies also indicated that unethical behaviour and scandals occurred in corporations such as Enron Corporation because of a lack of wisdom instead of a lack of intelligence (Chen and Tang, 2006) or virtue (Giacalone, 2004). By improving moral values, religious beliefs play an essential role in the decision-making processes of business owners when facing business decisions involving ethical issues (Vitell, 2009). McDaniel

and Burnett (1990) explained religiosity as a belief in God and a commitment to follow principles set by God.

A study by Patwardhan, Keith, and Vitell (2012) showed that religious beliefs improve the ethical behaviour of consumers. This study expected that religious beliefs reduce INFO_ASY between borrowers and lenders, thus reducing bank financing risk for MSMEs. Therefore, this study aimed to test the relationships among religious beliefs, INFO_ASY, and bank financing risk based on the following research questions:

Do religious beliefs decrease INFO_ASY between MSME owners and lenders?

Does decreasing INFO_ASY between MSME owners and lenders reduce bank financing risk?

Our empirical findings show that religious beliefs decrease INFO_ASY between MSME owners and lenders and bank financing risk for MSMEs. The findings show that decreasing INFO_ASY decreases bank financing risk for MSMEs in India. Empirical analysis and results contribute to the literature on the factors that decrease INFO_ASY between MSME owners and lenders and bank financing risk for MSMEs. Academia may consider our results useful for further studies on the relationship between religious beliefs, INFO_ASY, and bank financing risk. Banks may find empirical results to help reduce INFO_ASY, and MSME owners may find results beneficial to reduce bank financing risk. Our empirical results lend some support to the findings of McNichols and Zimmerer (1985) and Kennedy and Lawton (1998) in that religious beliefs decrease INFO_ASY between borrowers and lenders. Besides, the findings lend some support to the findings of Hernandez-Canovas and Martinez-Solano (2010) in that a decrease in INFO_ASY reduces bank financing risk.

The remaining research paper is outlined as follows: We examine the previous literature and develop hypotheses in section two. Section three shows the data and methodology used to investigate the research questions, and section four provides empirical analysis and results. Finally, section five shows the conclusion, limitations, and recommendations for future research.

2. Survey of literature

2.1. Religious beliefs, information asymmetry, and bank financing risk

Information asymmetry (INFO_ASY) between borrowers and lenders can be considered unethical, increasing the firm's bank financing risk. Analyzing student data, McNichols and Zimmerer (1985) found that religious beliefs reduce unethical behaviour. Religious beliefs improve morale and ethical decision-making skills (Vitell, 2009), thus reducing INFO_ASY between MSME owners and lenders. Kennedy and Lawton (1998), using a sample of American and Ukrainian business students, found that religiousness could predict unethical behaviour, thus helping improve ethical behaviour. An increase in religious beliefs decreases unethical activities and, thus, a decrease in INFO_ASY and bank financing risk by increasing cognitive legitimacy in the eyes of lending institutions, who

perceive a lower default risk associated with the loan (Scott, 1994; Li, Xu, Gill, Haider, and Wang, 2019).

Gill, Mand, Bhullar, and Bigger (2022) indicated that banks rely on the information related to project risk and other information borrowers provide when borrowing to operate an existing firm or start a new project. The information gap between borrowers and their lenders on the project(s)/business(es) risk information, the project risk tolerance, and other factors such as changing projects without notifying the lenders and capital budgeting can lead to potential differences and conflicts. Thus, the gap can lead to moral hazard problems in which borrowers change their capital budgeting strategies to take on riskier projects after acquiring a loan. In addition, INFO_ASY on risk can lead to adverse selection problems in which the least profitable businesses need loans to continue their operations. Besides, risk asymmetry causes conflicts of interest between lenders and borrowers (Myers, 1977; Ross, 1973; Smith and Warner, 1979; Myers and Majluf, 1984). These problems reduce the likelihood of the principal and interest being repaid in full, so banks have a strong incentive to reduce such INFO_ASY or decline the loan (Diamond, 1984; Rajan, 1992). The clash of interest between lenders and borrowers causes bank financing risk for MSMEs.

Bad financial decisions ruin financial well-being (Jaakkola, 2007) and lead to high uncertainty risk (Tan and Lee, 2015) for the banks to collect interest and principal payments. INFO_ASY negatively affects the trust banks have in borrowers and, thus, leads to bank financing barriers. However, the relationship duration between lenders and borrowers reduces the effects of risk asymmetry (Tan and Lee, 2015). Reduction in risk asymmetry through the proximity of borrowers to lenders (Agarwal and Hauswald, 2010) decreases bank financing risk for the borrowers.

In summary, religious beliefs decrease INFO_ASY and bank financing risk for MSMEs. The decreasing INFO_ASY increases trust in borrowers and decreases bank financing risk. Furthermore, the findings of Hernandez-Canovas and Martinez-Solano (2010) indicated that trust between the firm and banks reduces bank financing risk. Hence, the following hypotheses:

First Hypothesis*: Religious beliefs decrease INFO_ASY between MSME owners and lenders.*

Second hypothesis*: A decrease in INFO_ASY reduces bank financing risk.*

3. Methods

3.1. Research design and measurements

This study utilized survey research (a non-experimental field study design) to collect information related to attitudes, individual behaviour, and sensitive opinions. Gill, Mand, Bhullar, and Bigger (2022) provided measures of information asymmetry (INFO_ASY) used in this study. This study used a five-point Likert scale ranging from 'Decreased a lot' to 'Increased a lot' for all the scale items for INFO_ASY and bank financing risk variables. We asked research participants to specify their agreements with each scale item. We measured the variables used in this study as follows:

Bank financing risk (BFR) was measured as the first principal component of the extent to which MSME owners perceive that they face 1) short-term bank financing (maturity period less than one year) risk, 2) long-term bank financing (maturity period greater than one year) risk, and 3) overall bank financing risk.

Information asymmetry (INFO_ASY) was measured as the first principle component of the extent to which MSME owners perceive the gap between their lenders and themselves on i) the project(s)/business(es) risk information, ii) the project risk decision criteria, iii) the project risk tolerance, iv) personal savings information, v) the purpose of the project, vi) the project cost(s), vii) revenue, net income, operating cash flows, and retained earnings of the firm, xiii) cash and inventory holdings, ix) accounts receivable amount, x) internal financing sources, xi) short-term, long-term, and total borrowings, and xii) overall risk related to the firm.

The religious beliefs (RB) variable is a dummy variable with an assigned value of one if the MSME owner follows religious beliefs; otherwise, 0.

The level of religious beliefs (LR_BELIEFS) variable was measured as a categorical variable. In the survey, we identified five different levels of religious beliefs: none, a little bit, some, great, and extreme.

The internal financing sources (IFS) variable was measured as total personal and family savings available for businesses over the last five years.

The assets (ASSETS) variable was measured as MSME assets.

The sales (SALES) variable was measured as MSME sales.

Net profit margin (NPM) was measured as net income after tax ÷ sales revenue.

Firm age (F_AGE) was measured as MSME age.

Financial leverage (F_LEV) was measured as total debt ÷ total assets.

The CEO duality (CD) variable is a dummy variable. We assigned a value of one if a MEME owner acts as CEO and Chairperson of the Board of Directors in the same firm, zero otherwise.

The number of employees (EMP) variable was measured as the number of employees in the MSME.

Firm location (F_LOC) is a dummy variable. We assigned a value of one for research participants who live in an urban area; otherwise, it is zero.

Owner age (O_AGE) was measured as the age of the MSME owner.

Owner education (O_EDU) is a categorical variable with an assigned value of one for high school or less, two for a college diploma, three for a bachelor's degree, four for a master's degree, and five for a doctorate or more.

Owner experience (O_EXP) was measured as the number of years of owner experience.

The gender (GENDER) variable is a dummy variable with an assigned value of one if the MSME owner reports male and zero otherwise.

Industry (IND) is a categorical variable with an assigned value of one for production firms and zero for service firms.

3.2. Sampling frame and data collection

Huck (2008) asserted that the research population is abstract, and it is impossible to target all the population members. Therefore, we targeted MSME owners operating in Punjab, Haryana, Maharashtra, Rajasthan, Himachal Pradesh, and the Utter Pradesh States of India and chose them as a sampling frame. In addition, this study obtained a non-probability (purposive) sample to collect data. We screened research participants for inclusion based on criteria associated with members of the focal population (i.e., MSME owners). Besides, we asked the data collection team to choose participants representing the target population to avoid sampling bias. Further, we prepared a list of MSME owners' names and telephone numbers to distribute surveys and conduct telephone interviews.

Our sample included 1,150 research participants, and we were successful in collecting 358 surveys through telephone interviews and emails, and six surveys were non-usable. Thus, the response rate was 31.13%. We assumed all remaining cases to be like the MSME owners who participated in this study. In addition, we disclosed the purpose of the study to all the research participants and assured them that their confidentiality would be strictly maintained. Besides, we requested all the research participants who completed surveys and emailed us not to disclose their names or telephone numbers on the completed surveys.

Our study’s sample included 68 MSME owners without religious beliefs and 284 MSME owners with religious beliefs. Moreover, this study’s sample included 150 MSME owners from the service industry and 202 MSME owners from the manufacturing/production industry, with an average owner age of 44.91 years. In addition, the average firm age was 34 years, the average assets were 13,461,079.55 rupees, and the average sales were 6,999,857.95 rupees. Besides, our final sample included 321 male and 31 female research participants.

4. Empirical models and data analysis

4.1. Regression models

Religious beliefs (RB) and the level of religious beliefs (LR_BELIEFS) decrease information asymmetry (INFO_ASY) between MSME owners and their lenders. Hence, we used RB and

LR_BELIEFS as the main explanatory variables. In addition, a decrease in INFO_ASY decreases bank financing risk (BFR) for MSMEs.

However, one may argue that religious beliefs can decrease BFR by decreasing INFO_ASY. Therefore, this study utilized a stage least square (2SLS) model to decrease endogeneity and reverse causality between changes in religious beliefs, INFO_ASY, internal financing sources (IFS), and BFR. For example, a decrease in INFO_ASY could be associated with a higher level of IFS because the higher level of IFS used by MSME owners decreases the chances of bankruptcy. Families operate almost 85% of the firms in India (Dewan, 2021), and they invest more than 69% of their wealth in their firms (Anderson et al., 2003). The significant investment made by business owners is at stake if the firm fails because banks make demand loans that can be recalled anytime with short notice and put lean on corporate assets at lending times. Therefore, the significant investment made by MSME owners decreases INFO_ASY, so agency problems between them and their lenders decrease, and firms can succeed.

Religious beliefs will likely affect IFS through personal and family savings (Keister, 2003). Thus, religious beliefs could also decrease BFR through IFS built with the religious beliefs of MSME owners. Therefore, RB, LR_BELIEFS, and IFS are good candidates to act as instruments. In the first stage, we regressed INFO_ASY on RB and IFS and LR_BELIEFS and IFS [see Equations (4) and (5)]. In the second stage, we regressed the change in BFR on the fitted values of INFO_ASY obtained from the first stage regressions [see Equations (6) and (7)]. The following are the estimated regression models used in this study:

$$Y_i = \alpha_0 + \alpha_1 RB_i + \sum \beta X_i + \varepsilon_i \quad (1)$$

$$Y_i = \alpha_0 + \alpha_1 LR\_BELIEFS_i + \sum \beta X_i + \varepsilon_i \quad (2)$$

$$Y_i = \alpha_0 + \alpha_1 INFO\_ASY_i + \sum \beta X_i + \varepsilon_i \quad (3)$$

$$Z_i = \beta_0 + \beta_1 RB_i + \beta_2 IFS_i + \sum \delta_i X_i + \varepsilon_i \quad (4)$$

$$Z_i = \beta_0 + \beta_1 LR\_BELIEFS_i + \beta_2 IFS_i + \sum \delta_i X_i + \varepsilon_i \quad (5)$$

$$Y_i = \gamma_0 + \gamma_1 . \overline{Z}_i + \sum \delta_i X_i + \varepsilon_i \quad (6)$$

$$Y_i = \gamma_0 + \gamma_1 . \overline{Z}_i + \sum \delta_i X_i + \varepsilon_i \quad (7)$$

In the above models, Y refers to dependent variables (i.e., INFO_ASY and BFR), i is an individual MSME, and Xi represents individual control variables corresponding to MSME i. εi is a normally distributed disturbance term. In the estimated models (1) and (2), α1 measures the magnitude at which RB and LR_BELIEFS affect INFO_ASY. In the estimated Model (3), α1 measures the magnitude at which IA affects bank financing risk.

In Equation (4), β1 and β2 measure the magnitude at which RB and IFS influence the probability of a decrease in INFO_ASY. In Equation (5), β1 and β2 measure the magnitude at which LR_BELIEFS and IFS influence the probability of a decrease in INFO_ASY. In Equations (6) and (7), Yi is the MSME owner's perception of a decrease in BFR, whereas $\overline{Z}$i is the predicted probability of a decrease in INFO_ASY. Hence, in Equation (6), γ1 estimates the effect of the RB and IFS on

BFR. In Equation (7), γ1 estimates the effect of the LR_BELIEFS and IFS on BFR. We estimated the coefficients of Equations (1) to (7) by applying the Ordinary Least Square (OLS) method. We used the expected probabilities of decrease in INFO_ASY obtained from Models (4) and (5) in Models (6) and (7), respectively. We extend the models by considering a different set of control variables once at a time.

4.2. Descriptive statistics

Table 1 provides descriptive statistics – mean, standard deviation, minimum, median, maximum, and factor analysis. Except for INFO_ASY and BFR indices, some variables are individual dummy and categorical variables in the dataset. However, our data set shows that the distribution INFO_ASY and BFR are nearly symmetrical around their mean values. Thus, we found no outlier present in either index. In addition, data analysis showed that the skewness value for all the scales used in this study ranges from -0.703 to -1.503. The skewness values usually range from -3 to +3 with normally distributed data (Mason et al., 1991).

We also utilized principal component analysis (PCA) to reduce dimensionality (i.e., to reduce the number of variables). Pereira and Sassi (2012) argued that PCA is one of the notable methods to reduce a feature set's dimensionality. Our factor analysis extracted two factors (i.e., Component 1 and Component 2), and all the items loaded on the expected factors show that common factor bias is not a concern. Varimax rotation explains 78.03% of the variance in the original scores. The test statistic (i.e., indicative of the validity of factor analysis) for Kaiser-Meyer-Olkin (KMO), a Measure of Sampling Adequacy, is 0.94, which is higher than the benchmark of 0.50 suggested by Kaiser (1974).

We analyzed each question subset to calculate the weighted factor scores. Due to the factor analysis's transformation, the mean values of INFO_ASY and BFR are zeros. Cronbach's alpha was also calculated for each variable. Cronbach's alpha, which usually ranges between 0 and 1, shows the reliability coefficient of scale items. There is, however, no lower limit to the coefficient. Cronbach's alpha coefficient closer to 1 shows greater internal consistency of the scale items (Gliem and Gliem, 2003).

Table1. Descriptive statistics

	Mean	Std. Deviation	Minimum	Median	Maximum	Component 1	Component 2
BFR[#]	0.000	1.000	-2.319		1.600		
BFR1 short-term bank financing (maturity period less than one year) risk?	3.36	1.064	1	4	5		0.924
BFR2 long-term bank financing (maturity period greater than one year) risk?	3.35	1.063	1	4	5		0.904
BFR3 overall bank financing risk?	3.39	1.051	1	4	5		0.937
INFO_ASY[##]	0.000	1.000	-2.860	0.571	1.714		
The gaps between borrowers and lenders on:							
INFO_ASY1 risk information related to the project(s)/business(es).	3.49	1.027	1	4	5	0.780	
INFO_ASY2 decision criteria related to the project risk.	3.54	0.957	1	4	5	0.824	
INFO_ASY3 risk tolerance related to the project.	3.55	0.963	1	4	5	0.852	
INFO_ASY4 personal savings information.	3.47	1.007	1	4	5	0.839	
INFO_ASY5 the information related to the purpose of the project.	3.52	0.946	1	4	5	0.843	
INFO_ASY6 costs of the project.	3.67	0.961	1	4	5	0.793	
INFO_ASY7 sales revenue of the firm?	3.40	1.081	1	4	5	0.812	
INFO_ASY8 net income of the firm?	3.39	1.101	1	4	5	0.847	
INFO_ASY9 operating cash flows of the firm?	3.44	1.008	1	4	5	0.860	
INFO_ASY10 retained earnings of the firm?	3.41	1.058	1	4	5	0.852	
INFO_ASY11 cash holdings (cash amount)?	3.40	1.039	1	4	5	0.844	

Table1. Descriptive statistics (continued)

	Mean	Std. Deviation	Minimum	Median	Maximum	Component 1	Component 2
INFO_ASY12 inventory holdings?	3.46	1.029	1	4	5	0.858	
INFO_ASY13 accounts receivable amount?	3.46	1.037	1	4	5	0.858	
INFO_ASY14 internal financing sources?	3.42	1.026	1	4	5	0.836	
INFO_ASY15 short-term borrowings?	3.55	0.986	1	4	5	0.815	
INFO_ASY16 long-term borrowings?	3.53	0.984	1	4	5	0.830	
INFO_ASY17 total borrowings?	3.58	0.978	1	4	5	0.831	
INFO_ASY18 overall risk related to the firm?	3.72	0.944	1	4	5	0.741	
RB	0.82	0.384	0	1	1		
LR_BELIEFS	2.93	1.506	0	4	4		
IFS	13.348	1.049	11.51	13.30	17.50		
ASSETS	15.919	1.065	12.21	16.01	18.52		
SALES	15.045	0.958	11.29	15.07	19.41		
NPM	0.174	0.115	0.003	0.117	0.650		
F_AGE	3.398	0.576	.69	3.51	4.70		
F_LEV	0.097	0.126	0.000	0.05	0.800		
CD	0.79	0.410	0	1	1		
EMP	0.679	0.931	0.00	0.00	4.88		
F_LOC	0.30	0.457	0	0	1		
O_AGE	3.781	0.217	3.09	3.81	4.32		
O_EDU	1.95	1.232	1	1	4		
O_EXP	2.882	0.568	0.00	3.04	3.89		
FEMALE	0.91	0.284	0	1	1		
IND	0.57	0.495	0	1	1		

Variables include information asymmetry (*INFO_ASY*), bank financing risk (*BFR)*, religious beliefs (*RB*), level of religious beliefs (*LR_BELIEFS*), internal financing sources (*IFS*), assets (*ASSETS*), sales (*SALES*), net profit margin (*NPM*), firm age (*F_AGE*), financial leverage (*F_LEV*), CEO duality (*CD*), number of employees (*EMP*), firm location (*F_LOC*), owner age (*O_AGE*), owner experience (*O_EXP*), gender (*GENDER*), and industry (*IND*).

[#]Cronbach Alpha: *BFR* = 0.961. Three factors of *BFR* (*BFR1, BFR2,* and *BFR3*) index explain approximately 92.89% of the variation. The eigenvalues of the three principal components are 2.787, 0.175, and 0.038.

[##]Cronbach Alpha: *IA* = 0.981. Eighteen factors of *INFO_ASY* (*INFO_ASY1, INFO_ASY2, INFO_ASY3, INFO_ASY4, INFO_ASY5, INFO_ASY6, INFO_ASY7, INFO_ASY8, INFO_ASY9, INFO_ASY10, INFO_ASY11, INFO_ASY12, INFO_ASY13, INFO_ASY14, INFO_ASY15, INFO_ASY16, INFO_ASY17,* and *INFO_ASY18*) index explain approximately 75.46% of the variation. The eigenvalues of the eighteen principal components are 13.583, 1.188, 0.603, 0.405, 0.343, 0.277, 0.257, 0.205, 0.197, 0.159, 0.152, 0.125, 0.122, 0.113, 0.096, 0.079, 0.054, and 0.042, respectively

4.3. Correlation analysis

Table 2 provides a bivariate Pearson correlation analysis. Table 2 shows that RB, LR_BELIEFS, IFS, SALES, NPM, EMP, F_LOC, and O_EDU are negatively and significantly correlated with BFR (ρRB, BFR = -0.186; ρLR_BELIEFS, BFR = -0.170; ρIFS, BFR = -0.380; ρSALES, BFR = -0.133; ρNPM, BFR = -0.238; ρEMP, BFR = -0.508; ρF_LOC, BFR = -0.227; and ρO_EDU, BFR = 0.245), implying that religious beliefs, the level of religious beliefs, internal financing sources, sales, net profit margin, the higher number of employees, firm location bank financing risk for MSMEs in India. Similarly, Table 2 shows that INFO_ASY, ASSETS, F_AGE, and IND are positively and significantly correlated with BFR (ρINFO_ASY, BFR = 0.563; ρASSETS, BFR = 0.297; ρF_AGE, BFR = 0.186; and ρIND, BFR = 0.359), suggesting that INFO_ASY, firm's assets, firm age, and industry increase the bank financing risk for MSMEs. Likewise, Table 2 shows that RB, LR_BELIEFS, IFS, SALES, NPM, F_LEV, EMP, F_LOC, and O_EDU are negatively and significantly correlated with INFO_ASY (ρRB, INFO_ASY = -0.295; ρLR_BELIEFS, INFO_ASY = -0.255; ρIFS, INFO_ASY = -0.615; ρSALES, INFO_ASY = -0.273; ρNPM, INFO_ASY = -0.408; ρF_LEV, INFO_ASY = -0.169; ρEMP, INFO_ASY = -0.650; ρF_LOC, INFO_ASY = -0.340; and ρO_EDU, INFO_ASY = -0.367), indicating that religious beliefs, level of religious beliefs, internal financing sources, sales, net profit margin, financial leverage, the higher number of employees, firm location, and owner education decrease information asymmetry between the MSME owners and loan managers. Further, Table 2 shows that ASSETS, F_AGE, CD, and IND are positively and significantly correlated with IA (ρASSETS, IA = 0.378; ρF_AGE, IA = 0.218; ρCD, IA = 0.205; and ρIND, IA = 0.483), suggesting that firm's assets, firm age, CEO duality, and industry increase the INFO_ASY between the MSME owners and loan managers.

Table 2. Bivariate correlation analysis

	1	*2*	*3*	*4*	*5*	*6*	*7*	*8*	*9*	*10*	*11*	*12*	*13*	*14*	*15*	*16*	*17*	*18*
1 BFR	1																	
2 INFO_ASY	0.563**	1																
3 RB	-0.186**	-0.295**	1															
4 LR_BELIEFS	-0.170**	-0.255**	0.917**	1														
5 IFS	-0.380**	-0.615**	0.155**	0.108*	1													
6 ASSETS	0.297**	0.378**	-0.075	-0.013	0.055	1												
7 SALES	-0.133*	-0.273**	0.002	-0.012	0.664**	0.339**	1											
8 NPM	-0.238**	-0.408**	0.103	0.062	0.200**	-0.396**	-0.197**	1										
9 F_AGE	0.186**	0.218**	0.017	0.056	-0.118*	0.288**	-0.131*	-0.137*	1									
10 F_LEV	-0.062	-0.169**	-0.042	-0.041	0.071	-0.251**	0.121*	0.106*	-0.135*	1								
11 CD	0.083	0.205**	-0.044	-0.031	-0.111*	0.118*	-0.105*	-0.194**	0.104	-0.013	1							
12 EMP	-0.508**	-0.650**	0.127*	0.076	0.565**	-0.249**	0.425**	0.271**	-0.193**	0.180**	-0.217**	1						
13 F_LOC	-0.227**	-0.340**	0.143**	0.124*	0.317**	-0.280**	0.229**	0.202**	-0.327**	0.138**	-0.058	0.378**	1					
14 O_AGE	-0.025	-0.095	0.044	0.083	0.081	0.008	0.016	-0.009	0.372**	0.081	0.095	0.036	-0.053	1				
15 O_EDU	-0.245**	-0.367**	0.050	-0.005	0.433**	-0.110*	0.299**	0.083	-0.178**	0.072	-0.050	0.376**	0.189**	-0.084	1			
16 O_EXP	0.091	0.022	0.035	0.093	0.035	0.170**	0.003	-0.078	0.578**	0.041	0.171**	-0.065	-0.151**	0.755**	-0.154**	1		
17 GENDER	0.007	0.044	0.000	0.006	-0.013	0.068	0.088	-0.009	0.040	-0.085	0.206**	-0.052	0.025	0.018	-0.111*	0.008	1	
18 IND	0.359**	0.483**	-0.203**	-0.126*	-0.333**	0.515**	-0.141**	-0.442**	0.285**	-0.097	0.141**	-0.466**	-0.424**	0.073	-0.391**	0.198**	0.016	1

Notes: * p<0.05 and ** p<0.01; Variables include information asymmetry (*INFO_ASY*), bank financing risk (*BFR)*, religious beliefs (*RB*), level of religious beliefs (*LR_BELIEFS*), internal financing sources (*IFS*), assets (*ASSETS*), sales (*SALES*), net profit margin (*NPM*), firm age (*F_AGE*), financial leverage (*F_LEV*), CEO duality (*CD*), number of employees (*EMP*), firm location (*F_LOC*), owner age (*O_AGE*), owner experience (*O_EXP*), gender (*GENDER*), and industry (*IND*)

4.4. Analysis and results

Table 3 shows the results calculated using Equations (1) to (7). The empirical analysis shows that RB, LR_BELIEFS, IFS, SALES, NPM, F_LEV, EMP, and O_EDU are negatively and significantly associated with INFO_ASY, and ASSETS and F_AGE are positively and significantly associated with INFO_ASY between the MSME owners and loan managers. Table 3 also shows that RB, LR_BELIEFS, IFS, and EMP are negatively and significantly associated with BFR, and INFO_ASY, INFO_ASYfit, INFO_ASYfit1, ASSETS, and SALES are positively and significantly associated with BFR.

The coefficients of RB and LR_BELIEFS in columns (1), (2), (6), and (7) of INFO_ASY are negative with a level of significance of one percent, implying that religious beliefs and the higher level of religious beliefs reduce information asymmetry between MSME borrowers and lenders/account managers. Likewise, the coefficients of INFO_ASY, INFO_ASYfit, and INFO_ASYfit1 in columns (5), (6), and (7) of BFR are positive and significant at the one percent level, indicating that a decrease in information asymmetry reduces bank financing risk for MSMEs in India. Thus, religious beliefs reduce bank financing risk directly and indirectly by decreasing information asymmetry between MSME borrowers and lenders/account managers. The empirical findings support the first and second hypotheses.

The IFS coefficient in column (5) of BFR is negative and significant at the ten percent levels, implying that higher internal financing sources reduce bank financing risk for MSMEs. Similarly, the coefficients of IFS in columns (3) to (4) of INFO_ASY are negative with a level of one percent significance, suggesting that the higher level of internal financing sources reduces information asymmetry between MSME borrowers and lenders/account managers. Likewise, the coefficients of ASSETS in columns (1) to (4) of INFO_ASY are positive with a level of significance of one percent, indicating that the higher level of the firm's assets increases information asymmetry between MSME borrowers and lenders/account managers.

The coefficients of SALES, NPM, EMP, and O_EDU in columns (1) and (2) of INFO_ASY are negative and significant at the one percent level, implying that the higher level of sales, net profit margin, employees, and owner education decrease information asymmetry between MSME borrowers and lenders/account managers. Likewise, the F_AGE's coefficients in columns (1), (3), and (4) of INFO_ASY are positive and significant at the ten percent and five percent levels, indicating that firm age increases information asymmetry between MSME borrowers and lenders/account managers. Similarly, the coefficient of SALES in columns (5) of BFR is positive and significant at the ten percent level, suggesting that a higher-sales level increases bank financing risk for MSMEs. Further, the coefficients of F_LEV in columns (3) and (4) of INFO_ASY are negative and significant at the ten percent level, indicating that higher firm leverage decreases information asymmetry between MSME borrowers and lenders/account managers.

In summary, religious beliefs and a higher level of religious beliefs play a critical role in decreasing INFO_ASY between MSME borrowers and lenders/account managers. In addition, a decrease in INFO_ASY decreases the bank financing risk for MSMEs. Besides, we utilized 2SLS as a robustness check, which showed that religious beliefs and a higher level of religious beliefs decrease bank financing risk through decreased INFO_ASY. Thus, religious beliefs play an indirect role in decreasing bank financing risk.

Table 3. Religious beliefs, information asymmetry, and bank financing risk[1]

Dependent variables = INFO_ASY and *BFR*

Variables	*OLS*					*2SLS*		*Auxiliary Regressions*	
	INFO_ASY	*INFO_ASY*	*INFO_ASY*	*INFO_ASY*	*BFR*	*BFR*	*BFR*	*BFR*	*BFR*
	(1)	*(2)*	*(3)*	*(4)*	*(5)*	*(6)*	*(7)*	*(8)*	*(9)*
RB	-0.525**		-0.421**					-0.296*	
	(-5.31)		(-4.53)					(-2.32)	
LR_BELIEFS		-0.135**		-0.109**					-0.091**
		(-5.22)		(-4.62)					(-2.81)
IA					0.389**				
					(5.16)				
IAfit						0.704**			
						(5.04)			
IAfit1							0.732**		
							(5.28)		
IFS			-0.428**	-0.431**	-0.146†			-0.302**	-0.299**
			(-7.94)	(-8.03)	(-1.85)			(-4.06)	(-4.06)
ASSETS	0.229**	0.248**	0.235**	0.243**	0.058	-0.012	-0.019	0.153*	0.161*
	(4.41)	(4.57)	(4.78)	(4.94)	(0.86)	(-0.17)	(-0.25)	(2.26)	(2.39)
SALES	-0.212**	-0.217**	0.075	0.073	0.144†	0.106	0.112	0.159†	0.152†
	(-3.65)	(-3.72)	(1.18)	(1.14)	(1.71)	(1.39)	(1.46)	(1.81)	(1.73)
NPM	-1.889**	-1.947**	-0.712†	-0.751†	0.601	0.792	0.846	0.290	0.244
	(-4.59)	(-4.72)	(-1.77)	(-1.87)	(1.12)	(1.37)	(1.47)	(0.52)	(0.44)

[1] The lowest tolerance is 0.293, and the highest Variance Inflation Factor (*VIF*) is 3.418, indicating that multicollinearity is not a serious issue. Rogerson (2001) recommends a *VIF* value lower than 5.

Table 3. Religious beliefs, information asymmetry, and bank financing risk (continued)

	OLS					*2SLS*		*Auxiliary Regressions*	
Variables	*INFO_ASY*	*INFO_ASY*	*INFO_ASY*	*INFO_ASY*	*BFR*	*BFR*	*BFR*	*BFR*	*BFR*
	(1)	*(2)*	*(3)*	*(4)*	*(5)*	*(6)*	*(7)*	*(8)*	*(9)*
F_AGE	0.159†	0.141	0.182*	0.170*	0.069	0.017	0.014	0.146	0.138
	(1.77)	(0.40)	(2.23)	(2.09)	(0.63)	(0.16)	(0.12)	(1.30)	(1.24)
F_LEV	-0.226	-0.141	-0.592†	-0.529†	0.439	0.596	0.598	0.179	0.219
	(-0.65)	(-0.40)	(-1.85)	(-1.66)	(1.03)	(1.37)	(1.38)	(0.41)	(0.50)
CD	0.052	0.056	0.109	0.109	-0.074	-0.110	-0.112	0.034	-0.031
	(0.50)	(0.54)	(1.14)	(1.14)	(-0.58)	(-0.84)	(-0.86)	(0.26)	(-0.24)
EMP	-0.395**	-0.401**	-0.309**	-0.313**	-0.249**	-0.147	-0.135	-0.365**	-0.366**
	(-7.06)	(-7.19)	(-5.96)	(-6.06)	(-3.41)	(-1.61)	(-1.49)	(-5.11)	(-5.16)
F_LOC	0.025	0.035	0.118	0.127	0.049	0.020	0.020	0.102	0.114
	(0.24)	(0.33)	(1.22)	(1.31)	(0.38)	(0.15)	(0.15)	(0.77)	(0.86)
O_AGE	-0.332	-0.308	-0.277	-0.258	-0.029	0.056	0.065	-0.140	-0.124
	(-1.24)	(-1.14)	(-1.14)	(-1.06)	(-0.09)	(0.16)	(0.19)	(-0.42)	(-0.37)
O_EDU	-0.110**	-0.114**	-0.041	-0.043	0.012	0.023	0.026	-0.006	-0.009
	(-3.07)	(-3.18)	(-1.22)	(-1.29)	(0.27)	(0.48)	(0.55)	(-0.14)	(-0.20)
O_EXP	-0.123	-0.116	-0.068	-0.061	0.100	0.125	0.129	0.077	0.084
	(-1.03)	(-0.97)	(-0.62)	(-0.56)	(0.69)	(0.83)	(0.86)	(0.51)	(0.56)
GENDER	0.039	0.032	-0.078	-0.084	-0.084	-0.053	-0.054	-0.108	-0.110
	(0.27)	(0.23)	(-0.61)	(-0.65)	(-0.49)	(-0.30)	(-0.31)	(-0.61)	(-0.63)
IND	0.056	-0.049	0.001	0.007	0.089	0.069	0.069	0.070	0.067
	(0.49)	(-0.42)	(0.01)	(0.07)	(0.65)	(0.49)	(0.49)	(0.49)	(0.47)

Table 3. Religious beliefs, information asymmetry, and bank financing risk (continued)

Variables	*OLS*					*2SLS*		*Auxiliary Regressions*	
	INFO_ASY	*INFO_ASY*	*INFO_ASY*	*INFO_ASY*	*BFR*	*BFR*	*BFR*	*BFR*	*BFR*
	(1)	*(2)*	*(3)*	*(4)*	*(5)*	*(6)*	*(7)*	*(8)*	*(9)*
Constant	1.666	1.483	2.227*	2.093†	-1.486	-2.078	-2.111	0.509	0.577
	(1.34)	(1.20)	(1.98)	(1.86)	(-0.99)	(-1.34)	(-1.37)	(0.33)	(0.37)
N	352	352	352	352	352	352	352	352	352
F-Value	30.56**	30.51**	38.82**	38.98**	13.22**	11.86**	12.12**	11.03**	11.29**
R^2	0.595	0.595	0.668	0.669	0.406	0.363	0.368	0.663	0.369

Notes: † p<0.10, * p<0.05, and ** p<0.01; In the regression models, the dependent variables include information asymmetry (*INFO_ASY*) and bank financing risk (*BFR)*. Independent variables include religious beliefs (*RB*), level of religious beliefs (*LR_BELIEFS*), information asymmetry (*INFO_ASY*), the fitted value of information asymmetry (*INFO_ASYfit*), internal financing sources (*IFS*), assets (*ASSETS*), sales (*SALES*), net profit margin (*NPM*), firm age (*F_AGE*), financial leverage (*F_LEV*), CEO duality (*CD*), number of employees (*EMP*), firm location (*F_LOC*), owner age (*O_AGE*), owner education (*O_EDU*), owner experience (*O_EXP*), gender (*GENDER*), and industry (*IND*). Note that regression Models (3) and (4) [also see equations (3) and (4)] were used to calculate the fitted value of information asymmetry (*INFO_ASY*)

5. Discussion, conclusion, limitations, and recommendations for future research

We aimed to test the relationship between religious beliefs, INFO_ASY, and bank financing risk. Based on the perceptions of MSME owners, this study finds that religious beliefs and the higher level of religious beliefs decrease INFO_ASY between MSME owners and lenders/bankers. Besides, the empirical analysis showed that decreasing INFO_ASY reduces bank financing risk. The empirical results lend some support to the findings of McNichols and Zimmerer (1985) and Kennedy and Lawton (1998) in that religious beliefs decrease INFO_ASY between borrowers and lenders. The findings also lend some support to the findings of Hernandez-Canovas and Martinez-Solano (2010) in that a decrease in INFO_ASY reduces bank financing risk.

While internal financing sources, sales, net profit margin, a higher number of employees, and owner education decrease INFO_ASY, the higher level of assets and firm age increase INFO_ASY between borrowers and lenders/account managers. The opposite relations of sales and firm age with INFO_ASY may be because we collected data during the COVID-19 pandemic. Internal financing sources and a higher number of employees decrease bank financing risk, and a higher level of sales increases bank financing risk. The opposite relationship of sales with bank financing risk may be because banks were stringent in lending money to MSMEs during the COVID-19 pandemic.

In conclusion, religious beliefs are crucial in decreasing INFO_ASY between borrowers and lenders. A decrease in INFO_ASY reduces bank financing risk for MSMEs in India. Table 3 shows that religious beliefs and a higher level of religious beliefs increase the chances of decreased INFO_ASY between MSME owners and loan managers by 52.50% and 13.50%, respectively. In addition, a decrease in INFO_ASY decreases agency problems between loan managers and MSME owners, decreasing bank financing risk. Besides, a decrease in INFO_ASY increases the chances of decreased bank financing risk for MSME owners by 38.90%

Since decreased INFO_ASY reduces bank financing risk, MSME owners should consider decreasing INFO_ASY between them and their loan managers. Banks should also provide consulting services to access soft information to decrease INFO_ASY between them and their borrowers. Furthermore, since owner education increases sales (see Table 2), MSME owners should consider receiving training to manage the firm better during and after the COVID-19 pandemic. Besides, Table 2 shows that internal financing sources increase sales and net profit margin to decrease the probability of bankruptcy and help decrease bank financing risk. Therefore, MSME owners should consider building internal financing sources to grow and prosper during and after the COVID-19 pandemic.

5.1. Limitations and recommendations for future research

Although our study provides valuable results, one should consider the limitations before using the findings. The empirical results relied on a small sample size because of the low response rate. Data collection is limited to Punjab, Haryana, Maharashtra, Rajasthan, Himachal Pradesh, and the

Utter Pradesh States of India. In addition, this study relied on the perceptions of the research participants. Data collection was done during the COVID-19 pandemic period. Since this study relied on a small sample size, future studies should seek a large sample size and include additional variables such as spirituality. Future studies should seek samples from different countries and include MSME owners' and loan managers' samples to compare results.

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