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Depositors' trust: Some empirical evidence from Indonesia

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ABSTRACT

We develop a comprehensive index, based on Robbins and Judge's (2008) five dimensions of trust, to measure depositors' trust in individual banks as well as trust in the banking industry and financial safety net. Using a survey of 992 retail depositors in Indonesia, we find that trust in individual banks where depositors save their money is greater than trust in the overall banking industry and financial safety net. We also find that depositors' trust is affected by personal characteristics—for instance, women and older depositors have relatively less trust. Depositors tend to put their trust in individual banks and the financial system if they have greater trust in information conveyed by the government. Religious and economic values have positive effects on depositors' trust at both the micro and macro levels. Our results also document that risk-taking behavior is positively associated with depositors' trust. Furthermore, we find that more-educated depositors have significantly less trust. This finding might imply that the erosion of market discipline by depositors in a country with relatively generous deposit insurance, such as Indonesia, can be mitigated through greater financial literacy.

1. Introduction

In the theory of financial intermediation, banks play an essential role to enhance aggregate investment in the economy by channeling savings into productive activities (Bhattacharya and Thakor, 1993). To perform this role, banks offer short-term deposit contracts to savers and then channel the savings to fund productive long-term investments by firms through loan contracts. In other words, banks perform a liquidity-creation function in the economy (Berger and Bouwman, 2009).

Because these deposit contracts allow depositors to withdraw their savings anytime in any amount, banks face the risk of deposit runs in which many depositors withdraw a large amount of their savings at almost the same time (Bryant, 1980; Diamond and Dybvig, 1983). Banks cannot handle such deposit runs and will likely lose the value of their illiquid loan contracts through fire sales (Diamond and Rajan, 2001). Bank runs are contagious, similar to a viral infection. Once a depositor observes other depositors in the same bank, abnormally withdrawing their savings, the depositor's trust in his bank might be eroded. He will worry that the bank will be unable to repay him if he withdraws funds later (e.g., Kiss et al., 2014). This behavior can be exacerbated if a bank has many large uninsured depositors (e.g., Iyer and Puri, 2012; Trinugroho et al., 2020). Therefore, depositors' trust in banks becomes a necessary condition for a banking system to operate effectively.

Though depositors' trust in banks is a crucial concept, measuring it is a challenging research problem. Padua (2014) relates the

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concept of trust in the economy as a complex construct that lies between the "animal spirit" in Keynes (1936) and confidence that is based on the rational choice theory. Similarly, Blomqvist (1997) and Fehr (2009) contend that a universal definition of trust seems hard to define because it is usually context specific and might have multiple perspectives in different fields. This paper offers a novel comprehensive measure of depositors' trust, which covers five dimensions of trust based on Robbins and Judge (2008), from a survey of individual depositors of commercial banks in Indonesia. We are unaware of much research that is close to our study. Several notable papers are survey-based cross-country studies such as Stevenson and Wolfers (2011); Fungácová et al. (2019), and single-country studies such as Sapienza and Zingales (2012), Carbó-Valverde et al. (2013), Jansen et al. (2015); Knell and Stix (2015); Filipiak (2016), and Park (2020). These single-country studies use survey data from the United States, Spain, the Netherlands, Austria, India, and South Korea, respectively.

Our study differs from its predecessors in several ways. First, most of the previous studies rely on a single question about the level of trust in banks or financial institutions, and none have considered multidimensionality in measuring depositors' trust. In this paper, we consider five dimensions of trust to construct an index of depositors' trust in banks. Second, we measure depositors' trust in individual banks as well as trust in the overall banking industry and financial safety net, both in normal times and during the 2008 global financial crisis. Third, to our knowledge, our paper is the first to present empirical evidence of survey-based depositors' trust from Indonesia, the largest country in Southeast Asia. On one hand, by using a single-country setting, this study mitigates the heterogeneity bias that can be the largest point of criticism in most cross-country studies. On the other hand, as the world's largest archipelagic country with multi-ethnic groups and religions[1], Indonesia offers a unique diversity in socio-demographic factors and values. Lastly, we explore a battery of factors that determine depositors' trust, including socio-demographic and personal values related to religion, materialism, culture, and risk-taking, as well as general trust, exposure to social media, and individual bank reputation. These factors extend the previous literature's exploration.

By way of preview, from the survey of 992 individual depositors in Indonesia, we find that depositors' trust in individual banks is greater than their trust in the banking industry and financial safety net. Next, consistent with the literature, we find that depositors' trust at every level was lower during the 2008 global financial crisis than it is during normal times. We present evidence that gender, age, risk-taking, and personal values all affect trust in banks as well as trust in the banking industry and financial safety net. In particular, men, younger depositors, and risk-taking depositors all have relatively greater trust in banks as well as in the banking industry and financial safety net. Moreover, we find that more-educated depositors have less trust at every level. Based on this evidence, we argue that financial literacy through education might be an important policy instrument to mitigate the concern of market discipline erosion with deposit insurance in place.[2]

The rest of the paper is organized as follows. Section 2 discusses the related literature. Section 3 describes the data and methodology used in this paper. Section 4 presents empirical results and robustness checks. Section 5 concludes.

2. Related literature

Depositor distrust could lead to a bank run, in which a substantial number of depositors withdraw their funds because they are worried that the bank will fail (e.g., Iyer and Puri, 2012). A bank run can endanger economic stability by causing a contagion effect, which may trigger a deeper financial crisis. One notable example took place in Indonesia during the 1997–98 Asian financial crisis, recorded as one of the world's costliest financial crises in history (Laeven and Valencia, 2013).[3] In November 1997, the closing of 16 banks eroded public confidence in Indonesia's banking system, which led to runs on several other banks, including large banks. The government subsequently decided to implement a blanket guarantee in January 1998, limited to domestic banks, to rebuild public trust in the banking system (Enoch et al., 2003; Hadad et al., 2011). Considering the potentially damaging impact of a bank run on the overall economy during a financial crisis, restoring trust in banks is among the top priorities of financial regulators (e.g., Knell and Stix, 2009; Carbó-Valverde et al., 2013).

Despite its importance, trust is a complex construct to measure in an empirical study. The complexity comes from the fact that trust is commonly context-specific and might have multiple perspectives in different fields (Blomqvist, 1997; Fehr, 2009; Padua, 2014). Addressing this multidimensionality, two economists in behavioral science literature, Robbins and Judge (2008), define trust as a psychological state that exists when someone agrees to make himself dependent on others because of positive expectations. The authors contend that trust consists of five dimensions: integrity, competence, consistency, loyalty, and transparency. Integrity refers to honesty and truthfulness; competence is related to technical and interpersonal knowledge and skills; consistency means reliability, predictability, and good judgment in handling situations; loyalty is associated with willingness to protect or dedication to trustors; and transparency is defined as openness in giving trustors the full truth.

A few studies have empirically examined depositors' trust in banking. Several use a single-country setting, and a few others use cross-country settings. In general, these studies rely on several survey questions on trust or confidence in banks or financial institutions.

[1] The CIA's World Factbook about Indonesia can be accessed at https://www.cia.gov/library/publications/the-world-factbook/geos/id.html.

[2] Indonesia has had explicit deposit insurance with a flat-rate premium system since 2005, in which each member bank pays the same premium regardless of its risk. The International Association of Deposit Insurers (2013) suggests its members consider the so-called differential premium system, which adjusts the premium rate by each member bank's risk in order to mitigate the potential moral hazard resulting from the risk subsidy to unsound banks in a flat-rate premium system.

[3] Laven and Valencia (2013) show that the Asian financial crisis imposed fiscal costs up to 56.8% of GDP to Indonesia.

Sapienza and Zingales (2012) surveyed 1034 households in the United States by telephone, posing questions about how much respondents believe in certain types of institutions or people, including bankers, banks, the government, large companies, capital markets, and brokers. (2013) conducted a study in Spain using telephone interviews, asking about the level of respondents' trust in general, trust in specific types of banks, and changes in their behavior in response to the financial crisis happening in Europe at that time. Knell and Stix (2015), using a sample from Austria, detailed the results of an IFES (Institute for Empirical Social Studies) survey with 2000 respondents. They asked how much respondents believe in various types of institutions, including the Austrian National Bank, domestic banks, the European Central Bank, and foreign banks. Filipiak (2016), using the National Data Survey on Savings Patterns of Indians (NDSSP), measures the level of trust in financial institutions by providing respondents with five alternative answers: 1) I will definitely trust my money to them, 2) I might trust my money to them, 3) I do not like to trust my money to them, 4) I certainly will not trust my money to them, and 5) do not know the institution. Jansen et al. (2015) retrieved data from two household surveys in the Netherlands conducted by DNB (the Dutch central bank). This survey asked respondents what has caused them to lose trust in the bank, as indicated by their withdrawal of funds. The possible scenarios are: 1) the bank is led by a dominant person, 2) the bank manager receives a large bonus, 3) the explanation regarding the bank's financial products is difficult to read, 4) the bank's share price fell sharply, 5) family and friends suggest withdrawing funds from the bank, 6) there are reports that the bank's customers are withdrawing funds from the bank, 7) the bank received assistance from the government to remain financially healthy, and 8) the government nationalized the bank. Park (2020) surveyed 827 respondents in South Korea, asking a question adopted from the World Value Survey about whether the respondent thinks that financial institutions can be trusted in general.

Stevenson and Wolfers (2011) examined trust in institutions, including banks, in the United States and then conducted cross-country comparisons. Using the annual Gallup surveys of Trust in Institutions, General Social Survey (GSS), and Gallup's Trust and Honesty polls, they analyze how much confidence US respondents have in banks, in people running banks and financial institutions, and in bankers' honesty and ethical standards, respectively. Meanwhile, the authors used the Gallup World Poll to study trust in financial institutions or banks, based on a question about how confident each respondent is in financial institutions or banks. They find that trust in banks and/or trust in financial institutions follows the business cycle. Fungácová et al. (2019) conducted a cross-country study using data from the World Values Survey, which quantifies responses to a direct question about how much confidence a respondent has in banks. This survey measures trust in banks on a scale from one to four: 1) a great deal of confidence, 2) quite a lot of confidence, 3) not very much confidence, or 4) none at all. They find large cross-country differences in trust in banks and that it is affected by several sociodemographic indicators, such as gender, income, age, education, access to television and internet, as well as religious, political, and economic values.

In summary, most of the previous studies rely on a limited number of questions about the level of depositors' trust in banks or financial institutions, and none have considered multidimensionality to measure depositors' trust or studied depositors' trust in the overall banking industry and financial safety net. Moreover, none of the previous studies presented empirical evidence of depositors' trust from Southeast Asian countries. This omission is somewhat surprising given that the 1997–98 Asian financial crisis began in Southeast Asia. At that time, Indonesia—the largest country in this region—had to deal with pervasive bank runs (Enoch et al., 2003) and bore the burden of fiscal costs up to 56.8% of GDP, making it one of the costliest financial crises in the world (Laeven and Valencia, 2013).

3. Data and methodology

3.1. Data

We measure depositors' trust using a survey to a sample of 992 individual depositors in Indonesia. The depositors are selected randomly using stratified purposive sampling from all 34 provinces in Indonesia. The sample covers both small depositors, whose deposits in a bank total less than the maximum deposit insurance coverage of IDR2 billion, and large depositors, whose deposits in a bank total more than IDR2 billion.[4] All of the depositors in the sample were surveyed through direct interviews during two weeks in February 2019. Tables 1a and 1b show the distribution of our sample by province and by the size of each depositor's account, respectively.

Our sample covers about 63.61% of depositors from Java, Indonesia's most populous island, where most of the government offices and business centers are located. 94.4% of depositors in our sample are small depositors that are fully insured by the Indonesia Deposit Insurance Corporation (IDIC). Although our sample might not perfectly mimic the actual distribution of depositors by province and by size, we consider it to be a decent representation of the population distribution.[5]

The summary statistics of our sample for all variables appear in Table 2. In brief, women constitute 44% of the respondents, and the average respondent age is 32.5 years old. Our sample thus has a relatively balanced composition between men and women and

[4] Under the Indonesia Deposit Insurance Corporation (IDIC) Act of 2004, as amended by the Act No. 7/2009 and the Government Regulation No. 66/2008, all depositors in the Indonesian banking industry are insured by the IDIC up to IDR2 billion for each depositor in every bank. Assuming an exchange rate of IDR16,000/USD1, the maximum deposit insurance coverage is about USD125,000.

[5] The number of depositors by province in the population is unavailable. The Indonesian Statistical Bureau (BPS) estimates that the percentage of Indonesia's residents on Java island in 2020 is about 56.2% (www.bps.go.id). Meanwhile, the IDIC statistics as of February 2019 show that about 99.91% of depositor accounts have IDR2 billion or less balance. One depositor might have more than one account in a bank, however. Unfortunately, we do not have access to this data.

Table 1a
Sample distribution of depositors surveyed, by province.

Province	Number of depositors	% Number of depositors	Province	Number of depositors	% Number of depositors
Aceh	13	1.31%	West Nusa Tenggara	19	1.92%
North Sumatera	38	3.83%	East Nusa Tenggara	7	0.71%
West Sumatera	20	2.02%	West Kalimantan	24	2.42%
Riau	14	1.41%	Central Kalimantan	7	0.71%
Jambi	10	1.01%	South Kalimantan	16	1.61%
South Sumatera	27	2.72%	East Kalimantan	19	1.92%
Bengkulu	6	0.60%	North Kalimantan	1	0.10%
Lampung	33	3.33%	North Sulawesi	8	0.81%
Bangka Belitung archipelago	5	0.50%	South Sulawesi	29	2.92%
Riau archipelago	8	0.81%	Southeast Sulawesi	5	0.50%
Jakarta, special district of the capital	58	5.85%	West Sulawesi	3	0.30%
West Java	159	16.03%	Central Sulawesi	5	0.50%
Central Java	166	16.73%	Gorontalo	6	0.60%
Yogyakarta, special district	29	2.92%	Maluku	3	0.30%
East Java	172	17.34%	North Maluku	2	0.20%
Banten	47	4.74%	Papua	8	0.81%
Bali	20	2.02%	West Papua	5	0.50%

This table reports the geographical distribution of 992 depositors surveyed from all provinces in Indonesia. The main island of Java consists of six provinces: Jakarta, West Java, Banten, Central Java, Yogyakarta, and East Java. The most populous island in Indonesia, Java is the center of government administration, business, and manufacturing (Affandi et al., 2019).

Table 1b
Sample distribution of depositors surveyed, by the depositor account size.

Size of each depositor's balance in a bank	Number of depositors	Percentage (%)	Cumulative percentage (%)
IDR25 million or less	512	51.6%	51.6%
Above IDR25 million up to IDR50 million	160	16.1%	67.7%
Above IDR50 million up to IDR100 million	114	11.5%	79.2%
Above IDR100 million up to IDR200 million	61	6.1%	85.4%
Above IDR200 million up to IDR500 million	45	4.5%	89.9%
Above IDR500 million up to IDR1 billion	24	2.4%	92.3%
Above IDR1 billion up to IDR2 billion	20	2.0%	94.4%
Above IDR2 billion up to IDR5 billion	42	4.2%	98.6%
Above IDR5 billion	9	0.9%	99.5%
Not answered	5	0.5%	100.0%
Total	**992**	100.0%	

This table reports the distribution of 992 depositors surveyed in Indonesia, classified by the size of each depositor's account. Each depositor might have more than one account in a bank.

covers working-age depositors. Further, 81% of respondents put their major deposits in one of the big four banks, and their average education is between diploma and undergraduate.

In terms of personal values, the average religious, economic, social, material, and cultural values for respondents in our sample are 7.42, 6.20, 8.84, 5.96, and 7.39, respectively. These measures imply that depositors in Indonesia put more emphasis on social, religious, and cultural values than on economic and material values. Meanwhile, the average risk-taking level is 7.32, in line with Hofstede et al. (2010, p. 232), showing that Indonesian people have relatively low uncertainty avoidance (and hence, take more risks). People with low uncertainty avoidance tend to treat uncertainty as a normal feature of life rather than a threat.[6] Next, the

[6] Although uncertainty avoidance is not the same as risk avoidance, these two concepts bear much similarity. The difference lies in whether a probability can be assigned (Hofstede et al., 2010, p. 199). More specifically, uncertainty is often associated with diffuse feelings to which no probability can be assigned, whereas risk is commonly associated with a probability that something different than what is expected will occur. Hofstede et al. show that Indonesian people have an uncertainty avoidance level of 48, which is considered low compared with other countries. Because our sample shows that Indonesian depositors have a relatively high level of risk-taking, we argue that this might reflect a low level of uncertainty avoidance among Indonesian people.

Table 2
Descriptive statistics and variable definitions.

Variable	Description	Obs.	Mean	Std.Dev	Min	Max
TIB	Trust in bank index of 2019, measured by average score of each respondent's answers (scale 1–10). A larger scale means greater trust.	992	8.24	0.81	4.83	10
TBF	Trust in banking and financial system index of 2019, measured by the average score of each respondent's answers (scale 1–10). A larger scale means greater trust.	992	7.29	0.90	1.77	9.46
DTI	Depositor's trust index of 2019, measured by average score of each respondent's answers (scale 1–10). A larger scale means greater trust.	992	7.58	0.76	3.79	9.47
Education	Depositor's education level (1 = junior high school or less, 2 = senior high school, 3 = diploma, 4 = undergraduate, 5 = graduate)	988	3.81	0.90	1	5
Woman	Dummy variable for depositor's gender (1 for woman, 0 for man)	992	0.44	0.50	0	1
Age	Respondent's age (in years)	990	32.52	11.32	19	70
Size_ Deposits	Size of deposits in banks, classified to 9 tiers (see Table 1b)	987	2.37	2.01	1	9
Big4	Dummy variable for the big 4 banks (Bank Mandiri, Bank Central Asia, Bank Negara Indonesia, Bank Rakyat Indonesia). Equals 1 if a depositor puts most of his/her money in at least one of the big 4 banks, and 0 otherwise.	992	0.81	0.39	0	1
Religious	Depositor's religious value (scale 1–10). A larger scale means greater importance.	984	7.42	1.55	1	10
Economic	Depositor's economic value (scale 1–10). A larger scale means greater importance.	990	6.20	2.01	1	10
Social	Depositor's social value (scale 1–10). A larger scale means greater importance.	990	8.84	1.01	4	10
Material	Depositor's material value (scale 1–10). A larger scale means greater importance.	990	5.96	2.17	1	10
Cultural	Depositor's cultural value (scale 1–10). A larger scale means greater importance.	989	7.39	1.52	1	10
Risk-Taking	Depositor's risk-taking behaviour (scale 1–10). A larger scale means more willingness to take risk.	990	7.32	1.69	1	10
Family	Depositor's trust in information delivered by a family member (scale 1–10). A larger scale means greater trust.	988	6.96	1.74	1	10
Social Media	Depositor's trust in information from social media (scale 1–10). A larger scale means greater trust.	990	5.96	1.72	1	10
Online Media	Depositor's trust in information from online media (scale 1–10). A larger scale means greater trust.	990	6.93	1.53	1	10
Newspaper	Depositor's trust in information from newspaper (scale 1–10). A larger scale means greater trust.	974	7.43	1.45	1	10
Television	Depositor's trust in information from television (scale 1–10). A larger scale means greater trust.	984	7.13	1.60	1	10
Expert	Depositor's trust in economic experts' information analysis (scale 1–10). A larger scale means greater trust.	989	6.87	1.50	1	10
Govt	Depositor's trust in information delivered by government authorities (scale 1–10). A larger scale means greater trust.	990	8.21	1.41	1	10
Dummy_Java	Dummy variable for a depositor living in the Java island (1 if a depositor lives in the Java island, 0 otherwise)	992	0.64	0.48	0	1

respondents in our sample believe that government authorities are the most trustworthy sources of information (8.21), while social media is the least trusted (5.96).

3.2. Measure of depositors' trust in individual banks

As explained earlier, we disentangle between trust in individual bank (TIB) and trust in banking system and financial safety net (TBF). Arguably, these two are complement; trust to individual cannot be separated from trust to the overall system including the authority (Butzbach, 2016; Schoors et al., 2019).

To address the multidimensionality of trust, we construct an index of depositors' trust in individual banks using Robins and Judge's (2008) five dimensions of trust: integrity (honesty and truthfulness), competence (technical and interpersonal knowledge and skills), consistency (reliability, predictability, and good judgment in handling situations), loyalty (willingness to protect or dedication to trustors), and transparency (openness to giving trustors the full truth). We ask six questions to measure depositors' trust in individual banks.[7]

The first question (Q_{A1}) asks how confident a depositor is, in a general sense, to put his or her money into a bank.[8] The next five questions (Q_{A2}–Q_{A6}) ask each of the five dimensions, respectively. Each depositor's response is measured on a Likert scale from 1 (not at all) to 10 (greatly confident).[9] The questions are as follows:

A depositor's trust in an individual bank (TIB) is then measured as the average of his or her responses to these six questions.

[7] To ensure that each depositor understands the concept of trust and several economic terms used in the survey, we equip each of our interviewers with a dictionary of these terms. The interviewer shares the dictionary with each depositor prior to the interview and is asked to reconfirm the depositor's comprehension level on each question asked. This strategy aims to ensure that each depositor interviewed understands the question and responds to it accordingly, thus mitigating a possible confusion bias.

[8] If a depositor puts his or her money in more than one bank, we ask the response to be specific to the bank where he or she deposits the most money. This question is similar to question V121 of the World Values Survey (Inglehart et al., 2014), as well as the question used in Fungáčová et al. (2019), but with a more granular response scale from 1 to 10.

[9] We follow Coelho and Esteves (1997) to use a 10-point numeric scale as it can transmit more information, compared to a less granular numeric scale, without encouraging response error.

3.3. Measure of depositors' trust in the banking industry and financial safety net

To measure depositors' trust more generally in the banking industry and financial safety net (TBF), we ask 13 questions of each depositor in our sample. The first three questions (Q_{B1}–Q_{B3}) measure how confident is, a depositor to the general performance of Indonesian banking industry in present time, next year, and in five years ahead.[10] The next two questions (Q_{B4}–Q_{B5}) aim to measure possible future large deposits withdrawal due to loss of trust in the banking industry. There has been an extensive literature that relates the loss of depositors' trust in the banking industry and bank run (e.g. Bryant, 1980; Diamond and Dybvig, 1983, and many others). Incompetent and fraudulent bank managements can harm depositors' trust in the banking industry (e.g. De Juan, 2019). Accordingly, question Q_{B6} aims to capture this notion. Subsequently, questions Q_{B7}–Q_{B12} measure depositors' trust in the Indonesian financial safety net. A well-designed financial safety net, which consists of the central bank as the lender of the last resort, the prudential regulatory and supervisory framework, and effective deposit insurance, aims to protect the public's trust to the financial system stability (Schich, 2008). Lastly, question Q_{B13} asks how confident the depositor in Indonesia's current economic performance.

Consistent with the measure of TIB in the previous subsection, each depositor's response is measured on a Likert scale from 1 (not at all) to 10 (greatly confident). The questions are as follows:

A depositor's trust in the banking industry and financial safety net (TBF) is then measured as the average of his or her responses to these 13 questions.

3.4. The depositors' trust index

Finally, we combine the TIB and TBF through a simple average to create a comprehensive index of depositors' trust (DTI). This index measures depositors' trust at both a micro (individual bank) and macro (banking industry and financial safety net) level.

4. Empirical results

4.1. Depositors' trust

As shown in Table 2, we observe that the average of depositors' trust in individual banks (TIB, 8.24) is higher than the average of their trust in the banking industry and financial safety net (TBF, 7.29), which implies that depositors tend to be more conservative with regard to macro-level risk than micro-level risk. This tendency might result from depositors' perception that the banking industry and financial safety net carry greater uncertainty (thus, less trust) than the bank where they save their money. Overall, the depositors' trust index (DTI) has a mean of 7.58—a relatively high level of depositors' trust—in the baseline year (2019) Tables 3a, 3b .

For retrospective comparison with the baseline year, we ask our respondents to answer the same set of questions based on their experience during the height of the 2008 global financial crisis.[11] As Table 4 presents, we find that TIB, TBF, and DTI during the crisis period are statistically lower than their level in 2019.[12] The difference in depositors' trust is also economically significant. More specifically, TIB, TBF, and DTI are lower by about 13.95%, 10.82%, and 14.35%, respectively, during the height of the crisis period compared with the baseline year. This finding aligns with the previous literature that mostly shows the deterioration of trust in banks during a financial crisis period (e.g., Stevenson and Wolfers, 2011; Sapienza and Zingales, 2012; Carbó-Valverde et al., 2013; Knell and Stix, 2015).

4.2. Determinants of depositors' trust

4.2.1. Multicollinearity check

Extending the previous literature, we consider several subsets of depositors' trust determinants including sociodemographic factors, deposit and bank characteristics, personal values, risk-taking, trust in information sources, and geographical factors. The Variance Inflation Factors (VIFs) and pair-wise correlations of the trust determinant variables are displayed in Tables 5a and 5b , respectively.

As shown in Table 5a, we find no variable with VIF larger than 10. Moreover, Table 5b shows that there is no pairwise correlation

[10] Carbó-Valverde et al. (2013) measure a general and specific level of trust in banks by asking the question "I trust the solvency of commercial banks/saving banks in general and of my commercial bank/savings in particular". Our questions for depositors' trust in the banking industry are somewhat similar to their questions on the general level of trust in banks (Q_{B1}-Q_{B3}). However, our questions differ in two aspects. First, we use the "performance" term instead of "solvency" as we argue that the latter might be more difficult to comprehend by small depositors with lower education. Second, rather than just measure the current level of trust, we also add prospective questions on the level of depositors' trust. Therefore, our measure contains both a current and forward-looking aspects of depositors' trust.

[11] We define the peak period of the 2008 global financial crisis in Indonesia as between October and November 2008. In October 2008, the Government of Indonesia increased the maximum deposit insurance coverage by 20 times from IDR 100 million to IDR 2 billion for each depositor in every bank (Saheruddin, 2017). In November 2008, the Government of Indonesia decided to bail out Bank Century to mitigate possible contagion effects on banking system stability (Boediono, 2016, p. 238).

[12] We do not use the 1997–1998 Asian financial crisis as a retrospective time in this survey in order to mitigate potential recall error bias. Beckett et al. (2001) show that retrospective studies are more likely to be consistent if the retrospective time is 12 years or less.

Table 3a
Questions to measure depositors' trust in individual banks.

Code	Questions
Q_{A1}	How confident are you to save money in your bank?
Q_{A2}	How confident are you in your bank's honesty and truthfulness (integrity)?
Q_{A3}	How confident are you in your bank staff's technical and interpersonal knowledge (competence)?
Q_{A4}	How confident are you in your bank staff's reliability, predictability, and good judgment in handling situations (consistency)?
Q_{A5}	How confident are you in your bank's willingness to protect your interest or dedication to your interest (loyalty)?
Q_{A6}	How confident are you in your bank's openness to giving you full information (transparency)?

Table 3b
Questions to measure depositors' trust in the banking industry and financial safety net.

Code	Question
Q_{B1}	How confident are you in the Indonesian banking industry's performance currently?
Q_{B2}	How confident are you in the Indonesian banking industry's performance in one year?
Q_{B3}	How confident are you in the Indonesian banking industry's performance in five years?
Q_{B4}	How confident are you that you will not withdraw a large portion of your money (more than 20% of your deposits) from the Indonesian banking industry in one year's time due to a loss of trust?
Q_{B5}	How confident are you that you will not withdraw a large portion of your money (more than 20% of your deposits) from the Indonesian banking industry in five years' time due to a loss of trust?
Q_{B6}	How confident are you that the Indonesian banking industry is managed by competent bankers?
Q_{B7}	How confident are you in the Indonesian banking regulators' reliability in regulating and supervising the banking industry?
Q_{B8}	How confident are you in the central bank's reliability in managing exchange rate volatility?
Q_{B9}	How confident are you in the central bank's reliability in managing inflation?
Q_{B10}	How confident are you in the deposit insurance's reliability in protecting your deposits?
Q_{B11}	How confident are you that the Indonesian financial safety net can prevent and/or overcome a financial crisis effectively?
Q_{B12}	How confident are you that the Indonesian financial safety net can mitigate macroeconomic risk?
Q_{B13}	How confident are you in Indonesia's current economic performance?

Table 4
Depositors' trust during normal times and crisis period.

Variables	Mean	Difference	% difference	*t*-statistic
TIB_2019	8.2390	1.1490***	13.95%	33.6031
TIB_2008	7.0900			
TBF_2019	7.2883	0.7883***	10.82%	24.8672
TBF_2008	6.4500			
DTI_2019	7.5849	1.0888***	14.35%	37.1248
DTI_2008	6.4962			

This table reports the results of paired mean t-tests on trust in individual banks (TIB), trust in the banking industry and financial safety net (TBF), and depositors' trust index (DTI) between the baseline year (2019) and the height of the 2008 global financial crisis. ***, **, and * are statistically significant at 99%, 95%, and 90%, respectively.

between variables that is greater than 0.8. Following the rule of thumb in Gujarati (2004, p. 359), these results indicate no serious multicollinearity problem between the variables.

4.2.2. Main estimations

To examine the determinants of depositors' trust, we estimate an ordinary least square regression model as follows:

$$Trust_i = \alpha + \sum_{k=1}^{K} \beta_k X_k + \gamma Geo_i + \varepsilon_i$$

where *Trust* is the depositors' trust measure (TIB, TBF, DTI), and X represents the depositors' trust determinants, including socio-demographic factors, deposit and bank characteristics, personal values, risk-taking, and trust in information sources. *Geo* is the geographical factor, and ε is the error term. The results of our main estimations appear in Table 6.

4.3. Sociodemographic factors

We find that women have significantly less trust in individual banks as well as in the banking industry and financial safety net

Table 5a
Multicollinearity check through VIFs.

Variable	VIF	1/VIF
Newspaper	2.04	0.490
Online Media	1.95	0.513
Television	1.92	0.520
Social Media	1.47	0.681
Age	1.40	0.714
Family	1.35	0.739
Govt	1.33	0.750
Size_Deposits	1.33	0.753
Expert	1.30	0.768
Religious	1.28	0.784
Economic	1.25	0.801
Culture	1.17	0.852
Risk-Taking	1.15	0.867
Material	1.15	0.872
Social	1.12	0.893
Gender	1.09	0.916
Education	1.08	0.929
dummy_java	1.04	0.959
Big4	1.01	0.991
Mean VIF	1.34	

This table reports Variance Inflation Factors for all independent variables used in this paper.
The VIF coefficients are sorted in descending order.

than men. This finding differs from Fungácová et al. (2019) and Knell and Stix (2015), who report that women have more trust in banks than men.[13] Our findings align with Mewes (2014), however, who finds that women tend to have less general trust than men in countries with sizable gender gaps in labor participation. Based on the study by Australia Indonesia Partnership for Economic Governance (AIPEG) (2017), Indonesia has a much lower labor force participation rate for women than men compared with its peer countries at a comparable stage of development.

Next, we find that older depositors tend to have less trust in the banking industry and financial safety net. This result is consistent with Knell and Stix (2015) and Fungácová et al. (2019), although their focus is limited to trust in banks. Meanwhile, we do not find that age affects depositors' trust in individual banks. A possible explanation for this result is that older depositors might have longer relationships with their banks. Iyer and Puri (2012) show that bank–depositor relationships can mitigate bank runs.

Depositors with higher levels of education have significantly less trust in individual banks as well as trust in the banking industry and financial safety net. This finding aligns with Fungácová et al. (2019), who discover a similar result and contend that better-educated depositors might have a better understanding of the financial system that drives skepticism of banks. Similarly, Bijlsma and Van der Wiel (2012) reveal that an individual's level of financial literacy affects the level of his or her trust in banking institutions. Meanwhile, other related studies that use single-country survey data from Asia, such as Filipiak (2016) in India and Park (2020) in South Korea, find no significant evidence that education affects trust in banks. We provide more discussion on this finding and its potential policy implication in Subsection 4.3.

4.4. Deposits and bank characteristics

We find that deposit size does not affect depositors' trust. Meanwhile, depositors that have put most of their deposits in the big four banks tend to have greater trust in the banking industry and the financial safety net. Because the big four banks have major market share in the Indonesian banking industry (Hanggraeni, 2018), their depositors might perceive that the banking industry's stability is driven by these banks, with which they trust their deposits.[14]

4.5. Personal values

Some individual values are also found to have significant effects on depositors' trust. Consistent with Fungácová et al. (2019), we find that religious depositors have greater trust both in individual banks and in the banking industry and financial safety net. Similarly, depositors who value economic growth more highly are associated with greater trust in individual banks as well as trust in the banking industry and financial safety net. The coefficients are positive and statistically significant in all specifications in Table 6 for both *Religious* and *Economic* variables.

[13] Fungácová et al.'s sample does not include Indonesia, while Knell and Stix use a survey data from Austria.
[14] Hanggraeni (2018) shows that the big four banks hold about 49.5% of deposit market share in the Indonesian banking industry.

Table 5b
Pair-wise correlations between depositors' trust determinant variables.

	Gender	Age	Education	Size_ Deposits	Big4	Religious	Economic	Social	Material
Gender	1.00								
Age	−0.12***	1.00							
Education	0.03	0.14***	1.00						
Size_ Deposits	−0.13***	0.45***	0.15***	1.00					
Big4	−0.02	−0.00	−0.02	0.01	1.00				
Religious	0.04	0.19***	0.03	0.06*	−0.03	1.00			
Economic	0.01	0.06*	−0.01	0.04	−0.03	0.27***	1.00		
Social	−0.03	0.04	0.01	0.02	0.00	0.13***	0.05	1.00	
Material	0.03	−0.07**	−0.05	−0.01	−0.02	0.09***	0.27***	−0.08**	1.00
Culture	−0.02	0.13***	0.06*	0.09***	0.01	0.26***	0.18***	0.16***	0.15***
Risk-Taking	−0.10***	−0.06*	0.12***	0.05	0.05	0.04	0.16***	0.17***	0.04
Social Media	0.09***	−0.06*	−0.06*	−0.11***	−0.01	0.18***	0.24***	0.06*	0.14***
Online Media	0.01	−0.05	0.02	−0.09***	−0.02	0.14***	0.17***	0.14***	0.05
Newspaper	0.09***	−0.04	−0.01	−0.08**	−0.02	0.10***	0.16***	0.15***	0.07**
Television	0.11***	0.09***	−0.02	−0.03	−0.03	0.21***	0.23***	0.15***	0.16***
Govt	0.07**	0.03	0.05	−0.02	0.02	0.17***	0.18***	0.18***	0.09***
Expert	0.15***	−0.14***	−0.02	−0.16***	−0.02	0.10***	0.14***	0.09***	0.08**
Family	0.08***	0.10***	−0.05	0.09***	−0.02	0.32***	0.23***	0.09***	0.14***
dummy_java	0.08***	−0.00	0.00	−0.02	−0.03	−0.05	0.02	−0.09***	0.02

	Culture	Risk- Taking	Social Media	Online Media	Newspaper	Television	Govt	Expert	Family	dummy_-java
Gender										
Age										
Education										
Size_ Deposits										
Big4										
Religious										

(*continued on next page*)

Table 5b (*continued*)

	Culture	Risk- Taking	Social Media	Online Media	Newspaper	Television	Govt	Expert	Family	dummy_-java
Economic Social Material										
Culture	1.00									
Risk-Taking	0.19***	1.00								
Social Media	0.13***	0.10***	1.00							
Online Media	0.11***	0.16***	0.46***	1.00						
Newspaper	0.09***	0.13***	0.30***	0.60***	1.00					
Television	0.16***	0.07**	0.36***	0.51***	0.60***	1.00				
Govt	0.11***	0.09***	0.18***	0.38***	0.41***	0.39***	1.00			
Expert	0.09***	0.10***	0.28***	0.28***	0.30***	0.30***	0.23***	1.00		
Family	0.17***	0.10***	0.32***	0.19***	0.12***	0.23***	0.16***	0.29***	1.00	
dummy_java	−0.00	0.01	0.03	0.01	0.09***	0.01	0.00	0.10***	0.03	1.00

***, **, and * are statistically significant at 99%, 95%, and 90%, respectively.

Table 6
Determinants of depositors' trust—main estimations.

	(1) TIB	(2) TBF	(3) DTI
Sociodemographic factors			
Woman	–0.146***	–0.137**	–0.138***
	(–2.91)	(–2.56)	(–3.11)
Age	–0.00255	–0.00815***	–0.00664***
	(–1.03)	(–3.18)	(–3.15)
Education	–0.0465*	–0.0900***	–0.0724***
	(–1.65)	(–3.31)	(–3.15)
Deposits and bank characteristics			
Size_deposits	0.0128	0.00232	0.00655
	(0.87)	(0.16)	(0.57)
Big4	0.00522	0.168***	0.115**
	(0.09)	(2.74)	(2.22)
Personal values			
Religious	0.0629***	0.0773***	0.0760***
	(3.40)	(4.32)	(5.13)
Economic	0.0372**	0.0555***	0.0481***
	(2.58)	(3.37)	(3.58)
Social	0.0743***	0.00789	0.0295
	(2.86)	(0.30)	(1.34)
Material	–0.00727	0.0248*	0.0162
	(–0.63)	(1.75)	(1.41)
Culture	0.0115	0.00299	0.00381
	(0.62)	(0.16)	(0.25)
Risk-Taking	0.0228	0.0644***	0.0496***
	(1.37)	(3.61)	(3.44)
Information sources			
Social Media	0.0446**	–0.0173	0.000838
	(2.49)	(–0.90)	(0.05)
Online Media	0.0140	0.0440*	0.0334
	(0.62)	(1.74)	(1.61)
Newspaper	0.0350	0.0310	0.0320
	(1.27)	(1.22)	(1.47)
Television	0.0309	0.0698***	0.0563***
	(1.43)	(2.84)	(2.76)
Govt	0.112***	0.141***	0.131***
	(5.13)	(5.80)	(6.58)
Expert	0.0125	–0.0198	–0.00766
	(0.58)	(–0.99)	(–0.44)
Family	0.00326	–0.0138	–0.00623
	(0.16)	(–0.71)	(–0.38)
Dummy_Java	0.114**	–0.00446	0.0403
	(2.24)	(–0.08)	(0.92)
_cons	5.021***	4.338***	4.541***
	(16.23)	(12.44)	(15.82)
Nbr. of obs.	954	954	954
R-squared	0.216	0.257	0.301

This table reports the results of our main estimations using OLS regressions with robust standard errors. The dependent variables are trust in banks (TIB), trust in the banking industry and financial safety net (TBF), and depositors' trust index (DTI) in column (1), (2), and (3), respectively. Numbers in parentheses are t-statistics. ***, **, and * are statistically significant at 99%, 95%, and 90%, respectively.

Depositors' concern about social value is associated with greater trust in individual banks but unrelated to trust in the banking industry and financial safety net. Meanwhile, valuing materialism only marginally affects trust in the banking industry and financial safety net.

Lastly, our results indicate that risk-taking is positively associated with depositors' trust in the banking industry and financial safety net. One possible explanation is that Indonesian people have relatively low uncertainty avoidance, which means that they treat uncertainty as a normal feature of life rather than a threat (Hofstede et al., 2010, p.232). Therefore, Indonesian depositors trust the banking industry and financial safety net even though they might recognize some uncertainty in it.

4.6. Trust in information sources

Fungácová et al. (2019) consider that access to information affects trust in banks. Taking a different perspective, rather than measuring how frequently depositors observe information from certain channels (television, newspapers, or internet), we measure

how much depositors trust their information sources.

The government highly regulates the banking industry to protect the economy from the dangers of a financial crisis (e.g., Acharya, 2009). Therefore, we might expect that depositors' trust in the government will likely determine their trust in individual banks as well as trust in the banking industry and financial safety net. Our finding aligns with this notion. As presented in Table 5, greater trust in government as the source of information is associated with greater depositors' trust in all specifications.

In terms of trust in information sources other than the government, depositors who have more trust in television as the information source tend to have greater trust in the banking industry and financial safety net. This finding parallels Fungácová et al. (2019). Surprisingly, we find some evidence that trust in social media and online media are related positively to depositors' trust, which differs from Fungácová et al. (2019). One possible explanation of this finding is that the Indonesian government has strict regulations on online and media communication (Purwanegara et al., 2014), and therefore the spread of negative sentiments or rumors about banks is relatively tamed. Lastly, we find no evidence that trust in experts or families as sources of information influences depositors' trust.

4.7. Geographical factor

We find that depositors on Java island tend to have greater trust in individual banks than do depositors from other islands. One plausible explanation for this finding is that people on Java tend to have greater general trust compared with people from other islands in Indonesia (e.g., Saktiawati et al., 2013).

4.7.1. Robustness checks

We perform several robustness checks, as presented in Table A1 through Table A4 in the appendix, to ensure the consistency of our empirical results. First, we re-estimate our regression model using an ordered logit model instead of OLS, following Fungácová et al. (2019). Second, instead of using a dummy variable to distinguish between depositors located on Java and those elsewhere, we take into account the province fixed effect, enabling us to control for province-specific factors. Third, we replace two demographic factors (depositors' age and deposit size) with marital status and monthly income, respectively. Deposit size is highly correlated with monthly income, and depositor age also has a strong correlation with marital status. Therefore, these factors should be estimated in a separate model. In general, the results using alternative specifications are relatively consistent with our baseline model.

4.8. Policy implications

In this subsection, we discuss several possible policy implications of our findings. First, we find that depositors with higher levels of education significantly have less trust in individual banks as well as trust in the banking industry and financial safety net. In prior literature on deposit insurance, there is a concern that deposit insurance might erode depositors' market discipline (e.g., Martinez Peria and Schmukler, 2001; Demirguc-Kunt and Huizinga (2004); Fueda and Konishi, 2007; Hadad et al., 2011; Nys et al., 2015; Tovar-García, 2017). We argue that increasing depositors' financial literacy through education might mitigate such erosion of market discipline. In other words, more-educated depositors might be the key players in disciplining banks as a collective market force, even in a banking industry with explicit deposit insurance. This proposition is particularly important for countries where deposit insurance coverage is relatively generous and still uses a flat-rate premium system, such as Indonesia, where all banks pay the same premium rate regardless of their risk level (e.g., Demirguc-Kunt and Detragiache (2002); Demirguc-Kunt and Huizinga (2004); Angkinand and Wihlborg, 2010; Hadad et al., 2011; Demirgüc-Kunt et al. (2015)). This finding might be an initial evidence of the nexus between financial literacy and market discipline.

Second, we find that both trust in individual banks and trust in the banking industry and financial safety net are significantly affected by trust in information provided by the government. This finding suggests that maintaining the credibility of government-provided information is important to protect depositors' trust.

5. Conclusion

In this study, we develop an index to measure depositors' trust by disentangling trust in individual banks from trust in the overall banking industry and financial safety net. Using a survey of 992 retail depositors in Indonesia, we find that trust in individual banks where depositors place their money is significantly greater than trust in the banking industry and financial safety net. Investigating the determinants of depositors' trust, we find it is affected by personal characteristics, and in particular, women and older depositors have relatively less trust. Moreover, more-educated depositors also have less trust, suggesting initial evidence of a financial literacy–market discipline nexus. Depositors tend to put their trust in individual banks and will trust in the banking industry and financial safety net only when they have greater trust in the information conveyed by the government. Religious and economic values have a positive effect on trust both at the micro and macro levels. Our results also document that risk-taking behavior is positively associated with depositors' trust.

Our results have several important policy implications. First, it is widely argued that the implementation of formal deposit insurance improves the public's confidence in the banking system. On the other side, however, it may weaken market discipline. Our results show that depositor disciplining efforts may still work, particularly for well-informed depositors, who tend to be conservative in trusting banks and the financial system. This finding might imply that it will be useful to bolster depositors' financial literacy to mitigate the effect of deposit insurance on market discipline. Second, trust in individual banks and trust in the banking industry and

financial safety net are all affected by trust in information provided by the government, suggesting the importance of institutional credibility to maintain banking system stability.

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Appendix A

Table A1
Robustness check: ordered logit model.

	(1) TIB	(2) TBF	(3) DTI
Sociodemographic factors			
Woman	−0.357***	−0.332***	−0.420***
	(−2.946)	(−2.721)	(−3.443)
Age	−0.006	−0.016***	−0.015**
	(−0.939)	(−2.624)	(−2.535)
Education	−0.096	−0.193***	−0.213***
	(−1.408)	(−2.940)	(−3.278)
Deposits and bank characteristics			
Size _deposits	0.048	−0.013	0.011
	(1.361)	(−0.406)	(0.348)
Big4	0.102	0.439***	0.385***
	(0.700)	(2.991)	(2.618)
Personal values			
Religious	0.167***	0.189***	0.225***
	(3.684)	(4.478)	(5.405)
Economic	0.077**	0.123***	0.128***
	(2.309)	(3.297)	(3.481)
Social	0.237***	0.048	0.116*
	(3.606)	(0.796)	(1.898)
Material	−0.014	0.045	0.039
	(−0.477)	(1.362)	(1.237)
Culture	0.011	0.014	0.007
	(0.249)	(0.336)	(0.162)
Risk-Taking	0.029	0.152***	0.138***
	(0.745)	(3.815)	(3.545)
Information sources			
Social Media	0.098**	−0.044	−0.009
	(2.279)	(−1.001)	(−0.203)
Online Media	0.063	0.093	0.083
	(1.143)	(1.565)	(1.392)
Newspaper	0.120*	0.096*	0.131**
	(1.732)	(1.750)	(2.069)
Television	0.066	0.150***	0.143**
	(1.223)	(2.877)	(2.560)
Govt	0.261***	0.309***	0.355***
	(5.039)	(5.718)	(6.996)
Expert	0.051	−0.049	−0.020
	(0.973)	(−1.020)	(−0.403)
Family	0.010	−0.020	0.006
	(0.206)	(-0.463)	(0.133)
dummy_Java	0.311**	0.018	0.104
	(2.510)	(0.148)	(0.847)
Nbr. of obs.	954	954	954
Pseudo R-squared	0.043	0.038	0.044

This table reports the results of our estimations using ordered logit regressions. The dependent variables are trust in banks (TIB), trust in the banking industry and financial safety net (TBF), and depositors' trust index (DTI) in columns (1), (2), and (3), respectively. Numbers in parentheses are t-statistics. ***, **, and * are statistically significant at 99%, 95%, and 90%, respectively.

Table A2
Robustness check: Province fixed effects (FE).

	(1) TIB	(2) TBF	(3) DTI
Sociodemographic factors			
Woman	–0.139***	–0.123**	–0.124***
	(–2.71)	(–2.30)	(–2.80)
Age	–0.00299	–0.00747***	–0.00608***
	(–1.19)	(–2.86)	(–2.84)
Education	–0.0448	–0.0870***	–0.0720***
	(–1.54)	(–3.19)	(–3.07)
Deposits and bank characteristics			
Size _deposits	0.0110	–0.00114	0.00282
	(0.74)	(–0.08)	(0.23)
Big4	0.0205	0.167***	0.115**
	(0.33)	(2.62)	(2.14)
Personal values			
Religious	0.0671***	0.0809***	0.0768***
	(3.52)	(4.36)	(4.87)
Economic	0.0317**	0.0580***	0.0488***
	(2.22)	(3.59)	(3.72)
Social	0.0654**	0.0192	0.0342
	(2.47)	(0.73)	(1.54)
Material	–0.00746	0.0214	0.0136
	(–0.64)	(1.53)	(1.19)
Culture	0.00205	–0.00177	–0.000688
	(0.11)	(–0.09)	(–0.04)
Risk-Taking	0.0193	0.0601***	0.0471***
	(1.13)	(3.50)	(3.31)
Information sources			
Social Media	0.0389**	–0.0215	–0.00272
	(2.17)	(–1.15)	(–0.17)
Online Media	0.0134	0.0481**	0.0362*
	(0.59)	(1.97)	(1.78)
Newspaper	0.0300	0.0397	0.0373*
	(1.06)	(1.57)	(1.70)
Television	0.0350	0.0579**	0.0494**
	(1.59)	(2.27)	(2.38)
Govt	0.115***	0.145***	0.135***
	(5.04)	(5.88)	(6.62)
Expert	0.0212	–0.0170	–0.00350
	(0.96)	(–0.84)	(–0.20)
Family	0.00501	–0.00897	–0.00597
	(0.26)	(–0.44)	(–0.35)
_cons	5.474***	4.783***	5.000***
	(14.22)	(13.91)	(16.39)
Province Fixed Effect	Yes	Yes	Yes
Nbr. of obs.	954	954	954
R-squared	0.257	0.310	0.341

This table reports the results of our estimations using OLS regressions with robust standard errors. The dependent variables are trust in banks (TIB), trust in the banking industry and financial safety net (TBF), and depositors' trust index (DTI) in columns (1), (2), and (3), respectively. Numbers in parentheses are t-statistics. ***, **, and * are statistically significant at 99%, 95%, and 90%, respectively. Province FE is used instead of the Java island dummy.

Table A3
Robustness check: Change the proxies for personal (demographic) factors.

	(1) TIB	(2) TBF	(3) DTI
Woman	–0.153***	–0.132**	–0.136***
	(–2.98)	(–2.44)	(–3.06)
Married	–0.0139	–0.209***	–0.155***
	(–0.27)	(–4.00)	(–3.58)
Education	–0.0468	–0.0854***	–0.0689***

(*continued on next page*)

Table A3 (*continued*)

	(1) TIB	(2) TBF	(3) DTI
	(–1.59)	(–3.07)	(–2.93)
Income	0.00188	–0.0112	–0.00666
	(0.08)	(–0.49)	(–0.35)
Big4	0.00239	0.154**	0.105**
	(0.04)	(2.53)	(2.02)
Religious	0.0669***	0.0840***	0.0820***
	(3.64)	(4.67)	(5.59)
Economic	0.0362**	0.0550***	0.0474***
	(2.51)	(3.38)	(3.57)
Social	0.0762***	0.00867	0.0307
	(2.88)	(0.33)	(1.38)
Material	–0.00205	0.0260*	0.0186
	(–0.18)	(1.82)	(1.63)
Culture	0.00473	–0.00101	–0.00105
	(0.26)	(–0.06)	(–0.07)
Risk Taking	0.0234	0.0662***	0.0511***
	(1.41)	(3.72)	(3.54)
Social Media	0.0431**	–0.0188	–0.000826
	(2.40)	(–0.97)	(–0.05)
Online Media	0.00928	0.0422*	0.0304
	(0.41)	(1.66)	(1.46)
Newspaper	0.0478*	0.0367	0.0401*
	(1.79)	(1.43)	(1.87)
Television	0.0235	0.0656***	0.0510**
	(1.08)	(2.70)	(2.52)
Govt	0.107***	0.143***	0.131***
	(4.97)	(5.81)	(6.58)
Expert	0.0191	–0.0175	–0.00411
	(0.91)	(–0.85)	(–0.24)
Family	0.00119	–0.0152	–0.00765
	(0.06)	(–0.78)	(–0.46)
dummy_Java	0.107**	–0.0109	0.0337
	(2.11)	(–0.21)	(0.77)
_cons	4.955***	4.155***	4.388***
	(15.76)	(11.68)	(15.02)
Nbr. of obs.	944	944	944
R-squared	0.214	0.263	0.305

This table reports the results of our estimations using OLS regressions with robust standard errors. The dependent variables are trust in banks (TIB), trust in the banking industry and financial safety net (TBF), and depositors' trust index (DTI) in columns (1), (2), and (3), respectively. Numbers in parentheses are t-statistics. ***, **, and * are statistically significant at 99%, 95%, and 90%, respectively. Alternative proxies for personal (demographic) factors and Java island dummy are used.

Table A4
Robustness check: Alternative proxies for personal (demographic) factors and province FE.

	(1) TIB	(2) TBF	(3) DTI
Woman	–0.146***	–0.116**	–0.122***
	(–2.79)	(–2.14)	(–2.72)
Married	–0.0396	–0.204***	–0.151***
	(–0.75)	(–3.89)	(–3.44)
Education	–0.0435	–0.0838***	–0.0695***
	(–1.42)	(–2.98)	(–2.87)
Income	–0.0000539	–0.00836	–0.00539
	(–0.00)	(–0.33)	(–0.26)
Big4	0.0167	0.154**	0.105*
	(0.27)	(2.43)	(1.95)
Religious	0.0724***	0.0889***	0.0839***
	(3.83)	(4.79)	(5.37)
Economic	0.0314**	0.0571***	0.0481***
	(2.21)	(3.59)	(3.72)
Social	0.0665**	0.0199	0.0350
	(2.48)	(0.75)	(1.57)

(*continued on next page*)

Table A4 (*continued*)

	(1) TIB	(2) TBF	(3) DTI
Material	–0.00205	0.0229	0.0164
	(–0.18)	(1.63)	(1.43)
Culture	–0.00500	–0.00606	–0.00595
	(–0.27)	(–0.33)	(–0.38)
Risk-Taking	0.0196	0.0612***	0.0479***
	(1.15)	(3.57)	(3.37)
Social Media	0.0364**	–0.0229	–0.00448
	(2.03)	(–1.21)	(–0.28)
Online Media	0.00894	0.0461*	0.0334
	(0.39)	(1.88)	(1.64)
Newspaper	0.0435	0.0465*	0.0465**
	(1.60)	(1.84)	(2.18)
Television	0.0281	0.0527**	0.0436**
	(1.28)	(2.09)	(2.11)
Govt	0.110***	0.145***	0.134***
	(4.86)	(5.84)	(6.57)
Expert	0.0276	–0.0131	0.00135
	(1.30)	(–0.64)	(0.08)
Family	0.00239	–0.0112	–0.00838
	(0.12)	(–0.55)	(–0.49)
_cons	5.415***	4.553***	4.823***
	(14.45)	(12.68)	(15.42)
Province Fixed Effects	Yes	Yes	Yes
Nbr. of obs.	944	944	944
R-squared	0.257	0.315	0.345

This table reports the results of our estimations using OLS regressions with robust standard errors. The dependent variables are trust in banks (TIB), trust in the banking industry and financial safety net (TBF), and depositors' trust index (DTI) in columns (1), (2), and (3), respectively. Numbers in parentheses are t-statistics. ***, **, and * are statistically significant at 99%, 95%, and 90%, respectively. Alternative proxies for personal (demographic) factors and province FE are used.

References

Acharya, V.V., 2009. A theory of systemic risk and design of prudential bank regulation. J. Financ. Stab. 5 (3), 224–255.
Affandi, Y., Anugrah, D.F., Bary, P., 2019. Human capital and economic growth across regions: a case study in Indonesia. Eurasian Econ. Rev. 9 (3), 331–347.
Angkinand, A., Wihlborg, C., 2010. Deposit insurance coverage, ownership, and banks' risk-taking in emerging markets. J. Int. Money Finance 29 (2), 252–274.
Australia Indonesia Partnership for Economic Governance (AIPEG), 2017. Women's Economic Participation in Indonesia.
Beckett, M., Da Vanzo, J., Sastry, N., Panis, C., Peterson, C., 2001. The quality of retrospective data: an examination of long-term recall in a developing country. J. Hum. Resour. 36 (3), 593–625.
Berger, A.N., Bouwman, C.H., 2009. Bank liquidity creation. Rev. Financ. Stud. 22 (9), 3779–3837.
Bhattacharya, S., Thakor, A.V., 1993. Contemporary Banking Theory. J. Financ. Intermed. 3 (1), 2–50.
Bijlsma, M., van der Wiel, K., 2012. What Awareness? Consumer Perception of Bank Risk and Deposit Insurance. CPB Discussion Paper 205. .
Blomqvist, K., 1997. The many faces of trust. Scand. J. Manag. 13 (3), 271–286.
Boediono, 2016. Ekonomi Indonesia: Dalam Lintasan Sejarah (Indonesian Economy: in a Trajectory of History). Mizan Pustaka.
Bryant, J., 1980. A model of reserves, bank runs, and deposit insurance. J. Bank. Financ. 4 (4), 335–344.
Butzbach, O., 2016. Trust in banks: a tentative conceptual framework. Schmollers Jahrb. 136, 303–330.
Carbó-Valverde, S., Maqui-López, M., Rodríguez-Fernández, 2013. Trust in Banks: Evidence from the Spanish Financial Crisis. SSRN Working Paper.
De Juan, A., 2019. From good bankers to bad bankers. From Good to Bad Bankers (pp. 1-16). Palgrave Macmillan, Cham.
Demirguc-Kunt, A., Detragiache, E., 2002. Does deposit insurance increase banking system stability? An empirical investigation. J. Monet. Econ. 49 (7), 1373–1406.
Demirguc-Kunt, A., Huizinga, H., 2004. Market discipline and deposit insurance. J. Monet. Econ. 51 (2), 375–399.
Demirgüc-Kunt, A., Kane, E., Laeven, L., 2015. Deposit insurance around the world: a comprehensive analysis and database. J. Financ. Stab. 20, 155–183.
Diamond, D.W., Dybvig, P.H., 1983. Bank runs, deposit insurance, and liquidity. J. Polit. Econ. 91 (3), 401–419.
Diamond, D.W., Rajan, R.G., 2001. Liquidity risk, liquidity creation, and financial fragility: a theory of banking. J. Polit. Econ. 109 (2), 287–327.
Enoch, C., Fre´caut, O., Kovanen, A., 2003. Indonesia's Banking Crisis: What Happened and What Did We Learn? Bull. Indones. Econ. Stud. 39 (1), 75–92.
Fehr, E., 2009. On the economics and biology of trust. J. Eur. Econ. Assoc. 7 (2–3), 235–266.
Filipiak, U., 2016. Trusting Financial Institutions: Out of Reach, Out of Trust? Q. Rev. Econ. Financ. 59, 200–214.
Fueda, I., Konishi, M., 2007. Depositors' response to deposit insurance reforms: evidence from Japan, 1990–2005. J. Financ. Serv. Res. 31 (2–3), 101–122.
Fungácová, Z., Hasan, I., Weill, L., 2019. Trust in banks. J. Econ. Behav. Organ. 157 (C), 452–476.
Gujarati, D.N., 2004. Basic Econometrics, 4th edition. The McGraw-Hill Companies.
Hadad, M.D., Agusman, A., Monroe, G.S., Gasbarro, D., Zumwalt, J.K., 2011. Market discipline, financial crisis and regulatory changes: evidence from indonesian banks. J. Bank. Financ. 35, 1552–1562.
Hanggraeni, D., 2018. Competition, bank fragility, and financial crisis. Banks Bank Syst. 13 (1), 22–36.
Hofstede, G., Hofstede, G.J., Minkov, M., 2010. Cultures and Organizations: Software of the Mind. The McGraw-Hill Companies.
Inglehart, R., Haerpfer, C., Moreno, A., Welzel, C., Kizilova, K., Diez-Medrano, J., Lagos, M., Norris, P., Ponarin, E., Puranen, B., et al., 2014. World Values Survey: Round Six - Country-pooled Datafile Version. http://www.worldvaluessurvey.org/WVSDocumentation.
International Association of Deposit Insurers, 2013. Enhanced Guidance for Effective Deposit Insurance Systems: Mitigating Moral Hazard. Guidance Paper. .
Iyer, R., Puri, M., 2012. Understanding bank runs: the importance of depositor–bank relationships and networks. Am. Econ. Rev. 102 (4), 1414–1445.
Jansen, D.-J., Mosch, R., van der Cruijsen, C., 2015. When does the general public lose trust in banks? J. Financ. Serv. 48 (2), 127–141.

Keynes, J.M., 1936. The General Theory of Employment, Interest and Money. Macmillan Cambridge University Press.
Kiss, H.J., Rodriguez-Lara, I., Rosa-García, A., 2014. Do Social Networks Prevent or Promote Bank Runs? J. Econ. Behav. Organ. 101, 87–99.
Knell, M., Stix, H., 2015. Trust in banks during normal and crisis times—evidence from survey data. Economica 82 (1), 995–1020.
Laeven, L., Valencia, F., 2013. Systemic banking crises database. Imf Econ. Rev. 61 (2), 225–270.
Martinez Peria, M.S., Schmukler, S.L., 2001. Do depositors punish banks for bad behaviour? Market discipline, deposit insurance and banking crises. J. Finance 56 (3), 1029–1105.
Mewes, J., 2014. Gen(d)eralized trust: women, work, and trust in strangers. Eur. Sociol. Rev. 30 (3), 373–386.
Nys, E., Tarazi, A., Trinugroho, I., 2015. Political connections, bank deposits, and formal deposit insurance. J. Financ. Stab. 19, 83–104.
Padua, D., 2014. John Maynard Keynes and the Economy of Trust: The Relevance of the Keynesian Social Thought in a Global Society. Springer.
Park, N.Y., 2020. Trust and trusting behavior in financial institutions: evidence from South Korea. Int. Rev. Econ. Financ. 67, 408–419.
Purwanegara, M., Apriningsih, A., Andika, F., 2014. Snapshot on Indonesia regulation in mobile internet banking users' attitudes. Procedia-Social Behav. Sci. 115, 147–155.
Robbins, S.P., Judge, T.A., 2008. Organizational Behavior, 13/E. Pearson Education, New Jersey.
Saheruddin, H., 2017. Explicit Deposit Insurance Coverage, Ownership, and Risk-taking: Evidence From a Natural Experiment. IDIC Working Paper. .
Saktiawati, A.M.I., Worth, H., Lazuardi, E., Spooner, C., Subronto, Y.W., Padmawati, R.S., 2013. I just trust him: the notion of consideration as a barrier to condom use amongst women who inject drugs in Central Java. World J. AIDS 3 (4), 298.
Sapienza, P., Zingales, L., 2012. A trust crisis. Int. Rev. Financ. 12 (2), 123–131.
Schich, S., 2008. Financial crisis: deposit insurance and related financial safety net aspects. Oecd J. Financ. Mark. Trends 2008 (2), 1–39.
Schoors, K., Semenova, M., Zubanov, A., 2019. Depositor discipline during crisis: Flight to familiarity or trust in local authorities? J. Financ. Stab. 43, 25–39.
Stevenson, B., Wolfers, J., 2011. Trust in public institutions over the business cycle. Am. Econ. Rev. 101 (3), 281–287.
Tovar-García, E.D., 2017. Market discipline in the latin american banking system: testing depositor discipline, borrower discipline, and the internal capital market hypothesis. Spanish Rev. Financ. Econ. 15 (2), 78–90.
Trinugroho, I., Pamungkas, P., Ariefianto, M.D., Tarazi, A., 2020. Deposit structure, market discipline, and ownership type: evidence from Indonesia. Econ. Syst forthcoming.