Cross-country Evidence on the Relation between Societal Trust and Risk-Taking by Banks

Kiridaran Kanagaretnam
Schulich School of Business
York University
E-mail: KKanagaretnam@schulich.yorku.ca

Gerald J. Lobo
University of Houston
E-mail: **gjlobo@uh.edu**

Chong Wang
The Hong Kong Polytechnic University
E-mail:chong.wang@polyu.edu.hk

Dennis J. Whalen
Otterbein University
E-mail: DWhalen@otterbein.edu

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Abstract

We study how differences in societal trust across countries are related to bank risk-taking. Prior research documents a positive relation between trust and both financial accounting transparency and timely recognition of bad news, which reduces bank managers' ability to take excessive risk. Additionally, managers in high-trust societies are more likely to exhibit higher pro-social behavior and, therefore, less likely to take excessive risk for personal benefit. Consistent with these arguments, we document that banks located in countries with higher societal trust exhibit lower risk-taking, and these banks also experienced less financial trouble and fewer failures during the 2007-2009 financial crisis.

JEL classification: G21; G28; G31; M14

Keywords: Societal trust; Banking; Risk-taking; Excessive risk; Financial crisis

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I. Introduction

Recent improvements in statistical techniques and greater availability of data have enabled researchers to explore the links between various cultural variables and economic outcomes (Guiso, Sapienza, and Zingales (2006)). Examples of recent empirical studies in finance include Hilary and Hui (2009), who document that firms located in counties with stronger religiosity have lower asset and equity return variability due to more conservative investment policies, and Chui, Titman, and Wei (2010), who find that the Hofstede (2001) individualism dimension of culture is positively related to stock trading volume and momentum profits. Following this strand of literature, we consider the relationship between societal trust and risk-taking in the international banking sector.

We reason that trust could influence bank risk-taking through three possible channels. First, trust could be negatively related to risk-taking due to enhanced financial transparency, which affects the ability of banks to take excessive risk. Garrett, Hoitash, and Prawitt (2014) demonstrate that trust improves financial reporting quality and thereby lowers the incidence of misstated financial statements. In a similar vein, Nanda and Wysocki (2013) also document a positive association between trust and financial reporting quality (i.e., earnings transparency and timely recognition of bad news), and Lim, Kausar, Lee, and Walker (2014) demonstrate that banks that utilize conservative accounting are characterized by "more prudent, stable lending behavior in borrower selection." Taken together, the greater financial reporting quality associated with higher levels of societal trust could result in lower bank risk-taking.

Second, bank managers in high-trust societies are more likely to reciprocate the trust that society places in them and, therefore, are less likely to take excessive risk for personal

benefit. In particular, managers of banks located in high-trust societies are less likely to act in a manner that violates social norms in order to avoid facing social sanctions. Prior research documents a positive relationship between trust and pro-social behavior that is intended to benefit others in a society (e.g., Carlo, Randall, Rotenberg, and Armenta (2010), Fehr (2009), Simpson (2007)). In addition, Harjoto and Laksmana (2016) demonstrate that firms with greater corporate social responsibility (CSR), a proxy for pro-social behavior, do not engage in excessive risk-taking. This suggests that there could be a negative relationship between societal trust and bank risk-taking.

Third, Kanagaretnam, Khokar, and Mawani (2016) find that both the level of CEO compensation and the proportion of equity-based compensation are lower in countries with higher levels of societal trust. They also examine the association between pay disparity and societal trust and find that pay disparities between CEOs and average employees are lower in countries with higher levels of societal trust. Given that the incentives for risk-taking increase with equity-based compensation (Zingales (2015)), excessive risk-taking by bank CEOs may be muted in higher trust societies due to reduced incentive pay.

However, another strand of literature documents a positive association between trust and individual risk-taking. For example, Guiso, Sapienza, and Zingales (2008) find that individuals who are more trusting are more likely to invest in the stock market. Mihet (2012) utilizes the Hofstede (2001) Power Distance Index as a proxy for trust and finds that trust and corporate risk-taking are positively related. Given the findings of these two streams of prior research, it is unclear *a priori* whether societal trust attenuates or accentuates bank risk-taking. Therefore, whether societal trust and bank risk-taking are positively or negatively related is ultimately an empirical question.

We examine the link between societal trust and bank risk-taking using a sample of banks from forty countries that we obtain from the *Bankscope* (now Orbis Bank Focus)

database. We conduct our empirical analysis over the 2000-2006 pre-financial crisis and the 2010-2012 post-financial crisis periods. In our main tests, we employ two measures, Z_SCORE and net interest margin volatility, to characterize bank risk-taking, and utilize data from the World Values Surveys (WVS) to characterize the level of trust in each country. The societal trust variable is based on the response to the WVS question "generally speaking, would you say that most people can be trusted or that you need to be very careful in dealing with people?"

We document a significant negative relationship between societal trust and bank risk-taking during both the 2000-2006 and 2010-2012 periods. More specifically, banks located in countries with a higher level of societal trust exhibit a lower level of risk (i.e., they have a higher Z_SCORE and lower net interest margin volatility). This result is consistent with the view that societal trust increases financial transparency and pro-social behavior and reduces managerial rent-seeking, and thereby reduces bank risk-taking. To corroborate our main risk results, which are based on accounting measures of risk-taking, we also examine the relation between societal trust and two market-based risk measures -- CDS spread and crash-risk -- for a sub-sample of large public banks. Consistent with our main results, we document a negative relation between societal trust and CDS spread and two measures of crash risk in both the pre- and the post-financial crisis periods.

Since our prediction of a negative relation between societal trust and risk-taking applies mainly to excessive risk-taking for banks, we repeat our main analyses employing two proxies for aggressive/abnormal risk. First, we define banks with Z_SCORE or net interest margin volatility in the top decile as aggressive risk-takers. Second, following the methodology of Cheng, Hong, and Scheinkman (2015), we employ a two-stage analysis, where in the first stage we control for bank-level risk-taking (i.e., for normal risk) and use the

residual from the first stage as the estimate of abnormal risk.[1] Consistent with our main results, we find that banks in countries with higher societal trust are associated with lower levels of aggressive risk-taking and abnormal risk. In addition, we find a significant negative relation between trust and bank trouble/failure during a period of extreme economic shock, the 2007-2009 financial crisis. This finding indicates that banks in more trusting countries were likely to be more stable during the crisis. This result is consistent with banks in higher trust countries exhibiting less value destroying behavior such as excessive risk-taking in the years leading up to the crisis.

We implement several sensitivity tests to ascertain the robustness of our findings. We find consistent results when we use Trust Index (Medrano (2011)) and Secrecy (Hope, Kang, Thomas, and Yoo (2008)) as alternative trust measures, and when we also control for the Hofstede (2001) cultural variables, individualism and uncertainty avoidance. We also modify the sample to include only banks that have total assets exceeding $100 million and also exclude banks from both Germany and the United States, and find that neither adjustment alters our results. In addition, our main findings hold when we use weighted regressions.[2]

Our study contributes to the literature in several important ways. First, we augment the nascent body of literature that focuses on the relationship between economic outcomes and cultural attributes (e.g., Chui et al. (2010), Guiso et al. (2006)). Second, our findings

[1] We utilize the terms "excessive", "abnormal", and "aggressive" throughout the paper to characterize bank risk-taking that is atypical (i.e., beyond what is considered normal in the industry). Banks that incur greater risks will receive greater returns when economic conditions are favorable. However, the risk-return paradigm is a double-edged sword; these same banks will face greater losses when economic conditions deteriorate. It is this latter perspective that not only gives these descriptive terms a negative connotation, but also leads to the attenuation of bank risk-taking through societal trust.

[2] One criticism that is often levied on empirical work in this area concerns the issue of endogeneity. In order to address this concern, we follow the approach utilized by Pevzner et al. (2015). Specifically, we estimate two-stage least squares regressions, instrumenting trust by a country's primary religion. Guiso et al. (2008) observe that religion is a cultural variable that is relatively constant over time and, therefore, can be viewed as exogenous. We obtain consistent results with this alternative specification.

extend prior studies in this line of research (e.g., Garrett et al. (2014), Pevzner, Xie, and Xin (2015)) which find that trust influences corporate decision-making. Third, our research contributes to the literature on bank risk-taking by uncovering an important identifier of bank risk: societal trust. While prior literature has mainly focused on formal institutions such as governance and regulations (e.g., Laeven and Levine (2009)), we show that cultural variables such as trust also matter. Finally, we contribute to research that seeks to identify institutional factors that are related to the 2007-2009 global financial crisis (e.g., Fahlenbrach and Stulz (2011)). Our results document that societal trust is positively related to bank stability through its influence in reducing excessive risk-taking.

The rest of this paper is organized as follows. We discuss the relevant literature and develop our hypothesis in Section II, present the research design in Section III, describe the data in Section IV, discuss the empirical results in Section V, and make concluding remarks in Section VI.

II. Research Background and Hypothesis

While trust is the focus of much research across academic disciplines, there is no concise definition of the term (Das and Teng (2004)). For example, Rotter ((1967), p. 651) defines trust "as an expectancy held by an individual or a group that the word, promise, verbal or unwritten statement of another individual or group can be relied upon." Gambetta ((1988), p. 217) states that "trust … is a particular level of the subjective probability with which an agent assesses that another agent or group of agents will perform a particular action." Guiso et al. ((2008), p. 2557) refer to trust as "the subjective probability individuals attribute to the probability of being cheated."

Numerous studies in the business and economics literatures examine this cultural characteristic. For example, Guiso, Sapienza, and Zingales (2004) argue that trust is the attribute of social capital that enhances financial development in a country because it

increases the use of financial contracts. LaPorta, Lopez-de-Silanes, Shleifer, and Vishny (1998) report that countries with higher levels of trust exhibit higher levels of education and civic participation, and lower levels of corruption. Pevzner et al. (2015) find that corporate earnings announcements made in countries with higher levels of societal trust are viewed as more credible and therefore result in stronger market reactions.

Although we focus on the relationship between societal trust and risk-taking in the international banking sector, an overview of the determinants of societal trust within and across countries is informative. Empirical work in this area considers a wide variety of explanatory demographic variables. For example, LaPorta, Lopez-de-Silanes, Shleifer, and Vishny (1997) demonstrate that countries dominated by hierarchical religions (i.e., Catholicism, Eastern Orthodox Christianity, and Islam) have lower levels of trust, possibly because the structure of these religions diminishes cooperation among people. Knack and Keefer (1997), LaPorta et al. (1997) and You (2012) report a positive relationship between the level of a country's education and trust. Additionally, the economic performance of a country, as measured by GDP per capita, is positively related to trust (Delhey and Newton (2005), Knack and Keefer (1997)). Countries that have lower ethnic diversity (Delhey and Newton (2005), Knack and Keefer (1997)) and income inequality (Delhey and Newton (2005), You (2012)) also exhibit higher levels of trust. Finally, attributes of a society that diminish the social distance between its members enhance the level of trust (Bjornskov (2006)).

Unlike this prior research, our objective in the present study is not to directly examine what causes trust; instead, it is to study the relation between societal trust and bank risk-taking. We argue that at the margin, trust reduces opportunistic actions by managers and banks located in countries with greater societal trust may experience less managerial rent-seeking and higher pro-social behavior.

We focus on three channels through which trust may dampen the risk-taking activities of banks. First, Garrett et al. (2014) demonstrate that there is a positive relationship between employee trust in management and financial reporting quality (i.e., higher quality of accounting accruals and lower likelihood of misstated financial statements). In a related study, Nanda and Wysocki (2013) document a positive relationship between trust and financial transparency (i.e., timely recognition of bad news and lack of earnings management) in an international setting. They attribute this finding to the view that more trusting individuals will place greater credibility in management disclosures. In our context, financial accounting transparency and timely recognition of bad news, such as expected loan losses, may have a direct impact on lending behavior, loan volumes, and the selection of borrowers. For example, Lim et al. (2014) argue that managers focused on meeting short-term profitability targets adjust their lending behavior to more timely recognition of loan losses by being more selective. Additionally, Bushman and Williams (2012) document that delayed recognition of expected future loan losses is associated with both concerns about capital inadequacy and difficulty of raising new equity during downturns.

Second, there is ample evidence that individuals in more trusting societies engage in behavior that is intended to benefit others. Utilizing data from the German Socio-Economic Panel, Fehr (2009) finds a positive relationship between trust and altruistic behavior (i.e., volunteering for clubs/social services). Carlo et al. (2010) document a positive link between trust and pro-social behavior in young adults. In addition, Lins, Servaes, and Tamayo (2016) document a positive link between trust and CSR, a proxy for pro-social behavior at the corporate level. They find that firms with high CSR levels experience significantly greater stock returns than those with low CSR levels during the 2007-2009 financial crisis; the return differential is more pronounced for companies located in regions where trust is higher. Harjoto and Laksmana (2016) report a positive relationship between CSR, and optimal

risk-taking. CSR acts as a balancing mechanism to ensure that resources are allocated to minimize both excessive risk-taking, which benefits shareholders, and excessive risk avoidance, which benefits other stakeholders. These findings suggest that banks located in countries with greater societal trust should have a higher pro-social behavior and, therefore, lower levels of excessive risk-taking.

Third, trust may influence bank risk-taking through the structure of management compensation. Larcker and Tayan (2013) posit that trust, as part of the corporate governance system, will reduce the complexity of executive compensation by eliminating the need for risk-based compensation. Kanagaretnam et al. (2016) also argue that a higher level of trust will reduce managerial incentives for excessive risk-taking and, therefore, the need for equity-based compensation. Higher levels of societal trust can also create conditions for less opportunistic behavior and this could manifest in lower levels of managerial rent extraction. Kanagaretnam et al. (2016) find that the level of CEO compensation and the proportion of equity-based compensation are lower in countries with higher societal trust. In other words, risk-taking should be lower in countries with higher societal trust.

In contrast, other empirical studies document a positive relationship between trust and risk-taking. Guiso et al. (2008) observe that trust is determined by both objective attributes of the financial system (e.g., corporate governance) and subjective characteristics of the trustor. They find a positive relationship between the level of trust and individuals' participation in the stock market. Mihet (2012) examines the relationship between several cultural variables and corporate risk-taking across a sample of companies from diverse industries. She utilizes the Hofstede (2001) Power Distance Index as a proxy for trust and hypothesizes that companies in low power distance countries will incur greater risk because individuals in these countries are more trusting. Her results support this hypothesis.

In summary, because greater societal trust leads to higher financial accounting

transparency and more timely recognition of bad news, it has the potential to constrain excessive risk-taking. Conversely, the lower level of perceived risk that is associated with a higher level of trust leads to increased risk-taking. Hence, whether societal trust constrains or encourages bank risk-taking is ultimately an empirical question. Our tests will provide evidence on which of the opposing factors is dominant.

While societal trust can dampen bank risk-taking through the aforementioned economic channels, it is plausible that the regulatory environment and court system of a country can also produce a similar outcome. The theoretical model of Carlin, Dorobantu, and Viswanathan (2009) suggests that trust and regulation can be substitutes or complements. Aghion, Algan, Cahuc, and Shleifer (2010) demonstrate that trust and regulation are substitutes; a lower level of trust results in a higher demand for regulation which, in turn, diminishes the development of trust. Their empirical results indicate that government regulation and trust are negatively related. Accordingly, our empirical model includes controls for a country's legal/regulatory environment that are related to bank risk-taking. These variables include creditor rights (Houston, Lin, Lin, and Ma (2010)), degree of law enforcement (Laeven and Levine (2009)), and legal origin (Cole and Ariss (2010)).[3]

III. Research Design

We use the following model to estimate the relationship between societal trust and bank risk-taking. This model relates trust to measures of risk, while controlling for several bank- and country-level characteristics. We conduct separate tests for the pre- and the

[3] The new institutional economics framework of Williamson (2000) posits that the traditions and norms (e.g., trust) of a society are "embedded" (i.e., altered only over the course of centuries). The judicial environment is somewhat less fixed, requiring only decades to change. Thus, trust can be seen as a more primitive institution relative to judicial environment. Williamson (1993) indicates that trust can arise not only from the law but also from culture. The former view suggests that individuals will be more trusting in a strong legal environment, while the latter perspective suggests that trust is derived from social norms.

post-crisis periods. The model specification is as follows:[4]

$$(1) \qquad RISK = \gamma_0 + \gamma_1 TRUST + \gamma_2 V + \gamma_3 W + \epsilon$$

where RISK is one of two risk measures (described below), TRUST is a societal trust index (described below), V is a vector of bank characteristics, and W is a vector of country characteristics. We use robust standard errors clustered by country in all our tests.

We require measures of risk-taking (RISK) and societal trust (TRUST) to estimate model (1). We use Z_SCORE and net interest margin (σ(NIM)) as measures of RISK. Following prior research (Houston et al. (2010), Laeven and Levine (2009)), we compute Z_SCORE as (CAR+ROA)/σ(ROA), where CAR is the mean ratio of capital to assets over 2000-2006 (or 2010-2012), ROA is the mean ratio of earnings before taxes and loan loss provisions to assets over 2000-2006 (or 2010-2012), and σ(ROA) is the standard deviation of ROA estimated over 2000-2006 (or 2010-2012). Z_SCORE represents the number of standard deviations that ROA must decrease below its expected value before the bank's equity is depleted and the bank is insolvent. Therefore, a bank with a higher Z_SCORE is less likely to become insolvent. We use the natural logarithm of Z_SCORE because it has a skewed distribution and multiply this variable by minus 1 so that a higher value represents higher risk-taking. The second measure of risk, σ(NIM), reflects the variability of the bank's net interest margin, which is a measure of operating risk (Houston et al. (2010), Laeven and Levine (2009)). A higher level of σ(NIM) reflects higher risk-taking.

We measure TRUST using an index that is based on the response to the WVS question "generally speaking, would you say that most people can be trusted or that you need to be very careful in dealing with people?" The two possible answers to this question are "most people can be trusted" or "can't be too careful". We code the response to this question

[4] For all our bank-level regressions, we report estimates of standard errors clustered by country.

as “one” if a survey participant reports that most people can be trusted, and “zero” otherwise. We then calculate the mean response for each country-year. Higher values correspond to a higher level of societal trust.

Model (1) includes several other variables that control for differences in bank characteristics (V) and country characteristics (W) that may influence the relation between societal trust and bank risk-taking. The vector of bank characteristics, V, comprises variables that have been used in prior studies (e.g., Houston et al. 2010, Kanagaretnam, Lim, and Lobo (2014), Kanagaretnam, Lobo, Wang, and Whalen (2015), Laeven and Levine (2009)). These variables include bank size (SIZE), defined as the natural logarithm of mean total assets (in U.S. dollars), and bank revenue growth (REVG), defined as the average net interest revenue growth rate, each measured over 2000-2006 and 2010-2012. Other bank-specific control variables include TOOBIG, an indicator variable for whether a bank has more than ten percent of its country’s deposits, to control for the effect of a bank being too big to fail, and indicator variables for state-owned (SOE), listed on a public stock exchange (LISTED), and use of IFRS for financial reporting (IFRS), to account for constraints that may be placed on banks’ risk-taking.

The vector of country characteristics, W, consists of variables that control for differences in economic and institutional factors across countries. We include the logarithm of GDP per capita in year 2000 U.S. dollars (LGDP), because income level can determine the severity of an economic shock to a country and thereby influence the level of bank risk-taking. Bank risk-taking may increase in countries with deposit insurance due to reduced bank monitoring (Barth, Caprio, and Levine (2006)). Therefore, we include an indicator variable for deposit insurance (DI) that equals one if a country has deposit insurance, and zero otherwise. Allen and Gale (2000) and Boyd and DeNicolo (2005)) indicate a negative relationship between the stability of the banking sector and the level of bank competition. We

therefore include bank competition (COMP), which is measured with the Herfindahl-Hirschman Index and ranges from zero (more competition) to one (less competition). Houston et al. (2010) report that banks in countries with stronger creditor rights take greater risk. We control for differences in creditor rights (CR) using the index from La Porta et al. (1998) that was updated in Djankov, McLiesh, and Shleifer (2007) and ranges from 0 to 4. We also control for the strength of law enforcement (ENFORCE), which is an index that has values from zero to ten, with a higher value indicating more effective law enforcement (Laeven and Levine (2009)), and legal origin (COMMON), which is an indicator variable that equals one for a common law legal origin, and zero otherwise. Cole and Ariss (2010) report that banks in common law countries have a greater fraction of risky loans in their assets than banks in code law countries.

As in Kanagaretnam et al. (2015), we control for differences in overall governance quality across countries by including a governance index variable (GI), which is the first principal component extracted from the variables CONTROL_OF_CORRUPTION, GOVERNMENT_EFFECTIVENESS, POLITICAL_STABILITY, REGULATORY_QUALITY, and VOICE_AND_ACCOUNTABILITY. CONTROL_OF_CORRUPTION reflects the extent to which individuals use government power opportunistically, with a higher value indicating more effective corruption control. GOVERNMENT_EFFECTIVENESS measures the quality of policy development and implementation, and also the quality and impartiality of the civil service. POLITICAL_STABILITY captures whether government policies promote competition in the marketplace. REGULATORY_QUALITY measures the perceptions of quality of policies and regulation. VOICE_AND_ACCOUNTABILITY characterizes a country's level of freedom of speech and democracy. We provide a more detailed description of each variable in Table 1.

IV. Data

We use the average over the two most recent World Values Surveys as the measure of our main variable of interest, TRUST, because our sample covers the period 2000-2012. We use financial data from the *BankScope* (now Orbis Bank Focus) database. We have a maximum of 72 countries in our initial sample with available data on societal trust.[5] We obtain country-level variables from Demirguc-Kunt, Kane, and Laeven (2008), Kanagaretnam et al. (2014), and La Porta et al. (1998). We then combine the trust variable, bank financial data, and other country-level variables to form our test samples.[6]

We lose 7 countries because they do not have data on bank-level financial variables, and another 25 countries because they have missing data on country-level variables (i.e., LGDP, COMP, DI and GI). These sample selection procedures result in a final sample that includes the following 40 countries: Argentina, Australia, Bulgaria, Canada, Chile, China, Colombia, Finland, France, Germany, Hong Kong, India, Indonesia, Israel, Italy, Japan, Korea, Malaysia, Mexico, Morocco, Netherlands, New Zealand, Norway, Pakistan, Philippines, Poland, Russia, Singapore, Slovenia, South Africa, Spain, Sweden, Switzerland, Taiwan, Thailand, United Kingdom, Uruguay, USA, Venezuela and Vietnam. This sample includes 30,783 observations for the risk-taking tests (15,872 for the pre-financial crisis period and 14,911 for the post-financial crisis period) and 12,977 observations for the

[5] The trust variable is available at http://www.worldvaluessurvey.org/wvs.jsp. Our initial sample includes Albania, Algeria, Andorra, Argentina, Australia, Bangladesh, Bosnia-Herzegovina, Brazil, Bulgaria, Burkina, Faso, Canada, Chile, China-People's, Colombia, Cyprus, Egypt, Ethiopia, Finland, France, Georgia, Germany, Ghana, Guatemala, Hong Kong, India, Indonesia, Iran, Iraq, Israel, Italy, Japan, Jordan, Korea, Kyrgyzstan, Macedonia, Malaysia, Mali, Mexico, Moldova, Morocco, Netherlands, New Zealand, Nigeria, Norway, Pakistan, Peru, Philippines, Poland, Romania, Russia, Rwanda, Saudi, Arabia, Singapore, Slovenia, South Africa, Spain, Sweden, Switzerland, Taiwan, Tanzania, Thailand, Trinidad and Tobago, Turkey, Uganda, Ukraine, U.K., Uruguay, U.S., Venezuela, Vietnam, Zambia, and Zimbabwe.

[6] We winsorize each of the continuous control variables used in the models at the top and bottom 1% to reduce the effects of extreme values.

troubled-bank tests (9,605 for the financial crisis period and 3,372 for the post-financial crisis period).

V. Empirical Results

A. Main Results

We report the means of the institutional variables for each country in Table 2. As expected, TRUST varies significantly across countries. Argentina, Malaysia, Philippines, Singapore, South Africa, and Venezuela have the lowest levels of TRUST, and Finland, New Zealand, Norway, and Sweden the highest. The sample composition varies across countries, with the greatest number being from the U.S. (19,377 observations or 62.2%), Germany (3,310 observations or 10.8%), and Italy (1,380 observations or 4.5%).

We present the descriptive statistics for the bank-level variables used in the pre- and post-crisis period risk-taking analyses in Panels A and B, respectively, of Table 3. We report the distribution of each variable, the number of countries with available data, and the number of observations. Panel A presents statistics for the variables used in the risk-taking tests during the 2000-2006 pre-crisis sample period. The mean values of the risk measures Z_SCORE and σ(NIM), are -2.685 and 0.012, respectively. Panel B reports statistics for the variables used in the risk-taking tests during the 2010-2012 post-crisis sample period. The mean values of Z_SCORE and σ(NIM) are -3.112 and 0.005, respectively.[7] These values exhibit considerable variation across countries and are consistent with the statistics reported in other studies (Kanagaretnam et al. (2014), Laeven and Levine (2009)).

Panels C, D, E, and F describe the distributions of variables used in the main tests employing market-based risk measures as well as control variables used in the corresponding models. We use two measures of CDS spread. CDS1 is the average daily 5-year CDS spread

[7] Not surprisingly, the risk-taking measures are much lower in the post-crisis period compared to the pre-crisis period. Therefore, we employ sub-sample analyses for the pre- and post-crisis periods.

for the year and CDS2 is the year-end 5-year CDS spread. Following prior literature (Callen and Fang (2015), Chen, Hong, and Stein (2001), Hutton, Marcus, and Tehranian (2009)), we use two crash risk measures, CRASH and NCSKEW, to measure risk-taking. About 13.7% (18.9%) of the bank-years in our sample experience a crash event before (after) the financial crisis period. The means and medians of the variables used in the crash risk tests are generally consistent with prior literature (Callen and Fang (2015), Hutton et al. (2009),). The data presented in Panel G demonstrate that there is wide variation in each of the country-level variables.

Table 4 presents the Pearson correlations for the variables used in the risk-taking and bank failure/trouble tests. In both Panels A and B, as expected, there is a negative correlation between TRUST and the two measures of RISK, Z_SCORE and σ(NIM), in the pre- and the post-crisis periods. Additionally, Z_SCORE and σ(NIM) are positively correlated, as expected. Although the negative relations between trust and CDS spread (Panels C and D) and crash risk (Panels E and F) are weak, in untabulated results we find is a strong negative correlation between TRUST and measures of aggressive/abnormal risk.

We present the coefficient estimates and t-statistics for the bank risk-taking regressions in Table 5. The results indicate a significant negative relationship between TRUST and both Z_SCORE and σ(NIM) in the pre- and the post-crisis periods. These results support our view that societal trust increases financial transparency and pro-social behavior and reduces managerial rent-seeking, thereby reducing bank risk-taking. As for the control variables, banks that are smaller and have greater net interest revenue growth take more risk. For the country-level control variables, consistent with prior literature, banks in countries with higher bank monopoly power (COMP) exhibit higher risk levels. In summary, our main results show a significant negative relationship between societal trust and bank risk-taking in both the pre-crisis period and the post-crisis period. These results also demonstrate that the

negative relation between trust and bank risk-taking is not period specific.

In terms of economic significance, the results in column (1) of Table 5 indicate that a one standard deviation increase in TRUST is related to a decrease in σ(NIM) of 0.8%. Given that the mean of σ(NIM) is 1.2%, the impact of trust on σ(NIM) is highly economically significant. In column (2), a one standard deviation increase in TRUST is related to a decrease in Z_SCORE of 0.547, approximately 20% of the mean of Z_SCORE in the pre-crisis period. The economic significance of the coefficients in columns (3) and (4) of Table 5 are comparable.

B. Market-based Risk Measures

Since our main risk results are based on accounting measures, we also examine the relations between societal trust and two market-based risk measures, CDS spread and crash-risk, for a sub-sample of large public banks. The CDS spread results are reported in Panel A of Table 6.[8] We obtain CDS data from MarkIt, which is widely used in CDS research. CDS maturities are negotiable, with five years being the most common horizon (over 85% of the CDS market). Thus, following prior research (e.g., Hasan, Liu, and Zhang (2014)), we use the five-year CDS spread as an additional risk measure in our analysis.. Consistent with our main results, we document a negative relation between societal trust and CDS spread in both the pre- and the post-financial crisis periods.

Next, we follow prior literature and employ two measures to proxy for crash risk (Callen and Fang (2015), Chen et al. (2001)). These measures include an indicator variable to capture crash weeks (CRASH), and negative conditional skewness of a firm's weekly returns

[8] We match the MarkIt and BankScope databases based on bank name, country, and state. We then manually check the matched sample to ensure the accuracy of our matching procedure. We have 415 bank-year observations from 22 countries in the pre-financial crisis test, and 335 bank-year observations from 20 countries in the post-financial crisis test.

(NCSKEW) (please see Table 1 for detailed definitions of these variables).[9] To be consistent with the literature on crash risk, we include several additional controls in our crash risk regressions.[10] The results reported in Panel B of Table 6 again indicate a strong negative relationship between societal trust and each of these two measures of crash risk for both the pre- and the post-crisis periods.

The economic significance of the results in Table 6, Panel A is that a one standard deviation increase in TRUST is related to a decrease in CDS1 of 0.16 % (in column (1)), approximately 31% of the mean of CDS1 in the pre-crisis period. In Table 6, Panel B, a one standard deviation increase in TRUST is related to a decrease in CRASH of 8.4% (in column (1)), which is considerable when compared to the pre-crisis period mean CRASH of 13.7%.

C. Excessive Risk-Taking

Since our prediction of a negative relationship between societal trust and risk-taking applies mainly to excessive risk-taking for banks, we repeat our main analyses employing two proxies for aggressive/abnormal risk. First, we define the top decile of banks with Z_SCORE or σ(NIM) as aggressive risk-takers and use a dummy variable to proxy for aggressive risk-taking. Consistent with the main results, the results reported in Table 7 show a strong negative association between societal trust and both proxies for aggressive risk-taking for the pre- and the post-crisis periods.

For the abnormal risk-taking tests, following Cheng et al. (2015), we employ a two-stage model to separate excessive risk-taking from normal risk-taking. In the first stage, we regress our two main risk measures (Z_SCORE and σ(NIM)) on the bank-level controls for normal risk, which include bank type, SIZE, REVG, TOOBIG, SOE, LISTED, and IFRS.

[9] For the crash risk regressions, we have 15 countries in the pre-crisis sample and 14 countries in the post-crisis sample.

[10] Following DeFond, Hung, Li, and Li (2014), we include SIZE_LAG1, LEV_LAG1, ROA_LAG1, DTURN_LAG1, SD_RET_LAG1, and AVG_RET_LAG1 as additional controls (please see Table 1 for detailed definitions of these variables).

The residuals from this first-stage model proxy for abnormal risk-taking. In the second stage, we regress the abnormal risk measures on trust and other control variables. Again, the results reported in Table 8 show a robust negative association between societal trust and both proxies for abnormal risk for the pre- and the post-crisis periods.

D. Additional Tests

Next, we examine whether societal trust in a country is systematically related to bank financial trouble and bank failure during the 2007-2009 financial crisis.[11] To do so, we follow Lel and Miller (2008) and Beltratti and Stulz (2012) and estimate the following bank-level logistic model, with standard errors clustered by country:[12,13]

$$\begin{aligned}(2)\qquad \text{BANK\_TROUBLE (BANK\_FAILURE)} = {} & \gamma_0 + \gamma_1\,\text{TRUST} + \gamma_2\,\text{SIZE} \\ & + \gamma_3\,\text{LOANS} + \gamma_4\text{LEV} + \gamma_5\,\text{NPL} + \gamma_6\,\Delta\text{CASH} + \gamma_7\text{SOE} + \gamma_8\text{LISTED} \\ & + \gamma_9\,\text{IFRS} + \gamma_{10}\,\text{W} + \epsilon\end{aligned}$$

In model (2), BANK_TROUBLE (BANK_FAILURE) is an indicator variable that equals one if the bank is in financial trouble (failed) during 2007-2009, and zero otherwise. We classify a bank as being in financial trouble if it meets at least one of the following three criteria during 2007-2009: (1) has ROA less than -2%, (2) has equity over assets less than< 6%, and (3) has loan loss provision greater than 1% of gross loans. These three criteria measure profitability, balance sheet strength, and asset quality. We use these criteria because bank examiners in the U.S. use these measures in the CAMELS rating system to identify

[11] We hand-collect the bank failure data for the crisis period only.

[12] Since this is a bank-level regression, we report estimates of standard errors clustered by country.

[13] Our main focus is on bank financial trouble during the crisis period, because the decision to close a bank is not only based on financial consideration but is also influenced by other economic and political actions such as government bail-outs.

financially troubled banks, and because CAMELS ratings and other indicators of bank trouble used by bank examiners are not publicly available. To ensure that our sample comprises only banks that were healthy at the end of 2006, we exclude banks that meet any one of these criteria during 2006. We use all the banks in the *Bankscope* database with available financial information for the troubled (failed) bank analysis. Our sample for this crisis period analysis consists of 9,605 banks, 28% (or 2,689 banks) of which are classified as troubled. We include bank-level control variables measured at the end of 2006 (i.e., SIZE, LOANS, LEV, NPL and ΔCASH, that may affect a bank's financial health, as well as country-level control variables in model (2).

Following Kanagaretnam et al. (2014), we hand-collect data on failed banks primarily from government and central bank reports. We have data on failed banks for 40 countries. For the failed bank analysis, our sample has 12,314 banks of which 1.4% (or 172 banks) failed.

We present the estimation results for the bank trouble (bank failure) regressions during the crisis period in column 1 (column 2) of Table 9. The results indicate a significant negative relationship between TRUST and BANK_TROUBLE (BANK_FAILURE) during the 2007-2009 crisis period. The bank-level control variables SIZE, LOANS, NPL, and LISTED are significantly positively related to bank trouble (bank failure) during 2007-2009. These results provide strong evidence that banks located in countries with greater societal trust were less likely to get into financial trouble (fail) during the 2007-2009 crisis period, likely due to their lower level of risk-taking in the pre-crisis years.

We also examine the relationship between societal trust and bank trouble in the post-crisis period and report the results in column 3 of Table 9. Consistent with the results in Panel A, we document a significant negative relationship between TRUST and BANK_TROUBLE in the post-crisis period.

In a separate test, we check the validity of the modified Z_SCORE as a measure of risk by examining the relations between societal trust and the components of Z_SCORE, and also test how effective pre-crisis Z_SCORE is in predicting bank trouble (bank failure) in the crisis period. Untabulated results show that societal trust has a strong negative association with two of the three components (σ(ROA) and negative CAR) of Z_SCORE, indicating that societal trust reflects lower risk through not only the composite Z_SCORE but also its individual components. We also find that pre-crisis Z_SCORE has a strong association with crisis period performance (i.e., bank trouble and bank failure) for our sample banks. This is additional evidence of the usefulness of Z_SCORE as an effective risk measure for banks.

E. Evidence of Potential Economic Channels

In developing our prediction, we reason that trust could influence bank risk-taking through three possible channels. In particular, we argue that potential channels such as accounting transparency, managerial reciprocity, and compensation-related incentives can all drive the result between trust and risk-taking. In this section, we provide some preliminary empirical evidence (untabulated) on these economic channels. First, we find that trust is negatively associated with bank earnings management to just-meet-or-beat the prior year's earnings and is also positively associated with bank accounting conservatism as proxied by timely recognition of bad news (i.e., losses, loan loss provisions, and loan charge-offs). These results lend support to our argument that societal trust enhances bank accounting transparency. Second, we document a positive relationship between societal trust and Social CSR scores of banks (which cover CSR activities in the areas of employees, supply chain, customers, community, and philanthropy) obtained from the Sustainanlytics database.[14] This is direct evidence that trust is positively associated with pro-social behaviors of banks. Third, we find that societal trust is negatively associated with CEO equity incentive compensation.

[14] This data is available at http://www.sustainalytics.com/

This reaffirms the argument that excessive risk-taking by bank CEOs may be muted in higher trust societies due to reduced incentive pay.

F. Sensitivity Analyses

We conduct a series of tests to ensure the robustness of our main conclusions and discuss the untabulated results only for the main variable of interest, TRUST. First, following Nanda and Wysocki (2013), we also use the alternative trust measurements, TRUST_INDEX[15] (Medrano (2011)) and SECRECY[16] (Hope et al. (2008)), in our analysis. Our results are robust to using these alternate measures of trust. Second, since our sample observations are not evenly distributed across countries, we employ a weighted regression method to determine whether our inferences still hold. The results are consistent with those of the un-weighted regressions. Third, because larger banks are characterized by higher technical efficiency (Miller and Noulas (1996)), shorter and less exclusive relationships (Berger, Miller, Petersen, Rajan, and Stein (2005)), and lower propensity to engage in corrupt lending practices (LaPorta, Lopez-de Silanes, and Zamarripa (2003)), we include only banks with total assets greater than $100 million, $300 million and $500 million. Our results are robust to these sensitivity tests. Fourth, because U.S. and German banks comprise of a large majority of our sample (almost 75%), we repeat our main analysis after dropping the U.S. and German banks and find consistent results. Fifth, we include two cultural dimensions identified by Hofstede (2001), individualism and uncertainty avoidance, as additional control variables in our regressions, since previous research documents that culture influences both risk-taking and financial transparency (Kanagaretnam, Lim, and Lobo (2011), Kanagaretnam et al. (2014), Kwok and Tadesse (2006), Mihet (2012)). Our results are robust to inclusion of

[15] TRUST_INDEX is calculated for each country as: 100 + (% Most people can be trusted) - (% Can´t be too careful).

[16] SECRECY is the sum of uncertainty avoidance (UA) and power distance (PD) scores less individualism (IND) score.

these additional control variables.

VI. Conclusion

Our primary objective is to examine the relation between country level societal trust and bank risk-taking. Prior literature documents a positive relation between trust and both financial accounting transparency and timely recognition of bad news. Given timely recognition of future loan losses, trust could constrain excessive risk-taking through enhanced internal and external monitoring. We also argue that societal trust could reduce bank managers' incentives to take excessive risk during growth periods for personal gain. In addition, the positive link between societal trust and pro-social behavior could also diminish bank risk-taking.

We measure the societal trust of a country using data from the World Values Survey and find a negative relationship between societal trust and bank risk-taking during both the 2000-2006 pre-financial crisis period and the 2010-2012 post-financial crisis period. As corroborating evidence, we also examine the relations between societal trust and two market-based risk measures, CDS spread and crash-risk, for a subsample of large public banks. Consistent with our main results, we document a negative relation between societal trust and CDS spread and two measures of crash risk in both the pre- and the post-financial crisis periods. Since our prediction of a negative relation between societal trust and risk-taking applies mainly to excessive risk-taking for banks, we re-examine our main analyses employing two proxies for aggressive/abnormal risk. Again, we document that banks in countries with higher societal trust are associated with lower levels of aggressive/abnormal risk. In addition, we document a significant negative relationship between trust and bank trouble/failure during the 2007-2009 financial crisis.

Our study contributes to the nascent body of literature which finds that cultural attributes can influence corporate decision-making. We also add to the traditional stream of banking research on risk-taking by uncovering an important identifier of bank risk, societal trust. While prior literature has mainly focused on formal institutions such as governance and regulations (e.g., Laeven and Levine (2009)), we show that cultural variables such as trust also matter.

We acknowledge that the following caveats apply to our study. First, while the societal trust variable is determined at the country level, the other variables in the study (i.e., risk-taking and bank-level controls) are calculated at the individual bank level. Second, although we document a consistent negative relationship between societal trust and bank risk-taking (using both accounting- and market-based risk measures), the relationship is one of association and does not imply causation.

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Table 1: Variable definitions

Trust variables

TRUST = Societal trust index, based on responses to the WVS question: Generally speaking, would you say that most people can be trusted or that you need to be very careful in dealing with people? The two possible answers were "Most people can be trusted" and "Can't be too careful". We code the response to this question as 1 if a survey participant reports that most people can be trusted, and 0 otherwise. We then calculate the mean of the response for each country year. Higher values correspond to higher societal trust. Source: WVS

Dependent Variables used in risk-taking and financial crisis tests

Accounting-Based Measures

Z_SCORE = Log of ((ROA+CAR)/σ(ROA)) where ROA is earnings before taxes and loan loss provisions divided by assets, CAR is capital-to-asset ratio, and σ(ROA) is standard deviation of ROA. ROA and CAR are calculated as the mean over 2000–2006 (2010-2012) for the pre- (post-) crisis period, and σ(ROA) is the standard deviation of ROA estimated over 2000–2006 (2010-2012) for the pre- (post-) crisis period. We multiply the score by -1, so that higher Z_SCORE represents more risk taking.

σ(NIM) = Standard deviation of net interest margin estimated over 2000–2006 (2010-2012) for the pre- (post-) crisis period.

Bank Trouble or Failure

BANK_TROUBLE = 1 if the bank is in financial trouble during the crisis period 2007-2009, 0 otherwise. A troubled bank is defined as a bank that satisfies at least one of the following criteria in 2007-2009: (1) ROA <
-2%, (2) equity/assets < 0.06, and (3) loan loss provisions/total loans > 0.01. To ensure that these banks were not troubled prior to 2007, banks that satisfy any of the above criteria in 2006 are deleted from the sample. Thus, sample banks used in the tests include only banks that were healthy in 2006 but are troubled in 2007-2009.

BANK_FAILURE = 1 if the bank fails during the crisis period 2007-2009, 0 otherwise.

BANK_TROUBLE_POST = 1 if the bank is in financial trouble during the post-crisis period 2010-2012, 0 otherwise. A troubled bank is defined as a bank that satisfies at least one of the following criteria in 2010-2012: (1) ROA < -2%, (2) equity/assets < 0.06, and (3) loan loss provisions/total loans > 0.01. To ensure that these banks were not troubled prior to 2009, banks that satisfy any of the above criteria in 2009 are deleted from the sample. Thus, sample banks used in the tests include only banks that were healthy in 2009 but are troubled in 2010-2012.

Aggressive Risk-Taking

DUM_σ(NIM) = DUM_σ(NIM) equals 1 if σ(NIM) is in the top decile of the sample, 0 otherwise.

DUM_Z_SCORE = DUM_Z_SCORE equals 1 if Z_SCORE is in the top decile of the sample, 0 otherwise.

Abnormal (residual) Risk-Taking

ABNORMAL_σ(NIM) = Following Cheng et al. (2015), we use the residuals from the following regression as the estimate of ABNORMAL_σ(NIM):
$\sigma(NIM) = \gamma_0 + \gamma_1$ SIZE1 + γ_2 REVG + γ_3TOOBIG + γ_4 SOE + γ_5 LISTED+ γ_6 IFRS+ ϵ.

ABNORMAL_Z_SCORE = Following Cheng et al. (2015), we use the residuals from the following regression as the estimate of ABNORMAL_Z_SCORE:
Z_SCORE = $\gamma_0 + \gamma_1$ SIZE1 + γ_2 REVG + γ_3 TOOBIG + γ_4 SOE + γ_5 LISTED+ γ_6 IFRS+ ϵ.

CDS Measures

CDS1 = Average of the daily CDS spread over a year based on 5-year CDS spreads. A value of 0.0001 represents one basis point.

CDS2 = CDS spread at the end of a year based on 5-year CDS spreads. A value of 0.0001 represents one basis point.

Crash Risk Measures

CRASH = An indicator variable that equals 1 if a firm experiences one or more crash weeks during the year, 0 otherwise. Following prior literature (Callen and Fang (2015), Chen et al. (2001), Hutton et al. (2009)), we identify a crash week as a week in which the firm-specific weekly return falls 3.09 standard deviations below its mean value (a frequency of 0.1%) for the year. We estimate firm-specific weekly returns ($W_{j\theta}$) as the natural log of one plus the residual from the following regression:

$$R_{j\tau} = \alpha_j + \beta_{1j} R_{m,\theta-2} + \beta_{2j} R_{m,\theta-1} + \beta_{3j} R_{m,\theta} + \beta_{4j} R_{m,\theta+1} + \beta_{5j} R_{m,\theta+2} + \varepsilon_{j\theta}$$

Where $R_{j\theta}$ is the return on stock j in week θ, and $R_{m,\tau}$ is the return on the CRSP

value-weighted market index in week θ. To control the nonsynchronous trading, we include lead and lag returns on the market index. The firm-specific return for firm j in week θ, $W_{j\theta}$, is defined as $W_{j\theta} = ln(1 + \varepsilon_{j\theta})$.

NCSKEW = Negative conditional skewness of a firm's weekly returns over the year. Following prior literature (Callen and Fang (2015), Chen et al. (2001), Hutton et al. (2009)), we calculate *NCSKEW* for firm j in year t as:

$$\text{NCSKEW}_{\text{jt}} = -\left[n(n-1)^{3/2}\sum W_{j\theta}^3\right]/\left[(n-1)(n-2)(\sum W_{j\theta}^2)^{3/2}\right]$$

where $W_{j\theta}$ is defined above. The numerator is the third moment of $W_{j\theta}$ over the fiscal year t, and the denominator is the standard deviation of $W_{j\theta}$ raised to the third power. To make higher NCSKEW represent higher crash risk, we multiply this ratio by (-1).

Control variables

Risk-Taking Test Controls

SIZE = Natural logarithm of total assets averaged over 2000-2006 (2010-2012) pre (post) crisis period.

REVG = Growth in net interest revenue, averaged over 2000-2006 (2010-2012) pre (post) crisis period..

TOOBIG = An indicator that the bank is too big to fail. It equals 1 if the bank's share of the country's total deposits is more than 10% over 2000-2006 (2010-2012) pre (post) crisis period, 0 otherwise.

Troubled and Failed Bank Test Controls

SIZE_T = Natural logarithm of total assets at the end of year 2006 (2009) for pre (post) crisis analysis. .

LOANS_T = Total loans divided by total assets at the end of the year 2006 (2009) for pre (post) crisis analysis.

LEV_T = Total liabilities divided by total assets at the end of the year 2006 (2009) for pre (post) crisis analysis.

NPL_T = Non-performing loans divided by total loans, averaged over 2000-2006 (2010-2012) for pre (post) crisis analysis.

ΔCASH_T = Change in annual cash flows (income before taxes and loan loss provisions) divided by total assets at the end of the year 2006 (2009 for pre (post) crisis analysis.

CDS Test Controls

SIZE = Natural logarithm of total assets at the end of year.

LOANS = Total loans divided by total assets at the end of the year.

LEV = Total liabilities divided by total assets at the end of the year.

ΔCASH = Change in annual cash flows (income before taxes and loan loss provisions) divided by total assets at the end of the year.

Crash Risk Test Controls

SIZE_LAG1 = Natural logarithm of total assets at the end of last year.

LEV_LAG1 = Total liabilities divided by total assets at the end of last year.

ROA_LAG1 = Earnings before taxes and loan loss provisions divided by assets over last year.

DTURN_LAG1 = Change in average monthly stock turnover from year t-1 to year t.

SD_RET_LAG1 = Standard deviation of firm-specific weekly returns over the last year

AVG_RET_LAG1 = Mean of firm-specific weekly returns over the last year

Other Controls

SOE = 1 if the bank is state-owned, 0 otherwise.

LISTED = 1 if the bank is listed, 0 otherwise.

IFRS = 1 if the bank adopts IFRS during the year, 0 otherwise.

Country-level Control Variables

LGDP = Log of GDP per capita, in constant 2000 US dollars. Data from World Development Indicators and Global Development Finance database

DI = Indicator that equals 1 if the country has deposit insurance, 0 otherwise. Data from Demirguc-Kunt et al. (2008).

COMP = Competition index, measured using the Herfindahl–Hirschman Index, which equals the sum of the squares of the market shares (deposits) of each bank in each country. The index is calculated over the period 2000-2006 and ranges from 0 to 1, with a higher value indicating greater monopoly power.

CR = Index aggregating different creditor rights: the absence of automatic stay in reorganization, the requirement for creditors' consent or minimum dividend for a debtor to file for reorganization, secured creditors are ranked first in reorganization, and the removal of incumbent management upon filing for reorganization. The index ranges from 0 to 4. Data originally from La Porta et al. (1998) and updated in Djankov et al. (2007).

ENFORCE = Law enforcement index that ranges from 0 to 10, with higher values indicating greater law enforcement. Data from the Economic Freedom of the World: 2010 Annual Report.

COMMON = Indicator that equals 1 if the legal origin is common law, 0 otherwise. Data from La Porta et al.

		(1998).
GI	=	Governance index, measured as the first principal component extracted from the variables CONTROL_OF_CORRUPTION, GOVERNMENT_EFFECTIVENESS, POLITICAL_STABILITY, REGULATORY_QUALITY, and VOICE_AND_ACCOUNTABILITY. Data from World Governance Indicators.

Table 2: Institutional Variables by Country

This table presents the means of the institutional variables TRUST, LGDP, DI, COMP, CR, ENFORCE, COMMON, and GI for each country. Please see Table 1 for variable definitions.

	Country-level Institutional Variables							
Country	TRUST	LGDP	DI	COMP	CR	ENFORCE	COMMON	GI
ARGENTINA	0.17	8.9	1	0.05	1	5.02	0	-0.42
AUSTRALIA	0.48	9.99	0	0.08	3	6.23	1	3.55
BULGARIA	0.19	7.55	1	0.39	2	4.77	0	0.73
CANADA	0.39	10.09	1	0.12	1	4.81	1	3.51
CHILE	0.19	8.6	1	0.04	2	5.11	0	2.80
CHINA-PEOPLE'S	0.50	7.1	0	0.08	2	6.73	0	-1.26
COLOMBIA	0.16	7.69	1	0.05	0	1.8	0	-0.80
FINLAND	0.55	10.11	1	0.16	1	8.06	0	4.24
FRANCE	0.19	10.05	1	0.02	0	6.91	0	2.87
GERMANY	0.31	10.07	1	0.02	3	6.62	0	3.30
HONG KONG	0.40	10.2	0	0.1	4	7.69	1	3.17
INDIA	0.33	6.26	1	0.07	2	2.59	1	-0.43
INDONESIA	0.41	6.69	1	0.15	2	1.17	0	-1.37
ISRAEL	0.23	9.89	0	0.09	3	3.46	1	1.28
ITALY	0.28	9.85	1	0.03	2	3.18	0	1.54
JAPAN	0.38	10.56	1	0.02	2	6.37	1	2.58
KOREA	0.29	9.41	1	0.04	3	8.11	1	1.63
MALAYSIA	0.17	8.39	1	0.04	3	4.27	1	1.03
MEXICO	0.19	8.68	1	0.06	0	5.39	0	0.01
MOROCCO	0.20	7.09	0	0.08	1	4.3	0	-0.96
NETHERLANDS	0.42	10.06	1	0.12	3	5.11	0	3.76
NEW ZEALAND	0.49	9.6	0	0.09	4	7.5	1	3.82
NORWAY	0.56	10.56	1	0.07	2	7.53	0	3.69
PAKISTAN	0.28	6.28	0	0.14	1	3.55	1	-1.98
PHILIPPINES	0.17	6.91	1	0.23	1	3.42	1	-0.72
POLAND	0.19	8.45	1	0.05	1	4.27	0	1.24
RUSSIA	0.25	7.66	1	0.24	2	7.53	0	-1.35
SINGAPORE	0.17	10.05	0	0.26	3	8.48	1	3.22
SLOVENIA	0.18	9.25	1	0.11	3	3.87	0	2.07
SOUTH AFRICA	0.17	8.11	0	0.06	3	3.93	1	1.18
SPAIN	0.28	9.67	1	0.05	2	5.54	0	2.55
SWEDEN	0.55	10.25	1	0.08	1	4.73	0	3.71
SWITZERLAND	0.49	10.44	1	0.1	1	6.03	0	3.71
TAIWAN	0.24	9.59	1	0.17	2	5.55	0	1.98
THAILAND	0.41	7.71	1	0.96	2	6.11	1	0.08
U.K.	0.30	10.15	1	0.03	4	6	1	3.26
URUGUAY	0.25	8.69	1	0.11	3	3.88	0	1.55
U.S.	0.38	10.49	1	0.01	1	7.33	1	2.86
VENEZUELA	0.17	8.49	1	0.06	3	3.97	0	-2.10
VIETNAM	0.47	6.16	1	0.6	1	6.36	0	-1.29

Table 3: Descriptive Statistics for Bank-level Variables

This table reports descriptive statistics for the bank-level dependent and control variables used in the risk-taking tests. Panels A and B report descriptive statistics for the 2000-2006 pre-financial crisis period and the 2010-2012 post-financial crisis period samples, respectively, using σ(NIM) and Z_SCORE as the measures of risk-taking. Panels C and D report descriptive statistics for the 2000-2006 pre-financial crisis period and the 2010-2012 post-financial crisis period samples, respectively, using CDS1 and CDS2 as the measures of risk-taking. Panels E and F report descriptive statistics for the 2000-2006 pre-financial crisis period and the 2010-2012 post-financial crisis period samples, respectively, using CRASH and NCSKEW as the measures of risk-taking. Panel G reports descriptive statistics for the country-level institutional variables for the sample of 40 countries. Please see Table 1 for variable definitions.

Panel A: Bank-level data for risk-taking test (Pre-crisis period, 2000-2006)

Variables	Mean	Std.	P25	Median	P75	No. of countries	No. of obs.
σ(NIM)	0.012	0.032	0.003	0.005	0.009	40	15,872
Z_SCORE	-2.685	1.462	-3.786	-3.039	-1.732	40	15,872
SIZE	6.208	2.627	4.445	5.517	7.066	40	15,872
REVG	0.239	0.436	0.064	0.098	0.190	40	15,872
EQTY	0.102	0.057	0.074	0.091	0.114	40	15,872
TOOBIG	0.009	0.093	0.000	0.000	0.000	40	15,872
SOE	0.009	0.094	0.000	0.000	0.000	40	15,872
LISTED	0.071	0.257	0.000	0.000	0.000	40	15,872
IFRS	0.006	0.079	0.000	0.000	0.000	40	15,872

Panel B: Bank-level data for risk-taking test (Post-crisis period, 2010-2012)

Variables	Mean	Std.	P25	Median	P75	No. of countries	No. of obs.
σ(NIM)	0.005	0.008	0.002	0.003	0.006	40	14,911
Z_SCORE	-3.112	1.510	-4.212	-3.294	-2.080	40	14,911
SIZE	6.915	2.909	4.866	6.092	7.996	40	14,911
REVG	0.533	1.134	-0.194	0.029	0.645	40	14,911
EQTY	0.101	0.047	0.074	0.094	0.117	40	14,911
TOOBIG	0.011	0.105	0.000	0.000	0.000	40	14,911
SOE	0.013	0.112	0.000	0.000	0.000	40	14,911
LISTED	0.104	0.305	0.000	0.000	0.000	40	14,911
IFRS	0.109	0.312	0.000	0.000	0.000	40	14,911

Panel C: Bank-level data for CDS test (Pre-crisis period, 2000-2006)

Variables	Mean	Std.	P25	Median	P75	No. of countries	No. of obs.
CDS1	0.005	0.007	0.002	0.002	0.004	22	415
CDS2	0.004	0.007	0.002	0.002	0.004	22	415
SIZE	11.690	2.887	10.720	11.980	13.750	22	415
LOANS	0.581	0.209	0.423	0.608	0.735	22	415
LEV	0.897	0.097	0.893	0.925	0.952	22	415
ΔCASH	0.000	0.009	-0.002	0.000	0.001	22	415
SOE	0.010	0.098	0.000	0.000	0.000	22	415
LISTED	0.422	0.494	0.000	0.000	1.000	22	415
IFRS	0.070	0.255	0.000	0.000	0.000	22	415

Panel D: Bank-level data for CDS test (Post-crisis period, 2010-2012)							
Variables	Mean	Std.	P25	Median	P75	No. of countries	No. of obs.
CDS1	0.028	0.045	0.012	0.018	0.027	20	335
CDS2	0.027	0.040	0.012	0.018	0.028	20	335
SIZE	12.390	2.315	11.010	12.160	14.040	20	335
LOANS	0.537	0.227	0.385	0.586	0.691	20	335
LEV	0.914	0.073	0.894	0.936	0.959	20	335
ΔCASH	0.000	0.016	-0.004	0.000	0.003	20	335
SOE	0.040	0.195	0.000	0.000	0.000	20	335
LISTED	0.517	0.500	0.000	1.000	1.000	20	335
IFRS	0.386	0.488	0.000	0.000	1.000	20	335

Panel E: Bank-level data for crash risk test (Pre-crisis period, 2000-2006)							
Variables	Mean	Std.	P25	Median	P75	No. of countries	No. of obs.
CRASH	0.137	0.345	0.000	0.000	0.000	15	335
NCSKEW	0.034	0.778	-0.237	0.000	0.285	15	335
SIZE_LAG1	7.971	3.237	5.480	7.000	10.980	15	335
LEV_LAG1	0.893	0.074	0.896	0.910	0.927	15	335
ROA_LAG1	0.014	0.013	0.008	0.013	0.019	15	335
DTURN_LAG1	0.003	0.211	0.000	0.000	0.000	15	335
SD_RET_LAG1	0.036	0.033	0.004	0.033	0.052	15	335
AVG_RET_LAG1	0.001	0.007	-0.001	0.000	0.002	15	335
LOANS	0.609	0.175	0.513	0.624	0.731	15	335
ΔCASH	0.000	0.009	-0.003	0.000	0.003	15	335
SOE	0.018	0.133	0.000	0.000	0.000	15	335
IFRS	0.012	0.109	0.000	0.000	0.000	15	335

Panel F: Bank-level data for crash risk test (Post-crisis period, 2010-2012)							
Variables	Mean	Std.	P25	Median	P75	No. of countries	No. of obs.
CRASH	0.189	0.393	0.000	0.000	0.000	14	122
NCSKEW	0.203	0.915	-0.258	0.000	0.560	14	122
SIZE_LAG1	9.948	3.764	6.506	9.737	13.100	14	122
LEV_LAG1	0.888	0.069	0.883	0.905	0.922	14	122
ROA_LAG1	0.014	0.017	0.005	0.011	0.019	14	122
DTURN_LAG1	-0.078	0.355	0.000	0.000	0.000	14	122
SD_RET_LAG1	0.061	0.063	0.031	0.045	0.075	14	122
AVG_RET_LAG1	-0.001	0.011	-0.002	0.000	0.000	14	122
LOANS	0.602	0.164	0.530	0.615	0.705	14	122
ΔCASH	-0.001	0.007	-0.003	0.000	0.002	14	122
SOE	0.025	0.156	0.000	0.000	0.000	14	122
IFRS	0.107	0.310	0.000	0.000	0.000	14	122

Panel G: Country-level data							
Variables	Mean	Std.	P25	Median	P75	No. of countries	No. of obs.
TRUST	0.310	0.129	0.187	0.280	0.409	40	40
LGDP	8.894	1.369	7.700	9.330	10.070	40	40
DI	0.775	0.423	1.000	1.000	1.000	40	40
COMP	0.083	0.043	0.050	0.080	0.130	40	40
CR	1.925	0.971	1.000	2.000	3.000	40	40
ENFOCE	5.342	1.468	3.950	5.250	6.675	40	40
COMMON	0.400	0.496	0.000	0.000	1.000	40	40
GI	1.456	1.940	-0.425	1.593	3.240	40	40

Table 4: Correlations between Measures of Risk-Taking and Societal Trust

This table reports correlations between the risk-taking variables and the measure of trust for the samples used in the risk-taking tests. Panels A and B report correlations for the 2000-2006 pre-financial crisis period and the 2010-2012 post-financial crisis period samples, respectively, using σ(NIM) and Z_SCORE as the measures of risk-taking. Panels C and D report correlations for the 2000-2006 pre-financial crisis period and the 2010-2012 post-financial crisis period samples, respectively, using CDS1 and CDS2 as the measures of risk-taking. Panels E and F report correlations for the 2000-2006 pre-financial crisis period and the 2010-2012 post-financial crisis period samples, respectively, using CRASH and NCSKEW as the measures of risk-taking. Please see Table 1 for variable definitions.

Panel A: Pearson correlations for trust and accounting-based risk taking measures in pre-crisis period

		A	B	C
TRUST	A	1		
σ(NIM)	B	-0.184***	1	
Z_SCORE	C	-0.337***	0.217***	1

Panel B: Pearson correlations for trust and accounting-based risk taking measures in post-crisis period

		A	B	C
TRUST	A	1		
σ(NIM)	B	-0.150***	1	
Z_SCORE	C	-0.107***	0.189***	1

Panel C: Pearson correlations for trust and CDS in pre-crisis period

		A	B	C
TRUST	A	1		
CDS1	B	-0.021	1	
CDS2	C	-0.013	0.896***	1

Panel D: Pearson correlations for trust and CDS in post-crisis period

		A	B	C
TRUST	A	1		
CDS1	B	-0.058	1	
CDS2	C	-0.065	0.933***	1

Panel E: Pearson correlations for trust and crash risk in pre-crisis period

		A	B	C
TRUST	A	1		
CRASH	B	-0.044	1	
NCSKEW	C	-0.096*	0.598***	1

Panel F: Pearson correlations for trust and crash risk in post-crisis period

		A	B	C
TRUST	A	1		
CRASH	B	-0.199**	1	
NCSKEW	C	-0.106	0.629***	1

Table 5: Relation between Trust and Risk-taking: Accounting-based Measures of Risk-taking

This table reports estimation results of the following regression: RISK = $\gamma_0 + \gamma_1$TRUST + γ_2V + γ_3W + ϵ. RISK is one of the two accounting-based risk measures, σ(NIM) and Z_SCORE. TRUST is the societal trust index. V is a vector of bank-level control variables that include SIZE, REVG, TOOBIG, SOE, LISTED, and IFRS. W is a vector of country-level control variables that include LGDP, DI, COMP, CR, ENFORCE, COMMON, and GI. Please see Table 1 for variable definitions. We estimate the standard errors clustered by country. *, **, and *** denote significance at 10%, 5%, and 1% levels (two-tailed), respectively.

	(1)	(2)	(3)	(4)
	Pre- Financial Crisis Period		**Post- Financial Crisis Period**	
	σ(NIM)	Z_SCORE	σ(NIM)	Z_SCORE
TRUST	-0.069***	-4.240***	-0.011**	-2.961**
	(-2.97)	(-2.76)	(-2.53)	(-2.68)
SIZE	-0.001***	0.139***	-0.000***	0.126***
	(-2.95)	(2.88)	(-4.93)	(3.11)
REVG	0.018***	0.559***	0.000***	-0.026
	(3.94)	(10.97)	(2.98)	(-0.86)
TOOBIG	0.013**	0.093	0.007***	0.759***
	(2.22)	(0.51)	(4.84)	(3.19)
SOE	-0.000	0.246	0.000	-0.125
	(-0.03)	(1.55)	(0.07)	(-0.81)
LISTED	-0.001	-0.010	0.000	-0.250
	(-0.77)	(-0.02)	(0.74)	(-0.77)
IFRS	-0.012	-1.340***	-0.001	-0.680**
	(-1.02)	(-3.22)	(-0.49)	(-2.50)
LGDP	0.005	-0.383	-0.001	0.128
	(0.95)	(-1.17)	(-0.59)	(0.45)
DI	0.005	0.479	0.000	-0.302
	(0.62)	(1.21)	(0.12)	(-1.07)
COMP	0.201**	8.122*	0.019**	3.051
	(2.59)	(2.00)	(2.25)	(1.18)
CR	-0.001	0.440***	-0.000	0.067
	(-0.27)	(3.30)	(-0.13)	(0.59)
ENFORCE	0.001	0.421***	0.001*	0.041
	(0.31)	(2.94)	(1.92)	(0.51)
COMMON	-0.002	-0.803***	0.000	-0.334
	(-0.63)	(-3.06)	(0.19)	(-1.61)
GI	-0.006	0.123	-0.002*	0.095
	(-1.29)	(0.54)	(-1.86)	(0.54)
INTERCEPT	-0.002	-2.083	0.018**	-4.295*
	(-0.05)	(-0.65)	(2.68)	(-1.75)
Observations	15,872	15,872	14,911	14,911
Adj R^2	0.138	0.420	0.106	0.089

Table 6: Relation between Trust and Risk-taking: Market-based Measures of Risk-taking

This table reports estimation results of the following regression: RISK = $\gamma_0 + \gamma_1$TRUST + γ_2V + γ_3W + ϵ. RISK is one of the two CDS-based risk measures, CDS1 and CDS2, or one of the two crash risk-based risk measures, CRASH and NCSKEW. TRUST is the societal trust index. V is a vector of bank-level control variables that include SIZE, LOANS, LEV, ΔCASH SOE, LISTED, and IFRS in Panel A, and the additional variables ROA, D_TURN, SD_RET, and AVG_RET in Panel B. W is a vector of country-level control variables that include LGDP, DI, COMP, CR, ENFORCE, COMMON, and GI. Panel A reports results for the two CDS-based risk measures and Panel B reports results for the two crash risk-based risk measures. Please see Table 1 for variable definitions. We estimate the standard errors clustered by country. *, **, and *** denote significance at 10%, 5%, and 1% levels (two-tailed), respectively.

Panel A: Credit default swap-based risk measures

	(1)	(2)	(3)	(4)
	Pre- Financial Crisis Period		**Post- Financial Crisis Period**	
	CDS1	CDS2	CDS1	CDS2
TRUST	-0.012***	-0.012***	-0.065*	-0.072**
	(-3.59)	(-3.49)	(-1.91)	(-2.46)
SIZE	-0.000**	-0.000*	0.003	0.002
	(-2.39)	(-2.05)	(1.02)	(0.98)
LOANS	-0.002	-0.002	0.045	0.039
	(-0.59)	(-0.84)	(1.53)	(1.53)
LEV	-0.016*	-0.018	-0.211	-0.183
	(-1.90)	(-1.62)	(-0.83)	(-0.83)
ΔCASH	0.071	0.138**	-0.353	-0.286
	(1.23)	(2.42)	(-1.33)	(-1.19)
SOE	0.001	0.001	0.007	0.007
	(0.61)	(0.83)	(0.62)	(0.73)
LISTED	0.001	0.001	0.009*	0.009*
	(1.28)	(1.13)	(1.76)	(2.04)
IFRS	0.001	0.001	-0.001	0.003
	(1.21)	(1.22)	(-0.15)	(0.46)
LGDP	0.002**	0.003***	0.012	0.011
	(2.81)	(3.16)	(1.14)	(1.25)
DI	0.002	0.003*	-0.005	-0.005
	(1.62)	(1.72)	(-0.62)	(-0.61)
COMP	0.013*	0.013	0.087	0.070
	(1.90)	(1.66)	(0.73)	(0.66)
CR	0.001***	0.001***	0.005*	0.005*
	(3.69)	(3.86)	(1.76)	(1.85)
ENFORCE	0.001***	0.001**	-0.000	0.000
	(3.13)	(2.39)	(-0.04)	(0.00)
COMMON	0.000	0.000	-0.012	-0.011
	(0.36)	(0.59)	(-0.77)	(-0.80)
GI	-0.004***	-0.003***	-0.007	-0.007
	(-5.59)	(-4.51)	(-0.68)	(-0.85)
INTERCEPT	-0.003	-0.005	0.072	0.056
	(-0.29)	(-0.36)	(0.25)	(0.22)
Obs.	415	415	335	335
Adj R^2	0.144	0.160	0.146	0.140

Panel B: Crash risk-based risk measures

	(1)	(2)	(3)	(4)
	Pre- Financial Crisis Period		**Post- Financial Crisis Period**	
	CRASH	NCSKEW	CRASH	NCSKEW
TRUST	-0.653***	-1.073***	-1.438***	-3.520***
	(-4.31)	(-4.10)	(-8.14)	(-4.12)
SIZE_LAG1	-0.001	0.014	0.039***	0.098**
	(-0.14)	(0.62)	(3.19)	(2.80)
LEV_LAG1	-0.100	-0.419	-1.164***	0.277
	(-0.26)	(-1.02)	(-3.96)	(0.18)
ROA_LAG1	0.0460	-2.428	-3.879	8.049
	(0.03)	(-0.72)	(-1.66)	(1.23)
DTURN_LAG1	-0.039**	-0.226	0.176***	0.419***
	(-2.68)	(-1.18)	(4.16)	(4.49)
SD_RET_LAG1	0.888	1.060	0.926***	2.328**
	(0.87)	(1.29)	(5.10)	(2.21)
AVG_RET_LAG1	-1.276	4.624	5.277***	-0.711
	(-0.22)	(0.54)	(4.83)	(-0.16)
LOANS	0.218	0.549	0.040	-0.314
	(1.70)	(1.70)	(0.13)	(-0.85)
ΔCASH	-3.900	1.589	-3.736	2.377
	(-1.73)	(0.36)	(-0.84)	(0.28)
SOE	-0.097*	-0.246***	-0.043	-1.235*
	(-1.93)	(-3.20)	(-0.33)	(-2.12)
IFRS	-0.079	-0.504*	0.111	0.638*
	(-0.42)	(-1.78)	(1.35)	(1.99)
LGDP	-0.139***	0.034	-0.442***	-0.891***
	(-3.25)	(0.39)	(-8.19)	(-4.36)
DI	0.254**	1.059**	-0.090	0.412***
	(2.33)	(2.45)	(-1.47)	(3.52)
COMP	3.281***	10.635***	-4.083***	-0.937
	(4.72)	(3.94)	(-4.20)	(-0.51)
CR	-0.133***	-0.076	-0.205***	-0.692***
	(-5.39)	(-1.35)	(-8.19)	(-9.08)
ENFORCE	-0.005	0.017	0.078*	0.184
	(-0.24)	(0.22)	(1.90)	(1.35)
COMMON	0.043	0.039	-0.426***	-0.339***
	(0.70)	(0.34)	(-9.18)	(-3.50)
GI	0.187***	0.131	0.327***	0.764***
	(5.42)	(1.04)	(6.88)	(4.60)
INTERCEPT	1.151*	-1.536	5.283***	6.879***
	(1.98)	(-1.11)	(9.65)	(4.95)
Obs.	335	335	122	122
Pseudo/Adj R^2	0.036	0.033	0.290	0.239

Table 7: Relation between Trust and Aggressive Risk-taking

This table reports estimation results of the following regression: RISK = $\gamma_0 + \gamma_1$TRUST + γ_2V + γ_3W + ϵ. RISK is one of the two risk measures, DUM_σ(NIM) and DUM_Z_SCORE, where DUM_σ(NIM) equals 1 if σ(NIM) is in the top decile of the sample distribution of σ(NIM), 0 otherwise, and DUM_Z_SCORE equals 1 if Z_SCORE is in the top decile of the sample distribution of Z_SCORE, 0 otherwise. TRUST is the societal trust index. V is a vector of bank-level control variables that include SIZE, REVG, TOOBIG, SOE, LISTED, and IFRS. W is a vector of country-level control variables that include LGDP, DI, COMP, CR, ENFORCE, COMMON, and GI. Please see Table 1 for variable definitions. We estimate the standard errors clustered by country. *, **, and *** denote significance at 10%, 5%, and 1% levels (two-tailed), respectively.

	(1)	(2)	(3)	(4)
	Pre- Financial Crisis Period		**Post- Financial Crisis Period**	
	DUM_σ(NIM)	DUM_Z_SCORE	DUM_σ(NIM)	DUM_Z_SCORE
TRUST	-4.565***	-6.287***	-4.179***	-3.734**
	(-2.70)	(-2.78)	(-3.45)	(-2.37)
SIZE	-0.179***	0.203**	-0.130***	0.170***
	(-4.51)	(1.99)	(-4.39)	(2.92)
REVG	1.312***	0.647***	0.146**	-0.106***
	(14.24)	(6.30)	(2.50)	(-3.29)
TOOBIG	1.128***	0.560**	1.390***	0.967***
	(2.74)	(2.30)	(4.54)	(3.60)
SOE	-0.027	0.393	-0.219	-0.030
	(-0.08)	(1.42)	(-0.78)	(-0.10)
LISTED	-0.220	-0.679	0.025	-0.609
	(-1.46)	(-1.10)	(0.18)	(-0.99)
IFRS	0.060	-1.748**	-0.451	-0.687
	(0.12)	(-2.57)	(-1.40)	(-1.57)
LGDP	0.026	-0.160	-0.214	0.283
	(0.10)	(-0.32)	(-0.96)	(0.64)
DI	0.428	0.348	-0.063	-0.202
	(0.60)	(0.66)	(-0.16)	(-0.53)
COMP	19.762***	7.570	4.908*	3.683
	(4.50)	(1.55)	(1.96)	(1.23)
CR	-0.151	0.577***	-0.046	0.245
	(-0.97)	(3.03)	(-0.39)	(1.57)
ENFORCE	0.065	0.251	0.104	0.032
	(0.57)	(1.15)	(1.14)	(0.24)
COMMON	-0.265	-1.049**	-0.039	-0.455
	(-0.79)	(-2.29)	(-0.17)	(-1.35)
GI	-0.381*	-0.068	-0.387**	-0.013
	(-1.79)	(-0.21)	(-2.15)	(-0.05)
INTERCEPT	-0.255	-2.416	2.445	-5.025
	(-0.10)	(-0.49)	(1.47)	(-1.33)
Observations	15,872	15,872	14,911	14,911
Pseudo R^2	0.177	0.258	0.107	0.073

Table 8: Relation between Trust and Abnormal (residual) Risk-taking

This table reports estimation results of the following regression: RISK = $\gamma_0 + \gamma_1$TRUST + γ_2V + γ_3W + ϵ. RISK is one of the two risk measures, ABNORMAL_ σ(NIM) and ABNORMAL_ Z_SCORE, where ABNORMAL _σ(NIM) is the residual from the following regression: σ(NIM) = $\gamma_0 + \gamma_1$ SIZE1 + γ_2 REVG + γ_3TOOBIG + γ_4 SOE + γ_5 LISTED + γ_6 IFRS + ϵ, and ABNORMAL _Z_SCORE is the residual from the following regression: Z_SCORE = $\gamma_0 + \gamma_1$ SIZE1 + γ_2 REVG + γ_3TOOBIG + γ_4 SOE + γ_5 LISTED + γ_6 IFRS + ϵ. TRUST is the societal trust index. V is a vector of bank-level control variables that include SIZE, REVG, TOOBIG, SOE, LISTED, and IFRS. W is a vector of country-level control variables that include LGDP, DI, COMP, CR, ENFORCE, COMMON, and GI. Please see Table 1 for variable definitions. We estimate the standard errors clustered by country. *, **, and *** denote significance at 10%, 5%, and 1% levels (two-tailed), respectively.

	(1)	(2)	(3)	(4)
	Pre- Financial Crisis Period		**Post- Financial Crisis Period**	
	ABNORMAL_ σ(NIM)	ABNORMAL_ Z_SCORE	ABNORMAL_ σ(NIM)	ABNORMAL_ Z_SCORE
TRUST	-0.069***	-4.240***	-0.007*	-2.513**
	(-2.97)	(-2.76)	(-1.87)	(-2.65)
SIZE	-0.001**	-0.083*	-0.000***	-0.007
	(-2.29)	(-1.72)	(-3.62)	(-0.17)
REVG	-0.003	-0.126**	-0.000	0.008
	(-0.76)	(-2.47)	(-0.54)	(0.26)
TOOBIG	-0.000	0.167	0.000	-0.039
	(-0.01)	(0.91)	(0.18)	(-0.21)
SOE	-0.006	-0.314*	-0.001	0.043
	(-1.24)	(-1.97)	(-1.36)	(0.27)
LISTED	-0.000	0.241	0.000	0.055
	(-0.30)	(0.52)	(0.21)	(0.21)
IFRS	-0.030**	-2.247***	-0.002**	-0.192
	(-2.62)	(-5.40)	(-2.13)	(-0.74)
LGDP	0.005	-0.383	0.000	0.158
	(0.95)	(-1.17)	(0.24)	(0.61)
DI	0.005	0.479	0.001	-0.302
	(0.62)	(1.21)	(0.66)	(-1.24)
COMP	0.201**	8.122*	0.012	3.040
	(2.59)	(2.00)	(1.58)	(1.40)
CR	-0.001	0.440***	0.000*	0.030
	(-0.27)	(3.30)	(2.02)	(0.31)
ENFORCE	0.001	0.421***	0.000*	0.072
	(0.31)	(2.94)	(1.69)	(0.95)
COMMON	-0.002	-0.803***	-0.001	-0.138
	(-0.63)	(-3.06)	(-1.63)	(-0.77)
GI	-0.006	0.123	-0.002**	-0.003
	(-1.29)	(0.54)	(-2.61)	(-0.02)
INTERCEPT	-0.010	2.140	0.004	-0.863
	(-0.23)	(0.67)	(0.65)	(-0.39)
Observations	15,872	15,872	14,911	14,911
Adj R^2	0.052	0.264	0.068	0.014

Table 9: Relation between Trust and Bank Trouble/Failure

The panel reports estimation results of the following logistic model: BANK TROUBLE (BANK FAILURE) = $\gamma_0 + \gamma_1$TRUST + γ_2V + γ_3W + ϵ. BANK TROUBLE (BANK FAILURE) is an indicator variable that equals one if the bank is in financial trouble (failed) during the period 2007-2009, and zero otherwise. TRUST is the societal trust index. V is a vector of bank-level variables that include SIZE_T, LOANS_T, LEV_T, NPL_T, ΔCASH_T, SOE, LISTED, and IFRS. W is a vector of country-level variables that include LGDP, DI, COMP, CR, ENFORCE, COMMON, and GI. Please see Table 1 for variable definitions. We estimate the standard errors clustered by country. *, **, and *** denote significance at 10%, 5%, and 1% levels (two-tailed), respectively.

	(1)	(2)	(3)
	Financial Crisis Period (2007-2009)		**Post- Financial Crisis Period** (2010-2012)
	Troubled Banks	Failed Banks	Troubled Banks
TRUST	-2.984***	-5.155**	-1.688*
	(-3.78)	(-2.36)	(-1.82)
SIZE_T	0.262***	-0.072	-0.019
	(7.67)	(-0.81)	(-0.59)
LOANS_T	1.327***	4.357***	0.313
	(7.43)	(19.73)	(0.27)
LEV_T	0.803	3.988**	2.162**
	(0.84)	(2.52)	(2.13)
NPL_T	9.997***	-1.901	-0.693*
	(2.61)	(-0.33)	(-1.69)
ΔCASH_T	2.260	0.962	0.627
	(1.57)	(0.43)	(0.47)
SOE	-0.605	-0.242	0.008
	(-1.39)	(-0.24)	(0.03)
LISTED	0.195**	-1.115***	0.177
	(2.29)	(-3.11)	(1.45)
IFRS	1.053*	-0.232	-0.272*
	(1.71)	(-0.27)	(-1.65)
LGDP	0.537**	0.098	0.015
	(2.27)	(0.21)	(0.12)
DI	-0.337	-0.100	0.275
	(-0.84)	(-0.10)	(1.41)
COMP	-1.448	-0.305	1.202
	(-1.46)	(-0.07)	(0.77)
CR	-0.250	0.439	0.039
	(-0.87)	(1.41)	(0.49)
ENFORCE	0.139	0.148	-0.033
	(0.86)	(0.96)	(-0.67)
COMMON	0.108	-0.722	-0.040
	(0.43)	(-1.30)	(-0.26)
GI	-0.466***	-0.354	-0.180
	(-2.69)	(-1.19)	(-1.48)
INTERCEPT	-7.914***	-9.065**	-2.433
	(-4.20)	(-2.05)	(-1.28)
Observations	9,605	12,314	7,715
Pseudo R^2	0.113	0.085	0.010