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Citation: Kladakis, G., Bellos, S. K. & Skouralis, A. (2023). Societal trust and bank opacity. *Journal of Financial Regulation and Compliance*, 31(5), pp. 770-783. doi: 10.1108/jfrc-05-2023-0073

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Societal trust and bank opacity

Abstract

Methodology

We use an international dataset of banks and panel regressions. For robustness purposes, we employ multiple measures of both societal trust and bank opacity as well as 2SLS regressions to address endogeneity concerns.

Purpose

We examine the relationship between societal trust and bank asset opacity using an international sample of banks.

Findings

We find that societal trust is negatively associated with the opacity of bank portfolios.

Implications

Our results inform regulators on the importance of trust for the banking sector and support policies towards enhancing trust in banks. Also, a sustained environment of high levels of trust in banks can prevent the introduction of extensive prudential regulations that policymakers often use to establish trust, as well as lower the additional resources required when trust levels are low.

Originality

To the best of our knowledge, this is the first study that examines this relationship. The literature provides only limited evidence and not for the banking sector for which opacity is of utmost importance.

1 Introduction

The financial sector relies significantly on trust. While financial contracts are generally legally enforceable, trust levels in the relationship between financiers and borrowers also determine several aspects of a transaction. More importantly, in today's largely anonymous financial markets, a generalized trust environment can shape the structure of the financial system. The massive breakdown of trust in the financial system during the global financial crisis of 2007-2009 is widely cited as a factor that inflated the impact of the crisis. Yet, the extant literature provides only limited evidence on the role of trust for financial institutions, and especially for banks that have a unique balance sheet structure and the abuse of trust in their relationships with clients can be corrosive.

A growing strand of the literature documents the importance of trust in a wide variety of economic and financial aspects. Generally, societies with a higher-trust environment can exert benefits from consuming fewer resources (e.g., protective contracts, litigation, borrower monitoring etc.) that are necessary when trust is feeble. In economic terms, societal trust is found to promote economic growth (Knack and Keefer, 1997; Mikucka et al., 2017) and international trade (Guiso et al., 2009). In terms of financial development, societal trust is found to enable investing (Gurun et al., 2018); facilitate the provision of credit (Levine et al., 2018; Bertrand et al., 2021); limit bank risk-taking (Kanagaretnam et al., 2019) and increase stock market participation (Guiso et al., 2004; Bu et al., 2022). At the same time, distrust can increase borrower costs (Johnson et al., 2019) and discourage stock market participation (Guiso et al., 2008).

Our study expands the empirical evidence on the effects of societal trust as the literature provides only limited evidence on how trust may influence the opacity of firms. Using a limited set of US firms, Garrett et al. (2014) examine how employees' trust in management may influence the quality of firms' financial reporting. They argue that trust is an essential ingredient in the

production of information and that it should enhance financial transparency. Indeed, the authors find that trust improves financial reporting quality and reduces the occurrence of misstated financial statements. Employing an international sample, Nanda and Wysocki (2013) investigate the relationship between societal trust and firms' financial reporting and disclosure quality. They also document a positive relationship and attribute it to the greater demand for information in high trust environments.

However, except for this limited evidence, the extant literature neglects the role of societal trust for opacity in banking entities. Opacity in banks is of particular interest because banks have a unique asset structure. The largest part of bank portfolios consists of financial assets that are difficult for outsiders to value. Morgan (2002) argues that financial assets such as loans increase uncertainty, while fixed assets that are easier to value can mitigate information asymmetries. In other words, the transparency and certainty in the valuation of bank assets plays a significant role in how opaque banks may be. A portfolio that consists of more difficult to value financial assets will increase asymmetries between bank managers and outsiders such as depositors and investors and may lead to greater information opacity. This is because bank managers have superior access to private information on the creditworthiness of their borrowers and on the ability of the bank to monitor its borrowers and collect payments (Flannery et al., 2004). The opacity of bank financial assets has been evidenced in numerous empirical studies in the previous years (e.g., Morgan, 2002; Iannotta, 2006; Livingston et al., 2007; Sato, 2014).

Although some scant evidence of a positive relationship between trust and opacity exists (Nanda and Wysocki, 2013; Garrett et al., 2014), it remains difficult to predict the relationship between societal trust and bank opacity and using theory alone cannot lead to safe conclusions either. On the one hand, higher societal trust may be associated with less opaque asset portfolios.

We argue that this may hold due to two reasons. First, societal trust can enable financial development and encourage market participation allowing banks to manage their balance sheets more efficiently. Higher trust can lead to lower borrowing costs (Johnson et al., 2019) and trust-powered developments in the financial sector can reduce the opacity of asset/loan portfolios of banks (Wagner, 2007). Second, bank managers in societies with higher trust may be more willing to return the trust that society places in them and limit their risk-taking (Kanagaretnam et al., 2019). As a result, conforming to such social norms may lead to lower risk portfolios which are likely to consist of a less opaque mix of financial assets.

On the other hand, societal trust and bank opacity may be positively related if stakeholders lower their demand for information/transparency in their trust of bank managers. This argument is strongly reflected in the definition of trust provided by Guiso et al. (2008) as the “subjective probability that individuals attribute to the possibility of being cheated”. In this regard, bank managers who might not always prioritize their stakeholders’ interests can abuse a high-trust environment to exert personal benefits. Managers can enjoy better reputation and compensation if they achieve better financial results for the bank which they can sometimes accomplish by investing in opaque financial assets such as short-term consumer loans, credit cards or off-balance sheet exposures. As a result, in a high-trust environment where the truthfulness of claims is not always verified, trust may be abused and bank portfolios can become more opaque.

In this study, we use an international sample of banks to examine the relationship between societal trust and bank opacity and our main finding is a negative relationship. Following the literature, we measure bank opacity by the inverse of the share of AFS securities, the share of off-balance sheet exposures and the share of non-performing loans, while societal trust is primarily measured using the World Values Survey.

Our finding has important implications for bank managers and regulators. From the management perspective, it supports the view that bank managers return the trust that they receive from society by holding a less opaque portfolio and that trust generally enables a more efficient financial system. At the same time, trust is important in relationship lending which is a significant part of banking and bank managers with accountability that enjoy customers' trust may also limit their risk-taking and enable a transparent banking system.

From a bank regulation view, the additional resources that are required when trust levels are low do not only burden investors. To compensate for the lack of the public's confidence in banks, regulators often need to introduce extensive regulations. Carlin et al. (2009) argue that regulation and trust can be complements, increasing the value of government interventions. However, while policymakers may introduce tighter regulations to compensate for the lack of trust and enhance financial stability, adverse side-effects may appear. For instance, Hyytinen and Takalo (2002) argue that there are two bank elements that might be adversely affected under greater disclosure requirements. First, the disciplinary effect of transparency can be limited under an extensively protective framework. Second, by increasing transparency, banks lose an important part of their charter value which may encourage excessive risk taking. Therefore, it is critical that authorities enable trust in banks and the financial system as trust in banks can itself enhance bank transparency among other benefits reported in the literature, but tighter regulatory requirements should be introduced with caution considering their possibly adverse effects.

The remainder of the paper is structured as follows: Section 2 describes our data, main variables and empirical framework; Section 3 presents our empirical results and robustness tests; and Section 4 concludes.

2 Data and empirical framework

2.1 Data sources

Our sample contains data on 2142 banks from 25 countries in the period of 2007-2021.¹ First, we obtain annual bank-level financial data from the S&P Capital IQ Pro database. Second, we collect data on country-level societal trust from the World Values Survey (WVS) and the Ipsos Interpersonal Trust Across the World 2022 Survey. Finally, GDP growth data is provided by the World Bank, while data on press freedom is obtained from the Reporters Without Borders (RSF).

2.2 Empirical framework

To examine the relationship between societal trust and bank opacity, we estimate fixed-effects regressions in the following form:

$$Opacity_{i,t} = \alpha_i + \beta_1 TRUST_{c,t-1} + \sum_{j=1}^5 \beta_j Bank\ Control_{i,t-1} + \beta_2 GDP_{c,t-1} + T_t + \varepsilon_{i,t} \quad (1)$$

where i , c and t stand for bank, country and year, respectively. *Opacity* is the dependent variable and stands for one of our three measures of bank opacity. Following Cao and Juelsrud (2022), our first measure of bank opacity is the inverse of the available-for-sale (AFS) securities relative to total assets. We use the inverse of the ratio to refer to opacity consistently throughout the paper. AFS securities are purchased with the intent to be sold before they reach maturity, and they are marked-to-market and highly liquid. Since AFS securities are marked-to-market, their price movements are immediately affecting banks' equity value through the unrealized gains and losses (Fuster and Vickery, 2018). Consequently, it is easier for outsiders to value banks that hold more AFS securities using reliable and transparent information directly from the market. Therefore, a

¹ We focus our regressions on banks from countries that are member-states of the Basel Committee on Banking Supervision (BCBS) as these banks are expected to operate in a more homogeneous regulatory environment (Kladakis et al., 2022).

bank with more AFS securities in its portfolio is less opaque. Other studies use similar measures based on the opaque asset mix of banks to measure opacity (e.g., Jones et al., 2013).

Second, also following Cao and Juelsrud (2022), we use the share of off-balance sheet exposures as a measure of bank opacity. Banks that engage more in off-balance sheet activities are deemed as less transparent since detailed information is limited to outsiders about issues that may determine banks' pay-offs on these assets. We use the off-balance sheet credit commitments and contingencies normalized by total assets.

Finally, we use the ratio of non-performing loans (NPLs) to total loans as a proxy for bank opacity. A greater share of NPLs makes banks more opaque as it is difficult for outsiders to value them. Apart from the opaque nature of NPLs as financial assets, banks sometimes even hide their loan losses to report greater profitability and overall performance (e.g. Niinimaki, 2012). Kladakis et al. (2020) find that NPLs increase bank opacity as measured by credit rating disagreements.

Our independent variable of interest, TRUST, is based on the World Values Survey (WVS) results. The survey asks people the following 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 possible answers are: *“Most people can be trusted”* and *“Can't be too careful.”* and we measure societal trust as the ratio of the number of participants who answered with the first option to the total number of participants. We assign the results of each survey to the following years before the next survey.

Bank Control is a vector of five bank-level control variables and their selection is carefully based on models from the literature that are used to examine the determinants of bank opacity (e.g., Morgan, 2002; Iannotta, 2006; Livingston et al., 2007; Mbarek and Hmaied, 2012). More specifically, we first control for bank size with the natural logarithm of total assets. Larger banks

may be more opaque as they expand their off-balance sheet activities but also less opaque due to tighter regulatory transparency requirements (Jungherr, 2018). Second, we control for bank efficiency with the net interest margin. We can expect that more efficient banks are more transparent, although transparency and efficiency can also be inversely related due to the information asymmetries arising from the lending activity (Kusi et al., 2020). Third, we control for bank liquidity with the liquidity ratio as liquid banks hold more transparent financial assets (Morgan, 2002; Iannotta, 2006). Fourth, we control for bank capital with the equity ratio and for bank profitability with the return on assets, expecting that better capitalized and more profitable banks would be less opaque (Wagner, 2007). Finally, we control for the macroeconomic environment of the bank with GDP that stands for the gross domestic product annual growth of the bank's host country. We generally expect that GDP has a beneficial effect on bank transparency but it is also possible that banks become more opaque as the economy grows (Riahi-Belkaoui, 2005).

α_i is the bank fixed-effect, T_t is the year fixed-effect, while $\varepsilon_{i,t}$ is the error term, assumed to be normally distributed with mean 0 and variance σ^2 . We use bank fixed-effects to control for the unobservable differences across banks and year fixed-effects to control for unobservable differences that are common across banks but vary through quarters which also mitigate autocorrelation concerns. The use of bank fixed effects compared to random effects is also supported by the Hausman test. Moreover, we use robust standards errors clustered at the bank level to alleviate heteroskedasticity concerns.

Table 1 provides the definitions and descriptive statistics for all our variables, while Table 2 presents the correlation matrix of all variables used in our analysis. We do not observe any high

levels of correlation which alleviates multicollinearity concerns. We also conduct untabulated VIF analysis of our regressions with the VIF score being below 5 in all cases.

[Insert Tables 1 and 2 here]

3 Empirical results and robustness tests

3.1 Baseline results

Table 3 outlines the distribution of societal trust and bank opacity across the countries of our sample. We observe an initial indication that countries with greater societal trust have lower levels of bank opacity. More specifically, countries in the bottom half of the table with lower levels of trust have higher opacity levels as measured by -AFS, OBS and NPL compared to the countries in the upper part of the table.

Table 4 presents the results of our baseline regressions. We use all three measures of bank opacity as described in section 2.2 (-AFS, OBS and NPL). We observe that the coefficient of TRUST remains negative and highly significant in all regressions. The size of the coefficient also suggests that the relationship is economically significant as a one standard deviation increase in TRUST is associated with a reduction of as large as 10 percentage points in bank opacity. These results support the view that a trust environment is essential for a well-functioning banking system. A more efficient banking sector due to higher societal trust allows banks to be more transparent, while bank managers may also be more willing to return the trust that society places in them with a safer and more transparent portfolio. Our finding complements the limited extant literature around this topic that documents a positive relationship between different types of trust environments and financial reporting (Nanda and Wysocki, 2013; Garrett et al., 2014).

The signs of the statistically significant coefficients are also consistent with our expectations. TA, LIQRAT and EQRAT have negative and statistically significant coefficients at least in one of

the three regressions, while ROA and GDP have more mixed results which is somewhat expected considering also that these regressions use slightly different samples.

[Insert Tables 3 and 4 here]

Our results can inform policymakers on the value of building customers' trust in financial institutions. After the global financial crisis of 2007-2009, various sources have reported low levels of trust in banks (e.g., Knell and Stix, 2015). This is not surprising considering the complex and opaque structure of bank portfolios which widen the information gap between customers and banks. In the aftermath of the crisis, regulators have tried to boost trust in the financial system with the introduction of tighter prudential requirements that include higher capital, liquidity and transparency standards such as the Basel III accord. Our finding supports the recent efforts of policymakers to enhance trust in banks as greater trust can make banks more transparent. Trust is an essential element of a well-functioning financial system and it is rightfully at the core of regulators' interests.

3.2 Robustness tests

We present the results of our robustness tests in Tables 5 and 6. First, we use an alternative measure of societal trust. We employ the Ipsos Interpersonal Trust Across the World 2022 Survey which is an ideal alternative as it asks the same question as in the World Values Survey, although for slightly fewer countries. As we only have one observation per country for this survey, we run cross-sectional regressions using the bank averages for each time-varying variable (Kanagaretnam et al., 2019). Second, a common concern in this strand of the literature is endogeneity which we attempt to address using the two-stage least squares (2SLS) estimator. A common instrument for societal trust is religion (Kanagaretnam et al., 2019), however, this would prevent us from running our regressions with fixed-effects. As an alternative, we use the country press freedom ranking

provided by the Reporters Without Borders (RSF), expecting that press freedom enables societal trust (Kerr and Lührmann, 2017). Indeed, the coefficient of PRESS FREEDOM is positive and highly significant in the first stage regression. Finally, we split the sample into small, medium and large banks using the 25th and 75th percentiles of the banks' average total assets as cut-off points. We observe that the negative coefficient of TRUST remains statistically significant across all size classes although primarily for medium and large banks. Overall, the tests presented in Tables 5 and 6 largely confirm our finding of a negative relationship between societal trust and bank opacity.

[Insert Tables 5 and 6 here]

4 Conclusions

Trust plays a significant role in financial transactions. A limited strand in the literature examines the role of trust in the banking and finance industry and we aim to contribute to it by investigating the relationship between societal trust and bank opacity using an international sample. We find a negative relationship between societal trust and bank opacity. This finding supports the view that bank managers return the trust that they receive from society by holding a less opaque portfolio and that trust generally enables a more efficient financial system. Our results inform regulators on the importance of trust for the banking sector. Building a more trustworthy financial system can enhance the transparency of bank portfolios. As a result, a sustained environment of high levels of trust in banks can prevent the introduction of extensive prudential regulations that policymakers often use to establish trust, as well as lower the additional resources required when trust levels are low.

References

- Bertrand, J., Klein, P.O., Soula, J.L., 2021. Liquidity Creation and Trust Environment. *J. Financ. Serv. Res.*, 1-32. <https://doi.org/10.1007/s10693-021-00353-0>
- Bu, D., Hanspal, T., Liao, Y., 2022. Political corruption, trust, and household stock market participation. *J. Bank. Finance* 138, 106442. <https://doi.org/10.1016/j.jbankfin.2022.106442>
- Cao, J., Juelsrud, R.E., 2022. Opacity and risk-taking: Evidence from Norway. *J. Bank. Finance* 134, 106010. <https://doi.org/10.1016/j.jbankfin.2020.106010>
- Carlin, B.I., Dorobantu, F., Viswanathan, S., 2009. Public trust, the law, and financial investment. *J. Financ. Econ.* 92(3), 321-341. <https://doi.org/10.1016/j.jfineco.2008.07.001>
- Flannery, M.J., Kwan, S.H., Nimalendran, M., 2004. Market evidence on the opaqueness of banking firms' assets. *J. Financ. Econ.* 71(3), 419-460. [https://doi.org/10.1016/S0304-405X\(03\)00185-5](https://doi.org/10.1016/S0304-405X(03)00185-5)
- Fuster, A., Vickery, J.I., 2018. Regulation and risk shuffling in bank securities portfolios. FRB of New York Staff Report 851.
- Garrett, J., Hoitash, R., Prawitt, D.F., 2014. Trust and financial reporting quality. *J. Account. Res.* 52(5), 1087-1125. <https://doi.org/10.1111/1475-679X.12063>
- Guiso, L., Sapienza, P., Zingales, L., 2004. The role of social capital in financial development. *Am. Econ. Rev.* 94(3), 526-556. <https://doi.org/10.1257/0002828041464498>
- Guiso, L., Sapienza, P., Zingales, L., 2008. Trusting the stock market. *J. Finance* 63(6), 2557-2600. <https://doi.org/10.1111/j.1540-6261.2008.01408.x>
- Guiso, L., Sapienza, P., Zingales, L., 2009. Cultural biases in economic exchange? *The Q. J. Econ.* 124(3), 1095-1131. <https://doi.org/10.1162/qjec.2009.124.3.1095>

Gurun, U.G., Stoffman, N., Yonker, S.E., 2018. Trust busting: The effect of fraud on investor behavior. *Rev. Financ. Stud.* 31(4), 1341-1376. <https://doi.org/10.1093/rfs/hhx058>

Hyytinen, A., Takalo, T., 2002. Enhancing bank transparency: A re-assessment. *Rev. Financ.* 6(3), 429-445. <https://doi.org/10.1023/A:1022037025942>

Iannotta, G., 2006. Testing for opaqueness in the European banking industry: evidence from bond credit ratings. *J. Financ. Serv. Res.* 30(3), 287-309. <https://doi.org/10.1007/s10693-006-0420-y>

Johnson, E.J., Meier, S., Toubia, O., 2019. What's the catch? Suspicion of bank motives and sluggish refinancing. *Rev. Financ. Stud.* 32(2), 467-495. <https://doi.org/10.1093/rfs/hhy061>

Jones, J.S., Lee, W.Y., Yeager, T.J., 2013. Valuation and systemic risk consequences of bank opacity. *J. Bank. Finance* 37(3), 693-706. <https://doi.org/10.1016/j.jbankfin.2012.10.028>

Kanagaretnam, K., Lobo, G.J., Wang, C., Whalen, D.J., 2019. Cross-country evidence on the relationship between societal trust and risk-taking by banks. *J. Financ. Quant. Anal.* 54(1), 275-301. <https://doi.org/10.1017/S0022109018000455>

Kerr, N., Lührmann, A. 2017. Public trust in manipulated elections: The role of election administration and media freedom. *Elect. Stud.* 50, 50-67. <https://doi.org/10.1016/j.electstud.2017.08.003>

Kladakis, G., Chen, L., Bellos, S.K., 2020. Bank asset and informational quality. *J. Int. Financ. Markets, Inst. Money* 69, 101256. <https://doi.org/10.1016/j.intfin.2020.101256>

Kladakis, G., Chen, L., Bellos, S.K., 2022. Bank regulation, supervision and liquidity creation. *J. Int. Money Finance* 124, 102629. <https://doi.org/10.1016/j.jimonfin.2022.102629>

Knack, S., Keefer, P., 1997. Does social capital have an economic payoff? A cross-country investigation. *Q. J. Econ.* 112(4), 1251-1288. <https://doi.org/10.1162/003355300555475>

Knell, M., Stix, H., 2015. Trust in banks during normal and crisis times—evidence from survey data. *Economica* 82, 995-1020. <https://doi.org/10.1111/ecca.12162>

Kusi, B.A., Agbloyor, E.K., Gyeke-Dako, A., Asongu, S.A., 2020. Financial sector transparency and net interest margins: should the private or public sector lead financial sector transparency? *Res. Int. Bus. Finance* 54, 101260. <https://doi.org/10.1016/j.ribaf.2020.101260>

Levine, R., Lin, C., Xie, W., 2018. Corporate resilience to banking crises: The roles of trust and trade credit. *J. Financ. Quant. Anal.* 53(4), 1441-1477.
<https://doi.org/10.1017/S0022109018000224>

Livingston, M., Naranjo, A., Zhou, L., 2007. Asset opaqueness and split bond ratings. *Financ. Manag.* 36(3), 49-62. <https://doi.org/10.1111/j.1755-053X.2007.tb00080.x>

Mbarek, L., Hmaied, D., 2012. Bank informational opacity: evidence from the Tunisian stock market. *Journal of Financial Regulation and Compliance*, 20(3), 278-292.
<https://doi.org/10.1108/13581981211237972>

Mikucka, M., Sarracino, F., Dubrow, J.K., 2017. When does economic growth improve life satisfaction? Multilevel analysis of the roles of social trust and income inequality in 46 countries, 1981–2012. *World Dev.* 93, 447-459. <https://doi.org/10.1016/j.worlddev.2017.01.002>

Morgan, D.P., 2002. Rating banks: Risk and uncertainty in an opaque industry. *Am. Econ. Rev.* 92(4), 874-888. <https://doi.org/10.1257/00028280260344506>

Nanda, D., Wysocki, P., 2013. Trust, external capital and financial transparency. University of Miami Working Paper.

Riahi-Belkaoui, A., 2005. Earnings opacity, stock market wealth effect and economic growth.

Rev. Account. Finance 4(1), 72-91. <https://doi.org/10.1108/eb043419>

Sato, Y., 2014. Opacity in financial markets. Rev. Financ. Stud. 27(12), 3502-3546.

<https://doi.org/10.1093/rfs/hhu047>

Wagner, W., 2007. Financial development and the opacity of banks. Econ. Lett. 97(1), 6-10.

<https://doi.org/10.1016/j.econlet.2007.02.006>

Tables

Table 1. Variable definition and descriptive statistics.

Variable	Definition	Source	Obs.	Mean	Median	St. Dev.	5th Perc.	95th Perc.
Bank opacity variables								
-AFS	-(Available for sale securities / total assets)	S&P Capital IQ Pro	25197	-0.128	-0.105	0.122	-0.359	0.000
OBS	Off-balance sheet credit commitments and contingencies / total assets	S&P Capital IQ Pro	7372	0.179	0.114	0.592	0.003	0.480
NPL	Non-performing loans/ total loans	S&P Capital IQ Pro	21689	0.027	0.015	0.047	0.000	0.084
Societal trust variables								
TRUST	The ratio of the number of participants who answered that most people can be trusted to the total number of participants for a bank's host country. The question is: "Generally speaking, would you say that most people can be trusted or that you need to be very careful in dealing with people?"	World Values Survey	25201	0.380	0.388	0.121	0.105	0.658
TRUST-Ipsos	The ratio of the number of participants who answered that most people can be trusted to the total number of participants for a bank's host country. The question is: "Generally speaking, would you say that most people can be trusted or that you need to be very careful in dealing with people?"	Ipsos Interpersonal Trust Across the World 2022 Survey	23840	0.317	0.330	0.090	0.210	0.560
Control variables & Instrument								
TA	The natural logarithm of total assets.	S&P Capital IQ Pro	25201	14.483	14.022	2.214	11.589	18.604
NIM	Net interest margin	S&P Capital IQ Pro	25201	0.035	0.034	0.027	0.010	0.061
LIQ	Liquid assets/ total assets	S&P Capital IQ Pro	25201	0.280	0.251	0.158	0.082	0.572
EQRAT	Total equity/ total assets	S&P Capital IQ Pro	25201	0.109	0.097	0.077	0.045	0.205
ROA	Net income/ total assets	S&P Capital IQ Pro	25201	0.006	0.007	0.029	-0.010	0.021
GDP	Annual GDP growth of the bank's host country.	World Bank	25201	0.021	0.023	0.028	-0.034	0.069
PRESS FREEDOM	The country ranking based on the World Press Freedom Index. We use the inverse of the ranking so that higher values of the variable indicate greater press freedom.	Reporters Without Borders (RSF)	25201	-83.664	-61.000	46.253	-174.000	-25.000

Source: Created by authors.

Table 2. Correlation matrix.

	-AFS	OBS	NPL	TRUST	TRUST-Ipsos	TA	NIM	LIQRAT	EQRAT	ROA	GDP
-AFS	1.000*** (0.000)										
OBS	0.007 (0.389)	1.000*** (0.000)									
NPL	0.051*** (0.000)	0.000 (0.972)	1.000*** (0.000)								
TRUST	-0.116*** (0.000)	-0.014* (0.095)	-0.186*** (0.000)	1.000*** (0.000)							
TRUST-Ipsos	0.009 (0.135)	-0.034*** (0.002)	-0.142*** (0.000)	0.750*** (0.000)	1.000*** (0.000)						
TA	0.155*** (0.000)	0.008 (0.340)	-0.058*** (0.000)	0.080*** (0.000)	0.050*** (0.000)	1.000*** (0.000)					
NIM	0.102*** (0.000)	0.005 (0.545)	0.061*** (0.000)	-0.240*** (0.000)	-0.088*** (0.000)	-0.235*** (0.000)	1.000*** (0.000)				
LIQRAT	-0.367*** (0.000)	-0.012 (0.170)	0.092*** (0.000)	-0.112*** (0.000)	-0.205*** (0.000)	-0.011* (0.054)	-0.136*** (0.000)	1.000*** (0.000)			
EQRAT	0.016*** (0.004)	0.007 (0.395)	-0.002 (0.706)	-0.172*** (0.000)	-0.126*** (0.000)	-0.293*** (0.000)	0.247*** (0.000)	0.201*** (0.000)	1.000*** (0.000)		
ROA	0.019*** (0.001)	0.009 (0.285)	-0.177*** (0.000)	-0.032*** (0.000)	-0.010* (0.090)	0.076*** (0.000)	0.153*** (0.000)	-0.018*** (0.002)	0.060*** (0.000)	1.000*** (0.000)	
GDP	0.065*** (0.000)	0.011 (0.195)	-0.043*** (0.000)	0.050*** (0.000)	0.365*** (0.000)	0.139*** (0.000)	-0.001 (0.879)	0.003 (0.656)	0.007 (0.189)	0.052*** (0.000)	1.000*** (0.000)

p-values are reported in parentheses. ***, **, and * denote statistical significance at the 1%, 5%, and 10% level, respectively. Source: Created by authors.

Table 3. The distribution of societal trust and bank opacity across countries.

RANK	COUNTRY	TRUST	-AFS	OBS	NPL
1	Netherlands	0.680	-0.081	0.149	0.042
2	China	0.660	-0.059	0.193	0.016
3	Sweden	0.658	-0.092	0.190	0.119
4	Australia	0.547	-0.031	0.193	0.009
5	Canada	0.495	-0.012	0.175	0.004
6	Hong Kong	0.461	-0.082	0.282	0.003
7	Japan	0.420	-0.115	0.071	0.038
8	Estonia	0.412	-0.002	0.100	0.096
9	USA	0.391	-0.157	N/A	0.021
10	Singapore	0.374	-0.060	0.401	0.026
11	Russia	0.312	-0.049	0.169	0.122
12	South Korea	0.309	-0.067	0.241	0.022
13	Argentina	0.254	0.000	0.033	0.034
14	Poland	0.244	-0.152	0.139	0.070
15	South Africa	0.240	-0.016	0.078	0.037
16	India	0.221	-0.013	0.115	0.031
17	Spain	0.220	-0.138	0.122	0.083
18	Slovenia	0.209	-0.140	0.165	0.168
19	Türkiye	0.167	-0.066	0.648	0.065
20	Mexico	0.120	-0.063	0.227	0.030
21	Cyprus	0.106	-0.037	0.272	0.197
22	Romania	0.096	-0.084	0.125	0.122
23	Greece	0.093	-0.010	0.062	0.174
24	Brazil	0.076	-0.091	0.129	0.034
25	Indonesia	0.052	-0.033	0.145	0.034

Source: Created by authors.

Table 4. Baseline regressions.

	(1)	(2)	(3)
	-AFS	OBS	NPL
TRUST	-0.599*** (0.083)	-0.955*** (0.348)	-0.089*** (0.032)
TA	-0.005** (0.002)	-0.036* (0.021)	0.002 (0.001)
NIM	-0.026 (0.052)	-0.049 (0.399)	0.022 (0.029)
LIQRAT	-0.386*** (0.018)	-0.029 (0.041)	-0.010** (0.005)
EQRAT	0.004 (0.022)	0.170 (0.195)	-0.054*** (0.014)
ROA	-0.105*** (0.020)	0.039*** (0.164)	-0.083* (0.044)
GDP	0.289*** (0.044)	0.696*** (0.253)	-0.267*** (0.029)
CONSTANT	0.262*** (0.042)	1.049*** (0.348)	0.036* (0.021)
BANK FE	YES	YES	YES
TIME FE	YES	YES	YES
OBS.	23,184	6,646	19,890
N. OF BANKS	2,142	904	1,888
R2 WITHIN	0.255	0.004	0.195

The table reports fixed-effects regressions. Table 1 summarizes the definitions of all variables. Robust standard errors clustered at the bank level are reported in parentheses. ***, **, and * denote statistical significance at the 1%, 5%, and 10% level, respectively. Source: Created by authors.

Table 5. Robustness tests.

	(1)	(2)	(3)	(4)	(5)	(6)	(7)
	-AFS	OBS	NPL	TRUST	-AFS	OBS	NPL
TRUST					-0.360**	0.030	-0.416***
					(0.164)	(0.801)	(0.072)
TRUST-Ipsos	-0.380***	-0.486***	-0.099***				
	(0.037)	(0.167)	(0.028)				
PRESS FREEDOM				0.0002***			
				(0.0000)			
CONTROL VARIABLES	YES	YES	YES	YES	YES	YES	YES
BANK FE				YES	YES	YES	YES
TIME FE				YES	YES	YES	YES
OBS.	1,962	733	1,734	20,901	23,184	6,646	19,890
N. OF BANKS	1,962	733	1,734	2,127	2,142	904	1,888
R2	0.281	0.071	0.083				
R2 WITHIN				0.154	0.252	0.003	0.180
METHOD	CS	CS	CS	2SLS	2SLS	2SLS	2SLS
2SLS STAGE				FIRST STAGE	SECOND STAGE	SECOND STAGE	SECOND STAGE

The table reports cross-sectional and two-stage least squares regressions. Table 1 summarizes the definitions of all variables. Robust standard errors clustered at the bank level are reported in parentheses. ***, **, and * denote statistical significance at the 1%, 5%, and 10% level, respectively. Source: Created by authors.

Table 6. Subsample analysis.

	SMALL BANKS			MEDIUM BANKS			LARGE BANKS		
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
	-AFS	OBS	NPL	-AFS	OBS	NPL	-AFS	OBS	NPL
TRUST	-0.092	-3.513**	0.088	-0.478***	-0.742**	-0.140***	-0.528***	-1.022**	-0.029
	(0.310)	(1.704)	(0.056)	(0.125)	(0.345)	(0.042)	(0.127)	(0.442)	(0.066)
CONTROL VARIABLES	YES	YES	YES	YES	YES	YES	YES	YES	YES
BANK FE	YES	YES	YES	YES	YES	YES	YES	YES	YES
TIME FE	YES	YES	YES	YES	YES	YES	YES	YES	YES
OBS.	6,056	507	5,401	11,998	2,586	10,723	5,130	3,553	3,766
N. OF BANKS	515	64	499	1,088	375	967	539	465	422
R2 WITHIN	0.353	0.151	0.239	0.294	0.028	0.241	0.212	0.005	0.111

The table reports fixed-effects regressions where the sample is split into small, medium and large banks using the 25th and 75th percentiles of the banks' average total assets as cut-off points. Table 1 summarizes the definitions of all variables Robust standard errors clustered at the bank level are reported in parentheses. ***, **, and * denote statistical significance at the 1%, 5%, and 10% level, respectively. Source: Created by authors.