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Trust and Bank Loan Contracts

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WP Nº 19-006

2nd Quarter 2019

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This version: 1 March 2019

Abstract

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***JEL Classification*:** G30, M14, G32
***Keywords*:** CEOs, Cultural values, Trust, Financial contracts

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1. Introduction

Trust is believed to underpin most financial contracts and transactions. In support of this view, a growing literature reports evidence that trust explains a range of financial decisions by households, investors, and companies (e.g., Bottazzi, Rin, and Hellmann, 2016; Giannetti and Yafeh, 2012; Guiso, Sapienza, and Zingales, 2008; Hasan et al., 2017; Pevzner, Xi, and Xin, 2015). However, identifying the effects of trust on financial contracts is challenging. For instance, the levels of trust that can be observed at a country or regional level may correlate with wealth, capital market development, or other institutional factors that, similar to trust, vary across countries and regions. It is thus difficult to isolate the effects of trust from those exerted by other confounding factors. As a result, evidence on how differences in trust shape financial contracts remains sparse to date.

To examine the contractual implications of trust, we relate differences in trust across bank CEOs to the pricing of loans underwritten by the banks they lead. Building on a literature that documents the importance of a CEO's cultural heritage in shaping corporate decisions (e.g., Karolyi, 2016; Lin and Liu, 2018; Liu, 2016; Nguyen, Hagendorff, and Eshraghi, 2018), we measure the trust of U.S. CEOs using the attitudes towards trust in her or his genealogical country of origin.[1] The idea is that, while all U.S. CEOs are exposed to the same legal and institutional influences, they may differ in terms of how trusting their cultural heritage is. Since differences in genealogically-transmitted trust across CEOs are historically rooted, they predate a CEO's life experiences or other contemporaneous institutional factors. This allows us to isolate the effects of trust from other confounding factors.

[1] This approach follows the intuition that the cultural values of senior managers are likely to set the tone for other employees and shape corporate culture (e.g., Graham et al., 2018). Given the importance of corporate lending to banks, bank CEOs are likely to yield significant influence over corporate lending decisions. We offer empirical support for the latter in Section 3.3.

We focus on corporate loans as they are the most important source of external financing for both public and private firms. Furthermore, corporate loans are large, multi-period contracts and are plagued by adverse selection and moral hazard issues. As trust is particularly valuable in environments characterized by asymmetric information and high monitoring cost (Arrow, 1974), it should be salient for the design of corporate loan contracts. Ultimately, lenders need to take a leap of faith to commit funds to projects whose future payoffs are uncertain and to borrowers who cannot be completely monitored.

Trust can be defined as the subjective belief in the reliability of a counterparty. We hypothesize that trusting lenders charge lower loan rates than less trusting lenders. We base this prediction on a literature which argues that trusting individuals are less concerned about moral hazard and, as a result, demand a lower premium (Guiso et al., 2008; Hilary and Huang, 2018; Lesmeister, Limbach, and Goergen, 2018). For instance, Guiso et al. (2008) find that trusting investors allocate more funds to the stock market because they assign a lower probability to being cheated and thus, expect to earn a higher return on their investments.[2]

Relatedly, trusting lenders may view information submitted by firms as more credible. The credibility of borrower information is particularly salient for loan rates because self-serving borrowers may obfuscate firm performance in order to secure lending at lower loan rates. Pevzner et al. (2015) offer evidence in line with the view that trusting investors assign a lower probability to managers behaving opportunistically and manipulating financial results. The authors report stronger market reactions to earnings announcements in countries with higher levels of trust.

[2] Hilary and Huang (2018) show firms located in U.S. counties with higher levels of community trust engage less in monitoring of management (e.g., pay-based incentives have less power and forced CEO departures are less common). Lesmeister et al. (2018) find the percentage of votes that shareholders cast in support of management is higher in countries where societal trust is greater.

Similarly, Bhagwat and Liu (2018) find that more trusting analysts place a higher weight on management forecasts when making their own forecasts.

Trusting lenders may also offer lower interest rates if trust reduces the costs of monitoring. The so-called 'encapsulated interest view' of trust (Hardin, 2002) argues that a trusting agent believes a counterparty will honor a trust-based relationship, because the counterparty is concerned that defaulting on the agent's trust will lead to sanctions such as the severing of the relationship. Consistent with a link between trust and sanctions, Hilary and Huang (2018) show that firms located in U.S. counties where trust is more prevalent are more likely to fire CEOs after incidences of accounting fraud. Therefore, if trusting lenders believe it is in a borrower's interest to honor a loan agreement, their trust avoids some of the deadweight costs of monitoring borrowers and permits them to offer lower rates.

While trust may affect loan contract features other than pricing, our main analysis focuses on loan rates to aid the identification of the effects of trust. We can assume all borrowers prefer lower to higher loan rates. That is, if trusting lenders offered lower loan rates, loan markets would clear at lower rates. For non-price terms, it is more challenging to separate credit demand (borrower preferences) from credit supply effects (the contract terms offered by lenders). For instance, while trusting lenders might offer longer-term credit, credit markets would not clear on these terms if the increased supply of longer-term finance was not matched by a corresponding increase in demand for such loans (e.g., when borrowers needed to finance shorter-term projects).

To identify lender trust levels, we hand collect data on the country of origin of a bank CEO's ancestors from ancestry.com, the world's largest genealogy database. We search the family records of CEOs to identify the culturally-held levels of trust in the country of origin of their ancestors. CEOs who are either born outside the U.S. or are the children or grandchildren of

immigrants to the U.S. are assigned the trust values prevailing in their ancestral country of origin. CEOs who descend from earlier generations of immigrants are assigned the trust values prevailing in the U.S.[3] Trust values are based on the average response to the following question in the World Value Surveys (WVS): "*Generally speaking, would you say that most people can be trusted or that you need to be very careful in dealing with people?"*

Our sample of bank loan contracts comes from Dealscan and comprises 20,795 loan facilities issued to 7,699 U.S. corporate borrowers over 1992-2015. Most loans in Dealscan are syndicated, with one or more lead arranger(s) and several participating lenders. We focus our analyses on lead arranger(s) as they play a key role in determining loan contract terms.[4] Since firms in our sample typically borrow from several different banks over the sample period, we are able to identify the effects of bank CEO trust within groups of individual banks and borrowers with identical credit ratings (risk). This allows us to compare the all-in spreads paid on loans by the same borrower on loans of similar risk under bank CEOs with different levels of trust.[5]

We find a negative and statistically significant relation between a lender's trust levels and loan spreads. The effects are economically sizeable. A one-standard deviation increase in lender trust, the equivalent of an increase from the trust levels observed in the U.S. (where 39% respond most people can be trusted) to those of Australia (where the value is 48%), reduces loan spreads

[3] This set-up is in line with Nguyen et al. (2018) who find that the distinct cultural heritage effects disappear for CEOs whose ancestors have immigrated to the U.S. four or more generations ago. Our data collection procedure is described in detail in Section 2.1.

[4] Lead arrangers negotiate the terms of a loan before turning to participant lenders to underwrite part of the loan on the terms previously agreed with the borrower. Therefore, the trust levels of non-lead bank CEOs should not impact the terms of lending. Appendix 2 confirms that the trust levels of the CEOs of non-lead arrangers have no measurable impact on the pricing or terms of loans in our sample.

[5] In unreported analyses, we also find similar results when including bank × borrower fixed effects, which means that we are able to identify the effects of trust within individual bank-borrower relationships.

by about 3.6 basis points. This implies a reduction in interest expenses of about $600,000 for an average loan facility of $450 million.[6]

Our baseline association between trust and loan spreads survives a large set of additional tests, including controlling for various bank, borrower, CEO, and loan characteristics as well as other dimensions of a CEO's cultural heritage (measured by Hofstede's cultural indices of uncertainty avoidance, power distance, individualism, and masculinity). We consistently find that CEO trust, but not other CEO cultural values, is salient in explaining loan pricing. In addition, the influence of CEO trust on loan spreads is robust to controlling for the effects of CFO trust. That is, the trust levels of CEOs, but not those of CFOs, link to loan pricing. We also demonstrate the effect of CEO trust exist beyond the effect of social trust and social capital in local communities as documented by Hasan et al. (2017).

To assess the robustness of the relation between lender trust and loan spreads, we first verify that there is no systematic matching between a bank CEO's trust levels and various measures of borrower risk. That is, our results cannot be explained by safer borrowers engaging with more trusting lenders.[7] Also, we focus on a subsample of banks with CEO turnover events that are caused by either the death or illness of CEOs or by a pre-announced CEO succession plan.[8] This set-up

[6] If we compare the loan pricing between banks whose CEOs differ more in terms of their trust levels, for example, between the trust levels observed in Italy and Australia, the reduction in loan spreads is 8.7 basis points. Section 3.2 details how these estimates are computed.

[7] The lack of bank-borrower matching is consistent with the literature suggesting that agents tend to underappreciate the effects of cultural differences on economic outcomes (e.g., Edmans, 2011; Giannetti and Yafeh, 2012; Weber and Camerer, 2003). Alternatively, the costs to switch banks could be too large to justify foregoing valuable existing bank-borrower relationships (Boot, 2000).

[8] Endogenous matching between banks and CEOs may occur if banks with a view to expand their corporate lending appoint more trusting CEOs. Importantly, this view is not incompatible with the view that trusting CEOs imprint their beliefs on lending polices. CEO-bank matching may occur precisely because boards believe that CEOs will imprint their personal attributes on the firm's business policies.

introduces useful variation in CEO trust by creating the need for the board to replace a CEO for reasons unrelated to significant changes in corporate lending or other bank policies.

To bolster our interpretation that the effects we describe are due to lender trust, we analyze how high-trust vs low-trust lenders react when their trust is abused. Since trust and reciprocity are closely related (Fehr and Gächter, 2000), we expect trusting lenders to be harsher in their response to breaches of their trust. To this end, we examine a lender's response to earning restatements issued by borrowers. Previous studies show that earnings restatements increase the spreads paid by restating borrowers (Graham, Li and Qiu, 2008) as well as the spreads paid by non-restating borrowers that operate in the same industry (Files and Gurun, 2018) as lenders reassess the risk of fraudulent reporting in an industry. We focus on the effects of restatements on the spreads paid by *non*-restating borrowers in the same industry. This set-up makes it less likely that our results are driven by omitted variables specific to the restating borrower.

We find that an earnings restatement by a borrower increases the loan spreads of *non-restating* borrowers in the same industry by 17.1 basis points. More importantly, this effect is stronger for banks led by high-trust CEOs compared with banks led by low-trust CEOs. This finding confirms our expectation that trusting lenders take a harsher view of borrowers that breach their trust. Incidentally, this finding also offers one explanation for why our results are not competed away over time when all borrowers seek a loan from a trusting lender. The prospect of more severe sanctions issued by trusting lenders may deter borrowers who judge the probability of them defaulting on their lender's trust to be non-trivial from dealing with trusting lenders (cf. Fehr and Gächter, 2000; Hardin, 2002).

We next identify three economic channels through which trust reduces the cost of borrowing. First, the effect of trust on loan pricing is more pronounced among informationally

opaque borrowers, suggesting that trust mitigates information asymmetry issues between banks and borrowers. Second, the effect of trust is stronger in loan facilities in which banks are not protected by formal contracting provisions such as collateral or covenant requirements. This implies that, as an informal contracting mechanism, trust reduces a lender's concerns over borrower moral hazard. Finally, the effect of trust is more salient in loans where the cultural differences between lender CEOs and borrower CEOs are greatest and where the last name of borrower CEOs suggests their ancestral origins are linked to countries perceived less favorably by the U.S. public. Therefore, trust alleviates the negative effects of biases that contractual counterparties might hold against each other.

We also find that a lender's trust levels explain some of the non-price terms of loans. Specifically, banks with high-trust CEOs originate larger loans and loans with a longer maturity. Finally, we ask if trusting bank CEOs harm the banks they lead by charging lower spreads. Analyzing bank-level outcomes, we find that banks led by trusting CEOs experience higher loan growth, but no increases in total interest income or bank profitability. This suggests that the negative effects of lower spreads on loans underwritten by trusting CEOs are offset by the positive effects of higher loan growth. At the bank-level, trusting CEOs do not leave money on the table.

Our paper brings together two streams of literature: the role of trust in promoting economic growth (see DuPont and Karpoff (2018) for a review) and the role of CEO characteristics in shaping corporate decisions (Bernile, Bhagwat, and Rau, 2017; Custodio and Metzger, 2013; Dittmar and Duchin, 2016; Nguyen et al., 2018; Yonker, 2017). We contribute to both streams by uncovering the first evidence of how differences in trust across CEOs link to financial contracting.

By showing that trust lowers borrowing cost, our results also highlight a direct mechanism underlying the beneficial effects of trust on economic growth. While the link between trust and

growth is widely documented (e.g., Algan and Cahuc 2010; Knack and Keefer, 1997; La Porta et al., 1997), the mechanisms underlying this relationship are not well understood.[9] Our results highlight a new channel not previously examined in the literature: trusting lenders lower the cost of corporate credit, an important driver of corporate investment and economic growth.

Finally, our paper complements existing studies on the trustworthiness of *borrowers*. Duarte, Siegel, and Young (2012) and Hasan et al. (2017) show that the trustworthiness of borrowers affects lending decisions. As well as the trustworthiness of borrowers, a lender's attitude to trust should also play a crucial role in lending decisions. Our paper therefore contributes to the literature by focusing on the role of a lender's trust on the terms of loans. Relatedly, we offer the first attempt to identify the effects of personally-held trust rather than social or community trust that are the focus of Hasan et al. (2017).

2. Data

2.1 CEO cultural heritage data

We utilize a detailed dataset on the ancestors of U.S. bank CEOs, which is an updated version of the sample in Nguyen et al. (2018). The authors use Census Bureau records accessed via ancestry.com to trace the family tree of each U.S. bank CEO to identify their country of origin and immigrant generation. The data are described in detail in Nguyen et al. (2018). We highlight some of the key features of the data here.

Census records contain detailed demographic information on all members of a household, including names, birth dates, and places of birth. Using census records, we are able to identify a

[9] Recent evidence has identified a number of possible channels for how trust boosts output. These include the role of trust in promoting innovation (Xie, Zhang, and Zhang, 2018), facilitating venture capital investments (Bottazzi et al., 2016), enhancing information processing (e.g., Bhagwat and Liu, 2018; Pevzner et al., 2015), and improving household financial well-being (Jiang and Lim, 2018).

CEO's parents and their places of birth. If both parents are born outside the U.S., the CEO is classified as a second-generation immigrant from the country in which their parents were born. If either parent is born in the U.S., the search is resumed to locate census records of a CEO's parents to identify the CEO's grandparents. If the CEO's grandparents are born outside the U.S., the CEO is classified as a third-generation immigrant from the country in which his/her grandfather is born. Otherwise, the search is resumed using earlier Census records as far back as data availability permits, usually to the mid-19th century.

Using this approach, each CEO is assigned to the country where her ancestors are born and the generation of immigrants to which she belongs. Nguyen et al. (2018) find that bank CEOs exhibit distinct behavior based on the countries their ancestors immigrated from. Importantly, they find that these effects disappear for CEOs whose ancestors have immigrated to the U.S. four or more generations ago. They show the fourth generation marks the point of cultural assimilation when CEOs become too generationally distant from their ancestors' culture to display culturally distinct behavior from other CEOs. Following Nguyen et al. (2018), first-, second-, or third-generation CEOs are assigned the cultural values of the country from which their ancestors have migrated from. Fourth- and later-generation CEOs are assigned the cultural values prevailing in the U.S.

Throughout the paper, we restrict our sample to CEOs where the paternal and maternal ancestors originate from the same country and migrate to the United States the same number of generations ago. This ensures that the cultural heritage of CEOs is clearly identifiable as CEOs of

mixed ancestry may have inherited values from either or from both cultures, depending on cultural and personal factors we cannot observe.[10]

2.2 Measuring trust and other cultural values

Following the previous literature (e.g., Guiso et al., 2008), we construct a trust index for each country based on the percentage of survey respondents in that country who answer "*most people can be trusted*" to the following question in the World Values Surveys (WVS): "*Generally speaking, would you say that most people can be trusted or that you need to be very careful when dealing with people?"*. For countries not covered by the WVS, we use survey data from the European Value Surveys (EVS). We select WVS Wave 5 (2005-2009) and EVS Wave 4 (2008-2010) as these survey periods offer the most comprehensive coverage.

We assign this trust index to each CEO according to their country of origin going back up to three generations. For example, if a CEO is a second-generation immigrant from Italy, she will be assigned the trust index associated with Italy (0.27). By contrast, if a CEO is a fourth- (or later-) generation immigrant from Italy, she will be assigned the U.S. trust index (0.39).[11]

Some of our analysis also controls for Hofstede's cultural dimensions to show that trust exerts a distinct effect on loan spreads over and beyond other cultural values. Data on Hofstede's dimensions are obtained from https://www.hofstede-insights.com/models/national-culture.

[10] CEOs of mixed ancestry may have inherited values from either or from both cultures, depending on cultural and personal factors we cannot observe. Fortunately for our analysis, cross-cultural intermarriages were not common amongst 20th century immigrants (e.g., Kalmijn, 1999). Fewer than 15% of bank CEOs are classed as mixed ancestry.

[11] Section 9.1 demonstrates that there is a strong positive correlation between the trust level of a country and the trust levels of U.S. residents who report the country as their genealogical country of origin. Thus, the trust values in the genealogical country of origin of CEOs are suitable to describe their trust attitudes.

2.3 Bank loan sample

We obtain data on loan contracts from LPC-Reuters' Dealscan database. Our loan sample includes all dollar-denominated loans made by U.S. lenders to U.S. borrowers from 1992 to 2015. We treat each loan facility as a distinct observation because loan terms could differ across the different facilities a firm obtains in a given year.

We merge the Dealscan data with several other databases. First, we merge loan data with borrower characteristics using the Dealscan-Compustat link from Chava and Roberts (2008). This link table matches loan data with borrower Compustat identifiers between 1983 and August 2012. As our sample ends in 2015, we manually extend this table until 2015.

We manually match Dealscan lender names (e.g., "PNC Bank NA") to its bank holding companies (PNC Financial Services Group) by searching for each lender. We carefully read each lender's business descriptions, geographical coverage, and manager information to ensure accurate matches. We pay particular attention to handling bank mergers. It is important to track mergers because the acquired bank occasionally appears in Dealscan after it has been acquired and become a subsidiary of the acquirer bank (Schwert, 2018). In the final step, we obtain bank characteristics from call report data on commercial banks and bank holding companies (FFIEC 031/041 and FR Y-9C).

Most loans in Dealscan are syndicated, with one or more lead arrangers and several participating lenders. We focus our analyses on the lead arranger(s) as they play a key role in determining the loan contract terms. Following Gopalan, Nanda, and Yerramilli (2011), we designate a lender to be a lead arranger if its role is listed as one of the following: Agent, Admin Agent, Arranger, Co-arranger, Lead Bank, or Lead Manager. To be included in the sample, we require banks to have non-missing information on a CEO's ancestry so that we can identify any

culturally-inherited trust levels.[12] In total, there are 20,795 loans originated by 81 unique banks[13] to 7,699 unique borrowers that meet this requirement.

3. Bank CEO trust and loan pricing

3.1 Model

We use the following empirical model to examine the effect of bank CEO trust on loan spread:

$$\text{Log}\left(\text{Spread}_{i,j,t}\right) = \Phi\left(\beta_0 + \beta_1 \text{Lender trust}_{i,t} + \text{Controls}_{i,j,t}\boldsymbol{\Gamma} + \text{Fixed effects}_{i,j,t}\boldsymbol{\Gamma}\varepsilon_{i,j,t}\right) \quad (1)$$

where *j* indexes borrowers, *t* indexes time and *i* indexes banks. The dependent variable *Log(Spread)* is the natural logarithm of the all-in-spread-drawn (defined as the spread over LIBOR plus the facility fee) for a loan facility as in Berg, Saunders, and Steffen (2016).

[Table 1 around here]

Across all specifications, we include bank, borrower, quarter-year, and borrower's credit rating fixed effects. We include borrower's credit rating fixed effects to control for the time-varying credit risk of the borrower.[14] Under this tight specification, the coefficient on β_1 compares the spreads the same borrower pays the same bank on similar-risk loans under different CEOs with different levels of trust. This empirical set-up reduces concerns about omitted variables, in particular that our results are driven by time-invariant borrower or bank heterogeneity.

[12] We lose 1,740 loans (8% of the sample) as a result of missing CEO ancestry data or mixed ancestry cases. To account for potential self-selection, we use a standard Heckman two-step procedure (1979) and display the results in Appendix 4. This procedure ensures that our conclusions are not driven by unobservable factors that make sample inclusion more likely. We find the results are qualitatively similar after we control for the self-selection bias.

[13] Our sample of lenders is similar to the one reported in Schwert (2018). Dealscan only includes loans made to medium and large corporate borrowers and, therefore, only a selected number of banks act as a lead arranger in a syndicated loan.

[14] Section 4.1 shows additional evidence that our results are not driven by matching between CEOs and borrowers.

Following the prior literature, we include borrower-level variables to control for the borrower's size, profitability, leverage, asset structure (*Borrower tangibility*), working capital management (*Borrower current ratio*), and default probability (*Borrower Z-score*). Syndicated loans are characterized by both pricing (interest rate spreads) and non-pricing features (e.g., loan maturity, size, covenant and collateral requirements). To account for the joint determination of loan spreads and other loan attributes, all regressions control for a large set of loan-level characteristics, including loan maturity, loan size, and dummy variables indicating whether the loan is originated by only one lender (*Sole lender*), and whether the base rate for the loan is the prime rate rather than LIBOR (*Base is prime*). More importantly, we also control for formal contracting provisions embedded in the loan facility, including collateral (*Secured loan*) or covenant requirements (*Covenant*). Finally, we control for *Relationship lending* which is a dummy that equals to one if the borrower has taken out a prior loan from the bank in the last five years. Table 1 provides descriptive statistics on borrowers, loans, banks, and bank CEOs.

3.2 Baseline results

In Table 2, we estimate the baseline OLS regressions that examine the impact of bank CEO trust on loan spreads. *t-Statistics* are computed based on robust standard errors that are clustered at the borrower level. Model specifications vary across columns in terms of the set of fixed effects we include.

[Table 2 around here]

Consistent with our hypothesis that trusting lenders charge lower rates, we find that the coefficient on *Bank CEO trust* is negative and statistically significant across all columns. Thus, banks with more trusting CEOs offer cheaper loans to borrowers. The results are economically

meaningful. In Column (3), a one-standard deviation increase in *Bank CEO trust* reduces loan spreads by about 3.6 basis points.[15] This is the equivalent increase in trust levels from the U.S. to Australia. Given that the average loan size in our sample is $450 million and the time to maturity around 3.7 years, this implies that a one-standard deviation increase in bank CEO trust reduces total interest expenses by approximately $600,000 per loan facility (=$450m × 0.036% × 3.7).

Notably, the magnitude of the coefficient estimates on *Bank CEO Trust* remains highly stable as we progressively include more fixed effects into the model. It is also comforting to note that the coefficients on the control variables have the expected signs. For instance, loan spreads are lower for borrowers that are larger, less risky (i.e., have higher Z-scores and lower leverage ratios), and have more tangible assets. Furthermore, loan spreads are lower for borrowers that have borrowed from the same bank within the last five years.

3.3 Do CEOs influence syndicate lending decisions?

Our analyses focus on CEOs as the most important decision-maker in a bank. In this subsection, we perform three tests to demonstrate that CEOs influence syndicate lending decisions.

First, we analyze the proportion of the variation in syndicated-related lending outcomes that can be explained by the CEO compared to other explanatory factors. To do so, we run a series of regressions on bank-level outcomes and compute changes in the adjusted R^2 of these regressions following the inclusion of bank fixed effects and CEO fixed effects relative to a benchmark model with control variables (X) and year fixed effects (μ_t):

[15]A one-standard deviation increase in *Bank CEO trust* (i.e., 0.085) leads to a reduction in *Log(Spread)* by -0.01955 (= -0.230x 0.085). This, in turn, implies a reduction of 3.6 basis points based on the average loan spread of 186 basis points in the sample (-3.6 = 186 x $e^{-0.01955}$ – 186). For a 2.4 standard deviation difference in trust, the equivalent of Italy (0.275) and Australia (0.476), the reduction in loan spreads is 8.5 basis points (the equivalent of $1.4 million per loan facility).

$$P_{it} = \mathbf{X}^{*}\beta + \mu_t + \varepsilon_{it} \quad (2)$$

The vector X includes *Assets, Assets*^{2}*, Leverage, Lending, Deposits, RWA/Total assets, ROA*. Panel A of Table 3 displays the results. Column (1) reports the adjusted R^2 for the benchmark model. Columns (2) and (3) report the incremental increases in adjusted R^2 after adding bank fixed effects and CEO fixed effects, respectively.

The results show that CEO fixed effects make an important contribution to explaining syndicated lending outcomes. In fact, the contribution that CEO fixed effects make is larger than that of bank fixed effects for each of the outcome variables we examine. Interestingly, the difference between CEO fixed effects and bank fixed effects is larger for Commercial and Industrial (C&I) loan growth (13% versus 7%) than for total loan growth (12.4% versus 11.7%). This is consistent with the argument that CEOs have significant influence over corporate (C&I) lending decisions.

[Table 3 around here]

Second, we examine whether the trust levels of CFOs also play a role in influencing the costs of lending. The results in Panel B of Table 3 indicate that *Bank CFO trust* has no statistically significant effect on loan spreads. Crucially, *Bank CEO trust* continues to be negatively significant. The results reinforce the findings in Lin and Liu (2018) and Nguyen et al. (2018) that CEO attributes, but not the attributes of other senior executives, explain corporate policies.[16]

4. Identification concerns

Interpreting our finding on the effects of CEO trust on corporate loan contracts is challenging. The negative relation between CEO trust and loan spreads is not causal if some unobserved

[16] In unreported tests, we also observe a stronger effect of *Bank CEO trust* in banks with more powerful CEOs who have more scope to imprint their values on bank policies. A CEO is considered to be powerful if the fraction of inside directors on the board and the CEO's tenure are both above the sample median. The results are available upon request.

characteristics of banks, borrowers or CEOs also affect loan spreads. In this section, we construct several tests to demonstrate our findings are robust to a range of identification concerns.

4.1 Addressing bank-borrower matching

We first address concerns that the matching between banks and borrowers in our sample is not random. For instance, the negative relation between bank CEO trust and loan spreads could result if safer borrowers were more likely to approach banks with trusting CEOs. It is important to note that all regression specifications in the paper include bank, borrower, and borrower-credit rating fixed effects. This already greatly reduces any bias arising from potential bank-borrower matching.

In Panel A of Table 4, we use four measures that capture the credit risk of borrowers: (1) *Sub-investment grade,* which equals one if the borrower's credit rating is rated BB+ and below; (2) *No rating,* which equals one if the borrower does not have a credit rating; (3) default risk (based on Altman's *Z-score*); and (4) *Leverage*, book value of total liabilities divided by book value of total assets. We regress each of the borrower's risk measures on bank CEO trust.[17] *Bank CEO Trust* does not explain any of the borrower characteristics. Thus, we do not find evidence of systematic matching between bank CEO trust and any of the four measures of borrower's risk.

[Table 4 around here]

Panel B reports the ex-post performance of firms using four measures of borrower performance: the probability that the borrower violates covenant requirements[18] as well as one-year growth in ROA, total assets, leverage, and the Z-score. The dependent variables are measured

[17] We do not include borrower credit ratings or bank fixed effects in Panels A and B of Table 4 because we are interested in the cross-sectional mapping between borrowers and banks. Our conclusion remains the same when these fixed effects are included.

[18] Data on covenant violations are obtained from Amir Sufi's website: http://faculty.chicagobooth.edu/amir.sufi/

one year after the loan is originated.[19] None of the coefficient estimates are statistically significant. This further points to a lack of bank-borrower matching, i.e., banks with more trusting CEOs do not attract a different pool of borrowers compared to banks with less trusting CEOs.

This lack of bank-borrower matching is consistent with a broad literature suggesting that agents tend to underappreciate the effects of cultural differences on economic outcomes (e.g., Giannetti and Yafeh, 2012; Weber and Camerer, 2003). Explanations for this include that intangibles such as integrity and trust might not be fully recognized (Edmans, 2011) or, alternatively, that the switching costs borrowers face are sufficiently large as to justify foregoing valuable existing bank-borrower relationships (Boot, 2000).

4.2 Controlling for omitted CEO and local community variables

To address concerns that our results are driven by unobserved time-varying factors, we augment the baseline regressions with additional controls that could correlate with both bank CEO trust and loan pricing.

First, a growing literature documents how CEO characteristics other than trust explain firm policies. In line with this, we add controls for CEO tenure, and dummy variables indicating whether a CEO has an MBA degree (Bamber, Jiang, and Wang, 2010), was born during depression years 1930-1939 (Malmendier and Nagel, 2011), is overconfident (Malmendier and Tate, 2005),[20] and also serves as the chairman of the board. Additionally, we control for elements of a CEO's pay package, including total compensation and the fraction of their cash-based incentives. Finally, we control for dimensions of a CEO's cultural heritage beyond trust. We use Hofstede's (1980)

[19] We obtain similar results when using a lag of two or three years.

[20] A CEO is considered to be overconfident if s/he holds exercisable stock options that are at least 67% in the money. The rationale behind this measure is that CEOs who persistently exercise options later are overconfident in their ability to keep the company's stock price rising. We obtain data from individual CEO option grants from the Execucomp database.

cultural dimensions of uncertainty avoidance, power distance, individualism, and masculinity. Prior research has shown that these dimensions influence the decision-making behavior of bank CEOs (e.g., Karolyi, 2016; Lin and Liu, 2018; Liu, 2016; Nguyen et al., 2018).

[Table 5 around here]

As shown in Panel A of Table 5, the coefficients on *Bank CEO trust* remain statistically negative and stable in terms of magnitude across all specifications. Importantly, the coefficients on other cultural dimensions are not statistically significant, implying that trust (but not other commonly analyzed cultural values) is a salient aspect of a CEO's cultural heritage in explaining loan pricing.

Second, we examine whether our results are driven by the governance quality of the bank. We include board size, the fraction of independent directors, and the *G-index* developed by Gompers, Ishii, and Metrick (2003) as additional controls. Panel B of Table 5 shows that our results remain robust to the inclusion of these controls.

Third, we control for a bank's geographic attributes, including county-level measures of population size, unemployment, income per capita, religiosity (the number of religious adherents divided by a county's population),[21] and social capital (measured by the number of social organizations and the number of tax-exempt non-profit organizations, both scaled by county population).[22] Local measures of religiosity and social capital should both have a close relation to the levels of trust held in local communities (Hasan et al., 2017; Lins, Servaes, and Tamayo, 2017). Reassuringly, Panel C of Table 5 indicates that the coefficients on trust continue to be negative

[21] The data are collected by the Association of Religion Data Archives (ARDA) for 1990, 2000 and 2010. Following Callen and Fang (2015), we interpolate the data for the remaining years.

[22] Social organizations include religious organizations, civic organizations, business associations, political organizations, labor organizations, bowling centers, physical fitness facilities, public golf courses, and sport clubs. Data on social capital are obtained from the Northeast Regional Center for Rural Development (NRCRD) at the Pennsylvania State University.

and statistically significant with stable magnitudes after controlling for location-based measures of trust. Our study therefore shows that personally-held trust levels linked to the CEO affect loan spreads over and beyond community-based measures of trust.

4.3 Evidence from CEO transitions

Since our regressions include bank and borrower fixed effects, the effect of bank CEO trust on loan pricing is identified via changes in bank CEOs. One concern with this approach is that CEO turnover events may be driven by changes in bank characteristics that also affect loan spreads. For instance, banks with a view to expand their corporate lending may appoint more trusting CEOs to build rapport with borrowers and, at the same time, quote lower loan spreads to expand their loan book.

In a subsample analysis, we restrict our sample to a subset of CEO turnovers that are unlikely to be driven by and related to corporate lending decisions. We follow Dittmar and Duchin (2016) and focus on turnover events that meet one of the following conditions: (1) the CEO departs as a result of death or illness; (2) the departing CEO is at least 60 years old at the time of the turnover; and (3) the turnover occurs as part of the bank's succession plan, with the date of departure announced at least six months prior to departure. While this set-up does not constitute an ideal experimental setting as the selection of the new CEO is not random, it still introduces some external variation by creating the need to appoint a CEO for reasons that are not plausibly related to corporate lending.

[Table 6 around here]

We then estimate panel regressions with bank fixed effects on loan spreads using the subsample of banks with CEO transitions that meet the above conditions. Table 6 reports the

results. Column (1) of Table 6 indicates that, when the incoming bank CEO is more trusting than the outgoing CEO, there is a statistically significant reduction in loan spreads offered by the bank for the same borrower and within groups of borrowers having the same credit rating. A one-standard deviation increase in *Bank CEO trust* reduces loan spreads by about 6.79 basis points.[23] The magnitude of CEO trust effect on loan spreads in this subset is larger than in our baseline regressions. Therefore, our baseline regressions are a conservative estimate of the magnitude of bank CEO trust effect on loan spreads.

We continue to find that trust exerts a significant and negative effect on loan pricing when we increase the age requirement for outgoing CEOs to 65 years (Column (2)) and 70 years (Column (3)). CEO departures involving older CEOs are more likely to be caused by planned succession plans and less likely to be related to corporate lending. Consistent with this, the magnitude of the coefficient estimates increases as we increase the age requirement.

Column (4) focuses on internal CEO successions, where the incoming CEO was already employed by the bank. Internal successions often reflect a desire for continuity in a bank's strategy (Dittmar and Duchin, 2016) and rather than a desire to change a bank's lending policies. The results show that when the sample is limited to banks that experience internal CEO turnovers, the coefficient estimate on *Bank CEO Trust* remains negative and statistically significant.

Panels B and C of Table 6 repeat the analyses in Panel A but impose the additional condition that CEO turnover must not occur when the bank's asset growth (Panel B) or ROA (Panel C) fall below the industry's bottom quartile. This ensures that the selection of a new CEO is not driven by underperformance or stagnant growth. Across all specifications, we continue to

[23] In the sample where the turnover takes place when the outgoing CEO is at least 60 years old (Column 1), a one-standard deviation increase in *Bank CEO trust* (i.e., 0.085) leads to a reduction in *Log(Spread)* by -0.0372 (= -0.438x 0.085). This, in turn, implies a reduction of 6.79 basis points based on the average loan spread of 186 basis points (-6.79 = 186 x $e^{-0.0372}$ – 186).

find that trust exerts a significant and negative effect on loan pricing. Jointly, the results in Table 6 add further confidence to the robustness of the relationship between CEO trust and loan pricing.

4.4 Appointments of high-trust CEOs

As a final exercise to address bank-CEO matching concerns, we study whether banks that hire high-trust CEOs differ from other banks. To test this, we examine whether bank characteristics at the time when a new CEO is appointed explain the hiring of high-trust CEOs. The dependent variable *High-trust CEO* equals one if the new CEO's inherited trust levels are in the top quartile (i.e., 25th percentile) among bank CEOs.

[Table 7 around here]

As shown in Table 7, none of the bank characteristics, including size, balance sheet compositions (Loans/Assets, Deposits/Assets, capital ratio), growth indicators (asset growth, loan growth, Commercial and Industrial (C&I) loan growth), or performance indicators (ROA, non-performing loans) explain the likelihood that a high-trust CEO being appointed. This further rules out the possibility that CEOs are matched to banks based on their inherited trust levels.

5. Defaults on trust

This section bolsters our interpretation that the effects we describe are due to trust by analyzing how high-trust vs low-trust bank CEOs react when their trust is abused. This test is motivated by arguments that trust and reciprocity are closely related (Fehr and Gächter, 2000; Williamson, 1993) and by recent findings that the response to defaults on trust is stronger in a high-trust environment than in a low-trust environment (Hilary and Huang, 2018).

If our results are indeed due to trust, we expect to find that banks with high-trust CEOs will respond more severely to a perceived abuse of their trust than banks with low-trust CEOs. While most lenders may pass higher monitoring costs on to borrowers following a breach of trust, high-trust CEOs will impose additional costs that are rooted in the psychological costs caused by a lack of reciprocation by borrowers.

To test our prediction, we examine the response of high-trust vs low-trust bank CEOs to the heightened prospect that borrowers engage in fraudulent financial reporting. Earnings restatements, which occur when a company revises its financial statements, are a serious form of accounting misconduct and a significant breach of trust for the financiers of a firm. Since firms in the same industry as restating firms are involved in similar business transactions and use similar accounting practices, restatements will lead to a perceived decline in the credibility of financial information of restating borrowers *and* non-restating borrowers in the same industry. Consistent with this, previous analyses show restatements result in higher loan spreads for both the restating borrower (Graham et al., 2008) and non-restating borrowers in the same industry (Files and Gurun, 2018).

We investigate the impact of earning restatements issued by a borrower on non-restating borrowers that operate in the same industry and borrow from the same bank as the restating firm. A key advantage of focusing on non-restating borrowers is that increases in the perceived risk of abuses of trust is caused by *other* borrowers in a bank's portfolio of loans. This makes it less likely that our results are driven by omitted variables specific to the restating borrower. For instance, firms that manipulate their earnings might be systematically different or somehow time their borrowing ahead of committing fraud. A further advantage of this empirical setting is that, because

different firms restate earnings at different points in time, our results are unlikely to be driven by a common omitted factor across all banks or borrowers.

To test for the effects of reporting manipulation on spreads, we regress *Ln(spread)* on the interaction between *Bank CEO Trust* and *Borrower Industry Restatement*$_{t-1}$, a dummy variable that equals one if another borrower in the same 1-digit SIC industry as borrowers that also borrows from the same bank has announced an earning restatement in the previous 12 months. Data on earning restatements are obtained from AuditAnalytics.

[Table 8 around here]

Table 8 reports the results. First, we confirm that a restatement by an industry peer borrower increases the loan spread of non-restating borrowers by 17.1 basis points.[24] More importantly, the statistically positive coefficient on *Borrower Industry Restatement*$_{t-1}$**Bank CEO trust* indicates that, compared to banks with low-trust CEOs, banks with high-trust CEOs impose higher loan spreads on a borrower following an earning restatement. Incidentally, this offers an additional explanation for why it is not optimal for all borrowers to seek a loan from high-trust lenders. Since trusting CEOs take a harsher view of breaches of their trust, this may deter problematic borrowers from approaching banks with high-trust CEOs for a loan.

6. Economic mechanisms

This section identifies three economic mechanisms through which trust lowers loan rates. Our results show that trust helps overcome adverse selection issues in lending relationships, substitutes

[24] For the average level of trust (0.344), the effect of misstatement on Log(spread) as indicated in Column (2) is 1.424*0.344 – 0.402=0.088. This translates into an increase of 17.1 basis points based on the average loan spread of 186 basis points (17.1 = 186 x $e^{0.088}$ – 186).

for formal contracting provisions that protect lenders, and overcomes biases between the contractual counterparties.

6.1 Trust reduces adverse selection problems

The first channel through which trust could reduce borrowing costs is by mitigating the impact of adverse selection in lending relationships. Specifically, trust could boost the credibility of information transmitted by firms (Bhagwat and Liu 2018; Pevzner et al., 2015). If trust helps overcome the impact of adverse selection, we expect the effect of trust to be more salient in the subsamples of borrowers with greater information problems.

[Table 9 around here]

We partition our sample based on how likely borrowers are to pose adverse selection risks to a lender. We use several different proxies for information problems: (1) borrowers with a below sample median tangibility (PPE/Assets) ratio, (2) borrowers reporting positive research and development (R&D) expenses, (3) borrowers without a prior lending relationship with the bank in the past five years (Giannetti and Yafeh, 2012), (4) borrowers with above sample median discretionary accruals, and (5) borrowers whose financial statements are not audited by one of the Big Four (Big4) accounting firms. We re-estimate the regression specification in Column (3) of Table 2 for each of the resulting subsamples of borrowers.

Panel A of Table 9 presents the results. Consistent with our expectation, Panel A indicates that CEO trust affects loan spreads in the subsamples of borrowers that pose greater adverse selection risks to lenders. In contrast, CEO trust does not exert a statistically significant effect on loan spreads in subsamples where adverse selection risks are low.[25]

[25] One exception are the coefficients in Columns (9) and (10) which are both significant. The results of an unreported F-test indicate that the coefficient in Column (10) is significantly larger than the one in Column (9). This indicates

6.2 Trust substitutes for formal contracting provisions

Since banks cannot fully monitor borrowers, some borrowers may behave opportunistically. One way banks could protect themselves against moral hazard problems is by employing formal contracting provisions. For instance, banks may require borrowers to put up assets as collateral in order to secure a loan or require borrowers to meet covenant conditions (e.g., limiting borrower leverage throughout the duration of the loan).

Alternatively, trust could act as a substitute for formal contracting provisions. If this is the case, we expect trust to play a more salient role in reducing borrowing costs when banks are *not* protected by formal contracting provisions. To test this conjecture, we partition the sample according to whether loans have a collateral or a covenant requirement. We re-estimate the regression specification in Column (3) in Table 2 for each subsample and report the results in Panel B of Table 9.

Panel B indicates that the coefficient estimates on *Bank CEO Trust* are significantly negative in the subsamples of loans that do not include a covenant requirement (Column (2)) or a collateral requirement (Column (4)). By contrast, CEO trust does not exert a statistically significant effect in the subsamples of loans with covenant or collateral requirements (Columns (1) and (3)). These results support the idea that trust becomes more salient when a lack of formal contracting provisions exposes banks to greater moral hazard problems. This points to the role of trust as an informal contracting mechanism.

that the relation between CEO trust and loan spreads is stronger when borrowers are not audited by one of the big four accounting firms.

6.3 Trust overcomes bias

Giannetti and Yafeh (2012) show evidence consistent with cultural biases in corporate lending. The authors show that firms that borrow from culturally more distant banks are charged higher interest rates and granted smaller loans. To test if trust mitigates biases in lending relationships, we divide our sample in two ways.

First, we divide loans based on whether the cultural distance between borrowers and lenders is above the sample median. We define cultural distance as the sum of the absolute differences in cultural values between the lead-lender CEO and the borrower CEO. Differences are calculated for trust as well as for Hofstede's (1980) cultural dimensions of uncertainty avoidance, power distance, individualism, and masculinity.

Second, we distinguish between borrower CEOs based on how favorable the public's view is of the country that is commonly associated with the borrower's last name. The favorability of countries is measured using an index constructed in Jung et al. (2019). The index is based on Gallup poll data that capture the favorability of Americans towards foreign countries.[26] We re-estimate the regression specification in Column (3) in Table 2 for each subsample and present the results in Panel C of Table 9.

Panel C indicates that trust lowers borrowing costs in subsamples where the borrower's CEO is culturally more distant from the lender CEO and where the borrower CEO's surname is

[26] We follow the procedure described in Jung et al. (2019) to construct this index. First, we identify the country of origin of the borrower's CEO based on his/her surname by collecting the nationality of all immigrants into the U.S. whose surname is identical to that of the borrower's CEO from ancestry.com. Second, we measure the favorability towards a borrower CEO's country of origin using the responses of participants in a Gallup survey to the following question: '*I'd like your overall opinion of some foreign countries. Is your overall opinion of the following country very favorable, mostly favorable, mostly unfavorable, or very unfavorable?*'. We use the percentage of survey participants who answered "Very favorable" or "Mostly favorable" as a primary measure of favorability of Americans toward a specific country. For instance, Brazil has a favorability index of 0.663 (75th percentile), indicating that 66.3% of the American survey respondents view Brazilian either very favorably or mostly favorably. Colombia has a favorability index of 0.264 (25th percentile), implying that 26.4% of the American survey respondents view Colombia either very favorably or mostly favorably.

linked to a country that is perceived less favorably by the U.S. public. We interpret this as confirming that trust alleviates the potential negative biases induced by cultural distance or by a borrower's last name.

7. Bank CEO trust and the non-price terms of loans

Our analysis focuses on loan rates to aid the identification of the effects of trust. In contrast, for non-price terms, it is more challenging to separate demand (borrower preferences) from the supply effects (contract terms offered by lenders). Even if trusting lenders were to offer loans on different non-price terms, credit markets may not clear on those terms if the supply of loans under trusting lenders does not match borrower preferences.

Nonetheless, for a complete picture, this section focuses on the effects of bank CEO trust on non-price terms. As non-price terms reflect a lender's assessment of the borrower at the time of loan origination (Bharath, Sunder and Sunder, 2008), trusting lenders may impose less stringent non-price loan terms.

[Table 10 around here]

To examine this conjecture, we re-estimate our baseline specification with the following dependent variables: *Loan size* is the loan amount divided by the borrower's recoverable assets (measured using Property, Plants, and Equipment (PPE)); *Loan duration* is the natural logarithm of the loan maturity; *Secured loan* is a dummy that equals one if the loan facility has a collateral requirement; *Credit line* is a dummy that equals one if the borrower has a positive amount of undrawn credit line (reported in form 10-K and supplemented with usage data from Capital IQ as in Archaya et al., 2014). Credit lines have option-like features, because they involve lenders

committing to a loan on pre-agreed terms for the subsequent use of borrowers at their discretion (Berg et al., 2016). Table 10 reports the results.

We find marginally significant results that loans originated by trusting lenders have less stringent non-price lending terms. Specifically, Columns (1) and (2) indicate that trust is associated with larger loans relative to a borrower's recoverable assets and loans with a longer maturity. Furthermore, Column (4) shows that trusting lenders more frequently grant borrowers the option of drawing down a pre-agreed credit line. The estimate in Column (3) is insignificant, indicating that loans originated by trusting lenders do not have fewer collateral requirements. Since collateral is frequently used for significantly riskier borrowers and riskier loans (Berger and Udell, 1990), we interpret this result as confirming that firms borrowing from banks with trusting CEOs are not riskier than firms borrowing from other banks. Taken together, this suggests that CEO trust not only affects the interest rates of a loan but also some non-price terms.

8. CEO trust and bank outcomes

Does CEO trust affect bank-level outcomes through syndicate lending decisions? On the one hand, by issuing cheaper loans, banks with high-trust CEOs may leave money on the table by reducing net interest margins. On the other hand, lower spreads could help banks attract more borrowers and boost interest income. We examine the effect of CEO trust on a bank's loan growth, non-performing loans, and profitability using the following equation:

$$y_{i,t} = \beta_0 + \beta_1 Bank\ CEO\ trust_{i,t} + \mathbf{CONTROL}_{i,t}\boldsymbol{\Gamma} + \varepsilon_{i,t} \quad (3)$$

where *i* indexes bank and *t* indexes years. The sample covers banks included in the Dealscan database with data on CEO ancestors. $y_{i,t}$ is one of the following dependent variables: *C&I loan growth* is one-year growth in Commercial and Industrial (C&I) loans; *Loan book profitability* is

Interest Income divided by C&I loans*;* and *ROA* is income before extraordinary items divided by total assets. All models include bank and state-year fixed effects as well as a host of bank-level controls: asset, asset^2, leverage, lending, deposits, RWA/total assets, and ROA.

[Table 11 around here]

The results in Column (1) of Table 11 show that banks with high-trust CEOs exhibit higher loan growth, in line with the literature on the role of trust in promoting economic growth (e.g., Knack and Keefer, 1997). However, the positive effects of higher loan growth on performance is offset by the lower loan spreads associated with trusting CEO. On a net basis, CEO trust has no statistically significant effect on bank profitability (Columns (2) and (3)). High-trust CEOs do not harm the performance of their institution by charging lower spreads.

9. Additional tests

9.1 Validating the trust measure

We measure CEO trust using the trust levels in the CEO's genealogical country of origin. One criticism of this proxy is that the trust levels of, say, Italians living in Italy could be different from the trust levels of U.S.-born descendants of Italian immigrants. This is not the case in our data. Specifically, Figure 1 displays a strong positive correlation (0.71) between the trust levels in a country (WVS data) and the trust levels of U.S. residents whose ancestors are from that country (General Social Surveys (GSS) data).[27]

It is important to emphasize that the self-reported ancestral background data in the GSS data could be noisy. Respondents in the GSS data may be mistaken over what they believe as their

[27] To calculate the trust levels of U.S. residents based on their genealogical country of origin, we use data from the 2000-2014 General Social Surveys (GSS). One of the questions that the GSS asks is: "*From what countries or part of the world did your ancestors come?*". We calculate the percentage of survey respondents who answer to the GSS that people are "*always trusted*" or "*usually trusted*" by the country respondents indicate their ancestors are from.

ancestral background. Further, our approach assigns trust values in the genealogical country of origin only for up to three generations. The GSS data, on the other hand, collect responses also from later-generation descendants of immigrants to the U.S. whose cultural values have converged to the U.S. values (see Nguyen et al., 2018). A correlation coefficient of 0.71 is therefore comforting and supports the validity of our trust measure.

9.2 Placebo tests on non-lead arranger banks

As a placebo test, we use the trust levels of CEOs of lenders that do not act as lead arrangers in a loan facility. Lead arrangers negotiate the terms of the loan before turning to participant lenders to underwrite part of the loan on terms previously agreed with the borrower. We do not expect that the trust levels of non-lead bank CEOs impact the terms of lending. As the results of Appendix 2 show, non-lead bank CEO trust has no statistically significant effect on either the price or the non-price terms of loan contracts.

9.3 Assessing the potential bias from unobservable omitted variables

In this sub-section, we use a methodology developed by Oster (2019) to assess the potential bias from unobservable omitted variables.[28] This test computes the degree of selection on unobservables relative to observables in order to reduce the effect of interest to zero. This ratio is denoted as δ. For instance, δ=2 would indicate that unobservables need to be twice as important as observables for omitted variable bias to explain away the entire effect of CEO trust on loan pricing and reduce the coefficient of interest to zero. The implementation of Oster's (2019) test requires

[28] We perform this test using the Stata command *psacalc* written by Oster (2019).

we specify the value of R_{max} which is the R^2 from a hypothetical regression that includes both observed and unobserved controls. We set R_{max} to the highest value 1 resulting in the most conservative estimate of δ.

Appendix 3 shows δ ranges between 1.9 and 5.5. This is comfortably higher than the robustness benchmark of one recommended by Oster (2019) and indicates the unobservables would need to be around three times as important as the observables to reduce the coefficient on *Bank CEO Trust* to zero. This is unlikely given that our regressions already include many important determinants of loan spreads as well as a large number of fixed effects to capture time-invariant bank, borrower, and loan characteristics.

10. Conclusion

This paper provides the first direct evidence on the relation between personally-held trust levels and loan contracting. We show that banks with trusting CEOs issue loans at lower rates and with longer maturities. These effects are statistically significant and economically meaningful. Trust matters when borrowers are informationally opaque, when banks are not protected by formal contracting provisions, and when borrower CEOs are culturally more distant to the bank CEO. This points to the role of trust as an informal contracting mechanism.

However, we also find that trusting CEOs react more severely to breaches of their trust than less trusting CEOs. Therefore, not all borrowers will want to transact with trusting bank CEOs. This offers one possible explanation for why the results we document are not competed away when all borrowers seek out trusting lenders. Overall, trusting CEOs neither harm nor boost bank-level performance. Instead, trusting CEOs affect the volume of lending and the terms of individual loans. Our results show that personal trust helps contractual counterparties overcome some of the inefficiencies created by incomplete contracts.

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Table 1: Summary statistics

This table reports summary statistics for bank, borrower and loan characteristics. Definitions are available in Appendix 1.

Variables	N	Mean	STD	p1	p50	p99
Panel A: Loan-level analysis						
Bank CEO trust	20,795	0.344	0.085	0.186	0.378	0.653
Borrower characteristics						
Borrower size	20,795	14.160	1.887	9.709	14.200	18.170
Borrower ROA	20,795	0.118	0.103	-0.214	0.119	0.331
Borrower tangibility	20,795	0.317	0.237	0.019	0.253	0.900
Borrower current ratio	20,795	1.739	1.056	0.316	1.533	5.488
Borrower leverage	20,795	0.652	0.274	0.217	0.629	1.538
Borrower Z-score	20,795	2.537	2.669	-2.406	2.405	7.104
Misstatement	20,795	0.012	0.108	0.000	0.000	1.000
R&D	10,501	0.034	0.065	0.000	0.013	0.281
Abnormal Accruals	19,661	0.243	2.969	0.001	0.064	3.057
Big4 Auditor	13,796	0.896	0.305	0.000	1.000	1.000
Bank-Borrower cultural distance	14,513	0.351	0.238	0.033	0.300	0.952
Borrower CEO's favorability index	14,309	80.970	8.269	49.500	84.300	87.700
Loan characteristics						
Spread	20,795	186.257	127.630	17.000	175.000	600.000
Ln(spread)	20,795	4.964	0.808	2.890	5.170	6.399
Covenant (dummy)	20,795	0.621	0.485	0.000	1.000	1.000
Secured loan	20,795	0.511	0.500	0.000	1.000	1.000
Loan duration	20,795	3.706	0.661	1.792	4.094	4.575
Base is prime	20,795	0.040	0.195	0.000	0.000	1.000
Sole lender	20,795	0.051	0.220	0.000	0.000	1.000
Loan size	20,795	2.122	33.030	0.013	0.500	14.280
Relationship lending	20,795	0.572	0.495	0.000	1.000	1.000
Bank CEO's characteristics						
MBA	18,242	0.501	0.500	0.000	1.000	1.000
Overconfidence	20,795	0.259	0.438	0.000	0.000	1.000
Depression baby	16,744	0.197	0.397	0.000	0.000	1.000
CEO tenure	20,308	6.412	5.065	0.200	5.000	22.000
CEO/Chairman duality	12,739	0.818	0.386	0.000	1.000	1.000
Cash pay	19,911	0.358	0.245	0.024	0.322	0.957
Ln(Total compensation)	19,911	9.384	1.148	3.502	9.634	11.350
Bank's county characteristics						
Ln(County population)	18,033	13.280	1.443	8.287	13.680	15.500
County unemployment	18,034	5.774	2.610	2.000	5.100	15.300
Ln(County population)	17,965	10.540	0.370	9.835	10.500	11.700
Religiosity	16,029	0.597	0.115	0.353	0.578	0.804
Social organizations (scaled)	18,811	1.171	0.253	0.595	1.187	1.624
Non-profit organizations (scaled)	18,811	0.008	0.004	0.004	0.006	0.013

Table 1: Summary statistics (cont.)

Variables	N	Mean	STD	p1	p50	p99
Panel B: Bank-level analysis						
Assets	850	17.160	1.725	13.900	16.880	21.480
Leverage	850	0.906	0.028	0.809	0.911	0.948
Lending	850	0.603	0.166	0.056	0.652	0.835
Deposits	850	0.686	0.128	0.107	0.698	0.887
RWA/Total assets	850	0.751	0.140	0.390	0.757	1.099
ROA	850	1.094	0.858	-0.384	1.114	3.002
Non-performing loans/C&I loans	705	0.108	0.294	0.003	0.048	0.786
Interest income/C&I loans	850	1.859	15.210	0.105	0.390	30.680
Commercial and Industrial (C&I) loan growth	826	0.128	0.250	-0.304	0.094	1.275
Asset growth	839	0.128	0.296	-0.125	0.075	1.095
Loan growth	841	0.128	0.278	-0.194	0.082	1.174
Capital	850	7.992	2.187	4.951	7.614	14.240

Table 2: Bank CEO trust and loan spreads

This table examines the relation between bank CEO trust and loan spreads. The dependent variable is *Ln(spread)*, the natural logarithm of the all-in spread drawn in basis points for a loan a borrower obtains in year *t.* Standard errors are clustered at the borrower level. The sample covers the period 1992–2015. Definitions of all variables are in Appendix 1. *t-Statistics* are reported in parentheses. ***, **, and * indicate significance at the 1, 5 and 10% level, respectively.

Dependent variable: Ln(spread)			
	(1)	(2)	(3)
Bank CEO trust	-0.314***	-0.237**	-0.230**
	(-3.415)	(-2.083)	(-2.168)
Bank size	-0.012*	-0.130***	-0.116***
	(-1.913)	(-4.632)	(-4.231)
Borrower size	-0.110***	-0.112***	-0.063***
	(-7.086)	(-7.075)	(-4.233)
Borrower ROA	-0.063	-0.068	-0.105
	(-0.195)	(-0.215)	(-0.365)
Borrower tangibility	-0.360***	-0.370***	-0.320***
	(-3.545)	(-3.701)	(-3.525)
Borrower current ratio	0.019**	0.019**	0.008
	(2.010)	(1.968)	(0.957)
Borrower leverage	0.231***	0.222***	0.224***
	(3.124)	(3.035)	(3.216)
Borrower Z-score	-0.071***	-0.072***	-0.060***
	(-6.046)	(-6.288)	(-5.820)
Covenant (dummy)	-0.011	-0.014	-0.017
	(-0.858)	(-1.039)	(-1.377)
Secured loan	0.316***	0.312***	0.274***
	(17.617)	(17.684)	(16.303)
Loan duration	0.035***	0.033***	0.022***
	(4.345)	(4.204)	(2.679)
Base is prime	0.596***	0.599***	0.605***
	(16.526)	(16.528)	(16.744)
Sole lender	0.054*	0.056*	0.047
	(1.810)	(1.847)	(1.541)
Loan size	-0.000	-0.000	-0.000
	(-1.534)	(-1.619)	(-1.453)
Relationship lending	-0.023**	-0.025***	-0.025***
	(-2.415)	(-2.600)	(-2.629)
Borrower fixed effects	Yes	Yes	Yes
Quarter-year fixed effects	Yes	Yes	Yes
Borrower credit rating fixed effects	No	No	Yes
Bank fixed effects	No	Yes	Yes
Observations	20,795	20,795	20,795
R-squared	0.426	0.433	0.476

Table 3: Do bank CEOs influence syndicate lending decisions?

This table demonstrates CEO's influence on syndicated lending decisions. **Panel A** reports the incremental increases in the adjusted R^2 for different syndicate lending-related outcome variables. Each row refers to a different regression model. The dependent variables are *C&I loan growth*, which is one-year growth in Commercial and Industrial (C&I) loans; *C&I loans/total loans*, which is C&I loans divided by total loans; *Interest income/C&I loans*, which is Interest Income divided by total C&I loans; *Non-performing loans/C&I loans*, which is non-performing loans divided by C&I loans; and *Loan growth*, which is one-year growth in total loans. Column (1) reports the adjusted R^2 of regressions using a benchmark model, which includes controls for bank characteristics (*Assets, Assets*^{2}*, Leverage, Lending, Deposits, RWA/Total assets, ROA*) and year dummies. Column (2) adds bank fixed effects to the benchmark model. Column (3) adds CEO fixed effects to the benchmark model. The sample covers the period 1992–2015. Standard errors are clustered at the bank level. **Panel B** reports the effect of the Bank CFO trust on loan spread and compares it with that of Bank CEO trust. The dependent variable is *Ln(spread)*, the natural logarithm of the all-in spread drawn in basis points for a loan a borrower obtains in year *t.* The sample covers the period 1992–2015. Standard errors are clustered at the borrower level. Control variables in Panel B are collapsed for brevity: *Bank size, Borrower size, Borrower ROA, Borrower tangibility, Borrower current ratio, Borrower leverage, Borrower Z-score, Covenant (dummy), Secured loan, Loan duration, Base is prime, Sole lender, Loan size, Relationship lending.* Definitions of all variables are in Appendix 1. *t-Statistics* are reported in parentheses. ***, **, and * indicate significance at the 1, 5 and 10% level, respectively.

Panel A: CEO's influence on syndicated lending outcomes

			Increase in Adj. R^2 after including:	
		Adj. R^2 benchmark model	**Bank FE**	**CEO FE**
		(1)	(2)	(3)
1	C&I loan growth	0.154	0.069	0.127
2	C&I loans/total loans	0.328	0.579	0.597
3	Interest income/C&I loans	0.087	0.191	0.425
4	Non-performing loans/C&I loans	0.174	0.038	0.095
5	Loan growth	0.121	0.117	0.124
6	*Average*	*0.173*	*0.199*	*0.274*

Panel B: CEO vs. CFO influence on loan spreads

Dependent variable: Ln(spread)		
	(1)	(2)
Bank CFO trust	-0.093	-0.093
	(-0.515)	(-0.512)
Bank CEO trust	-	-0.508**
	-	(-2.044)
Control variables	Yes	Yes
Borrower fixed effects	Yes	Yes
Borrower credit rating fixed effects	Yes	Yes
Bank fixed effects	Yes	Yes
Quarter-year fixed effects	Yes	Yes
Observations	7,833	7,785
R-squared	0.447	0.450

Table 4: Bank-borrower matching

Panel A examines matching between borrowers and banks based on the bank CEO's trust levels and borrower risk measured by: *Sub-investment grade* equals one if the borrower's credit rating is BB+ and below; *No rating* equals one if the borrower does not have a credit rating; *Z-score* is the borrower's Z-score; and *Leverage* is the book value of total liabilities divided by the book value of assets. **In Panel B**, we examine the relation between bank CEO trust and the ex-post performance of firms that borrow from the bank. The dependent variables are: *Covenant violations*, which equals one if the borrower violates loan covenants; and one-year growth in *ROA, Assets, Leverage,* and *Z-score*. Standard errors are clustered at the borrower level. Control variables are collapsed for brevity. The control variables in Column (1) are *Bank size, Borrower size, Borrower ROA, Borrower tangibility, Borrower current ratio, Borrower leverage, Borrower Z-score, Covenant (dummy), Secured loan, Loan duration, Base is prime, Sole lender, Loan size, Relationship lending.* The control variables in Columns (2)-(5) are *Borrower size, Borrower ROA, Borrower tangibility, Borrower current ratio, Borrower leverage*, and year dummies. Definitions of all variables are in Appendix 1. *t-Statistics* are reported in parentheses. ***, **, and * indicate significance at the 1, 5 and 10% level, respectively.

Panel A: Borrower characteristics

Dependent variables:	**Sub-investment grade**	**No rating**	**Z-score**	**Leverage**
	(1)	(2)	(3)	(4)
Bank CEO trust	-0.008	0.017	0.096	-0.015
	(-0.162)	(0.301)	(0.693)	(-0.519)
Control variables	Yes	Yes	Yes	Yes
Borrower fixed effects	Yes	Yes	Yes	Yes
Quarter-year fixed effects	Yes	Yes	Yes	Yes
Borrower credit rating fixed effects	No	No	No	No
Bank fixed effects	No	No	No	No
Observations	24,222	24,222	24,222	24,222
R-squared	0.077	0.058	0.573	0.372

Panel B: Borrower's ex-post performance

Dependent variables:	**Covenant violations$_{t+1}$**	**ROA growth$_{t+1}$**	**Asset growth$_{t+1}$**	**Leverage growth$_{t+1}$**	**ΔZ-score$_{t+1}$**
	(1)	(2)	(3)	(4)	(5)
Bank CEO trust	-0.052	0.019	-0.896	0.039	0.618
	(-0.343)	(0.312)	(-0.461)	(0.576)	(1.460)
Control variables	Yes	Yes	Yes	Yes	Yes
Borrower fixed effects	Yes	No	No	No	No
Quarter-year fixed effects	Yes	No	No	No	No
Borrower credit rating fixed effects	Yes	No	No	No	No
Bank fixed effects	Yes	No	No	No	No
R-squared	0.075	0.010	0.002	0.093	0.006

Table 5: Controlling for CEO traits and location characteristics

Panel A controls for observable bank CEO characteristics: *MBA* equals one if the CEO has an MBA degree; *Overconfidence* equals one if the moneyness of the option holdings is ≥67%; *Depression baby* equals one if the CEO is born between 1930 and 1939; *CEO tenure* is measured in years; *CEO/Chairman Duality* equals one if the CEO is also the Chairman of the board; *Cash pay* is the sum of the CEO's salary and bonus divided by total compensation; *Ln(Total Compensation)* is the natural logarithm of the CEO's total compensation; *Bank CEO uncertainty avoidance, individualism, masculinity,* and *power distance* refer to the values of Hofstede's (1980) indices in a CEO's country of origin. **Panel B** controls for the quality bank governance: *Board s*ize, the number of directors sitting on the board; *Board independence,* the fraction of nonexecutive directors on the board; *G-index*, index of governance provisions developed by Gompers, Ishii, and Matrick (2003). **Panel C** controls for bank's location characteristics: *Ln (populati*on), the natural logarithm of the county population; *County unemployment*, the county unemployment rate based on 16+ year-olds; *Ln(County Income),* the natural logarithm of the individual's income from wages, investment enterprises and other ventures; *Religiosity*, the number of religious adherents divided by the total population; *Social organizations (scaled)*, the number of social organizations (religious organizations, civic organizations, business associations, political organizations, labor organizations, bowling centers, physical fitness facilities, public golf courses, and sport clubs) divided by the total population; *Non-profit organization (scaled),* the number of tax-exempt non-profit organizations divided by total population. The dependent variable is *Ln(spread)*, the natural logarithm of the all-in spread drawn in basis points for a loan a borrower obtains in year *t*. Standard errors are clustered at the borrower level. Control variables are identical to those in Table 2 and are collapsed for brevity. Definitions of all variables are in Appendix 1. *t-Statistics* are reported in parentheses. ***, **, and * indicate significance at the 1, 5 and 10% level, respectively.

Panel A: Other bank CEO characteristics

Dependent variable: Ln(spread)			
	(1)	(2)	(3)
Bank CEO trust	-0.362***	-0.386***	-0.400**
	(-2.718)	(-2.888)	(-2.465)
MBA	-0.029	-0.034	-0.001
	(-0.592)	(-0.697)	(-0.005)
Overconfidence	0.089*	0.081	0.037
	(1.718)	(1.546)	(0.684)
Depression baby	-0.033	-0.026	0.017
	(-0.559)	(-0.435)	(0.143)
CEO tenure	0.002	-0.000	-0.002
	(0.641)	(-0.158)	(-0.716)
CEO/Chair Duality	0.013	0.030	0.057**
	(0.571)	(1.314)	(2.007)
Cash pay		-0.053	-0.076
		(-1.198)	(-1.600)
Ln(Total Compensation)		-0.017**	-0.016**
		(-2.526)	(-2.391)
Bank CEO uncertainty avoidance			-0.124
			(-0.917)
Bank CEO individualism			-0.181
			(-1.289)
Bank CEO masculinity			-0.025
			(-0.048)
Bank CEO power distance			0.234
			(1.344)
Control variables	Yes	Yes	Yes
Borrower fixed effects	Yes	Yes	Yes
Borrower credit rating fixed effects	Yes	Yes	Yes
Bank fixed effects	Yes	Yes	Yes
Quarter-year fixed effects	Yes	Yes	Yes
Observations	11,578	11,578	11,359
R-squared	0.488	0.489	0.488

Panel B: Bank governance

Dependent variable: Ln(spread)	(1)	(2)	(3)
Bank CEO trust	-0.272**	-0.238**	-0.238**
	(-2.312)	(-2.044)	(-2.038)
Board size	-0.003	-0.004	-0.004
	(-0.965)	(-1.113)	(-1.315)
Board independence		-0.122***	-0.110***
		(-2.921)	(-2.606)
G-index			0.000
			(0.024)
Control variables	Yes	Yes	Yes
Borrower fixed effects	Yes	Yes	Yes
Borrower credit rating fixed effects	Yes	Yes	Yes
Bank fixed effects	Yes	Yes	Yes
Quarter-year fixed effects	Yes	Yes	Yes
Observations	16,289	16,289	16,005
R-squared	0.495	0.495	0.496

Panel C: Bank location characteristics

Dependent variable: Ln(spread)	(1)	(2)	(3)
Bank CEO trust	-0.237**	-0.249**	-0.279**
	(-2.131)	(-2.239)	(-2.496)
Ln(County population)	0.004	0.002	0.003
	(1.074)	(0.510)	(0.913)
County unemployment	-0.001	0.002	0.005
	(-0.181)	(0.456)	(1.234)
Ln(County income)	0.042**	0.048**	0.052***
	(2.079)	(2.347)	(2.580)
Religiosity		-0.280***	-0.331***
		(-3.240)	(-3.699)
Social organizations (scaled)			-0.386***
			(-4.920)
Non-profit organizations (scaled)			-0.268
			(-1.442)
Control variables	Yes	Yes	Yes
Borrower fixed effects	Yes	Yes	Yes
Borrower credit rating fixed effects	Yes	Yes	Yes
Bank fixed effects	Yes	Yes	Yes
Quarter-year fixed effects	Yes	Yes	Yes
Observations	17,964	17,962	17,962
R-squared	0.489	0.491	0.491

Table 6: CEO transitions with bank fixed-effects

This table evaluates borrower's loan spread using a sample of banks that experience CEO turnovers that are unlikely to be related to corporate lending decisions, defined as transitions that arise from a CEO's death, long-term illness, long-planned retirements, or if the turnover takes place when the CEO is at least 60 years of age (Column 1), 65 years of age (Column 2), or 70 years of age (Column 3). Column (4) evaluates borrower's loan spread when the incoming CEO is an existing employee of the bank. The dependent variable is *Ln(spread)*, the natural logarithm of the all-in spread drawn in basis points for a loan a borrower obtains in year *t*. **Panel A** analyzes the entire sample, **Panel B** (**Panel C**) excludes banks with asset growth (ROA) in the lowest quartile. The sample covers the period 1992–2015. Standard errors are clustered at the borrower level. Definitions of all variables are in Appendix 1. *t-Statistics* are reported in parentheses. ***, **, and * indicate significance at the 1, 5 and 10% level, respectively.

Dependent variable: Ln(spread)	Age of outgoing CEO			Internal CEO turnovers
	≥60	≥65	≥70	
	(1)	(2)	(3)	(4)
Panel A: Full sample				
Bank CEO trust	-0.438***	-0.546***	-0.719*	-0.379***
	(-3.434)	(-3.027)	(-1.753)	(-3.089)
Control variables	Yes	Yes	Yes	Yes
Borrower fixed effects	Yes	Yes	Yes	Yes
Quarter-year fixed effects	Yes	Yes	Yes	Yes
Borrower credit rating fixed effects	Yes	Yes	Yes	Yes
Bank fixed effects	Yes	Yes	Yes	Yes
Observations	16,192	9,157	1,591	17,152
R-squared	0.502	0.526	0.523	0.508
Panel B: Exclude low-growth banks				
Bank CEO trust	-0.418***	-0.648***	-0.848*	-0.346**
	(-2.841)	(-2.781)	(-1.892)	(-2.456)
Control variables	Yes	Yes	Yes	Yes
Borrower fixed effects	Yes	Yes	Yes	Yes
Quarter-year fixed effects	Yes	Yes	Yes	Yes
Borrower credit rating fixed effects	Yes	Yes	Yes	Yes
Bank fixed effects	Yes	Yes	Yes	Yes
Observations	11,916	6,329	1,410	12,730
R-squared	0.522	0.555	0.582	0.520
Panel C: Exclude low ROA banks				
Bank CEO trust	-0.373**	-0.384*	-0.780*	-0.275*
	(-2.524)	(-1.929)	(-1.689)	(-1.955)
Control variables	Yes	Yes	Yes	Yes
Borrower fixed effects	Yes	Yes	Yes	Yes
Quarter-year fixed effects	Yes	Yes	Yes	Yes
Borrower credit rating fixed effects	Yes	Yes	Yes	Yes
Bank fixed effects	Yes	Yes	Yes	Yes
Observations	12,584	7,281	1,334	13,430
R-squared	0.507	0.503	0.492	0.514

Table 7: Determinants of high-trust CEO appointments

This table examines whether bank characteristics at the time when banks appoint a CEO explain the appointment of a high-trust CEO. The dependent variable is *High-trust CEO* equals one if the new CEO's inherited trust levels are in the top quartile (i.e., 25th percentile) among all bank CEOs. The sample includes all bank CEO appointments between 1992-2015 with available CEO trust data. Definitions of all variables are in Appendix 1. *t-Statistics* are reported in parentheses. ***, **, and * indicate significance at the 1, 5 and 10% level, respectively.

Dependent variable: High-trust CEO											
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)
Assets	-0.129*										
	(-1.853)										
Asset growth		-0.047									
		(-0.053)									
C&I loan growth			0.014								
			(0.054)								
Loan growth				0.012							
				(0.015)							
Leverage					4.052						
					(0.486)						
Capital						0.006					
						(0.228)					
Lending							0.167				
							(0.191)				
Deposit								0.970			
								(0.967)			
ROA									-0.170		
									(-1.006)		
Non-performing loans										-6.646	
										(-1.148)	
Loan book profitability											-0.088
											(-1.415)
Observations	163	161	161	161	163	140	163	152	163	108	163
R-squared	0.026	0.000	0.000	0.000	0.006	0.000	0.000	0.007	0.011	0.038	0.011

Table 8: Breaches of trust

This table examines the impact of earning restatements issued by a borrower on non-restating borrowers in the same industry. The dependent variable is *Ln(spread)*, the natural logarithm of the all-in spread drawn in basis points for a loan a borrower obtains in year *t*. *Borrower Industry Restatement*$_{t-1}$, a dummy variable that equals one if an industry peer firm that also borrows from the same bank announces an earnings restatement within the past 12 months. Data on earnings restatements are obtained from AuditAnalytics. The sample covers the period 1992–2015. Standard errors are clustered at the borrower level. Definitions of all variables are in Appendix 1. *t-Statistics* are reported in parentheses. ***, **, and * indicate significance at the 1, 5 and 10% level, respectively.

Dependent variable: Ln(spread)	(1)	(2)	(3)
Borrower industry misstatement$_{t-1}$ *Bank CEO trust	1.370*	1.424**	1.067*
	(1.811)	(2.051)	(1.721)
Borrower industry misstatement$_{t-1}$	-0.425	-0.402	-0.358
	(-1.564)	(-1.612)	(-1.602)
Bank CEO trust	-0.688***	-0.599***	-0.252**
	(-7.124)	(-6.632)	(-2.386)
Bank size	0.057***	0.048***	-0.109***
	(8.974)	(7.872)	(-4.020)
Borrower size	0.020	0.048***	-0.077***
	(1.460)	(3.444)	(-5.276)
Borrower ROA	-0.531***	-0.492***	-0.519***
	(-4.052)	(-3.316)	(-3.852)
Borrower tangibility	-0.360***	-0.205**	-0.219**
	(-3.280)	(-1.968)	(-2.457)
Borrower current ratio	0.052***	0.050***	0.012
	(5.055)	(4.713)	(1.432)
Borrower leverage	0.265***	0.208***	0.225***
	(4.063)	(3.271)	(4.087)
Borrower Z-score	-0.084***	-0.084***	-0.052***
	(-8.054)	(-7.569)	(-5.367)
Covenant (dummy)	-0.054***	-0.047***	-0.003
	(-3.803)	(-3.385)	(-0.256)
Secured loan	0.365***	0.312***	0.249***
	(19.861)	(17.318)	(16.319)
Loan duration	0.015	-0.006	-0.046***
	(1.637)	(-0.594)	(-3.524)
Base is prime	0.640***	0.634***	0.562***
	(19.928)	(16.747)	(14.980)
Sole lender	0.043	0.025	0.045
	(1.559)	(0.815)	(1.482)
Loan size	-0.000	-0.000	-0.000*
	(-1.454)	(-0.928)	(-1.745)
Relationship lending	-0.033***	-0.037***	-0.015
	(-3.011)	(-3.275)	(-1.529)
Borrower fixed effects	Yes	Yes	Yes
Quarter-year fixed effects	No	No	Yes
Borrower credit rating fixed effects	No	Yes	Yes
Bank fixed effects	No	No	Yes
Observations	20,774	19,146	19,146
R-squared	0.213	0.283	0.522

Table 9: Economic mechanisms

This table examines the heterogeneity in the effects of bank's CEO trust on loan spread to explore the economic mechanisms through which trust lowers loan pricing. **Panel A** splits the sample based on the borrower's information quality: whether its tangibility is above the sample median (Columns (1) and (2)), whether it reports positive R&D expenditure (Columns (3) and (4)), whether the borrower borrowed from the same lender within the past five years (Columns (5) and (6)), whether the borrower's abnormal accruals are above the sample median (Columns (7) and (8)), and whether its financial statements are audited by a Big Four auditors (Columns (9) and (10)). **Panel B** splits the sample based on whether the borrower is required to meet at least one covenant condition (Columns (1) and (2)) and whether the borrower offered collateral to secure the loan (Columns (3) and (4)). **Panel C** splits the sample based on whether the cultural distance between the borrower and the bank is above the sample median, where cultural distance is the sum of the absolute differences between the borrower's CEO and the bank's CEO cultural values (Columns (1) and (2)); and whether the borrower's CEO surname is linked to a country with a below-median favorability, measured using Gallup survey responses of Americans regarding their favorability towards foreign countries as in Jung et al. (2019) (Columns (3) and (4)). The dependent variable is *Ln(spread)*, the natural logarithm of the all-in spread drawn in basis points for a loan a borrower obtains in year *t.* The sample covers the period 1992–2015. Standard errors are clustered at the borrower level. Definitions of all variables are in Appendix 1. *t-Statistics* are reported in parentheses. ***, **, and * indicate significance at the 1, 5 and 10% level, respectively.

Panel A: Trust reduces adverse selection problems

Dependent variable: Ln(spread)										
	Tangibility High	Tangibility Low	R&D =0	R&D >0	Repeat borrower	First-time borrower	Abnormal accruals Low	Abnormal accruals High	Audited by Big 4	Not audited by Big 4
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
Bank CEO trust	-0.156	-0.375**	-0.375	-0.409**	-0.236	-0.373**	-0.099	-0.344**	-0.275**	-1.437**
	(-1.048)	(-2.471)	(-1.203)	(-2.366)	(-1.633)	(-2.073)	(-0.655)	(-2.075)	(-2.135)	(-2.172)
Control variables	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Borrower fixed effects	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Quarter-year fixed effects	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Borrower CR fixed effects	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Bank fixed effects	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Observations	11,887	8,908	7,133	7,176	11,887	8,908	9,747	9,914	12,360	1,436
R-squared	0.509	0.506	0.449	0.482	0.509	0.506	0.521	0.459	0.470	0.444

Panel B: Trust substitutes for formal contracting provisions

Dependent variable: Ln(spread)				
	Covenant >=1	Covenant =0	Collateral =1	Collateral =0
	(1)	(2)	(3)	(4)
Bank CEO trust	-0.054	-0.397**	-0.053	-0.243*
	(-0.428)	(-2.094)	(-0.428)	(-1.746)
Control variables	Yes	Yes	Yes	Yes
Borrower fixed effects	Yes	Yes	Yes	Yes
Quarter-year fixed effects	Yes	Yes	Yes	Yes
Borrower credit rating fixed effects	Yes	Yes	Yes	Yes
Bank fixed effects	Yes	Yes	Yes	Yes
Observations	12,909	7,886	10,616	10,179
R-squared	0.534	0.452	0.347	0.564

Panel C: Trust overcomes bias

Dependent variable: Ln(spread)				
	Lower cultural distance	Higher cultural distance	Borrowers perceived favorably	Borrowers perceived unfavorably
	(1)	(2)	(3)	(4)
Bank CEO trust	-0.185	-0.263*	-0.086	-0.246**
	(-0.645)	(-1.847)	(-0.542)	(-2.006)
Control variables	Yes	Yes	Yes	Yes
Borrower fixed effects	Yes	Yes	Yes	Yes
Quarter-year fixed effects	Yes	Yes	Yes	Yes
Borrower credit rating fixed effects	Yes	Yes	Yes	Yes
Bank fixed effects	Yes	Yes	Yes	Yes
Observations	11,887	8,908	7,133	7,176
R-squared	0.509	0.506	0.449	0.482

Table 10: CEO trust and non-price loan terms

This table examines how bank CEO trust affects non-price loan terms. The dependent variables are L*oan size*, loan amount divided by borrower's PPE (Column (1)), *Loan duration*, the natural logarithm of the difference between loan's end date and loan's start date (Column (2)), *Secured loan*, a dummy variable that equals one if the borrower is required to offer collateral to secure the loan (Column (3)); and *Credit line,* a dummy that equals one when borrower has a positive amount of undrawn credit line reported in their 10-K (Column (4)). The sample covers the period 1992–2015. Standard errors are clustered at the borrower level. Definitions of all variables are in Appendix 1. *t-Statistics* are reported in parentheses. ***, **, and * indicate significance at the 1, 5 and 10% level, respectively.

Dependent variables:	**Loan size**	**Loan duration**	**Secured loan**	**Credit line**
	(1)	(2)	(3)	(4)
Bank CEO trust	2.860*	0.098*	0.057	0.063*
	(1.803)	(1.645)	(0.927)	(1.703)
Bank size	0.039	0.008**	-0.010**	0.006**
	(0.378)	(2.044)	(-2.251)	(2.273)
Borrower size	-2.187***	0.036***	-0.069***	0.011*
	(-2.652)	(3.537)	(-6.778)	(1.700)
Borrower ROA	-5.890	0.088	-0.059	0.018
	(-1.038)	(0.940)	(-0.472)	(0.558)
Borrower tangibility	-28.068	0.005	-0.166***	-0.029
	(-1.352)	(0.083)	(-2.708)	(-0.658)
Borrower current ratio	0.406	0.002	-0.006	-0.003
	(0.776)	(0.607)	(-1.463)	(-0.752)
Borrower leverage	-1.729	-0.083**	0.079**	-0.017
	(-1.577)	(-2.171)	(2.125)	(-0.807)
Borrower Z-score	-0.259**	0.006	-0.018***	-0.001
	(-1.990)	(1.149)	(-3.697)	(-0.467)
Covenant (dummy)	-0.095	0.034***	0.196***	-0.001
	(-0.576)	(3.691)	(18.404)	(-0.167)
Secured loan	-0.318	0.009	-	-0.008
	(-1.208)	(0.750)	-	(-1.459)
Loan duration	0.279**	-	0.007	-0.009
	(2.413)	-	(0.751)	(-1.506)
Base is prime	-1.478**	-0.141***	0.095***	0.006
	(-2.339)	(-3.449)	(4.317)	(0.872)
Sole lender	-1.081***	-0.148***	0.064***	0.009
	(-3.219)	(-4.488)	(2.719)	(0.519)
Loan size	-	0.000	-0.000	0.005
	-	(1.318)	(-1.446)	(0.290)
Relationship lending	0.170	-0.016***	-0.006	-0.000
	(1.005)	(-2.580)	(-1.040)	(-0.041)
Borrower fixed effects	Yes	Yes	Yes	Yes
Quarter-year fixed effects	Yes	Yes	Yes	Yes
Borrower credit rating fixed effects	Yes	Yes	Yes	Yes
Bank fixed effects	Yes	Yes	Yes	Yes
Observations	22,445	22,450	22,450	15,487
R-squared	0.022	0.164	0.181	0.811

Table 11: CEO trust and bank outcomes

This table examines the effect of CEO trust on the ex-post performance of banks. The dependent variables are *C&I loan growth* is one-year growth in Commercial and Industrial (C&I) loans (Column (1)), *Loan book profitability* is interest income divided by C&I loans (Column (2)), and *ROA* is earnings before interest and tax divided by total assets (Column (3)). The sample covers the period 1992–2015. Standard errors are clustered at the bank level. Definitions of all variables are in Appendix 1. *t-Statistics* are reported in parentheses. ***, **, and * indicate significance at the 1, 5 and 10% level, respectively.

Dependent variables:	**C&I loan growth**	**Loan book profitability**	**ROA**
	(1)	(2)	(3)
Bank CEO trust	0.613**	0.120	-0.365
	(2.179)	(0.106)	(-0.843)
Assets	-0.013	0.546	-0.587
	(-0.046)	(0.460)	(-1.289)
$Assets^2$	0.007	-0.016	0.012
	(0.859)	(-0.482)	(0.945)
Leverage	-0.174	-4.657	-3.372**
	(-0.179)	(-1.110)	(-2.051)
Lending	0.083	-0.821	0.374
	(0.250)	(-0.595)	(0.705)
Deposits	0.524*	1.030	0.050
	(1.655)	(0.776)	(0.098)
RWA/Total assets	0.070	-2.045*	0.291
	(0.258)	(-1.829)	(0.678)
ROA	-0.031**	0.063	-
	(-2.314)	(1.081)	-
Bank fixed effects	Yes	Yes	Yes
State-year fixed effects	Yes	Yes	Yes
Observations	588	611	608
R-squared	0.609	0.755	0.706

Appendix 1: Variable definitions

Variable	Definition	Source
Main explanatory variables		
Bank CEO Trust	The average response in the CEO's genealogical country of origin to the following question in the World Values Surveys (WVS) and European Values Surveys (EVS): "*Generally speaking, would you say most people can be trusted or that you need to be very careful when dealing with people?*"	Ancestry.com
Other lender CEO's cultural dimensions		
Bank CEO uncertainty avoidance	Uncertainty Avoidance index in genealogical country of origin	Geert Hofstede's website
Bank CEO individualism	Individualism index in genealogical country of origin	
Bank CEO masculinity	Masculinity index in genealogical country of origin	
Bank CEO power distance	Power distance index in genealogical country of origin	
County characteristics		
Ln (population)	Natural logarithm of the county population	U.S. Census Bureau
County unemployment	The unemployment rate in the county	U.S. Census Bureau
Ln (personal income)	Natural logarithm of the individual's income from wages, investment enterprises and other ventures	U.S. Census Bureau
Religiosity	The number of religious adherents divided by the total population. Data available for 1990, 2000, 2010 and are interpolated for the remaining years.	Association of Religion Data Archive
Non-profit organization (scaled)	The number of tax-exempt non-profit organizations divided by total population	NRCRD
Social organizations (scaled)	The number of social organizations (including religious organizations, civic organizations, business associations, political organizations, labor organizations, bowling centers, physical fitness facilities, public golf courses, and sport clubs) divided by total population	NRCRD
Bank and Bank CEO's characteristics		
Bank size (Assets)	Natural logarithm of bank total assets (BHCK217)	FR Y-9C
Leverage	Book value of total liabilities divided by book value of total assets	FR Y-9C
Lending	Total loans (BHCK2122) divided by total assets	FR Y-9C
Deposits	Total deposits (BHDM6631+BHDM6636+BHFN6631+ BHFN6636) divided by total assets	FR Y-9C
Capital	Tier-1 capital divided by risk-weighted assets	FR Y-9C
RWA/Total assets	Risk-weighted assets (BHCKA223) divided by total assets	FR Y-9C
ROA	Earnings before interest and tax (BHCK4300) divided by book value of total assets	FR Y-9C
C&I loan growth	The percentage change in Commercial and Industrial (C&I) loans (BHDM1766) relative to the prior year	FR Y-9C
Loan growth	The percentage change in total loans (BHCK2122) relative to the prior year	FR Y-9C
Asset growth	The percentage change in total assets relative to the prior year	FR Y-9C
Non-performing loans	Non-performing loans (BHCK5525 + BHCK5526) divided by C&I loans	FR Y-9C
Loan book profitability	Interest Income (BHCK4107) divided by C&I loans	FR Y-9C
MBA	A dummy variable equal to one if the CEO has an MBA degree	BoardEx
Overconfidence	A dummy variable equal to one if the CEO holds exercisable stock options that are at least 67% in the money.	BoardEx

Depression baby	A dummy variable equal to one if the CEO is born between 1930 and 1939	BoardEx
CEO tenure	The number of years the CEO has served in the current position	BoardEx
CEO/Chairman Duality	Equals one if the CEO also serves as the Chairman of the Board	BoardEx
Cash pay	CEO's salary + bonus divided by total compensation (TDC1)	ExecuComp
Ln(Total compensation)	The natural logarithm of the CEO total compensation (TDC1)	ExecuComp
Board size	The number of directors sitting on the board	BoardEx
Board independence	The fraction of nonexecutive directors on the board	BoardEx
G-index	Index of governance provisions developed by Gompers, Ishii, and Matrick (2003)	Riskmetrics
Borrower characteristics		
Borrower size	Natural logarithm of total assets	Compustat
Borrower ROA	Earnings before interest and taxes (EBIT) divided by book value of total assets	Compustat
Borrower tangibility	Property, Plant and Equipment (PPE) divided by total assets	
Borrower current ratio	Current assets divided by current liabilities	Compustat
Borrower leverage	Book value of liabilities divided by book value of total assets	Compustat
Borrower Z-score	Modified Altman's Z-score. Z-score is computed as (1.2*working capital + 1.4*retained earnings + 3.3*EBIT + 0.999*sales)/total assets.	Compustat
Borrower Industry Restatement	A dummy variable equal to one if an industry peer firm that also borrows from the same bank announces its earning restatement within the past 12 months	AuditAnalytics
Borrower R&D	R&D expenses incurred in a given year	Compustat
Abnormal accruals	The discretionary component of a firm's total accruals, based on Dechow, Sloan and Sweeney (1995)	Compustat
CEO surname's favorability	Index of American's favorability towards foreign countries constructed by Jung et al. (2019)	Gallup, ancestry.com
Syndicate loan characteristics		
Ln(Loan spread)	Natural logarithm of the drawn-all-in spreads, which is the coupon spread over LIBOR rate on the drawn amount plus the annual rate.	Dealscan
Covenant (dummy)	A dummy variable equal to one if the loan facility has a covenant requirement	Dealscan
Secured loan	A dummy variable equal to one if the loan facility is secured	Dealscan
Loan duration	The natural logarithm of the number of months between the loan origination date and loan maturity date.	Dealscan
Base is prime	A dummy variable equal to one if the base rate for a loan is the prime rate rather than LIBOR	Dealscan
Sole lender	A dummy variable equal to one if the loan facility only has one lender	Dealscan
Loan size	Loan amount divided by borrower's recoverable assets (PPE)	Dealscan, Compustat
Relationship lending	A dummy variable equal to one if the borrower borrows from the same bank within the last five years	Dealscan

Appendix 2: CEO trust of non-lead banks and loan terms

This table presents a placebo test where we examine the relation between the trust levels of CEOs of the non-lead arrangers and loan spread. The dependent variables are *Ln(spread)*, the natural logarithm of the all-in spread (Column (1)); *Secured loan*, a dummy variable that equals one if the borrower is required to offer collateral to secure the loan (Column (2)); *Loan duration*, the natural logarithm of the difference between loan's end date and loan's start date (Column (3)), L*oan size*, loan amount divided by borrower's PPE (Column (4)), and *Credit line,* a dummy that equals one when borrower has a positive amount of undrawn credit line reported in their 10-K (Column (5)). The sample covers the period 1992–2015. Standard errors are clustered at the borrower level. Control variables are collapsed for brevity; including *Bank size, Borrower size, Borrower ROA, Borrower tangibility, Borrower current ratio, Borrower leverage, Borrower Z-score, Covenant (dummy), Secured loan, Loan duration, Base is prime, Loan size, Relationship lending.* Definitions of all variables are in Appendix 1. *t-Statistics* are reported in parentheses. ***, **, and * indicate significance at the 1, 5 and 10% level, respectively.

Dependent variables:	**Loan spread** (1)	**Secured loan** (2)	**Loan duration** (3)	**Loan size** (4)	**Credit line** (5)
CEO trust (non-lead arrangers)	0.043	0.137	-0.001	-0.248	-0.122
	(0.247)	(1.169)	(-0.003)	(-0.553)	(-0.890)
Control variables	Yes	Yes	Yes	Yes	Yes
Borrower fixed effects	Yes	Yes	Yes	Yes	Yes
Quarter-year fixed effects	Yes	Yes	Yes	Yes	Yes
Borrower credit rating fixed effects	Yes	Yes	Yes	Yes	Yes
Bank fixed effects	Yes	Yes	Yes	Yes	Yes
Observations	9,690	10,275	10,275	10,275	7,771
R-squared	0.520	0.199	0.237	0.042	0.726

Appendix 3: Using selection on observables to assess bias from unobservables (Oster, 2019)

This table reports the results of Oster's (2019) test for the degree of selection on unobservables relative to observables needed to bring the estimated effect on *Bank CEO Trust* to zero. The implementation of Oster's (2019) test requires specifying a restricted model and a full model. Our restricted model does not include any fixed effects or control variables, i.e., *Bank CEO Trust* is the only explanatory variable included. The full models are the three regression specifications in Table 2. We set R_{max} to a maximum value of 1, where R_{max} is the R^2 from a hypothetical regression that includes both observed and unobserved controls, and R_{full} is the R^2 from a regression that includes a full set of controls. We implement this test using the Stata command *psacalc* developed by Oster (2019).

Full model	δ
Controls + Borrower FE + Quarter-year FE	1.904
Controls + Borrower FE + Bank FE + Quarter-year FE	4.054
Controls + Borrower FE + Bank FE + Quarter-year FE + Borrower credit rating FE	5.461

Appendix 4: Controlling for self-selection bias

This table examines the relation between bank CEO trust and loan spread, controlling for self-selection bias using a standard Heckman's (1979) two-step procedure. The first step of the Heckman procedure estimates the probability that loans are included in our sample using data on loans included and loans we are unable to include in our sample due to missing CEO ancestry data. Identification rests on the exclusion restriction that requires the first stage to be estimated using a set of variables that is larger by at least one variable than the set of variables in the second stage. We use the length of a CEO's surname as an additional variable that is included in the first but not the second stage, because CEOs with longer surnames are more likely to be uniquely identified (e.g., Pantilione vs. Mike). The table shows the second step of the Heckman procedure that controls for *Lambda* which contains information from the first step to control for unobservable factors which make sample inclusion more likely. The dependent variable is *Ln(spread)*, the natural logarithm of the all-in spread drawn in basis points for a loan a borrower obtains in year *t.* Standard errors are clustered at the borrower level. The sample covers the period 1992–2015. The control variables are *Bank size, Borrower size, Borrower ROA, Borrower tangibility, Borrower current ratio, Borrower leverage, Borrower Z-score, Covenant (dummy), Secured loan, Loan duration, Base is prime, Sole lender, Loan size, Relationship lending.* Definitions of all variables are in Appendix 1. *t-Statistics* are reported in parentheses. ***, **, and * indicate significance at the 1, 5 and 10% level, respectively.

Dependent variable: Ln(spread)	(1)
Bank CEO trust	-0.317***
	(-4.135)
Lambda	-0.251**
	(-2.172)
Control variables	Yes
Borrower fixed effects	Yes
Quarter-year fixed effects	Yes
Borrower credit rating fixed effects	Yes
Bank fixed effects	Yes
Observations	20,795
R-squared	0.418

Figure 1: WVS trust values vs the trust values of immigrants to the U.S.

This figure shows the relation between trust levels of nationals in their country of residence and trust levels of immigrants and their descedants in the U.S. On the horizontal axis, trust is measured as the average response of nationals in their country of residence to the World Value Survey (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?"*. On the vertical, trust is measured as the average response of U.S. residents in the General Social Survey (GSS) by their country of origin. We identify the respondent's country of origin by their answer to the question: "*From what countries or part of the world did your ancestors come?*". We calculate the percentage of survey respondents who answer to the GSS that people are "*always trusted*" or "*usually trusted*" by the country respondents indicate their ancestors are from.

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