TRUST AND THE COST OF BANK LOANS: INTERNATIONAL EVIDENCE

Celia Álvarez Botas

Víctor M. González Méndez University of

Oviedo

Contact information:

Víctor M. González Méndez

University of Oviedo

Department of Business Administration

Avda. Del Cristo s/n. 33071, Oviedo, Spain

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Abstract

This paper analyses the effect of trust on bank loan spreads for a sample of 16,324 loans from 36 countries over the period 2003-2013, considering not just the role of trust, but also how its effect is moderated by the country's legal protection of property rights and economic development. The results show that greater trust tends to reduce bank loan spreads when the degree of protection of property rights is weak, in line with trust and legal protection being alternative mechanisms for reducing the cost of debt. As regards the degree of economic development, the results show that both trust and legal protection have a greater influence on the interest rate spread of bank loans in countries with a lower degree of economic development.

1. Introduction

Debt is a major source of external capital for firms, with bank loans constituting the main form of external financing for firms in many countries (Demirgüç-Kunt and Levine, 2001; and Drucker and Puri, 2006). The financial literature on firm capital structure has analysed how laws and institutions act as determinants of debt conditions, based on the premise that access to external financing partly depends on each country's legal and institutional system, as this provides the mechanism to monitor and safeguard financial contracts. Specifically, Qian and Strahan (2007) and Bae and Goyal (2009) examine the influence of institutional quality in explaining the different terms of bank loans. Their results paint a clearer picture of the importance of the legal and institutional quality of countries in improving debt conditions, particularly in reducing the cost of debt.

Lenders could also take trust into account when granting loans. According to Knack and Keefer (1997), "trust-sensitive transactions include those in which goods and services are provided in exchange for future payment, employment contracts in which managers rely on employees to accomplish tasks that are difficult to monitor, and investments and savings decisions that rely on assurances by governments or banks that they will not expropriate these assets." Arrow (1972) argues that commercial transactions intrinsically entail an element of trust; in particular, any transaction conducted over a period of time. Furthermore, as this author proposes, it would seem reasonable to think that much of the economic backwardness in the world can be explained by the lack of mutual trust. Taking this idea into account, several papers have shown the impact of trust on different economic aspects. In general, this literature has shown that higher levels of trust promote cooperation (La Porta *et al.,* 1997), are associated with stronger economic performance (Knack and Keefer, 1997), increase the rate of investment (Zak and Knack, 2001) and firm performance (Goergen *et al.,* 2013), have a positive effect on corporate cash holdings (Dudley and Zhang, 2016), and enhance corporate valuation (Fernández and González, 2017). Hence, it is clear that high trust environments reduce the cost of economic activities that require some participants to rely on the future actions of others. Guiso *et al*. (2004) state that financial contracts are the ultimate trust-intensive contracts, depending not only on the legal enforceability of such contracts, but also on the extent of the lenders' trust in the borrowers. Therefore, we could expect favourable terms to be granted by banks in high trust societies.

In this context, the present paper examines the effect of trust on the interest rate spread for a sample of 16,234 loans from 36 countries over the period 2003-2013, considering that this effect could be moderated by the role of formal institutions such as the efficiency

of legal enforcement. Specifically, we focus on the joint effect between both institutions in order to analyse whether formal and informal institutions are complementary or substitutive mechanisms in reducing loan spreads. On the other hand, we also analyse whether the effect of formal and informal institutions on loan spreads differs depending on the degree of economic development of each country.

We contribute to the literature in several ways. First, we analyse the effect of trust on loan spreads in an international context. Qian *et al*. (2018) analyse the effect of trust on the loan characteristics of loan size, loan source, collateral requirement, and value of collateral[1] for a sample of 25 developing countries. However, their paper does not consider the cost of debt as a dependent variable, nor does it take into account developed countries, focusing solely on how formal and informal institutions affect bank loan characteristics in developing countries. Several papers have shown the effects on the cost of debt of protection of investors' rights (Bae and Goyal, 2009; Qian and Strahan, 2007), different cultural dimensions (Chui *et al*., 2016; Giannetti and Yafeh, 2012), and religion or religiosity (Chen *et al*., 2016; He and Hu, 2016). Within this context, our paper contributes to the literature on cross-country differences in corporate debt conditions. Second, we consider the joint effect of formal and informal institutions in reducing loan spreads. The financial literature has focused on the separate impacts of formal and informal institutions, with only the paper by Qian *et al* (2018) analysing the joint effect of those institutions, though on loan size, loan source, and collateral requirement. To the best of our knowledge, this is the first paper to analyse the joint effect of formal and informal institutions on loan spreads. Finally, we examine whether the effect of trust on loan spread differs depending on the degree of economic development as the differences in the quality of institutions and in intensity of information asymmetries vary depending on economic development.

In general, our results show that trust has no effect on loan spreads. However, it does reduce loan spreads when the country's formal institutions are weak. Our findings specifically show that there is a substitution effect between formal and informal institutions in reducing interest rates. Furthermore, our results show that the effect of trust on the cost of bank loans is greater in countries where there is a lower degree of economic development. Our results are robust when other informal institutions such as cultural aspects and religion are taken into consideration, when we control for the

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[1] The sample used in the cited paper consists of survey data on enterprises from the Business Environment and Enterprise Performance Survey (BEEPS).

different number of observations by country and also when we consider the potential endogeneity of trust.

The rest of the paper is organized as follows. Section 2 reviews the related literature and develops testable hypotheses on trust as a determinant of loan spreads. Section 3 describes our data and presents the descriptive statistics of our variables. Section 4 reports the empirical results. Section 5 offers robustness analyses of our results. Finally, Section 6 presents the conclusions of the paper.

2. Conceptual framework

2.1.   *Trust and the finance literature*

The idea of social capital has generated special academic attention since Putnam published the book entitled *Making Democracy Work (1993),* in which he showed that social capital is an important determinant of the differences in the economic and government performance of northern and southern Italy. Coleman (1990) and Putnam (1993) refer to trust as a manifestation of social capital. Based on the aforementioned studies by Coleman and Putnam, La Porta *et al*. (1997) defined trust as "a propensity of people in a society to cooperate to produce socially efficient outcomes and to avoid inefficient noncooperative traps such as that in the prisoner's dilemma." Several studies subsequently focused on the effect of trust on economic performance. Some examples are the following: La Porta *et al*. (1997) reveal that trust promotes cooperation, especially, in large organizations; Knack and Keefer (1997) show that trust has a significant impact on aggregate economic activity; Zak and Knack (2001) offer evidence revealing that low trust environments reduce the rate of investment; Goergen *et al*. (2013) find that country trust increases firm performance;Dudley and Zhang (2016) show that trust is positively related to corporate cash holdings; and, more recently, Fernández and González (2017) show that trust enhances corporate valuation. In general, this literature reveals that more trustworthy environments reduce the costs of economic activities that require some participants to rely on the future actions of others.

According to North (1994), "Institutions are the humanly devised constraints that structure human interaction. They are made up of formal constraints (e.g. rules, laws, constitutions), informal constraints (e.g. norms of behaviour, conventions, self-imposed codes of conduct), and their enforcement characteristics. Together they define the incentive structure of societies and specifically economies." Thus, following North (1994), we classify institutions as formal or informal and analyse their effect on the cost of debt. Along these same lines, a number of studies have focused on the effect of formal

institutions (laws and legal enforcement) on debt conditions, such as those by Demirgüç-Kunt and Maksimovic (1999), Qian and Strahan (2007), Bae and Goyal (2009), Fan *et al*. (2012), and González (2017). Other studies, such as those by Chui *et al*. (2002), Li *et al*. (2011), Giannetti and Yafeh (2012), Zheng *et al*. (2012), Chui *et al*. (2016), He and Hu (2016), and Qian *et al*. (2018), have likewise focused on the effect of informal institutions (different dimensions of culture, such as collectivism, masculinity, uncertainty avoidance or power distance, among others, and religion) on debt conditions, although they do not directly consider the influence of trust on the cost of debt.

We extend this literature, analysing the effect of both formal and informal institutions on debt conditions. We consider trust as an informal institution, as collected from the World Value Surveys (WVS), which captures how trustworthy an individual perceives those whom they meet for the first time; and legal enforcement and the protection of creditors' rights as formal institutions.

2.2. *Hypotheses development*

In financial contracts, formal institutions as well as trust are important when establishing the conditions of the debt. The existence of effective formal institutions, such as an efficient judicial system or laws that guarantee the protection of creditors' rights, leads to an improved financial environment that will allow better conditions to be established in financial contracts. However, high trust societies also bring benefits for lenders, as they involve less expenses associated with protecting individuals from being exploited in economic transactions or less covenants in written contracts to specify potential contingencies, among others. Hence, when lending to a firm, the lender must assess not only the borrower's credit quality, but also the risk resulting from weak laws or institutions and the risk associated with low trust societies.

Following Knack and Keefer's (1997) definition, we may consider the relationship between a lender and a borrower partly as a trust-sensitive transaction, given that when a lender lends money to a firm, it has to trust that the firm will meet the requirements of the contract. Knack and Keefer (1997) argue that trust reduces the cost incurred by the principal when dealing with an agent required to carry out certain activities at a future date, and thus trust has economic benefits. Therefore, in countries with high levels of trust, lenders could be expected to spend less to protect themselves from counterparty risk and could hence be more willing to provide credit on favourable terms. In line with these arguments, our first hypothesis is as follows:

> **H1:** *We expect lower loan spreads in countries with higher levels of trust.*

As far as formal institutions are concerned, the higher the efficiency of the country's legal system, the safer the country will be with regard to investing in it and hence lenders will be willing to offer credit on better terms. If a country's legal enforcement is efficient, this indicates that the justice system works properly and that the country is safer in terms of investing in it. Likewise, greater protection of creditors' rights gives lenders greater power in the case of bankruptcy and hence the risk they assume will be lower. Moreover, strong protection of creditors' rights increases the incentives of borrowers to repay loans and avoid bankruptcy situations. Therefore, in a country with strong creditor rights, lenders will be willing to provide credit under better conditions. In fact, the financial literature has shown that firms in countries with effective legal systems, and greater protection of creditor rights have more long-term debt relative to assets, lower interest rates, longer loan maturities, and more concentrated loan ownership (Demirgüç-Kunt and Maksimovic, 1999; Qian and Strahan, 2007; Bae and Goyal, 2009; Fan *et al*., 2012; González, 2017). Hence, from a law and finance viewpoint, the legal system and the protection of creditor rights would seem to enhance loan conditions.

Since formal institutions as well as trust seem to be important factors in improving debt conditions, we consider it relevant to analyse the joint effect between them. This will allow us to investigate whether formal institutions and trust have a substitutive or complementary effect on the cost of bank loans. In this respect, several studies have previously analysed the relationship between trust and formal institutions. Goergen *et al*. (2013) finds that both employee rights and investor rights are negatively correlated with country trust. Hence, country trust seems to act as a substitute for strong institutions. Cline and Williamson (2016) find that trust is inversely related to formal self-dealing regulation, and positively related to financial market development. These authors view these combined results as suggesting that trust can act as a substitute for formal regulation, providing an alternative mechanism for shareholder protection. More recently, Qian *et al*. (2018) consider a sample of twenty-five developing countries, analysing the interactive relationship between formal and informal institutions in affecting bank loans. They explore whether the effect of informal institutions on bank loans remains the same under different levels of formal institutions, performing split-sample regressions based on creditors and legal enforcement. They consider loan size, loan source, and collateral requirement as the dependent variables. They find no evidence of a relationship between trust and formal institutions, neither from the perspective of loan source nor loan size. In the case of collateral requirements, they find that trust only reduces collateral requirements for the sample with poor legal protection and poor legal enforcement,

arguing that informal institutions can act as an alternative to formal institutions in reducing collateral requirements when formal institutions are weak.

Consequently, we could expect trust to act as an alternative mechanism to formal institutions in reducing the cost of bank loans when formal institutions are weak. In countries where legal enforcement and legal protection are less efficient, informal institutions could play a more relevant role in improving debt conditions because of the lack of efficient formal institutions. Our second hypothesis is thus as follows:

> *H2. We expect trust to act as an alternative mechanism to formal institutions in reducing bank loan spreads.*

Levine *et al*. (2000) and Claessens and Laeven (2003) show that developing countries are characterized by poorer institutions and less information disclosure, which could increase the intensity of information asymmetries. La Porta *et al.* (1998) argue that laws and their enforcement vary depending on GDP per capita, creditor rights being stronger in poorer countries and law enforcement quality, higher in richer countries. Higher asymmetric information in developing countries and differences in protection of rights could lead to trust playing a different role according to the economic development of the country.

In line with the different role of trust as a function of the degree of economic development, Knack and Keefer (1997) argue that the effect of trust on growth should be higher in poorer countries, if trust is more essential where contracts are not reliably enforced by the legal system, and where access to formal sources of credit is more limited due to an underdeveloped financial sector. However, they also suggest that if greater specialization increases the number of transactions between strangers, trust should reduce transactions costs more in richer than in poorer countries. Finally, they show that the impact of trust on growth is higher in developing countries, as access to credit is more limited in these countries due to an underdeveloped financial sector.

In line with Knack and Keefer's (1997) findings, we may expect a greater effect of trust on the cost of bank loans in developing countries. We consider Gross National Income per capita as an indicator of economic development and analyse whether formal and informal institutions affect debt conditions differently depending on the country's degree of development. The third hypothesis is thus as follows:

> *H3: We expect trust to have a greater influence on loan spreads in countries with a lower degree of economic development.*

3. Data

3.1. Sample and variables

The data used in this paper fall into three main categories: data on bank loans, on formal and informal institutions, and on firm-specific variables. We begin with a sample of bank loans made to large borrowers from 87 countries. The information on bank loans was collected from the Dealscan database. The Dealscan database provided by Thomson Reuters contains historical information on the terms and conditions of over 200,000 loan transactions in the global commercial loan market. For most countries other than the USA, this database starts in 1994. We collect data on bank loans from 2003 to 2013, the total number of bank loans being 42,070. Informal institutions were obtained from the World Value Survey (WVS) and European Value Survey (EVS), and formal institutions from the World Bank Doing Business database and the International Country Risk Guide (ICRG). Firm level data were obtained from Compustat.

In order to build the final sample of the study, the observations of the Dealscan and Compustat databases were linked using tables provided by Chava and Roberts (2008). This resulted in a sample of 16,324 loan tranches to 3,805 borrowers from 36 countries over the period 2003-2013. Borrowers occasionally enter into more than one loan tranche on the same date. In this case, in line with previous papers (Qian and Strahan, 2007; Bae and Goyal 2009), our unit of analysis is each loan tranche, instead of aggregating multiple tranches into a single loan deal. The dependent variable is the interest rate spread of the loan (LN_SPREAD), measured as the natural logarithm of the basis points spread of the loan interest over the London Interbank Offered Rate (LIBOR) or LIBOR equivalent. To test our predictions, we estimate the following regression of loan spreads:

$$LN\_SPREAD_{i,t} = \alpha_0 + \beta_1 LO_{c,t-1} + \beta_2 CR_{c,t-1} + \beta_3 TRUST_{c,t-1} + \beta_4 TRUST * LO_{c,t-1} +$$
$$\sum_k FirmControls_{i,t-1}^k + \sum_L LoanControls_{i,t}^L + \sum_t Y_t + \sum_c C_c + \sum_j I_j + \varepsilon_{i,t} \qquad [1]$$

To study the influence of formal institutions and trust on loan spreads, we considered as formal institutions the quality of the institutional environment measured by law and order (LO) and the protection of creditor rights (CR), in turn measured by two different variables, namely the time for creditors to recover their credit (CR1) and the recovery rate (CR2). The trust variable (TRUST) captures how trustworthy an individual perceives those whom they meet for the first time.

Firm-level controls consist of size, profitability, leverage, tangibility, and growth. Finally, loan-level controls consist of syndicated size, rating, maturity, loan purpose, and loan type. We also include time, country, and industry effects in all the estimations to control for unobservable country, time, and industry heterogeneity. The model is estimated with ordinary least squares (OLS) clustered by borrower firms. If there are unobservable common country components, loans in a given country cannot be treated as independent observations. The residuals are correlated and OLS standard errors may be biased. Thus, the standard errors are clustered by firm, as Petersen (2009) shows that standard errors clustered by firm are unbiased and produce correctly sized confidence intervals regardless of whether the firm effect is permanent or temporary. To mitigate endogeneity problems ex-ante, we lag all the variables by one year (Gropp and Heider, 2010). An in-depth description of all these variables is given in the following paragraphs.

3.1.1. Trust

To measure the level of cooperation among people to obtain efficient results and avoid individuals being exploited in economic transactions in a country, we considered the level of trust. This measure is sourced from the World Values Survey (WVS) and the European Values Survey (EVS). These surveys are conducted by a global network of social scientists interested in examining social values and their social, political, and economic impact. From 1981 to 2008, WVS/EVS conducted several surveys in 97 societies, which represent almost 90 percent of the total population. These surveys provide valuable information on a crucial component of social change: the values, beliefs, and motivations of ordinary citizens. Many researchers now employ the data from these surveys in their studies to analyse the impact of aspects such as social capital and religion. For example, the measure of trust has been used in the literature to analyse how social environments influence different aspects of firms such as the rate of investment (Zak and Knack, 2001), firm performance (Goergen *et al.*, 2013), investment decisions (Botazzi *et al.,* 2016), corporate cash holdings (Dudley and Zhang, 2016), and corporate valuation (Fernández and González, 2017). The WVS/EVS measure of religion has been also used to analyse its influence on aspects such as economic growth (Barro and McCleary, 2003), economic performance (McCleary and Barro, 2006), economic development (Eum, 2011), and the cost of debt (Chen *et al*., 2016).

We used three "waves" of WVS (1999-2004, 2005-2007, and 2010-2014) and two "waves" of EVS (1999-2004 and 2008-2010). The question used to assess the level of trust in a society was: "Generally speaking, would you say that most people can be trusted, or that you can't be too careful in dealing with people?" Our trust variable

(TRUST) is the percentage of respondents in each country agreeing that "most people can be trusted" (after deleting the "don't know" responses) versus the alternative that "you can't be too careful in dealing with people". Most of these countries were included in at least two survey waves; we considered the data on trust that is immediately prior to each bank loan.

Although Inglehart (1994) cites a wide range of potential problems in the aforementioned surveys (WVS and EVS), the values reported by these surveys seem to be consistent with information from other sources. For example, *Reader's Digest* performed a global social experiment entitled "Most Honest Cities: The Reader's Digest 'Lost Wallet' test", that provides sufficient evidence for the validity of the surveys. The aim of the experiment was to answer the question "What are the most (and least) honest cities in the world?" The study was conducted in sixteen cities around the world and consists in the following. Twelve wallets were 'dropped' in each of the sixteen selected cities. In each wallet, the researchers placed a name with a cellphone number, a family photo, coupons, and business cards, plus the equivalent of $50. The wallets were left in parks, near shopping malls, and on sidewalks. The researchers then watched to see what would happen. The percentage of wallets returned in each country closely tracks the WVS/EVS measure: it is correlated with TRUST at 0.67. This means that statistic problems related to non-random samples, problems deriving from translation, or discrepancies between professed attitudes and actual behaviours should not exist in our measure of trust (Knack and Keefer, 1997). In the aforementioned experiment, Lisbon was found to be the least honest city, with only one out of the twelve wallets being returned (by a non-resident visiting the city). In contrast, the highest values of trust were reported for the Nordic countries, evidence that is consistent with popular impressions. In Table 1, we report the descriptive statistics for trust by country. The mean value of TRUST for Portugal in our sample is 19.42, which is far from the mean value of the Nordic countries (the mean value is 69.94 for Norway; 69.89 for Denmark; 63.21 for Sweden; and 59.43 in the case of Finland).

[INSERT TABLE 1 ABOUT HERE]

3.1.2. Formal institutions

We have considered as formal institutions the quality of the institutional environment measured by law and order (LO) and the protection of creditor rights (CR), in turn measured by two different ex-post variables, namely the time for creditors to recover their credit (CR1) and the recovery rate (CR2).

The law and order variable (LO) measures the strength and impartiality of the legal system, as well as widespread observance of the law. The source from which we extracted the data is the International Country Risk Guide (ICRG). The values of this indicator range between 0 and 6, with lower values reflecting poor legal enforcement.

The time for creditors to recover their credit (CR1) is recorded in calendar years. The period of time measured by the Resolving Insolvency indicator runs from the company's default until the payment of some or all of the money owed to the bank. Potential delay tactics by the parties, such as the filing of dilatory appeals or requests for extension, are taken into consideration. Data are also collected from the World Bank Doing Business Database. Lower values of CR1 mean a higher protection of creditors' rights, as creditors recover their money earlier.

The recovery rate (CR2) is recorded as cents on the dollar recovered by secured creditors through judicial reorganization, liquidation, or debt enforcement (foreclosure or receivership) proceedings. The calculation takes into account the outcome: whether the business emerges from the proceedings as a going concern, or the assets are sold piecemeal. The costs of the proceedings are then deducted (1 cent for each percentage point of the value of the debtor's estate). The recovery rate is the present value of the remaining proceeds, based on the available year-end lending rates from the International Monetary Fund's International Financial Statistics, supplemented with data from central banks and the Economist Intelligence Unit. The data were obtained from the World Bank Doing Business Database. Higher values of CR2 mean higher protection of creditors rights, as creditors recover a higher proportion of their loans.

3.1.3. Firm controls

In line with previous research analysing debt conditions (Qian and Strahan, 2007; Bae and Goyal, 2009), we also include different firm-level variables to assess the effect of formal and informal institutions on bank loan spreads. To ascertain whether heterogeneity in borrower risk will affect bank loan spreads, we consider the following explicative variables: firm size (SIZE); profitability (PROFIT); leverage (LEV); tangibility (TANG); growth (GROWTH); and the borrower's credit rating (VRATING and DRATING).

Firm size (SIZE) is measured as the natural logarithm of total assets. Small firms suffer greater informational asymmetries, while large firms have easier access to both internal and external financing, longer tracks records, and lower default risk, as they are normally more diversified. This suggests that larger firms should obtain better bank loan terms, with the expectation that loan spreads decrease with firm size. Profitability (PROFIT) is

measured as the ratio between earnings before interest and taxes and total assets. Banks face lower probabilities of default when borrowers are more profitable firms. In this context, firms with higher levels of current profits will be able to borrow from banks on relatively good terms. Leverage (LEV) is measured as the ratio between the book value of financial debt (short- and long-term debt) and the book value of total assets. Given that firms with high leverage face a greater likelihood of future insolvency, moral hazard problems are greater in these firms. We may thus expect the terms of bank loans to worsen with leverage. However, higher leverage could also be a proxy for the good reputation of firms in the debt markets, which reduces contracting problems. Tangibility (TANG) is measured as the ratio between property, plant, and equipment and total assets. Intangible assets are more difficult to collateralize and suffer higher losses in value when firms experience distress. Moreover, the low information asymmetry associated with tangible assets makes it easier for lenders to monitor borrowers. Consequently, higher tangibility suggests better bank loan conditions. Growth (GROWTH) is proxied by the ratio of the market value of equity to the book value of equity. Growth firms face greater problems of information asymmetries, thus leading to higher contracting costs. However, such firms are less likely to engage in risky activities to expropriate creditors. We also include the borrower's credit rating (VRATING and DRATING), given that firms with high credit ratings may obtain more favourable loan terms. We obtain information on Moody's and S&P senior debt ratings at the year of the loan from Dealscan, which we use to control for borrower risk. We focus first on Moody's rating, unless it is missing, in which case we rely on the S&P rating. We construct a firm risk index (VRATING) ranging from one to six using Moody's and S&P ratings. Specifically, we assign a value of one to an Aaa rating, a value of two to an Aa rating, a value of three to an A rating, a value of four to a Baa rating, a value of five to a Ba rating, and a value of six to a B rating or worse. A higher number thus reflects a lower rating. We also assign a value of zero to firms without a rating. Additionally, we include a dummy variable (DRATING) that takes the value of one if the firm rating is missing and zero otherwise.

3.1.4. Loan controls

Along with firm-specific variables, we include several loan-specific characteristics in our estimations. We consider the number of banks in the loan (SYND_SIZE), as banks have incentives to syndicate loans with higher risk in order to spread the risk across a large number of lenders. This variable is measured as the natural logarithm of the number of banks participating in the loan. Maturity (MAT) is the natural logarithm of maturity (in

months); the higher the maturity of the loan, the greater the loan spread will be, given that longer maturity of loans is associated with higher risk. Therefore, higher loan spreads will be required to offset the increased risk. The size of the loan (LOAN_SIZE) is the natural logarithm of the loan. As a greater loan size is associated with better borrowers, we expect that the higher the size of the loan, the lower the loan spread will be. We also include four dummy variables which measure the purpose of the loan: PURP_ACQUIS is a dummy variable that takes the value of 1 if the purpose of the bank loan is acquisitions or capital expenditures and zero otherwise; PURP_CORP is a dummy variable that takes the value of 1 if the bank loan is for general corporate purposes and zero otherwise; PURP_BACKUP is a dummy variable that takes the value of 1 if the bank loan is for commercial paper backup and zero otherwise; and PURP_WK is a dummy variable that takes the value of 1 if the bank loan is for financing working capital and zero otherwise. We also include three dummy variables to identify the type of the loan: CREDIT_LINE_D is a dummy variable that takes the value of 1 if the loan is a credit line and zero otherwise; TERM_LOAN_D is a dummy variable that takes the value of 1 if the loan is a term loan and zero otherwise; and BRIDGE_LOAN_D is a dummy variable that takes the value of 1 if the loan is a bridge loan and zero otherwise. Finally, we include a dummy variable that identifies whether the loan is senior or not (DSENIOR). This variable takes the value of 1 if the loan is senior and zero otherwise (subordinated, senior subordinated, junior, or mezzanine). Appendix A provides the definitions of the variables used in the empirical analysis.

3.2. Descriptive statistics

Table 1 provides the descriptive statistics of trust by country. Almost 70% of these loan tranches are to US firms. A wide variation in the trust variable can be observed, the mean of TRUST for the total sample being 36.57%. However, there are countries like Brazil, Cyprus, the Philippines, and Turkey whose mean value of trust is below 10%. Nordic countries such as Denmark, Norway, and Sweden present values of trust above 60%. Table 2 provides descriptive statistics on the variables used in this paper. The mean (median) of the SPREAD variable is 193.75 (170) basis points. The mean values of LO, CR1, and CR2 are 4.97, 1.56, and 77.38 respectively. Most of the loans are credit lines (57%), senior (99%), and for general corporate purposes (43%). The median bank loan has a Moody's rating of A.

[INSERT TABLE 2 ABOUT HERE]

Table 3 presents the correlation matrix[2]. The correlation between LN_SPREAD and TRUST is positive, a finding not in line with trust reducing the cost of debt. LN_SPREAD shows a positive correlation with CR2 and correlates negatively with LO and CR1. The correlation of LN_SPREAD with the degree of protection of property rights is as expected, considering that higher law and order values are associated with lower spreads. Bank loan spread (LN_SPREAD) correlates negatively with firm size, profitability, loan size, the size of the syndicate, and the dummies of backup purpose, credit line loan, and senior loan; while the correlation is positive with respect to leverage, maturity, borrower credit rating, and the dummies of credit rating, the purpose of acquisitions and capital expenditures, general corporate purposes, working capital purposes, and loan term.

[INSERT TABLE 3 ABOUT HERE]

4. Results

4.1. Formal and informal institutions

Table 4 presents the results of the OLS estimation, being the standard errors clustered at the borrower firm-level. The dependent variable is the interest rate spread of the loan (LN_SPREAD). Columns (1) and (2) show the results when considering trust, firm-specific variables, loan-specific characteristics, law and order, and protection of creditors' rights measured via the two different variables. The LO variable has a negative coefficient, indicating that firms in countries with strong legal enforcement have a lower loan spread, a finding consistent with the evidence provided by Bae and Goyal (2009). The level of protection of creditors' rights (CR1 and CR2) is not seen to have an influence on loan spreads, as it is not statistically significant in any of the regressions. Bae and Goyal (2009) also find that the effect of legal enforcement on loan spreads has more weight than that of the differences in creditors' rights.

[INSERT TABLE 4 ABOUT HERE]

Our results are hence in line with those reported in the finance literature, which shows that firms in countries with an efficient judicial system will obtain debt under better conditions. As regards trust, the results show that trust has no influence on loan spreads

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[2] The variables incorporated in the robustness section are not included in order to save space.

when it is considered individually. Thus, we do not obtain favourable evidence for our first hypothesis.

When we include the interaction term between trust and LO (columns (3) and (4)), trust is seen to have a negative influence on loan spreads. This result suggests that an increase in country trust improves loan conditions. Increased country trust may mean that lenders need to spend less to protect themselves from counterparty risk. As a result of assuming less risk of default, lenders will be able to offer better credit conditions; in this case, a lower cost of debt. However, the joint presence of trust and law and order lowers this reduction, indicating that formal and informal institutions act as substitutes in reducing the loan spread. This means that in countries where law enforcement and legal protection are weak, trust plays a greater role in reducing the cost of debt. Hence the second hypothesis, which posits that formal and informal institutions act as substitutes in reducing loan spreads, is confirmed.

In terms of economic significance, the coefficients reported in columns (3) and (4) suggest that a one-standard-deviation increase in TRUST is associated with an increase in the mean value of loan spreads of 0.39% and 0.44%, respectively, values which are close to zero. When we take into account the quality of legal enforcement, in those countries where the legal enforcement is weak (e.g. Brazil, with a law and order score of 2), a one standard-deviation increase in TRUST is associated with a reduction in the mean value of the loan spread of 3.30% and 3.23%, respectively. However, in countries where the legal enforcement is higher (e.g. Belgium, with a law and order score of 5), a one standard-deviation increase in TRUST is associated with an increase in the mean value of the loan spread of 0.40% and 0.47%, respectively. Hence, we can conclude that trust reduces the loan spread when formal institutions are weak; otherwise, its effect is zero.

The signs of the coefficients obtained for borrower-level variables are as expected. Larger or profitable firms borrow at lower interest rates. High leverage is associated with higher interest rates, which means that firms with high leverage face a greater likelihood of future insolvency, leading to higher interest rates. The market-to-book ratio is negatively related to loan spreads, reflecting that growth firms are less likely to engage in risky activities to expropriate creditors. Safer borrowers (firms with a lower value of the VRATING variable) obtain loans at lower interest rates, while firms without a rating (DRATING) face higher cost.

Along with firm-specific variables, we include several loan-specific characteristics in our estimations. Loans from larger syndicates or loans that are larger in size have lower loan spreads, probably as a result of the diversification of risk across a larger number of lenders. Loans with longer maturity also have higher loan spreads, revealing that banks charge higher interest rates on long-term loans. As to the purpose of the loan, if the bank loan is for general corporate purposes, backup commercial paper, or for financing working capital, the spread is lower. However, bank loans used to finance acquisitions or capital expenditures have higher spreads. If the loan is a credit line, the spread is lower; however, if it is a bridge loan, the spread is higher. Finally, senior loans have lower spread compared to the remaining categories (subordinated, senior subordinated, junior, or mezzanine).

4.2. Degree of economic development

Table 5 presents the results showing the effect that formal and informal institutions have on loan spreads, though in this case considering the degree of economic development. We use the natural logarithm of the Gross National Income per capita variable (GNI_PC) in 2002 from the World Bank Database to measure the economic development of each country and interact this variable with the main variables of our analysis (law and order and trust). As mentioned previously, as our sample starts in 2003, we measure the degree of economic development one year before in order to minimize endogeneity problems (Knack and Keefer, 1997).

[INSERT TABLE 5 ABOUT HERE]

In columns (1) and (2), we interact the degree of economic development (GNI_PC) with trust (TRUST), while in columns (3) and (4) we also include the interaction term between the degree of economic development (GNI_PC) and the law and order variable (LO). It can be seen that both formal and informal institutions reduce loan spreads when the degree of economic development is not taken into account, although this reduction is lower when the degree of economic development of a country increases, the coefficients of the interaction terms between GNI_PC and LO and TRUST being positive and significant in all estimations. Hence, the third hypothesis, which posits that trust has a greater influence on loan spreads in countries with a lower degree of economic development, is confirmed.

In terms of economic significance, the coefficients reported in columns (3) and (4) suggest that, in those countries where the degree of economic development is low (e.g. the Philippines, with a value of GNI_PC of 7.07), a one-standard-deviation increase in

TRUST is associated with a reduction in the mean value of the loan spread of 2.89% and 2.86%, respectively. However, this effect disappears for countries with a high degree of economic development (e.g. Norway, with a value of GNI_PC of 10.59), as one-standard-deviation increase in TRUST is associated with an increase in the mean value of the loan spread of 0.13% and 0.26%, respectively.

5. Robustness

In this section, we present additional robustness tests for our results considering a number of aspects: (1) we include additional variables in our baseline model, (2) we take into account the limited influence of countries with only a small number of observations, and (3) we address the potential problem of endogeneity for the trust variable.

The first concern that may be raised is that our baseline model excludes some key variables that are correlated to trust and the cost of debt. Seeing as cultural values and religion might play an important role in the level of trust and the cost of debt (La Porta *et al*. 1997; Chui et al., 2016; Giannetti and Yafeh, 2012; He and Hu, 2016), we also include variables controlling for these aspects in our estimation. As for cultural values, we consider the cultural dimensions developed by Hofstede (2001). Hofstede's cultural framework, which is the most well-known framework of its kind, characterises the different cultural traits of a nation into six dimensions (power distance, uncertainty avoidance, individualism, masculinity, long-term orientation, and indulgence) based on a worldwide survey of employees' values at IBM[3]. As proxies for national culture, we use the four most widely-used cultural dimensions (individualism, uncertainty avoidance, masculinity, and power distance) from the studies by Hofstede (2001). We use the updated measures from Tang and Koveos (2008).

The power distance index (PDI) expresses the degree to which the less powerful members of a society accept and expect power to be distributed unequally. The fundamental issue here is how a society deals with inequalities among people. People in societies exhibiting a large degree of power distance accept a hierarchical order in which everybody has a place and which needs no further justification. In societies with a low degree of power distance, people strive to balance out the distribution of power and demand justification for power inequalities. Individualism (IND) can be defined as a preference for a loosely knit social framework in which individuals are expected to solely

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[3] The importance of Hofstede's cultural dimensions is highlighted by Kirkman *et al*. (2006), who document 180 empirical studies that rely on Hofstede's cultural framework published in leading journals between 1980 and 2002.

take care of themselves and their immediate families. The uncertainty avoidance index (UAI) expresses the degree to which the members of a society feel uncomfortable with uncertainty and ambiguity. The fundamental issue here is how a society deals with the fact that the future can never be known: should we try to control the future or just let it happen? Countries exhibiting a strong UAI maintain rigid codes of belief and behaviour, and are intolerant of unorthodox behaviour and ideas. Weak UAI societies maintain a more relaxed attitude in which practice counts more than principles. Masculinity (MAS) represents a preference in society for achievement, heroism, assertiveness, and material rewards for success. Society at large is more competitive. Columns (1) to (4) in Table 6 show the results including each of these cultural dimensions. Column (5) presents the results including the four cultural dimensions grouped together. Our results for cultural variables are in line with those obtained in previous research, as Chui *et al*. (2016) find that countries with high mastery tend to have a lower cost of debt[4].

[INSERT TABLE 6 ABOUT HERE]

We also consider religion as a control variable, identifying the percentage of the population of each country belonging to the three most widely spread religions in the world (La Porta *et al.*, 1998): CATHO is the percentage of the population of each country belonging to the Catholic religion; MUSLIM is the percentage of the population of each country belonging to the Muslim religion; and PROT is the percentage of the population of each country belonging to the Protestant religion. Column (6) in Table 6 shows the results when these variables are included.

Our results are found to be robust, insofar as law and order, trust, and the interaction term between these two variables maintain the signs shown in Table 4 regardless of the inclusion of cultural dimensions or religion.

Second, to correct for the limited influence of countries with only a small number of observations, we use a weighted regressions approach that assigns a country-specific weight, which is equal to the inverse number of bank loans in each country. Table 7

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[4] Chui *et al.* (2016) use Schwartz's cultural dimensions as their main variables. Then, in their robustness analysis, they consider Hofstede's cultural values and find that the estimates for individualism, masculinity, and power distance are positive, while the estimate of uncertainty avoidance is negative. However, only the estimated coefficient on individualism is significant.

shows the main estimations of the paper using weighted regressions considering the complete sample[5].

[INSERT TABLE 7 ABOUT HERE]

Our results are also found to be robust, insofar as law and order and trust have a negative and significant effect on loan spreads, while the interaction term between these two variables has a coefficient that is positive and significant, highlighting that there is a substitution effect between formal institutions and trust (column (1) in Table 7). As regards the degree of economic development (column (2) in Table 7), our results are also maintained, showing that trust reduces the loan spread more in those countries with a lower degree of economic development. Finally, when the control variables of cultural values and religion (columns (3) and (4) in Table 7) are taken into account, the results are also in line with those reported previously in this paper.

Finally, a potential problem when considering trust is that this variable may itself be affected by social phenomena, including economic and political influence, thereby leading to endogeneity concerns (Bowles, 1998). As such, trust may be endogenous. In Table 8, we address this potential concern by estimating two-stage least squares regressions. We consider several variables as instruments of trust. The proxies are: pronoun drop, rainfall variation, genetic distance, and distance from the equator (Cline and Williamson, 2016)[6]. In order to contrast the validity of our instruments, we consider the Cragg-Donald statistic, comparing it with the critical values computed by Stock and Yogo (2004). Those cases in which the Cragg-Donald statistic is higher than the Stock and Yogo critical values would indicate the absence of the weak instruments problem. The second stage results are presented in Table 8[7].

In this case, our results are also found to be robust as law and order and trust have a negative and significant effect on loan spreads, while the interaction term between these two variables has a coefficient that is positive and significant, highlighting that there is a substitution effect between law and order and trust (columns (1) and (2) in Table 8). As regards the degree of economic development (columns (3) and (4) in Table 8), the results

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[5] Additionally, in order to test whether our results are driven by US observations, which clearly dominate the sample under study, we also estimate the results of Table 7 excluding these observations. The results are maintained.

[6] Appendix A provides the definitions of these variables.

[7] First stage regressions (not reported for the sake of conciseness) are available upon request.

show that trust reduces loan spreads more in those countries with a lower degree of economic development.

6. Conclusions

This paper analyses the effect of trust and the institutional environment on bank loan spreads for a sample of 16,324 loans from 36 countries over the period 2003-2013, bearing in mind that, when a bank lends to a firm, it has to assess not only the borrower's credit quality, but also the risk due to weak laws or institutions and the risk associated with low trust societies. The results reveal that trust does not influence the cost of bank loans in countries with higher levels of efficiency of the legal system or in more economically developed countries. High trust environments, however, tend to reduce loan spreads when the efficiency of the legal system is weak and the degree of economic development is low. These results reveal that trust and laws act as alternative mechanisms in reducing the cost of debt and show that the benefits of high trust societies include less expenses associated with protecting individuals from being exploited in economic transactions, less covenants in written contracts, or less litigation procedures, among others.

Our results suggest that trust has a limited influence on the spread of bank loans, as the effect of trust is contingent upon the efficiency of the legal system and the degree of economic development. This finding is likewise consistent with weaker efficiency of the legal system providing more room for opportunistic behaviour, trust being more necessary to guide the contracting process between lenders and borrowers.

Acknowledgements

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Table 1. Trust descriptive statistic by country

The table reports the descriptive statistics of the trust variable, which is the percentage of individuals in a country who respond that most people can be trusted. This variable was obtained by combining different waves of the World Values Survey and European Values Survey.

Country	OBS	Mean	Standard deviation	Min.	Max.
Australia	263	47.79	3.61	40.05	54.43
Austria	17	35.40	1.70	33.43	36.78
Belgium	37	31.42	2.70	29.22	34.65
Brazil	55	7.85	1.38	6.46	9.20
Canada	469	40.23	2.51	36.96	42.15
Chile	22	18.24	5.35	12.40	23.01
China	90	56.70	5.55	52.41	64.44
Cyprus	3	9.16	0.05	0.10	9.19
Denmark	17	69.89	4.68	66.53	76.04
Finland	41	59.43	2.88	57.44	64.68
France	345	22.80	3.37	18.67	27.25
Germany	317	37.35	1.74	34.09	38.83
Greece	41	22.97	1.13	21.34	23.73
India	228	25.32	7.56	17.63	40.99
Indonesia	31	43.13	2.27	42.54	51.64
Ireland	30	42.58	4.26	28.92	47.37
Italy	115	30.89	1.37	29.17	32.63
Japan	210	40.44	1.96	38.76	43.06
Korea (South)	128	31.00	1.77	29.67	34.17
Luxembourg	18	28.97	3.06	24.76	31.07
Mexico	49	18.27	3.34	12.42	21.87
Netherlands	98	58.75	6.34	44.48	67.42
New Zealand	15	50.32	1.06	49.05	51.16
Norway	46	69.94	4.91	65.30	75.09
Philippines	22	8.09	1.70	2.84	8.61
Poland	23	20.56	3.86	17.91	27.60
Portugal	20	19.42	2.31	17.17	21.67
Russia	99	27.50	2.37	23.98	29.86
Singapore	69	16.09	5.60	14.71	38.52
Spain	202	29.32	6.88	19.51	34.33
Sweden	62	63.21	4.42	59.67	70.69
Switzerland	92	45.31	9.02	36.96	55.43
Taiwan	1,097	27.40	5.42	24.24	38.20
Turkey	28	9.40	3.07	4.78	12.43
United Kingdom	552	34.13	5.32	28.85	40.32
USA	11,373	37.80	1.50	36.28	39.56
Total	16,324	36.56	7.00	2.84	76.04

Table 2. Descriptive statistics

The table reports the descriptive statistics of the variables for the total sample. LN_SPREAD is the natural logarithm of interest rate spread on a loan (over the LIBOR) plus any associated fees in originating the loan; SPREAD is the interest rate spread on a loan (over the LIBOR) plus any associated fees in originating the loan; TRUST is the percentage of individuals in a country who respond that most people can be trusted; LO is the law and order variable; CR1 captures the time for creditors to recover their credit and is recorded in calendar years; CR2 is the recovery rate; GNI_PC is the natural logarithm of Gross National Income per capita in 2002; SIZE is the natural logarithm of the firm's total assets; PROFIT is the ratio between earnings before interest and taxes and total assets; LEV is the ratio between the book value of debt and the book value of total assets; TANG is the ratio between property, plant, and equipment and total assets; GROWTH is the ratio of the market value of equity to the book value of equity; VRATING is a firm risk index using Moody's and S&P ratings that ranges from one to six, a value of one being assigned to an Aaa rating, a value of two indicating an Aa rating, …, and six indicating a B rating or worse – we assign a zero to borrowers without a rating; DRATING is a dummy variable that takes the value of one if the rating of the firm is missing and zero otherwise; SYND_SIZE is the number of banks participating in the loan; MAT is the natural logarithm of maturity (in months); LOAN_SIZE is the natural logarithm of the loan; PURP_ACQUIS is a dummy variable that takes the value of 1 if the purpose of the bank loan is acquisitions or capital expenditures and zero otherwise; PURP_CORP is a dummy variable that takes the value of 1 if the bank loan is for general corporate purposes and zero otherwise; PURP_BACKUP is a dummy variable that takes the value of 1 if the bank loan is for commercial paper backup and zero otherwise; and PURP_WK is a dummy variable that takes the value of 1 if the bank loan is for financing working capital and zero otherwise; CREDIT_LINE_D is a dummy variable that takes the value of 1 if the loan is a credit line and zero otherwise; TERM_LOAN_D is a dummy variable that takes the value of 1 if the loan is a term loan and zero otherwise; and BRIDGE_LOAN_D is a dummy variable that takes the value of 1 if the loan is a bridge loan line and zero otherwise; DSENIOR is a dummy variable that takes the value of 1 if the loan is senior and zero otherwise; PDI is Hofstede's power distance; IND is Hofstede's individualism; UAI is Hofstede's uncertainty avoidance; MAS is Hofstede's masculinity; CATHO is the percentage of the population of each country belonging to the Catholic religion; MUSLIM is the percentage of the population of each country belonging to the Muslim religion; and PROT is the percentage of the population of each country belonging to the Protestant religion.

	Number of observations	Mean	Median	Standard Deviation	First quartile	Third quartile
LN_SPREAD	16,324	4.95	5.14	0.87	4.44	5.52
SPREAD	16,324	193.75	170.00	154.00	85.00	250.00
TRUST	16,324	36.56	36.96	7.00	36.28	39.56
LO	16,324	4.97	5.00	0.42	5.00	5.00
CR1	16,324	1.56	1.50	0.61	1.50	1.50
CR2 (%)	16,324	77.38	80.30	12.32	77.00	81.50
GNI_PC	15,227	10.29	10.53	0.73	10.53	10.53
SIZE	16,324	14.27	14.32	2.07	13.01	15.70
PROFIT	16,324	0.04	0.05	0.15	0.01	0.10
LEV	16,324	0.05	0.01	0.09	0.00	0.05
TANG	16,324	0.35	0.29	0.26	0.13	0.53
GROWTH	16,324	10.09	1.76	609.07	1.09	2.89
VRATING	16,324	2.38	3.00	2.44	0.00	5.00
DRATING	16,324	0.48	0.00	0.50	0.00	1.00
SYND_SIZE	16,324	1.84	1.94	0.95	1.39	2.48
MAT	16,324	3.77	4.09	0.62	3.58	4.09
LOAN_SIZE	16,324	19.05	19.12	1.60	18.09	20.14
PURP_ACQUIS	16,324	0.13	0.00	0.34	0.00	0.00
PURP_CORP	16,324	0.43	0.00	0.50	0.00	1.00
PURP_BACKUP	16,324	0.02	0.00	0.16	0.00	0.00
PURP_WK	16,324	0.19	0.00	0.39	0.00	0.00
CREDIT_LINE_D	16,324	0.57	1.00	0.49	0.00	1.00
TERM_LOAN_D	16,324	0.39	0.00	0.49	0.00	1.00
BRIDGE_LOAN_D	16,324	0.02	0.00	0.14	0.00	0.00
DSENIOR	16,324	0.99	1.00	0.05	1.00	1.00
PDI	14,939	17.96	12.00	12.89	12.00	12.00
IND	14,939	97.69	105.00	16.94	105.00	105.00
UAI	14,939	39.52	34.00	12.84	34.00	34.00
MAS	14,939	56.42	57.00	6.94	57.00	57.00
CATHO	15,227	31.64	30.00	16.67	30.00	30.00
MUSLIM	15,227	1.38	0.80	5.02	0.80	0.80
PROT	15,227	37.19	43.60	15.33	43.60	43.60

Table 3. Correlations

The table presents the correlation matrix. LN_SPREAD is the natural logarithm of interest rate spread on a loan (over the LIBOR) plus any associated fees in originating the loan; TRUST is the percentage of individuals in a country who respond that most people can be trusted; LO is the law and order variable; CR1 captures the time for creditors to recover their credit and is recorded in calendar years; CR2 is the recovery rate; GNI_PC is the natural logarithm of Gross National Income per capita in 2002; SIZE is the natural logarithm of the firm's total assets; PROFIT is the ratio between earnings before interest and taxes and total assets; LEV is the ratio between the book value of debt and the book value of total assets; TANG is the ratio between property, plant, and equipment and total assets; GROWTH is the ratio of the market value of equity to the book value of equity; VRATING is a firm risk index using Moody's and S&P ratings that ranges from one to six, a value of one being assigned to an Aaa rating, a value of two indicating an Aa rating, …, and six indicating a B rating or worse – we assign a zero to borrowers without a rating; SYND_SIZE is the number of banks participating in the loan; MAT is the natural logarithm of maturity (in months); LOAN_SIZE is the natural logarithm of the loan; PURP_ACQUIS is a dummy variable that takes the value of 1 if the purpose of the bank loan is acquisitions or capital expenditures and zero otherwise; PURP_CORP is a dummy variable that takes the value of 1 if the bank loan is for general corporate purposes and zero otherwise; PURP_BACKUP is a dummy variable that takes the value of 1 if the bank loan is for commercial paper backup and zero otherwise; and PURP_WK is a dummy variable that takes the value of 1 if the bank loan is for financing working capital and zero otherwise; CREDIT_LINE_D is a dummy variable that takes the value of 1 if the loan is a credit line and zero otherwise; TERM_LOAN_D is a dummy variable that takes the value of 1 if the loan is a term loan and zero otherwise; and BRIDGE_LOAN_D is a dummy variable that takes the value of 1 if the loan is a bridge loan line and zero otherwise; DSENIOR is a dummy variable that takes the value of 1 if the loan is senior and zero otherwise.

	LN_SPREAD	TRUST	LO	CR1	CR2	GNI_PC	SIZE	PROFIT	LEV	TANG	GROWTH	VRATING	DRATING	SYND_SIZE	MAT	LOAN_SIZE	PURP_ACQUIS	PURP_CORP	PURP_BACKUP	PURP_WK	CREDIT_LINE_D	TERM_LOAN_D	BRIDGE_LOAN_D
TRUST	0.10***																						
LO	-0.02**	0.40***																					
CR1	-0.02**	-0.43***	-0.63***																				
CR2	0.02***	0.38***	0.66***	-0.79***																			
GNI_PC	-0.00	0.31***	0.52***	-0.61***	0.76***																		
SIZE	-0.33***	0.02**	-0.01	-0.01	-0.09***	-0.07***																	
PROFIT	-0.27***	0.01	-0.03***	0.03***	-0.04***	-0.05***	0.11***																
LEV	0.02**	-0.22***	-0.07***	0.10***	-0.07***	-0.16***	-0.09***	-0.19***															
TANG	0.00	-0.05***	-0.04***	0.06***	-0.06***	-0.15***	0.01*	-0.03***	0.02**														
GROWTH	0.00	0.01	0.00	-0.00	-0.00	0.00	0.01*	0.00	-0.01	0.02***													
VRATING	0.08***	0.12***	0.03***	-0.10***	0.10***	0.18***	0.35***	-0.02***	-0.18***	0.06***	0.01*												
DRATING	0.11***	-0.13***	-0.03***	0.11***	-0.09***	-0.17***	-0.46***	-0.04***	0.20***	-0.07***	-0.01	-0.95***											
SYND_SIZE	-0.34***	-0.08***	-0.01	0.06***	-0.07***	-0.07***	0.45***	0.16***	-0.02***	0.07***	0.01	0.23***	-0.31***										
MAT	0.07***	-0.05***	-0.05***	0.08***	-0.06***	-0.08***	-0.04***	0.07***	-0.02***	0.00	-0.01	0.06***	0.01	0.14***									
LOAN_SIZE	-0.34***	0.09***	0.03***	-0.04***	-0.07***	-0.03***	0.66***	-0.03***	-0.17***	0.10***	0.01	0.38***	-0.49***	0.57***	0.05***								
PURP_ACQUIS	0.08***	0.02***	0.03***	-0.04***	-0.00	0.03***	-0.03***	0.09***	-0.09***	-0.07***	-0.00	0.05***	-0.03***	0.01	-0.03***	0.09***							
PURP_CORP	0.02**	0.12***	0.04***	-0.09***	0.07***	0.10***	0.13***	-0.00	-0.12***	0.02*	0.01*	0.12***	-0.14***	0.01	0.00	0.13***	-0.34***						
PURP_BACKUP	-0.22***	0.00	0.00	-0.01	0.03***	0.05***	0.15***	0.04***	-0.04***	0.01	-0.00	0.05***	-0.15***	0.12***	-0.16***	0.12***	-0.06***	-0.14***					
PURP_WK	0.02**	0.03***	-0.02***	-0.02***	0.06***	0.12***	-0.16***	-0.02***	-0.06***	-0.04***	-0.01	-0.06***	0.08***	-0.10***	-0.02***	-0.16***	-0.19***	-0.42***	-0.08***				
CREDIT_LINE_D	-0.10***	0.15***	0.13***	-0.13***	0.14***	0.23***	-0.03***	0.03***	-0.14***	-0.04***	0.00	0.00	-0.01	0.06***	0.11***	0.06***	-0.16***	0.16***	-0.03***	0.17***			
TERM_LOAN_D	0.10***	-0.14***	-0.13***	0.13***	-0.14***	-0.22***	0.02*	-0.04***	0.13***	0.04***	-0.00	0.01*	0.00	-0.03***	-0.03***	-0.07***	0.11***	-0.13***	0.04***	-0.15***	-0.92***		
BRIDGE_LOAN_D	0.01	0.01	0.00	-0.01	0.00	0.00	0.07***	0.03***	-0.02***	0.00	-0.00	0.05***	-0.07***	-0.05***	-0.30***	0.13***	0.21***	-0.08***	-0.02**	-0.06***	-0.16***	-0.11***	
DSENIOR	-0.07***	-0.00	-0.01	0.02*	-0.00	0.02***	-0.01	0.00	-0.00	-0.01	0.00	0.01	-0.01*	0.03***	-0.05***	0.02**	-0.01	0.03***	0.01	0.02***	0.05***	-0.03***	-0.04***

Table 4. Loan spread, formal and informal institutions.

Regressions are estimated using OLS clustered by borrower firm. The dependent variable (LN_SPREAD) is the natural logarithm of interest rate spread on a loan (over the LIBOR) plus any associated fees in originating the loan; TRUST is the percentage of individuals in a country who respond that most people can be trusted; LO is the law and order variable; CR1 captures the time for creditors to recover their credit and is recorded in calendar years; CR2 is the recovery rate; SIZE is the natural logarithm of the firm's total assets; PROFIT is the ratio between earnings before interest and taxes and total assets; LEV is the ratio between the book value of debt and the book value of total assets; TANG is the ratio between property, plant, and equipment and total assets; GROWTH is the ratio of the market value of equity to the book value of equity; VRATING is a firm risk index using Moody's and S&P ratings that ranges from one to six, a value of one being assigned to an Aaa rating, a value of two indicating an Aa rating, …, and six indicating a B rating or worse – we assign a zero to borrowers without a rating; DRATING is a dummy variable that takes the value of one if the rating of the firm is missing and zero otherwise; SYND_SIZE is the number of banks participating in the loan; MAT is the natural logarithm of maturity (in months); LOAN_SIZE is the natural logarithm of the loan; PURP_ACQUIS is a dummy variable that takes the value of 1 if the purpose of the bank loan is acquisitions or capital expenditures and zero otherwise; PURP_CORP is a dummy variable that takes the value of 1 if the bank loan is for general corporate purposes and zero otherwise; PURP_BACKUP is a dummy variable that takes the value of 1 if the bank loan is for commercial paper backup and zero otherwise; and PURP_WK is a dummy variable that takes the value of 1 if the bank loan is for financing working capital and zero otherwise; CREDIT_LINE_D is a dummy variable that takes the value of 1 if the loan is a credit line and zero otherwise; TERM_LOAN_D is a dummy variable that takes the value of 1 if the loan is a term loan and zero otherwise; and BRIDGE_LOAN_D is a dummy variable that takes the value of 1 if the loan is a bridge loan line and zero otherwise; DSENIOR is a dummy variable that takes the value of 1 if the loan is senior and zero otherwise. Country, industry, and time effects are included in all the estimations, although we do not report their coefficients. T-statistics are in parentheses. ***, **, and * represent significance at the 1%, 5%, and 10% level, respectively.

	(1)	(2)	(3)	(4)
TRUST	0.00	0.00	-0.04**	-0.04**
	(0.50)	(0.62)	(-2.04)	(-1.98)
LO	-0.30***	-0.30***	-0.59***	-0.59***
	(-4.78)	(-4.88)	(-3.94)	(-3.90)
CR1	0.02		0.02	
	(0.70)		(0.55)	
CR2		0.00		0.00
		(0.76)		(0.65)
LO*TRUST			0.01**	0.01**
			(2.22)	(2.19)
SIZE	-0.03***	-0.03***	-0.03***	-0.03***
	(-6.03)	(-6.04)	(-6.12)	(-6.13)
PROFIT	-0.69***	-0.69***	-0.69***	-0.69***
	(-8.48)	(-8.48)	(-8.47)	(-8.47)
LEV	0.36***	0.36***	0.36***	0.36***
	(4.15)	(4.16)	(4.11)	(4.12)
TANG	0.04	0.04	0.04	0.04
	(1.41)	(1.41)	(1.43)	(1.43)
GROWTH	-0.00***	-0.00***	-0.00***	-0.00***
	(-3.28)	(-3.23)	(-3.22)	(-3.17)
VRATING	0.45***	0.45***	0.45***	0.45***
	(37.72)	(37.77)	(37.64)	(37.69)
DRATING	2.14***	2.14***	2.14***	2.14***
	(32.48)	(32.53)	(32.42)	(32.46)
SYND_SIZE	-0.06***	-0.06***	-0.06***	-0.06***
	(-6.10)	(-6.11)	(-6.10)	(-6.11)
MAT	0.06***	0.06***	0.06***	0.06***
	(3.72)	(3.71)	(3.75)	(3.73)
LOAN_SIZE	-0.09***	-0.09***	-0.09***	-0.09***
	(-12.88)	(-12.84)	(-12.82)	(-12.79)
PURP_ACQUIS	0.09***	0.09***	0.09***	0.09***
	(3.48)	(3.45)	(3.48)	(3.45)
PURP_CORP	-0.10***	-0.10***	-0.10***	-0.10***
	(-4.70)	(-4.74)	(-4.74)	(-4.78)
PURP_BACKUP	-0.42***	-0.42***	-0.42***	-0.42***
	(-10.95)	(-10.98)	(-11.02)	(-11.04)
PURP_WK	-0.10***	-0.10***	-0.10***	-0.10***
	(-3.90)	(-3.96)	(-3.94)	(-3.99)
CREDIT_LINE_D	-0.11***	-0.12***	-0.11***	-0.12***
	(-3.16)	(-3.19)	(-3.15)	(-3.17)
TERM_LOAN_D	0.06	0.06	0.06	0.06
	(1.56)	(1.52)	(1.57)	(1.53)
BRIDGE_LOAN_D	0.20***	0.20***	0.20***	0.20***
	(3.31)	(3.27)	(3.29)	(3.25)
DSENIOR	-1.00***	-1.00***	-1.00***	-1.00***
	(-7.81)	(-7.81)	(-7.82)	(-7.81)
Constant	8.11***	7.90***	9.53***	9.35***
	(18.48)	(13.94)	(11.84)	(10.27)
Country effects	Yes	Yes	Yes	Yes
Time effects	Yes	Yes	Yes	Yes
Industry effects	Yes	Yes	Yes	Yes
# observations	16,324	16,324	16,324	16,324
#firms	3,805	3,805	3,805	3,805
Adjusted R2	64.14	64.15	64.18	64.18
F	190.83***	190.82***	188.59***	188.60***

Table 5. Loan spread, formal and informal institutions, and the degree of economic development

Regressions are estimated using OLS clustered by borrower firm. The dependent variable (LN_SPREAD) is the natural logarithm of interest rate spread on a loan (over the LIBOR) plus any associated fees in originating the loan; TRUST is the percentage of individuals in a country who respond that most people can be trusted; LO is the law and order variable; CR1 captures the time for creditors to recover their credit and is recorded in calendar years; CR2 is the recovery rate; GNI_PC is the natural logarithm of Gross National Income per capita in 2002; SIZE is the natural logarithm of the firm's total assets; PROFIT is the ratio between earnings before interest and taxes and total assets; LEV is the ratio between the book value of debt and the book value of total assets; TANG is the ratio between property, plant, and equipment and total assets; GROWTH is the ratio of the market value of equity to the book value of equity; VRATING is a firm risk index using Moody's and S&P ratings that ranges from one to six, a value of one being assigned to an Aaa rating, a value of two indicating an Aa rating, …, and six indicating a B rating or worse – we assign a zero to borrowers without a rating; DRATING is a dummy variable that takes the value of one if the rating of the firm is missing and zero otherwise; SYND_SIZE is the number of banks participating in the loan; MAT is the natural logarithm of maturity (in months); LOAN_SIZE is the natural logarithm of the loan; PURP_ACQUIS is a dummy variable that takes the value of 1 if the purpose of the bank loan is acquisitions or capital expenditures and zero otherwise; PURP_CORP is a dummy variable that takes the value of 1 if the bank loan is for general corporate purposes and zero otherwise; PURP_BACKUP is a dummy variable that takes the value of 1 if the bank loan is for commercial paper backup and zero otherwise; and PURP_WK is a dummy variable that takes the value of 1 if the bank loan is for financing working capital and zero otherwise; CREDIT_LINE_D is a dummy variable that takes the value of 1 if the loan is a credit line and zero otherwise; TERM_LOAN_D is a dummy variable that takes the value of 1 if the loan is a term loan and zero otherwise; and BRIDGE_LOAN_D is a dummy variable that takes the value of 1 if the loan is a bridge loan line and zero otherwise; DSENIOR is a dummy variable that takes the value of 1 if the loan is senior and zero otherwise. Country, industry, and time effects are included in all the estimations, although we do not report their coefficients. T-statistics are in parentheses. ***, **, and * represent significance at the 1%, 5%, and 10% level, respectively.

	(1)	(2)	(3)	(4)
TRUST	-0.05**	-0.06**	-0.06***	-0.06***
	(-2.36)	(-2.44)	(-2.77)	(-2.81)
LO	-0.34***	-0.34***	-1.62***	-1.53***
	(-4.71)	(-4.85)	(-3.28)	(-3.13)
CR1	0.02		0.03	
	(0.66)		(0.96)	
CR2		0.01		0.00
		(1.12)		(0.98)
GNI_PC*LO			0.14**	0.13**
			(2.53)	(2.37)
GNI_PC*TRUST	0.00**	0.01**	0.01**	0.01**
	(2.01)	(2.12)	(2.45)	(2.51)
GNI_PC	-0.01	-0.03	-0.69**	-0.15
	(-0.10)	(-0.21)	(-2.18)	(-0.59)
SIZE	-0.04***	-0.04***	-0.04***	-0.04***
	(-6.50)	(-6.51)	(-6.55)	(-6.56)
PROFIT	-0.67***	-0.67***	-0.67***	-0.67***
	(-8.24)	(-8.24)	(-8.24)	(-8.23)
LEV	0.32***	0.32***	0.32***	0.33***
	(3.53)	(3.55)	(3.54)	(3.56)
TANG	0.03	0.03	0.03	0.03
	(1.06)	(1.06)	(1.09)	(1.08)
GROWTH	-0.00***	-0.00***	-0.00***	-0.00***
	(-3.86)	(-3.80)	(-3.93)	(-3.87)
VRATING	0.45***	0.45***	0.45***	0.45***
	(36.82)	(36.89)	(36.82)	(36.89)
DRATING	2.11***	2.11***	2.11***	2.12***
	(31.49)	(31.55)	(31.50)	(31.56)
SYND_SIZE	-0.06***	-0.06***	-0.06***	-0.06***
	(-5.90)	(-5.91)	(-5.85)	(-5.86)
MAT	0.06***	0.06***	0.06***	0.06***
	(3.69)	(3.68)	(3.70)	(3.69)
LOAN_SIZE	-0.09***	-0.09***	-0.09***	-0.09***
	(-12.24)	(-12.17)	(-12.24)	(-12.17)
PURP_ACQUIS	0.07***	0.07***	0.07***	0.07**
	(2.63)	(2.58)	(2.62)	(2.57)
PURP_CORP	-0.12***	-0.12***	-0.12***	-0.12***
	(-5.30)	(-5.36)	(-5.29)	(-5.34)
PURP_BACKUP	-0.43***	-0.44***	-0.43***	-0.44***
	(-11.15)	(-11.19)	(-11.13)	(-11.16)
PURP_WK	-0.12***	-0.12***	-0.12***	-0.12***
	(-4.41)	(-4.48)	(-4.42)	(-4.49)
CREDIT_LINE_D	-0.14***	-0.15***	-0.15***	-0.15***
	(-3.27)	(-3.33)	(-3.31)	(-3.37)
TERM_LOAN_D	0.04	0.03	0.04	0.03
	(0.83)	(0.76)	(0.78)	(0.71)
BRIDGE_LOAN_D	0.18***	0.18***	0.18***	0.17***
	(2.70)	(2.63)	(2.68)	(2.60)
DSENIOR	-0.99***	-0.99***	-0.99***	-0.99***
	(-7.81)	(-7.80)	(-7.82)	(-7.81)
Constant	8.39***	8.36***	14.43***	8.65***
	(6.47)	(6.46)	(5.18)	(4.23)
Country effects	Yes	Yes	Yes	Yes
Time effects	Yes	Yes	Yes	Yes
Industry effects	Yes	Yes	Yes	Yes
# observations	15,227	15,227	15,227	15,227
#firms	3,600	3,600	3,600	3,600
Adjusted R2	64.32	64.33	64.35	64.35
F	181.51***	181.58***	179.53***	179.55***

Table 6. Robustness analysis. Loan spread, culture and religion.

Regressions are estimated using OLS clustered by borrower firm. The dependent variable (LN_SPREAD) is the natural logarithm of interest rate spread on a loan (over the LIBOR) plus any associated fees in originating the loan; TRUST is the percentage of individuals in a country who respond that most people can be trusted; LO is the law and order variable; CR1 captures the time for creditors to recover their credit and is recorded in calendar years; PDI is Hofstede's power distance; IND is Hofstede's individualism; UAI is Hofstede's uncertainty avoidance; MAS is Hofstede's masculinity; CATHO is the percentage of the population of each country belonging to the Catholic religion; MUSLIM is the percentage of the population of each country belonging to the Muslim religion; and PROT is the percentage of the population of each country belonging to the Protestant religion. Firm and bank loan control variables are included as in Tables 4 and 5. Country, industry, and time effects are included in all the estimations, although we do not report their coefficients. T-statistics are in parentheses. ***, **, and * represent significance at the 1%, 5%, and 10% level, respectively.

	(1)	(2)	(3)	(4)	(5)	(6)
TRUST	-0.12***	-0.12***	-0.12***	-0.12***	-0.12***	-0.04**
	(-5.23)	(-5.23)	(-5.23)	(-5.23)	(-5.23)	(-2.13)
LO	-0.96***	-0.96***	-0.96***	-0.96***	-0.96***	-0.56***
	(-5.83)	(-5.83)	(-5.83)	(-5.83)	(-5.83)	(-3.93)
CR1	0.18***	0.18***	0.18***	0.18***	0.18***	0.02
	(3.49)	(3.49)	(3.49)	(3.49)	(3.49)	(0.70)
LO*TRUST	0.02***	0.02***	0.02***	0.02***	0.02***	0.01*
	(4.87)	(4.87)	(4.87)	(4.87)	(4.87)	(1.73)
PDI	0.02***				0.04***	
	(3.56)				(5.55)	
IND		-0.00			0.03***	
		(-0.45)			(5.90)	
UAI			0.01		0.03***	
			(0.72)		(4.24)	
MAS				-0.01	0.00	
				(-1.23)	(0.66)	
CATHO						0.01***
						(4.91)
MUSLIM						0.00
						(1.43)
PROT						0.01***
						(2.92)
Constant	9.75***	11.19***	9.60***	10.62***	4.50***	8.25***
	(10.56)	(12.28)	(9.56)	(12.26)	(3.98)	(10.98)
Firm controls	Yes	Yes	Yes	Yes	Yes	Yes
Bank loan controls	Yes	Yes	Yes	Yes	Yes	Yes
Country effects	Yes	Yes	Yes	Yes	Yes	Yes
Time effects	Yes	Yes	Yes	Yes	Yes	Yes
Industry effects	Yes	Yes	Yes	Yes	Yes	Yes
# observations	14,939	14,939	14,939	14,939	14,939	14,939
#firms	3,525	3,525	3,525	3,525	3,525	3,525
Adjusted R2	64.66	64.66	64.66	64.66	64.66	64.31
F	196.08***	196.08***	196.08***	196.08***	196.08***	181.55***

Table 7. Robustness analysis. Weighted regressions.

Regressions are estimated using OLS clustered by borrower firm. We use weighted regressions where the weights are the inverse of the # observations in the country. The dependent variable (LN_SPREAD) is the natural logarithm of interest rate spread on a loan (over the LIBOR) plus any associated fees in originating the loan; TRUST is the percentage of individuals in a country who respond that most people can be trusted; LO is the law and order variable; CR1 captures the time for creditors to recover their credit and is recorded in calendar years; GNI_PC is the natural logarithm of Gross National Income per capita in 2002; PDI is Hofstede's power distance; IND is Hofstede's individualism; UAI is Hofstede's uncertainty avoidance; MAS is Hofstede's masculinity; CATHO is the percentage of the population of each country belonging to the Catholic religion; MUSLIM is the percentage of the population of each country belonging to the Muslim religion; and PROT is the percentage of the population of each country belonging to the Protestant religion. Firm and bank loan control variables are included as in Tables 4 and 5. Country, industry, and time effects are included in all the estimations, although we do not report their coefficients. T-statistics are in parentheses. ***, **, and * represent significance at the 1%, 5%, and 10% level, respectively.

	(1)	(2)	(3)	(4)
TRUST	-0.13***	-0.09***	-0.19***	-0.19***
	(-4.53)	(-3.78)	(-6.28)	(-6.28)
LO	-1.26***	-0.43***	-1.63***	-1.63***
	(-5.68)	(-5.10)	(-7.33)	(-7.33)
CR1	-0.05	-0.02	0.19***	0.19***
	(-1.47)	(-0.60)	(3.24)	(3.24)
LO*TRUST	0.03***		0.04***	0.04***
	(5.03)		(6.09)	(6.09)
GNI_PC*TRUST		0.01***		
		(3.52)		
GNI_PC		-0.11		
		(-0.82)		
PDI			0.04***	
			(5.64)	
IND			0.04***	
			(5.68)	
UAI			0.03***	
			(4.47)	
MAS			0.01	
			(1.13)	
CATHO				0.01**
				(2.51)
MUSLIM				-0.00
				(-0.88)
PROT				0.00
				(0.71)
Constant	10.76***	10.28***	6.23***	12.16***
	(8.98)	(8.97)	(5.22)	(10.92)
Firm controls	Yes	Yes	Yes	Yes
Bank loan controls	Yes	Yes	Yes	Yes
Country effects	Yes	Yes	Yes	Yes
Time effects	Yes	Yes	Yes	Yes
Industry effects	Yes	Yes	Yes	Yes
# observations	16,324	15,227	14,939	14,939
#firms	3,805	3,600	3,525	3,525
Adjusted R2	64.91	64.86	64.88	64.88
F	176.58***	168.99***	183.14***	183.14***

Table 8. Robustness analysis. Instrumented trust

Regressions are estimated using OLS clustered by borrower firm, Table 8 presents second state results from IV estimations. We use weighted regressions where the weights are the inverse of the # observations in the country. The dependent variable (LN_SPREAD) is the natural logarithm of interest rate spread on a loan (over the LIBOR) plus any associated fees in originating the loan; TRUST is the percentage of individuals in a country who respond that most people can be trusted; LO is the law and order variable; CR1 captures the time for creditors to recover their credit and is recorded in calendar years; CR2 is the recovery rate; GNI_PC is the natural logarithm of Gross National Income per capita in 2002. Firm and bank loan control variables are included as in Tables 4 and 5. Country, industry, and time effects are included in all the estimations, although we do not report their coefficients. The weak identification test (Cragg-Donald Wald F statistic) tests the null hypothesis that instruments are weak. We compare the Cragg-Donald statistic to the critical values computed by Stock and Yogo (2004). First-stage regressions (not reported for the sake of conciseness) are available upon request. T-statistics are in parentheses. ***, **, and * represent significance at the 1%, 5%, and 10% level, respectively.

	(1)	(2)	(3)	(4)
TRUST	-0.81***	-0.51***	-0.40***	-0.52***
	(-3.36)	(-3.36)	(-3.63)	(-5.20)
LO	-6.75***	-4.38***	-0.20***	0.02
	(-3.67)	(-3.88)	(-2.70)	(0.23)
CR1	-0.23		-0.13	
	(-1.07)		(-1.21)	
CR2		-0.01		-0.00
		(-1.32)		(-0.51)
LO*TRUST	0.18***	0.12***		
	(3.85)	(4.00)		
GNI_PC*TRUST			0.05***	0.06***
			(4.06)	(5.45)
GNI_PC			-1.49***	-1.66***
			(-3.93)	(-5.50)
Constant	36.39***	24.59***	19.83***	21.20***
	(3.77)	(4.69)	(4.97)	(7.67)
Firm controls	Yes	Yes	Yes	Yes
Bank loan controls	Yes	Yes	Yes	Yes
Country effects	Yes	Yes	Yes	Yes
Time effects	Yes	Yes	Yes	Yes
Industry effects	Yes	Yes	Yes	Yes
# observations	16,303	16,303	15,206	15,206
#firms	3,799	3,799	3,594	3,594
Adjusted R2	61.38	62.59	64.53	64.50
F	286.57***	286.82***	273.82***	276.45***
Cragg-Donald stat.	16.34	9.61	21.46	23.35
Stock & Yogo critical value (10%)	7.56	7.56	7.56	7.56

Appendix A. Variables

The table provides the definitions of the variables used in the paper and their sources.

Name	Definition	Source
	DEPENDENT VARIABLES	
LN_SPREAD	The natural logarithm of all-in-spread drawn, which measures the interest rate spread on a loan (over the LIBOR) plus any associated fees in originating the loan.	Dealscan
	INFORMAL AND FORMAL INSTITUTIONS	
TRUST	The percentage of individuals in a country who respond that most people can be trusted	WVS/EVS
LO	This measures the strength and impartiality of the legal system, as well as widespread observance of the law.	ICRG
CR1	The time for creditors to recover their credit, recorded in calendar years.	The World Bank Doing Business Database
CR2	The recovery rate, recorded as cents on dollars recovered by secured creditors through judicial reorganization, liquidation or debt enforcement proceedings.	The World Bank Doing Business Database
	DEGREE OF ECONOMIC DEVELOPMENT	
GNI_PC	The natural logarithm of Gross National Income per capita in 2002	The World Bank Database
	CULTURAL VALUES AND RELIGION	
PDI	Hofstede's power distance.	Tang and Koveos (2008)
IND	Hofstede's individualism.	Tang and Koveos (2008)
UAI	Hofstede's uncertainty avoidance.	Tang and Koveos (2008)
MAS	Hofstede's masculinity.	Tang and Koveos (2008)
CATHO	Percentage of the population of each country belonging to the Catholic religion.	La Porta *et al.* (1998)
MUSLIM	Percentage of the population of each country belonging to the Muslim religion.	La Porta *et al.* (1998)
PROT	Percentage of the population of each country belonging to the Protestant religion.	La Porta *et al.* (1998)
	INSTRUMENTS FOR TRUST	
Pronoun drop	A dummy variable equal to 1 if the country's population speaks a language in which pronoun-drop is permitted.	Litch *et al.* (2007)
Rainfall variation	The natural log of the coefficient of intertemporal variation of monthly rainfall from 1900 through 2009.	Davis (2016)
Genetic distance	A measure of a country's genetic distance from the United States based on similarly non-expressed genetic material.	Spolaore and Wacziarg (2009)
Distance from the equator	The natural logarithm of the absolute value of the latitude of a country's capital city.	Davis (2016)
	BORROWER FIRM CONTROL VARIABLES	
SIZE	The natural logarithm of total assets.	Compustat
PROFIT	The ratio between earnings before interest and taxes and total assets.	Compustat
LEV	The ratio between the book value of financial debt (short- and long-term debt) and the book value of total assets.	Compustat
TANG	The ratio between property, plant, and equipment and total assets.	Compustat
GROWTH	The ratio of the market value of equity to the book value of equity.	Compustat / Osiris
VRATING	We construct a firm risk index using Moody's and S&P ratings that ranges from one to six. Specifically, we assign a value of one to an Aaa rating, a value of two to an Aa rating, a value of three to an A rating, a value of four to a Baa rating, a value of five to a Ba rating, and a value of six to a B rating or worse; a higher number thus reflects a lower rating. We assign a value of zero to firms without a rating.	Dealscan
DRATING	A dummy variable that takes the value of one if the rating of the firm is missing and zero otherwise.	Dealscan
	LOAN CHARACTERISTICS CONTROL VARIABLES	
MAT	The natural logarithm of maturity (in months).	Dealscan
LOAN_SIZE	The natural logarithm of the amount of the loan (in US dollars).	Dealscan
SYND_SIZE	The natural logarithm of the number of banks participating in the loan.	Dealscan
PURP_ACQUIS	A dummy variable that takes the value of 1 if the purpose of the bank loan is acquisitions or capital expenditures and zero otherwise.	Dealscan
PURP_CORP	A dummy variable that takes the value of 1 if the bank loan is for general corporate purposes and zero otherwise.	Dealscan
PURP_BACKUP	A dummy variable that takes the value of 1 if the bank loan is for commercial paper backup and zero otherwise.	Dealscan
PURP_WK	A dummy variable that takes the value of 1 if the bank loan is for financing working capital and zero otherwise.	
CREDIT_LINE_D	A dummy variable that takes the value of one if the loan is a credit line and zero otherwise.	Dealscan
TERM_LOAN_D	A dummy variable that takes the value of one if the loan is a term loan and zero otherwise.	Dealscan
BRIDGE_LOAN_D	A dummy variable that takes the value of one if the loan is a bridge loan line and zero otherwise.	Dealscan
DSENIOR	A dummy variable that takes the value of one if the loan is senior and zero otherwise.	Dealscan