Bank of Finland Research Discussion Papers
18 • 2018

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Bank of Finland
Research

Bank of Finland Research Discussion Papers
Editor-in-Chief Esa Jokivuolle

Bank of Finland Research Discussion Paper 18/2018
11 October 2018

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ISBN 978-952-323-242-6, online
ISSN 1456-6184, online

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Democratic Development and Credit

"Democracy Doesn`t Come Cheap" But At Least Credit to Its Corporations Will Be

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Abstract

Does democratization reduce the cost of credit? Using global syndicated loan data from 1984 to 2014, we find that democratization has a sizeable negative effect on loan spreads: a one-point increase in the zero-to-ten Polity IV index of democracy shaves at least 19 basis points off spreads, but likely more. Reversals to autocracy hike spreads more strongly. Our findings are robust to the comprehensive inclusion of relevant controls, to the instrumentation with regional waves of democratization, and to a battery of other sensitivity tests. We thus highlight the lower cost of loans as one relevant mechanism through which democratization can affect economic development.

JEL Classification : G21; G30; P16; P26; P27; P47

Keywords: Loan pricing; Loan spreads; Democratic institutions; Reversals.

1. Introduction

How does the transition to democracy affect the cost of credit? From a macroeconomic perspective, differences that may exist between countries in average loan terms and the resulting efficiency of financial intermediation could constitute an important channel through which democracy might affect the growth prospects of an economy. From a microeconomic perspective, the answer to this question has important implications for the potential competitive advantage corporations may gain from the political environment within which they operate.

Theoretically, there are three main contributing forces to democratic development lowering the cost of credit. The *sine qua non* of the formation of these expectations is the role of a multi-party election system, with elections taking place at specific points in time. This first dimension of democracy forms market expectations about political cycles and stability, the protection of property rights, and the probability of social conflict that can affect the efficient functioning of the economy. Consequently, banks might charge a risk premium based on this relevant risk. The second dimension is the formation of effective checks and balances which augments these market perceptions through its effect on effective governance, political stability, and the protection of property rights. These are all important for the performance, innovation, and growth opportunities of borrowing firms. Finally, the guarantee of civil liberties might have an equally lowering effect on the cost of credit, mainly through an increased flow of information. The lowering of asymmetric information is a (if not the) key issue in the efficient functioning of financial markets in general and bank credit granting in particular. In democracies, information flows more freely and citizens are also more financially literate than in autocracies (e.g., Klapper, Lusardi and van Oudheusden, 2015). We therefore expect this to lower the cost of credit in democracies.

However, democratic development is not necessarily always beneficial for loan rates. First, firms in autocracies can more easily form monopolies or have extensive state support, and thus their probability of default may be lower. Second, intra-firm organizational structures are usually simpler in less democratic countries, likely resulting in less disagreement on firm-specific strategic objectives and positively affecting outcomes. If these characteristics are priced by banks, then loan spreads in less democratic countries might in fact be lower. In sum, whether democracy decreases or increases loan rates for its corporations is an empirical question we aim to address in this paper.

We focus on constitutional democratization, as this precedes the formation of relevant perceptions and beliefs on the quality of democracy and is generally "more exogenous" to changes in the economic environment (Glaeser et al., 2004; many others henceforth). The simple correlation between constitutional democratic development, as defined by the Polity IV Project and the World Bank's country-specific lending rates (in country-year panel data for 1984-2014) is negative and statistically significant, i.e., -0.62 with a t-stat of 42.60 (Figure 1). The contribution of this paper is to examine if these correlations emanate from a causal relation directly running from democratic development to loan pricing. We consider democratic development as a general institutional umbrella that primarily encompasses changes in constitutional characteristics of democracy, such as a system of free elections, the evolution of checks and balances by independent political bodies, and the evolution of civil liberties. We hypothesize that changes in these constitutional characteristics transmit positive signals to banks through lower informational asymmetries, improved institutional quality, political stability, protection of property rights, etc.; thus, lowering the cost of credit. Importantly, these effects should be independent from previously-studied effects of the characteristics of financial institutions on the cost of borrowing (Qian and Strahan, 2007; Bae and Goyal, 2009).

[Please insert Figure 1 about here]

We use the syndicated loan market that includes corporate loans (loan facilities) to firms from 80 countries in the 31 years between 1984 and 2014 (data from DealScan). We match these loans with accounting information for firms (Compustat) and collect information from a series of macroeconomic databases for all relevant institutional and economic characteristics (including various indicators of democracy) of the country in which the firm operates.

The resulting loan-level sample allows us to conduct an empirical analysis of the effect of democratic development on loan spreads that alleviates endogeneity concerns for three main reasons. First, our specifications feature: (i) important loan characteristics that affect loan spreads as control variables; (ii) a very large set (literally more than 100 variables) of country-year characteristics (e.g., variables describing the macroeconomic, institutional, and financial environments of the borrower's country); and (iii) saturating sets of fixed effects for borrowing firms, lead bank (i.e., the bank setting the spreads), year, and country. These advantages of loan-level data have been pointed out in very similar specifications by Qian and Strahan (2007) and Bae and Goyal (2009).

The fielding of firm or country fixed effects in particular yields identification from changes (advancements or reversals) in the democracy indicators. Thus, we essentially keep firms or countries constant and examine the effect of changes in democratic development. To the extent that such changes are not systematically correlated with within-country time-varying unobserved variables, our estimates are consistent and unbiased.

To further insulate our analysis from the possibility of an endogeneity bias, we use regional waves of democratizations and reversals (excluding the borrower's country) as an instrumental variable. This instrumentation follows Acemoglu et al. (2017) in their study of the effect of

democracy on economic growth. We refine this approach by controlling in our IV model for regional variables characterizing economic growth and its underlying dynamics, economic development, political stability, and bilateral trade flows.

Our baseline results (derived from the OLS model with country fixed effects) establish that a one-unit (on a zero-to-ten scale) positive change in democratic development (as measured by the Polity IV project) lowers the corporate loan spread by 19 basis points. This is economically sizeable: the average loan spread in our sample is 192.5 basis points, implying a decrease in loan spreads by approximately 10%. Put differently, descending from democracy into dictatorship can more than double the cost of bank finance. The equivalent IV model yields a corresponding reduction in loan spreads by 23 basis points, and is also similar for alternative dichotomous measurements of democracy, using indicators from Freedom House, Boix, Miller and Rosato (2013), and Acemoglu et al. (2017), respectively. Our findings are economically even more potent if we restrict our analysis to the sample of countries with changing measures of democracy or exclude the small changes in democracy.

By exploiting reversals in democratic development (abrupt changes from democracy towards autocracy), we further show that the effect of reversals on loan spreads is approximately 48 (52) basis points according to the OLS (IV) estimates. Apparently, a reversal immediately poses significant credit constraints on borrowing firms and this highlights an important channel through which corporate confidence and real output are affected. Given that we also expect a credit crunch to occur during reversals, we may underestimate the price effect given that banks may actually start rationing credit (and we no longer observe loans being granted).

We show that our results hold in many robustness tests and cannot be differently explained. Most importantly, we show that comprehensively controlling for financial development, systemic

risk, and firm political connections does not significantly affect our results. The same holds when we conduct falsification tests with variables such as life expectancy at birth, investor protection, and the leading of democracy indicators (i.e., forward in time). We also show that democracy in the lead bank's country (when the lead bank is based in a country other than that of the firm) does not affect corporate spreads. Further, no robust evidence of simultaneity exists between the effect of democracy on loan spreads and other risk-related characteristics of the loan, such as the loan amount, the use of collateral and performance pricing provisions, or the number of covenants. Thus, in democracies, banks price the risk premium through the spread and do not ask for lower spreads because of lower loan amounts or the enhanced use of loan guarantees.

Ours is the first paper that examines the effect of democratization, as an umbrella of political institutions, on the cost of credit and as such most of the analysis focuses on the identification of this effect. However, we also provide a first step toward identifying the role of individual constitutional components of democracy and the equivalent role of perception-based civil liberties and political risk. This analysis provides some guidance on the potential importance of various channels through which the effect of democracy is transmitted. From a constitutional perspective, the competitiveness of executive recruitment (mostly referring to *de jure* clauses regarding the equal opportunity of all people to be elected to office) and the competitiveness of participation (reflecting whether countries have a multi-party democratic system and associated freedoms of expression) are key in determining the effect of democracy on loan spreads. From the perception-based indicators, the most important correlates of loan spreads are information transparency, institutional quality, and the protection of property rights. Our findings provide clear directions for future research to further identify institutional country-specific sources of the cost of loans and pinpoint causal effects.

Our findings highlight the efficiency in loan pricing as an important channel through which the positive effect of democratization on economic activity can be established. In this sense, our analysis contributes to the seminal literature on the nexus between democracy and economic development (Papaioannou and Siourounis, 2008; Acemoglu et al., 2017, and references therein) because it documents the comparative advantage of firms operating in democratic *vis-à-vis* those in less democratic (hence, more autocratic) countries. In turn, we expect that the beneficial effect of democratic development on the cost of credit will transmit to the real economy through higher investment spending, spending on research and development, and innovation, topics we leave for future research.[1] Our paper also relates to a relatively recent literature examining other determinants of loan pricing (e.g., Qian and Strahan, 2007; Bae and Goyal, 2009; Ivashina, 2009; Graham et al., 2014; Hasan et al., 2014). We rely on the implications of this literature to complete our empirical setting and strengthen our arguments.

The rest of our paper is organized as follows. Section 2 gives the empirical specification and describes the data and variables used. Section 3 discusses in detail the identification strategy and presents the empirical results. The Appendix offers further description of our data and variables, along with robustness tests. Section 4 concludes the paper.

2. Empirical specification, data, and variables

Our main econometric relation takes the following form:

$$Spread_{lbfct} = a' + a_1 Democracy_{ct} + a_2 L_{lt} + a_3 F_{ft} + a_4 C_{ct} + u_{lbfct} \quad (1)$$

[1] Syndicated loans are granted to international firms that operate in multiple countries and that have alternative sources of finance. This is a less-than-ideal set of firms to identify such a direct pass-through, but marks our findings as a conservative lower bound on the magnitude of the impact.

In equation (1) *Spread* is the spread of a loan facility over the LIBOR. The loan is given by lead bank *b* of the syndicate to firm *f* in country *c*, and in year *t*. *Democracy* quantifies the level of development of democratic institutions. We expect its loading a_1 to be negative. *L*, *F*, and *C* are vectors of loan, firm, and country characteristics that may also affect the *Spread*. In turn, a' denotes a vector of bank, country, and year fixed effects, while *u* is the remainder disturbance. The use of country fixed effects (or firm fixed effects) in particular implies that there must be a change in *Democracy* to allow the estimation of a_1. We sequentially discuss our data set and variables below.

We use loan-level data (loan facilities) from DealScan, which includes the most comprehensive and historical loan-deal information available on global loan markets. All loans are denominated in USD. Our data set covers 1984-2014; however, it is quite unbalanced in terms of coverage. Essentially, loan coverage for most countries starts in 1993-1994. We drop all loans for which there is no conventional pricing (i.e., there is no spread) and this deletes all types of Islamic finance and very specialized credit lines. This yields loan-level data from 80 countries for which we also have information on our main measure of democracy.

We match the loans with firm-specific accounting information from Compustat. This matching is important for obtaining information on the financial characteristics of firms that affect loan spreads. In a third round of data collection, we match the resulting data set with macroeconomic (country-year) variables from several freely available sources. We provide a summary of variable definitions and sources in Table 1 and basic summary statistics in Table 2. We also provide additional summary statistics in the Appendix.

[Please insert Tables 1 & 2 about here]

2.1. Measuring democracy

Our main measure of democratic institutions is the Polity IV country-year measure for institutional democracy. We name this variable *Democracy* (in the Polity IV Project the variable name is DEMOC), ranging from 0 to 10, with 0 indicating that there is no institutional democracy and 10 indicating the maximum level of institutional democracy. An alternative measure from the Polity IV Project is the combined score, taking values from -10 to 10. In this case, -10 indicates a strongly autocratic country and 10 a strongly democratic one.

According to Polity IV (2016), *Democracy* has three dimensions: "One is the presence of institutions and procedures through which citizens can express effective preferences about alternative policies and leaders. Second is the existence of institutionalized constraints on the exercise of power by the executive. Third is the guarantee of civil liberties to all citizens in their daily lives and in acts of political participation. Other aspects of plural democracy, such as the rule of law, systems of checks and balances, freedom of the press, and so on are means to, or specific manifestations of, these general principles." Thus, *Democracy* is an institution-based (not perception-based) indicator and allows us to examine the effect of institutional democracy (encompassing constitutional elements) to a large extent purified from perception; it is the preferred dependent variable of our study. This is an important distinction from other measures of democracy, as noted by Glaeser et al. (2004). We further discuss the qualitative characteristics of this measure in Appendix A.1.

Alternative measures of democracy include, *inter alia*, indices from Freedom House, the data set of Boix, Miller, and Rosato (2013), and combinations of these measures, as in Acemoglu et al. (2017). The Freedom House indicator includes information on civil and social liberties, the rule of law, and freedom from corruption. Thus, it is more perception-based and related to political

stability. In our case, this has the merit of potentially capturing bank perceptions regarding the level of democracy. This comes, however, with an important drawback: perceptions are endogenous, which can cloud inference on whether spreads are driven by institutional changes or by changes in other economic and societal forces. *Democracy (Freedom House)* takes the value 1 if Freedom House regards a country as "free" or "partially free" and 0 otherwise.

In turn, the measure of Boix, Miller, and Rosato (2013) is purely institution-based and dichotomous, and considers democracies as countries (i) featuring political leaders chosen through free and fair elections and (ii) satisfying a threshold value of suffrage.[2] This measure, named here *Democracy (BMR)*, has a relatively low variability in our sample. Finally, we use the dichotomous measure of Acemoglu et al. (2017), which considers a combination of the Polity IV and Freedom House indices.[3]

A notable feature in our summary statistics (Table 2) is that almost all mean values of our democracy indicators are very close to fully democratic principles. This of course occurs because most of the loans are originated for firms operating in fully democratic countries (e.g., the United States). This is not so, however, if we take the mean values by country-year, in which case descriptive statistics on the democracy indicators are much more reasonable (see Table A.1 in the Appendix).

2.2. Loan-level variables

Our main dependent variable is the all-in-drawn spread (*AISD*), which is the spread of the loan facility over LIBOR plus any annual fees that borrowers must pay lenders. The *AISD* is used in

[2] This measure, in general, has the widest coverage in terms of years and countries; but this is not so in our sample, where the Polity IV index has the widest coverage.
[3] As we use this measure only in sensitivity tests, we do not replicate the construction details here and refer the reader to Appendix A1 of Acemoglu et al. (2017).

the bulk of the related literature to measure corporate loan spreads (e.g., Ivashina, 2009). The mean value of *AISD* in the sample including all control variables (15,630 loans) is 192.5 basis points. There are a few (24) loan facilities with negative *AISD*, which means that the reported spread is below the LIBOR. We keep these loans in our sample but they do not play a significant role in our estimates.[4]

We control for several loan characteristics that potentially affect *AISD*. Specifically, we use the natural logarithm of the loan amount (*Loan amount*), the duration of the loan in months (*Maturity*), a dummy variable describing whether the loan facility has collateral (*Collateral*),[5] the number of lenders in the syndicate (*Number of lenders*), a dummy denoting whether the loan has performance-pricing provisions (*Performance provisions*), the number of general covenants in the loan contract (*General covenants*), and a series of dummies denoting loan type (e.g., term, revolver) and loan purpose (e.g., corporate purpose, debt repay).

2.3. Firm- and country-level variables

At the firm level we use firm size, market-to-book ratio, tangibility, and leverage as measures for wealth and market power of borrowing firms (see Table 1 for definitions). We expect that larger and wealthier firms (higher *Market-to-book ratio* and lower *Leverage*) will pay lower spreads. The

[4] *AISD* disregards some fees charged in certain, but not all, countries and firms in our sample. Specifically, *AISD* does not include information on commitment fees (paid on unused amount of loan commitments), utilization fees (paid on the drawn amount once a threshold has been exceeded), and cancellation and upfront fees. Berg, Saunders, and Steffen (2016) show that commitment plus facility fees, defined as the all-in-spread-undrawn (*AISU*), is larger for high-volatility firms. However, for other fees (besides those in *AISU*) very little coverage exists in less developed countries, either because such fees are not included in the loan deal or because they are not reported. We should note, however, that any higher risk premia stemming from the political environment would first and foremost be included in loan spreads. Thus, if anything, our results would be downward-biased in the total cost of loans if democracy affects fees. Thus, we can safely create a level playing field for global loans by focusing our analysis on *AISD*.

[5] We backfill this variable with 0`s when information for *collateral* is missing. This is the case in about half of our sample. But we suspect that in many instances banks simply do not report on the use of collateral if none is taken. As we show in the Appendix, our results fully hold when using the untransformed variable and a smaller sample.

effect of *Tangibility* is a priori ambiguous. Firms with high levels of tangible assets (as a share of total assets) could be thought of as lower-risk firms, especially if collateral is used as guarantee against default. However, firms requiring high levels of (expensive) fixed capital to operate have the tendency to generate lower levels of return on assets and, once collateral is controlled for, the effect of *Tangibility* on *AISD* could be positive.

To reduce the possibility that *Democracy* captures other country-specific characteristics observed at the country-year level, we control for variables reflecting economic, institutional, and financial development, as well as current economic conditions. We "experiment" with more than 100 control variables from the Quality of Government Institute database (macro data freely available from several international organizations), as well as with variables from Freedom House, the Heritage Foundation, the Fraser Institute, and the International Country Risk Guide. We provide a list of the variables we used in the Appendix. Most of these variables reflect institutional and economic development and tend to be highly correlated. Most importantly, our estimates of interest are hardly affected. The informational content of the variables (how much these controls add to our empirical analysis) and collinearity issues lead us to report fully representative results based on the following country controls.

For the level of economic development and growth, we use the log of GDP per capita (*GDP per capita*) and annual GDP growth rates (*GDP growth*), respectively. Note that *GDP per capita* is highly correlated with perception-based indicators for the quality of institutions from a variety of sources (Freedom House, International Country Risk Guide, Worldwide Governance Indicators, Fraser Institute, Heritage Foundation). Including such control variables does not introduce more information in the empirical model and yields clear signs of multicollinearity with GDP per capita. Further, these indicators can be viewed as sub-components of the quality of democratic institutions

and we use them in our effort to identify the channels (or at least the correlates) through which democracy affects loan pricing.[6]

One variable that seems to play an important role independent of democracy in explaining loan spreads is the creditor rights index from Djankov, McLiesh, and Shleifer (2007). This is a zero-to-four index measuring: (1) whether there are restrictions when a debtor files for reorganization; (2) whether secured creditors can seize their collateral after their petition for reorganization is approved; (3) whether secured creditors are paid first out of the proceeds of liquidating a bankrupt firm; and (4) whether an administrator, and not management, is responsible for running the business during the reorganization. The *Creditor rights* index has been used by Qian and Strahan (2007) and Bae and Goyal (2009) to explain loan spreads, revealing that higher creditor rights significantly reduce spreads. As this type of (de)regulation is particularly linked to the banking industry and could have an effect independent of democracy on the cost of credit, we include this variable in *all* our specifications.

Our loan-level variables must capture a significant part of the effect of financial development and country-year financial and macroeconomic (systemic) risk on *AISD*. However, in sensitivity tests we also use a series of variables to directly control for financial development and systemic risk.[7] We report results based on specifications including stock-market capitalization as a share of GDP (*Stock-market capitalization*) and the institution-based indicator of financial freedom from the Heritage Foundation (*Financial freedom*). The first indicator reflects the size of capital markets and the second characterizes bank efficiency and ownership control. Perhaps more

[6] If we do include indicators describing institutional quality alongside democracy variables, the potent effect is mostly captured by democracy, leaving these indicators statistically insignificant.

[7] We only include these controls in sensitivity tests to avoid losing observations typically from less developed countries, where much relevant information is unavailable. This also allows showing that our loan-level controls are good controls for these variables.

importantly, we control for systemic risk using the country-year mean value of *AISD*. This variable likely fully captures any systemic risk that could potentially correlate with both democratic development and the cost of individual loans.[8]

Finally, in all specifications, we use regional trade (defined in Table 1) to control for changes in regional trade flows that might simultaneously affect democracy and economic growth, especially in cases of large abrupt changes in democracy. We further use domestic political unrest (named *Domestic unrest*) mainly to disentangle its effect from democracy and refine our identification method, which we fully discuss in the next section.

3. Empirical identification and estimation results

3.1. Identifying a causal effect

Using a cross section of loans for multiple years limits the possibility of reverse causality or simultaneity: observing a change in *Democracy* due to a change in loan spreads is highly unlikely, and even more so given our control variables and the fact that we have loan-level data. Experimenting with different specifications in terms of control variables reveals that our main empirical model does not suffer from a "bad-controls" problem. Also, the issue of asymmetry in the number of loan deals by country and year (essentially causing heteroscedasticity) can be dealt with using clustering at the country level or weights based on the number of loans by borrowers' country and year over the total number of loans in that year.

Identifying a causal relation running from *Democracy* to *AISD* is still challenging, however, due to the possible presence of unobserved characteristics of the borrower's country that are correlated with both *Democracy* and *AISD*. The inclusion of the control variables, especially

[8] We also experiment with a large set of variables from the Global Financial Development database by Čihák et al. (2012). We do not find any significant differences in our main results.

at the loan and country levels, as discussed in Section 2, should reduce this possibility. However, we take several further steps as remedies for the omitted-variable bias.

A first remedy is to include country, bank, and year fixed effects as in the identification approach of related literature on the effects of creditor rights on the cost of credit (Qian and Strahan, 2007; Bae and Goyal, 2009). These studies employ OLS on fixed- or random-effects methods. Country fixed effects control for time-invariant characteristics of a borrower's country and their inclusion implies that we identify the effect of *Democracy* only from country-year observations where *Democracy* changes value from one year to the next. Specifically, there are data on both syndicated loans and the main measures used in our empirical analysis for a large number of countries. However, we use loans from 80 countries because for the rest the number of loans is small and without loans in years before and after changes in democracy. From the 80 countries, there are 33 countries in our sample where *Democracy* changes 63 times (see Table A.2 in the Appendix). These are the countries from which we essentially obtain identification in models with country fixed effects.

Bank fixed effects control for any time-invariant bank-specific characteristics that affect spreads.[9] Year fixed effects control for annual shocks common to all banks and firms in our sample (e.g., the effect of the subprime crisis). Perhaps most importantly, firm fixed effects used in some of our specifications essentially base their identification from information on the same firm before and after changes in democratic development. This comes at the cost of oversaturating the model with fixed effects. The use of these fixed effects along with loan-level controls must capture the effect of several unobserved variables affecting loan pricing.

[9] Our results are robust to excluding bank fixed effects.

The only potential remaining omitted-variable bias might arise from time-variant country characteristics that correlate with *a change* in both *Democracy* and loan pricing. Note that it is unlikely that something as important as the level of democratic institutions systematically and simultaneously changes with other unobserved determinants of spreads within a country. If anything, a change in democratic institutions "outshines" and *causes* other within-country changes in a political or economic system. Also, the risk that changes in democracy are systematically correlated with other specific events taking place at different times across countries is low. This argument is the essence of the identification strategies of Qian and Strahan (2007) and Bae and Goyal (2009), who use fixed and random effects models, respectively.

Still, the recent work of Acemoglu et al. (2017) provides an opportunity to further test the robustness of our results using an IV method. Specifically, in examining the effect of democratic development on economic growth, their study uses an IV termed *Regional democratization*. This variable is calculated using regional waves of democratizations and reversals (excluding the own country). For convenience, in Appendix A.2 we replicate the notes from Acemoglu et al. (2017) on the construction of *Regional democratization*. Importantly, the IV method also alleviates concerns regarding measurement error in our democracy indices.

A second instrumental variable refers to the probability of regional unrest (*Regional unrest*). We opt for a second instrumental variable for two reasons. The first is the need to control for political stability in the first stage of the model to avoid capturing its effect on domestic loan rates in the region. The second relates to the econometric efficiency of the estimates (lower standard errors in the second-stage results, accompanied by lower coefficient estimates). "Region" is defined as in *Regional democratization*. *Regional unrest* is a dichotomous measure of the occurrence of revolts or riots in a region. Our premise is that revolts or riots in the region affect

AISD only by affecting the quality of democratic institutions in that country, especially given our control for *Domestic unrest* in both stages of the IV model.

Given the construction of the instruments, the model takes the form:

$$Democracy_{ct} = b_0 + b_1 Regional\ democratization + b_2 Regional\ unrest + b_3 C_{ct} + e_{ct}, \quad (2)$$

$$Spread_{lbfct} = a_b + a_c' + a_t'' + a_1 Democracy_{ct} + a_2 L_{lt} + a_3 F_{ft} + a_4 C_{ct} + u_{lbfct}. \quad (3)$$

The system of equations (2) and (3) is not the "usual" two-stage least squares (2SLS) model in the sense that not all variables of the 2nd stage are included in the 1st stage (Baltagi, 2008, p.264, refers to this as the "feasible" 2SLS). In the usual 2SLS model, where both the endogenous independent and the dependent variables are observed at the same level (e.g., at country-year), not including control variables in the first stage would be an oversight, especially if these controls significantly explain *Democracy*.

We favor the feasible IV approach here for an important reason. Specifically, given the multi-level nature of our sample, we do not expect that loan- and firm-level controls have any explanatory power on our democracy indicators (i.e., the system is triangular). We verify that loan- and firm-level variables, if included, are completely insignificant determinants of *Democracy* and simply increase the bias of our estimates. Thus, based on Baltagi (2008), among others, and our discussion here, our specification of equations (2) and (3) is a consistent IV model that has much better bias properties for our sample compared to the usual 2SLS model. We verify that the usual 2SLS produces statistically significant results, but with somewhat larger coefficients and standard errors.

A number of refinements in terms of control variables used in equation (2) are apt in our context. First, the democracy-growth nexus might imply a three-way correlation between democratic development, economic growth, and the cost of credit. This is because loan spreads are cyclical, decreasing in good economic periods and increasing in periods of uncertainty. An obvious buffer against this potential three-way correlation is to control for both GDP growth and GDP per capita in either our OLS model (equation 1) or both stages of the IV model (equations 2 and 3). In the two-stage IV model, the standard exclusion restriction suggests that *Regional democratization* affects *AISD* only via *Democracy*, conditional on controls for economic growth and the economic environment in both stages.[10]

However, an alternative channel through which regional democratization can affect domestic loan pricing is trade. In episodes of abrupt changes in *Democracy*, especially reversals, there can be disruptions in trade between the region and the domestic country. In turn, trade disruptions can substantially affect domestic economic conditions and the cost of credit. To this end, the inclusion of country-year controls in equations 1 to 3 is important, but more thoroughly saturating the model requires controlling for the annual trade growth (or recession) between the region and the domestic country (variable named *Regional trade* and defined in Table 1). Thus, we include *Regional trade* in all specifications. For the IV model, we use *Regional Trade* also in the first stage (equation 2) to maintain the exclusion restriction that the effect of *Regional democratization* affects the cost of credit via *Democracy* (and not via the trade-growth channel triggered by abrupt changes in *Democracy*).

[10] To satisfy the exclusion restriction, this approach assumes that regional waves of democratization are not determined by regional economic trends (Acemoglu et al., 2017). Following this line of argumentation, Bonhomme and Manresa (2015) find that transitions to democracy are still significantly correlated within regions after controlling for economic development. Historical evidence suggests that regional patterns of democratization emanate from increased dissatisfaction with autocratic regimes across countries within a region, where countries in that region have similar histories, cultures, political problems, and informational ties (Buera, MongeNaranjo, and Primiceri, 2011).

Further, our premise is that revolts or riots in the region affect *AISD* only by affecting the quality of democratic institutions in that country (i.e., *Democracy* in the borrower's country). To prevent *Regional unrest* capturing social unrest in the borrower's country, we directly control for *Domestic unrest* in both stages of the IV model. We also verify that our results are robust to the inclusion of only *Regional democratization* as instrument (with somewhat higher standard errors).

We run several other sensitivity tests by using different sets of control variables, looking at changes in democracy as events, using falsification tests, and further refining our IV approach.

3.2. Baseline results

We report our baseline results (OLS with fixed effects and standard errors clustered by country) in Table 3. These results come from including loans from the 80 countries in our sample. To show that inclusion of the loan-level variables does not yield a bad-controls problem, in columns 1, 3, and 5 we omit loan-level controls, and in columns 2, 4, and 6 we add them. In all specifications, the estimates on *Democracy* are statistically significant at conventional levels. The preferred specification of column 2 indicates that a one-point increase in *Democracy* reduces *AISD* by 19 basis points.[11]

The first two columns report results from specifications that only include country fixed effects (and not firm fixed effects), which implies identification from countries where we observe a change in the value of *Democracy* (this takes place 63 times in 33 countries in our sample

[11] It is possible that the country-year controls might also lead to a bad-controls problem. In principle, the number of fixed effects minimizes this possibility, as much as it minimizes the possibility that our measures of democratic development suffer from this problem (as we show in multiple such tests, it does not). Moreover, adding or removing more controls and completely excluding the country-year controls does not yield lower coefficient estimates on our democracy variables. Thus, we can safely conclude that this bad-controls problem does not affect our inferences.

period).[12] This approach excludes other time-invariant reasons as potential omitted variables. Since the quality of *de jure* democratic institutions is the umbrella encompassing many other institutional and constitutional characteristics of countries and predominates over other more specific effects, it is already quite likely that these results are robust (for similar argumentation, see Qian and Strahan, 2007).

[Please insert Table 3 about here]

In columns 3 and 4 we add firm fixed effects, which means that we examine the same firms before and after a change in *Democracy*. Based on results from the regression including all control variables (column 4), a one-point increase in *Democracy* yields a decrease in loan spreads by approximately 20 basis points. This result is almost identical to the 19 basis points in column 2, implying that using either firm fixed effects or country fixed effects yields similar inferences. Economically, this is a very large effect, equal to a 10% decrease for the average loan in our sample. Thus, we can infer that the quality of democratic institutions explains a large part of the competitive advantage of firms in democracies compared to those in autocracies. Looking at specific examples such as Chile, we note that, for the loans that originated between 1993 and 1998 when the country scored 8 in *Democracy*, the average *AISD* was 71 basis points. In the years 2006-2007 (before the eruption of the global financial crisis), when Chile scored a perfect 10 on *Democracy*, the mean *AISD* was 36 basis points. A large number of countries present similar examples.

The results in columns 1 to 4 essentially exclude observations for which *Democracy* is stable within-country during our sample period. This implies dropping cross-country information

[12] Note that the number of changes in the democracy variables is not the key dimension determining the sample size because these changes are essentially *events*. What is relevant, as it constitutes the unit of our analysis, are the number of individual loans. In Appendix, Table A.2, we provide information on the number of loans by country.

for 47 countries. To show that our results hold when using information from the largest possible sample of 80 countries, we rerun the regressions excluding country and bank fixed effects. Our preferred estimation method is a mixed effects model: we use a random effects model as in Bae and Goyal (2009), but also maintain the year, loan type, and loan purpose fixed effects. The results, reported in columns 5 and 6, show an even larger economic effect of democracy (equal to 24 basis points in column 6).

So far, we have assumed that no within-country time-varying unobserved variables may simultaneously affect *Democracy* and *AISD*. Our IV strategy further alleviates such concerns, along with potential concerns regarding measurement error for *Democracy*. In Table 4, we replicate Table 3, this time the estimation method being the IV model of equations (2) and (3). The first-stage results are always statistically significant at the 5% level or higher. In columns 2 and 4 of Table 4, which are of main interest, our results are even more potent economically compared to those of the equivalent columns of Table 3. Symmetrically with the results in columns 5 and 6 of Table 3, we also estimate specifications without country and bank fixed effects. The results are equivalent to those in columns 1-4. Given that the results from the two methods are similar, and if anything the OLS results are the most conservative ones, we use the simpler OLS in most of our specifications and provide the equivalent IV results in Table A.4 of the Appendix.

[Please insert Table 4 about here]

We still highlight five important sensitivity tests on the IV models, as reported in the last five columns of Table A.4. A concern regarding the IV approach is that despite controls for the current economic environment in both stages of the model, the dynamics (persistence) of this environment might still directly affect loan spreads. To tackle this problem, we estimate an additional specification, where we control for four lags of the domestic and regional GDP growth

rates in both stages of the IV model. The results in Table A.4, column 5, show no wrinkles in the effect of *Democracy* on *AISD* compared to our baseline results.

In column 6, we include the country-year averages of the loan-level and firm-level control variables of our baseline specifications in the first stage of the IV model (i.e., in equation 2). The third specification (column 7) includes only *Regional democratization* as an instrument. We document a stronger effect of democracy (equal to 35 basis points) but the standard deviation is also higher. For this reason, we favor the results employing both instrumental variables. Specification 8 reports the results from a simple 2SLS regression (all second-stage variables are included in the first stage). The effect of democracy jumps to 40 basis points with the standard error increasing. We deem this to be the case because all loan-level controls overidentify the first stage of the model. Finally, specification 9 uses the fitted values directly obtained from the baseline instrumental variable model of Acemoglu et al. (2017). These fitted values are obtained from additionally using the dynamics (lags) of the regional waves of democratization and the variables in vector *C* in equation (2), which further eases concerns that regional waves of democratization are determined by regional economic trends (Acemoglu et al., 2017). Again, we observe a significant effect of democracy, with a better fit in this model compared to other models in Table A.4 (see Section A.3 in Appendix for further discussion of these results).

In our baseline results, the effect of control variables is aligned with expectations. The effect of *Creditor rights* is negative, as in Qian and Strahan (2007) and Bae and Goyal (2009), with a one-point increase in the 0 to 4 scale lowering AISD by approximately 40 basis points for the average loan (based on column 2, Table 3). This is despite the use of country fixed effects and the limited within-country variation in this variable. However, *Creditor rights* loses its statistical significance once firm fixed effects are used. The important issue here is that, as per our theoretical

considerations, democratic development affects the cost of credit over and above finance-specific institutions.

However, we conduct further tests to examine the role of creditor rights. Following more tightly the approach used by Qian and Strahan (2007), we interact *Creditor rights* with firm size and tangibility in models with firm fixed effects. Given that there are firms with multiple loans, the interaction term should contain information about the effect of creditor rights. As this analysis does not pertain to the main message of our paper (the effect of democratic development), we include our findings in columns 1 and 2 of Table A.5 of the Appendix. Consistent with Qian and Strahan (2007), our results show that firm tangibility matters in the relation between creditor rights and AISD. Moreover, we exclude countries where both the creditor rights and democracy indices change within a five-year interval. These countries are India, Indonesia, Israel, Russia, and Thailand. The regressions reported in columns 3 and 4 of Table A.5 if anything suggest that the effect of *Democracy* is economically more potent. We conclude that both democratic development and creditor rights have independent effects on the cost of credit.

The effect of loan-level variables is as in Bae and Goyal (2009), Ivashina (2009), and Cai, Saunders and Steffen (2016). Concerning such variables, larger firms with higher market-to-book ratios pay lower spreads. In contrast, firms with higher *Leverage* and *Tangibility* pay higher spreads.[13] These results are intuitive given the share and reputation of larger firms and the adverse effects of firm risk on obtaining cheaper loans. The positive effect of *Tangibility* indicates that firms requiring high levels of (potentially expensive) fixed capital to operate have a tendency to generate lower returns and this is priced by banks as a risk premium.

[13] Note that if we do not include the market-to-book ratio, the positive coefficient on leverage gains in statistical and economic significance.

A first concern with the results in Tables 3 and 4 might be that inference is different (due to different standard errors) if we only use countries in which there is a change in democracy. As a remedy, we use only the subsample of 33 countries that experience at least one change in *Democracy* during our sample period. The results in Table 5, from either the OLS or the IV method, are equivalent to those in Tables 3 and 4. As expected from using a smaller sample, the standard errors are somewhat larger.

[Please insert Table 5 about here]

3.3. Alternative measures of democracy and robustness to "small changes"

In Table 6, we report the results from alternative measures of democracy using OLS.[14] Columns (1) to (4) report the results with country fixed effects and columns 5 to 8 the equivalent with firm fixed effects. From this point onward, all our specifications include the full set of control variables, as in column 2 of Table 3, unless otherwise noted. We first use *Polity* and we find (column 1) that results are qualitatively and quantitatively very close to those of column 3 of Table 3 (bearing in mind that *Polity* takes values from -10 to 10 compared to the 0 to 10 of *Democracy*).

[Please insert Table 5 about here]

Subsequently, we move to dichotomous measures of the quality of democratic institutions. Dichotomous indicators might be better for identification purposes, as a change from 0 to 1 sends a strong signal to banks and other economic agents and thus directly alters the information content used to determine the risk premium. However, their disadvantage is that they do not fully capture the transition process to better or worse states of democracy and can produce lower fit.

[14] We report the equivalent IV results in columns 1 to 4 in Table A.4 in the Appendix.

Much like the measures of Democracy from Polity IV, the dichotomous measures predict a negative effect of democratic institutions on loan spreads. Specifically, when inferring from columns 1 to 4, *Democracy (BMR)*, *Democracy (Freedom House)* and *Democracy (Acemoglu et al.)* show (given the inclusion of country fixed effects) that transition from autocratic to democratic state lowers spreads by approximately 170, 123, and 142 basis points, respectively, for the average loan in our sample. The results from specifications including firm fixed effects are very similar. From these specifications, we favor the estimates based on *Democracy (Acemoglu et al.)* because this measure encompasses the full set of *de jure* elements of democracy in Polity IV and the qualitative characteristics highlighted in Freedom House, and this also yields higher within-country variability.

Our analysis based on binary indicators of democracy and reversals shows that findings are not driven by small changes captured by the 0-10 Polity IV index, but mostly by relatively large changes warranting a change in the binary indicators. We conduct two more tests to exclude the possibility that small annual changes in *Democracy* are the driving factor of our baseline results.[15] First, we replace the values of *Democracy* to equal the previous year's value if the overall within-country change during our sample period is less than two points on the 0-10 scale. Essentially, this means that *Democracy* needs to change by at least two points for that country to play a role in our estimations (given country fixed effects). The results from this exercise, reported in column 1 of Table 7, are economically more significant compared to our baseline. Second, we generate a dummy, taking the value zero if *Polity* < 0 and the value 1 if Polity ≥ 0. This variable (named *Democracy dummy*) has similar interpretation with the rest of the binary democracy

[15] From this point onward, we use only country fixed effects and do not report the results on the loan and firm controls (due to space considerations). Using firm fixed effects produces very similar results when the sample is reasonably large.

indices used in Table 6, and implies that significant changes from autocracy to democracy are needed for different categorization. The results, reported in column 2 of Table 7, show effects equivalent to those in Table 6. We also report the relevant IV results in columns 3 and 4.

[Please insert Table 7 about here]

3.4. Reversals and evidence from country subsamples

An important issue in the identification of an effect of the quality of democratic institutions concerns asymmetries between the long process of democratization and reversals to autocratic states. Reversals are abrupt and often take place in an unexpected (at least at the time of their occurrence) manner, such as a military coup. We expect that such developments have a much sharper adverse effect on loan spreads. In terms of measurement, *Reversals* is a dummy variable equal to 1 in the year a democracy reverts to an autocracy and 0 otherwise.

In Table 8, we report the results. In both columns (OLS and IV results), the effect of reversals is positive and highly significant. The OLS (IV) estimate shows that a reversal increases *AISD* by approximately 48 (52) basis points. We also expect that reversals cause a credit crunch. This implies that, if anything, the loan spreads post-reversals would have been even larger if banks actually originated the loans post-reversals. All-in-all, the results of Table 8 remind us that it takes time to build strong democratic institutions and even longer to build trust in them and collect their benefits; however, it takes very little time to destroy democratic institutions along with their benefits.[16]

[Please insert Table 8 about here]

[16] An alternative way to approach this question would be to use the Polity IV data on *Coups d'Etat*. The results from such an analysis are quite similar with those reported here.

Our summary statistics in Table A.2 indicate that there are three interesting groups of countries where *Democracy* changes: the European former socialist countries (post-Soviet states and some Balkan countries), the Latin American countries, and Asian and African countries.[17] From an empirical viewpoint, it is interesting to examine the relevant potency of our effect in the three groups and pinpoint the source of our main finding.

In Figure 2, we show bivariate regressions between *AISD* and *Democracy* in the three country groups. Despite the fact, that these are simple correlations, they provide a first illustration of the relative potency of the results in the three groups before estimation. The slopes are negative and significant but steeper in the European former socialist (slope = -31.1) and Latin American (slope = -25.3) groups compared to the Asian and North African group (slope = -7.7).

In Table 9, we estimate OLS and IV specifications, where we include interaction terms between *Democracy* and two dummies indicating the European former socialist countries and Latin American countries, respectively (essentially leaving the third group as the control). The results confirm the illustrations in Figure 2. Based on the OLS specification (column 1), in the European former socialist countries *Democracy* lowers *AISD* by 35 basis points and in Latin American countries by 29 basis points. In the control group (Asian, MENA and the few sub-

[17] The first group of countries includes post-Soviet states and other former socialist Eastern European countries. These countries are Albania, Armenia, Belarus, Bulgaria, Czech Republic, Estonia, Hungary, Kazakhstan, Latvia, Lithuania, Poland, Romania, Russia, Slovak Republic, Slovenia, and Ukraine. From these, changes in democracy occur 14 times in 9 countries. Concerning Latin American countries, our sample includes Argentina, Brazil, Chile, Colombia, Mexico, Peru, and Venezuela. In these 7 countries, *Democracy* changed 12 times during our sample period. The third group, which is the counterfactual group in our analysis, essentially includes Middle East and North African (MENA) countries, Asian countries, and three sub-Saharan African countries in which *Democracy* changes (Gabon, Ghana, and Liberia, which contribute only few loans to our sample). The MENA countries are Bahrain, Egypt, Kuwait, Morocco, Oman, Pakistan, Qatar, Saudi Arabia, Turkey, and United Arab Emirates. Of course, Turkey does not belong into the core MENA countries, but some lists include them in an augmented group. In these 10 countries, *Democracy* changes 12 times, but all changes take place in 4 countries (Bahrain, Egypt, Pakistan, and Turkey). The Asian countries in which *Democracy* changes are Bangladesh, India, Indonesia, Korea, Malaysia, Papua New Guinea, Sri Lanka, Taiwan, and Thailand. In these 9 countries *Democracy* changes 19 times.

Saharan countries) the effect is still negative and significant but considerably lower (7 basis points). In the IV specification (column 2) the respective effects are slightly more potent.

[Please insert Figure 2 & Table 9 about here]

3.5. Additional controls and dynamics

Another alternative explanation of our findings is that the identified effect of within-country changes in democracy comes in fact from a simultaneous change in financial development and or systemic risk, which in turn lowers spreads. We posit that, in addition to their significance in explaining spread differences from loan characteristics, loan-level controls should also capture a large part of the general financial conditions in the borrower country. Specifically, larger loans, loans with *Collateral*, a large *Number of lenders* and *General covenants*, and loans with *Performance provisions* should originate in financially developed countries. Also, these and other loan characteristics must reflect the general financial and economic conditions in the borrower's country. Indeed, simple pairwise correlation coefficients between these five loan-level variables and indicators of financial development (*Stock-market capitalization* and *Financial freedom* as defined in Table 1) and systemic risk (as also defined in Table 1) are positive and highly significant (see the correlation matrix of Table A.3 in the Appendix). Thus, loan-level variables must capture elements of financial development and systemic risk, allowing us to disentangle the effect of democracy on *AISD* from the respective effect of these variables.

To further account for possible simultaneity concerns in our regressions, we also directly include *Stock-market capitalization*, *Financial freedom*, and *Systemic risk* in specifications 1 to 3 of Table 10. We find that the first two variables have significant effects on *AISD* but the coefficients on *Democracy* do not change substantially. The findings are similar when we include

other measures of financial development (e.g., from the database by Čihák et al., 2012); even if we manage to find some measures of financial development that significantly affects *AISD*, the coefficient estimates on *Democracy* remain largely unaffected.

[Please insert Table 10 about here]

Quite expectedly, *Systemic risk* has a strong positive effect on *AISD*, implying that the average financial and macroeconomic conditions observed at the country-year level significantly increase the cost of loans (see column 3 of Table 10). We observe two notable findings in this specification. First, *GDP growth* loses part of its statistical significance, which is captured by *Systemic risk*. This is intuitive as these variables essentially reflect the effect of the macroeconomic environment. Second, and most important, the effect of *Democracy* is almost intact compared to our baseline specifications. Thus, we highlight once more that Democracy has a strong and singular effect on individual loan spreads, over and above the state of the macroeconomic and financial environment.

A potentially important confounding issue entails firm political connections, which might correlate with democratic institutions and has been shown to affect lending and its cost (Khwaja and Mian, 2005; Houston et al., 2014). To avoid the relevant omitted-variable bias, we aim to identify politically-connected firms especially in countries with changing democratic institutions. Our two main sources are Faccio (2006) and NRG metrics. Especially NRG metrics provides data for 12 countries in which *Democracy* changes (Belgium, Czech Republic, India, Indonesia, Malaysia, Mexico, Poland, Romania, Russia, Taiwan, Thailand, and Turkey). A caveat of these data is that they only refer to 2015 so we have to make the (fairly) reasonable assumption that political connections are stable over time. An alternative is to match the NRG metrics data with

the Faccio (2006) data (which further excludes Czech Republic, Poland, and Romania) and have two points in time (2001 and 2015).

We first estimate a specification including the time-invariant *Firm political connections* and report the results in Table 11, column 1. Similar to the findings of Houston et al. (2014), we document a negative and statistically significant effect of *Firm political connections* on *AISD*, equal to 13 basis points. In specification 2, we add information from Faccio (2006) and document 15 basis points lower *AISD* for politically connected firms. Importantly, the effect of *Democracy* on *AISD* remains equivalent to that in our baseline specifications.

[Please insert Table 11 about here]

Next, we examine whether democracies have a longer-term effect on loan pricing. We should note here that we have assumed thus far in our empirical analysis that banks price changes in democratic institutions quite quickly and that, as time elapses and no further changes in democratic institutions occur, the loan spreads should remain at permanently lower levels. Thus, we contend that the impact in our framework is far more immediate than the equivalent effects observed in the macroeconomics literature on democracy and economic development. However, other effects could still be observed in the medium-to-long term, or an initial increase in spreads might occur to depict the risks of, for example, a transition to democracy, and only after some time, as democratic institutions are established, do loan spreads start to decline. Or it could be that annual changes are not as informative because banks might wait to see the longer-term trends to reexamine their loan-pricing decisions.

To tackle this criticism, we introduce two more sensitivity tests. In Table 12, columns 1 and 2, we estimate specifications with five-year and ten-year averages of *Democracy*. The results

show that a change in the five-year average *Democracy* lowers AISD by 29 basis points, and a change in the ten-year average by 33 basis points.

We also estimate specifications including lags of *Democracy* (columns 3 and 4 of Table 12). We find that the first lag of *Democracy* is negative and statistically significant (much like current *Democracy*), but that adding the second-to-fifth lags does not increase the explanatory power of our model. Thus, we can conclude that (i) our model does a good job in separating the effect of democracy from the possible turmoil of a transition period, and that (ii) the effect of a change in democratic institutions on loan spreads takes maximum two years to reach its full size and become permanent.

[Please insert Table 12 about here]

A related issue is whether spreads were already moving lower before the actual change in *Democracy* and in this respect an illustration of changes as "events" is helpful. In Figure 3 we plot the country-year average *AISD* in the ten-year window around within-country positive changes in *Democracy*. For expositional brevity, we add regression lines pre- and post-change. The figure shows an immediate and permanent drop in the mean *AISD* at the time of the change, without notable trends pre- and post-change.

[Please insert Figure 3 about here]

3.6. Falsification tests

In this section, we conduct falsification tests on our baseline results. We first examine whether our results differ when the country of the borrower and that of the lead lender are different. In column 1 of Table 13, we include the variable *Lender's democracy*, which is equivalent to *Democracy* but in the lead lender's country. We find that democratic institutions play a role in determining *AISD*

only in the country of the borrower and not in the country of the lead lender. In column 2 we additionally introduce the interaction term between *Democracy* and *Lender's democracy* to potentially identify any heterogeneity in our main results (i.e., the slope of *Democracy*) due to the quality of democracy in the lender's country. However, the interaction term is statistically insignificant.

[Please insert Table 13 about here]

In a perhaps more meticulous exercise concerning the potential role of democracy in the lead lender's country, we construct the difference between democracy in the borrower's and lead lender's countries (we name this variable *Difference in democracy*). Then, we examine possible asymmetric effects of *Democracy* on *AISD* due to discrepancies in democracy between the borrower's and the lender's countries by interacting *Democracy* with *Difference in democracy*. Once more, the interaction term is statistically insignificant (column 3).

As a final exercise, we consider the case whereby some loans have a different country of syndication than the borrower's country. One reason for choosing a different country of syndication could be to insulate the loan from political and macroeconomic shocks in the borrower's country. To examine this premise, we introduce an interaction term between *Democracy* and a dummy variable (named *Different country of syndication*) that takes a value 1 if the country of syndication is different than the borrower's country and 0 otherwise. However, even in this case we fail to identify any significant heterogeneity in the main effect of *Democracy* (column 4).

We conclude from the above results and discussions that the quality of democratic institutions in the lender's country or discrepancies in democracy between the borrower's and the

lender's countries or the country of syndication do not affect the relation between democracy and loan spreads.

We experiment with many other control variables (those reported in Table A.9). Some of these variables, provide a second setting for falsification tests, as indication that banks respond to changes in democracy when setting the cost of credit and not changes in other measures usually correlated with economic development and democracy. In columns 1 and 2 of Table 14, we use *Life expectancy at birth* and *Survival rate to age 65*. Both these indicators heavily correlate with democracy, but should not have an effect on banks' lending policies; this is indeed our finding.

[Please insert Table 14 about here]

In a similar fashion, in columns 3 and 4 we use the *Investor protection* (protecting minority investors) and *Contract enforcement* indices from the World Bank Doing Business project. Indices from that source are available since 2004, somewhat restricting our sample. However, the relevant coefficients are statistically insignificant, while the coefficient on *Democracy* is as in our baseline specifications.

Figure 2 already shows that there is a change in the mean *AISD* when a change occurs in *Democracy*. On this line, an additional placebo test can be the leading of *Democracy* forward in time to examine whether changes in democracy that did not occur yet already affect loan spreads. In columns 5 and 6 of Table 14, we report the results from regressions with three-year forward *Democracy* and five-year forward *Democracy*. The results on both these forward *Democracy* measures are statistically insignificant.

3.7. The effect of democracy on other loan characteristics

An alternative explanation of our findings presented so far may be that we observe a lower *AISD* in more democratic countries because of the use of more sophisticated loan guarantees (such as collateral, covenants, and performance-pricing provisions) in these countries. In the econometrics jargon, a three-way simultaneity may exist between *Democracy*, *AISD,* and loan guarantees that produces an upward bias in the coefficient estimates on *Democracy*. We note *a priori* that this is unlikely given that our baseline regressions essentially obtain information from changes in *Democracy* and our IV approach would absorb such simultaneity effects because regional democracy is uncorrelated with domestic loan guarantees. Further, the results do not change when we exclude the loan controls in Tables 3 and 4.

However, to further check whether three-way simultaneity is even possible, we run regressions whereby we examine the effect of *Democracy* on the use of collateral, performance-pricing provisions, and covenants. The first three columns of Table 15 report the OLS results and the last three columns the IV results. In general, there is discrepancy between the OLS and the IV results: the former suggest a negative and significant effect of *Democracy* on *Collateral* and *Performance provisions* and a positive effect on *General covenants*, while the IV results suggest insignificant effects. For our study, only the positive effect of *Democracy* on *General covenants* would be a first indicator (albeit not a sufficient condition) of three-way simultaneity.[18] However, even in this case, the results are not robust when we use the IV method. Thus, we conclude that our main results are not driven by this alternative explanation.

[Please insert Table 15 about here]

[18] The negative effects on the other two variables are against the theoretical argument of simultaneity because, if anything, this would cause a downward bias in the estimates on *Democracy*.

3.8. Other sensitivity tests

We conduct additional sensitivity tests, for which we do not find significant changes compared to our baseline results. We report these results in the Appendix.

First, we note that the correct clustering of standard errors is by borrower country, as this is the level at which we observe changes in democratic development. However, we also cluster standard errors by both loan facility and year to account for possible dependence (correlation) of loans within years (columns 1 to 4 of Table A.6). In columns 5 to 8 of Table A.6 we use weighted least squares with sampling weights to further reduce heteroscedasticity concerns originating in imbalances in the number of loans issued by country-year. The weights are the number of loans issued in the borrowers' country in a given year over the total number of loans issued in all countries in that year. The results are very similar to our baseline.

Second, we examine whether our results are driven by our previous assumption that collateral is zero when it is not reported for those observations of the sample used in our baseline regression (i.e., the observations included in the summary statistics of Table 2). In specification 1 of Table A.7 we show that using only the observations where collateral is non-missing significantly reduces the number of observations, but the coefficient on *Democracy* remains unaffected.

Third, we exclude from our sample all loans other than term and revolver loans, which are the most conventional corporate loan deals. In general, we are interested in all loan deals and the loan-type fixed effects should capture discrepancies in pricing between loan types. However, even when we include only the most conventional loan types, our results are unaffected (see column 2 of Table A.7).

Fourth, we examine whether the effect of *Democracy* changes when we exclude loans made for leveraged buyouts (LBOs) or mergers and acquisitions (M&As), because these can lower

the cost of credit by reducing the asymmetric information between the bank and the borrowing firm (Ivashina and Kovner, 2011).[19] In principle, these effects should be captured by the loan-purpose fixed effects and the results (column 3 of Table A.7) are indeed similar to the baseline.

Fifth, we include all banks in a syndicate, both lead and non-lead, in our sample (column 4 of Table A.7). This specification essentially assumes that, even though not formally, all banks in a syndicate play a role in the price-setting behavior of the lead arranger. The sample size jumps to 31,786 observations, but the coefficient on *Democracy* is still close to the value of our baseline specifications.

Sixth, in the two specifications of Table A.8 we sequentially add country-pair fixed effects and country-year trends. These are the most restrictive models in terms of fixed effects, as we also include firm fixed effects. Again, we do not document any substantial differences from our baseline results.

Seventh, to avoid alternative interpretations of our findings due to country characteristics we sequentially control for numerous country-year variables, which we list in the Appendix. Specifically, we use indicators (more than 100 in total) of general economic and social development, geographic and cultural characteristics, financial development and banking sector competition, importance and performance of the banking sector, banking regulations, financial and economic openness, government intervention, fiscal performance and taxation, and general indicators of freedom. These variables, even if they enter statistically significant in certain specifications, do not substantially affect our inference on the effect of democratic development.

[19] The cost of credit might be lower because the bank has acquired private information about the borrowing firm from prior transactions, which might, for example, enhance its confidence in the firm's due-diligence process.

3.9. Components of democracy and correlations of the spread with civil-liberty indicators

In this subsection, we take a first step toward identification of the characteristics of democracy that might affect the cost of loans. This is a first step, given our main goal to identify the more general role of democratic development as the first study of the political institutions-cost of credit nexus. As we show in this section, the potent channels are numerous, which highlights the need to first establish the overall effect of democracy and then provide a shorter analysis of the channels (also with the view to incentivize further research).

We first consider the constituents of *Democracy* (the Polity IV index), but also examine the role of civil-liberty indicators from various other databases. The results on the components of *Democracy* (namely *Competitiveness of executive recruitment*, *Openness of executive recruitment*, *Executive constraints*, *Competitiveness of participation*, as defined in Table 1 and in Polity IV, 2016) can be considered as causal effects and thus direct channels through which democracy affects loan spreads. The reason is that these components of democracy have a clear constitutional or institutional basis (*de jure*) and are exogenous in the sense that they are not driven by perceptions. At the same time we can check the robustness of the results when using our IV strategy because our instrumental variables are still useful.

We report the results from this exercise in Table 16. We find that, among the four constituents of *Democracy*, the one with the economically more significant impact on *AISD* is the *Competitiveness of participation*. This variable changes in just 11 countries in our sample and essentially reflects whether countries have a multi-party democratic system and associated freedoms of expression. The political science literature has long viewed multiparty competition and free elections as the *sine qua non* of the characterization of a country as a democracy (e.g., Davenport, 1998; De Mesquita et al., 2005). We show here that multiparty competition and

electoral freedom are the showcase of a democratic system and the most easily verified source of democracy when it comes to the corporate loan market. Among other potential benefits to society, *Competitiveness of participation* lowers the cost of borrowing, with a one-point increase in this one-to-five indicator producing a 43-basis-point decrease in loan spread. The effect of *Executive constraints* is also quite strong (note that this is a zero-to-seven indicator), whereas we document insignificant coefficients on the rest of the components of *Democracy*.

[Please insert Table 16 about here]

In turn, causality in the relation between civil-liberty indicators, which capture perception-based characteristics of democracy, and loan spreads is less clear cut. We try our best to identify freedom-related indicators, which are less perception-based, but such identification is very difficult from an empirical viewpoint. When using such indicators, we control for the set of fixed effects of our baseline models. However, the IVs used so far might not strictly satisfy the exclusion restriction because perceptions are endogenous to multiple societal characteristics. However, the reported results provide an educated guess in the context of examining potential correlates of the cost of credit with civil-liberties indicators. They can also be considered as an initial step toward identification of civil-liberties indicators that future research may continue.

In Table 17, we report results whereby *AISD* is regressed on *Information transparency* (a proxy for media freedom), *Stock-market capitalization* (a proxy for financial freedom), *Institutional quality*, and *Property rights* (a proxy for the *de jure* protection of property rights). We provide definitions for these variables in Table 1 and refer the reader to more detailed construction in the data sources.[20]

[20] The list of variables and associated sources aiming at the measurement of civil liberties is non-exhaustive. Usually, correlations between the alternatives are very high. Our choice here is guided by (i) data availability (to maximize the number of available observations) and (ii) reducing the impact of endogenous perceptions.

[Please insert Table 17 about here]

Results show that the relations are stronger between *AISD* and *Information transparency*, *Institutional quality*, and *Protection of property rights*. In countries with these characteristics, loan spreads are considerably lower. In contrast, stock-market capitalization does not seem to play a very potent role. These findings point to the need for future research as to which institutions are important in generating competitive advantages from better-priced loans.

4. Conclusions

Using global syndicated loan data from 1984 to 2014, we show that democratic development has a sizeable negative effect on the cost of credit. For example, a one-point increase in the zero-to-ten Polity IV index of democracy shaves 19 basis points off loan spreads, according to our most conservative estimates. Reversals from democracy to autocracy hike spreads more strongly. As we have shown, our results are robust to the comprehensive inclusion of relevant controls, to the instrumentation with regional waves of democratization conditional on several controls, and survives a battery of other sensitivity tests. We thus highlight the lower cost of credit as one relevant mechanism through which democratization affects economic development and yields important benefits to corporations. Democracy may not be cheap, but its corporations benefit from lower syndicated loan rates.

Our research is the first on the role of democratic institutions in lending and this highlights our decision to maintain a general picture and diligently explore the sensitivity of our main findings. We do note, however, that certain characteristics of democracy are pivotal. From a constitutional perspective, we show that free elections along with the prevalence of checks and balances are the most important elements in maintaining confidence in the credit market. From a

civil liberties perspective, information transparency and institutional quality (including the protection of property rights) are the most important factors leading to more competitive loan pricing.

From the perspective of the specific channels through which democracy affects the cost of credit, our analysis also provides a roadmap for future research. This research can be approached from a microeconomic perspective, especially focusing on credit constraints and innovative activity of firms. It can also be approached from a macroeconomic viewpoint if a spotlight is shone on information transparency and on associated institutions that are more prevalent in democratic countries and have a well-established effect on loan pricing. As we have already covered considerable ground, we leave these ideas for future research.

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Table 1. Variable definitions and sources

Variable	Description	Source
A. Dependent variables in main specifications		
AISD	All-in-spread-drawn, defined as the sum of the spread over LIBOR plus the facility fee.	DealScan and Thomson Reuters
B. Explanatory Variables: Loan characteristics		
Loan amount	Log of the loan facility amount in millions USD.	idem
Maturity	Log of loan duration in months.	idem
Collateral	Dummy equal to one if the loan is secured with collateral, zero otherwise.	idem
Number of lenders	The number of banks involved in the syndicated loan.	idem
Performance provisions	Dummy equal to one if the loan has performance pricing provisions, zero otherwise.	idem
General covenants	The number of covenants in the loan contract.	idem
Loan type	A series of dummy variables indicating loan type (e.g., term loans, revolvers, etc.).	idem
Loan purpose	A series of dummy variables indicating loan purpose (e.g., corporate purpose, debt repay, etc.).	idem
C. Explanatory variables: Borrower characteristics		
Firm size	Log of total firm assets.	Compustat
Market-to-book ratio	The ratio of the market value of assets to the book value of assets.	idem
Tangibility	The ratio of tangible assets to total assets (multiplied by 100).	idem
Leverage	The ratio of total debt to total assets (multiplied by 100).	idem
D. Explanatory variables: Borrower's country characteristics		
Democracy	The indicator is an additive eleven-point scale (0-10). 0 indicates no institutional democracy and 10 indicates a maximum level of institutional democracy.	Polity IV Project (2016)
Polity	Combined Polity Score: The Polity score is computed by subtracting the autocracy score from the Democracy score; the resulting unified polity scale ranges from +10 (strongly democratic) to -10 (strongly autocratic).	Polity IV Project (2016)
Reversals	A dummy variable equal to 1 in the year a democracy reverts to an autocracy and 0 otherwise.	Acemoglu et al. (2017)
Competitiveness of executive recruitment	The extent that prevailing modes of advancement give subordinates equal opportunities to become superordinates.	Polity IV Project (2016)
Openness of executive recruitment	Recruitment of the chief executive is "open" to the extent that all the politically active population has an opportunity, in principle, to attain the position through a regularized process.	Polity IV Project (2016)
Executive constraints	The extent of institutionalized constraints on the decision-making powers of chief executives, whether individuals or collectivities.	Polity IV Project (2016)
Competitiveness of participation	The extent to which alternative preferences for policy and leadership can be pursued in the political arena.	Polity IV Project (2016)
Democracy (Freedom House)	Continuous measure equal to one if country is a full democracy and zero otherwise.	Freedom House
Democracy (BMR)	Dummy variable equal to one if country is a democracy, zero otherwise.	Boix, Miller, and Rosato (2013)
Democracy (Acemoglu et al.)	The dichotomous measure of democracy constructed by Acemoglou et al. (2015). Details can be found in Appendix A.1 of that paper, available here: http://economics.mit.edu/files/11227.	Acemoglu et al. (2017)

Creditor rights	The creditor rights index measures: (1) whether there are restrictions, such as creditor consent, when a debtor files for reorganization; (2) whether secured creditors are able to seize their collateral after the petition for reorganization is approved, that is, whether there is no automatic stay or asset freeze imposed by the court; (3) whether secured creditors are paid first out of the proceeds of liquidating a bankrupt firm; and (4) whether an administrator, and not management, is responsible for running the business during the reorganization. A value of one is added to the index when a country's laws and regulations provide each of these powers to secured lenders. The index aggregates the scores and varies between 0 (poor creditor rights) and 4 (strong creditor rights).	Djankov, McLiesh, and Shleifer (2007); own calculations
GDP per capita	GDP per capita in constant prices.	WDI
GDP growth	Annual GDP growth rate.	WDI
Stock-market capitalization	The ratio of stock market capitalization to GDP.	WDI
Financial freedom	The Index scores an economy's financial freedom by looking into the following five broad areas: (i) the extent of government regulation of financial services; (ii) the degree of state intervention in banks and other financial firms through direct and indirect ownership; (iii) the extent of financial and capital market development; (iv) government influence on the allocation of credit, and (v) openness to foreign competition. These five areas are considered to assess an economy's overall level of financial freedom that ensures easy and effective access to financing opportunities for people and businesses in the economy. An overall score on a scale of 0 to 100 is given to an economy's financial freedom through deductions from the ideal score of 100.	Heritage Foundation
Systemic risk	The country-year mean AISD.	DealScan
Information transparency	Index for the existence of a free and independent media.	Williams (2015)
Domestic unrest	The probability of the occurrence of social unrest (riots, etc.) in a given year/country. Takes values between 0 (zero probability) and 100 (certainty).	Acemoglu et al. (2017)
Regional trade	Annual change in total trade in goods and services (in USD) between the domestic country and the region.	UN Comtrade
Political stability	Combines several indicators which measure perceptions of the likelihood that the government in power will be destabilized or overthrown by possibly unconstitutional and/or violent means, including domestic violence and terrorism.	Worldwide Governance Indicators
Institutional quality	The economic institutional quality measure by Kunčič, described in detail in https://docs.google.com/viewer?a=v&pid=sites&srcid=ZGVmYXVsdGRvbWFpbnxhbGphemt1bmNpY3xneDo0MmE4OGM0NzQ0Njk1YzIw.	Kunčič (2014)
Property rights	Legal structure and security of property rights.	Fraser Institute

E. Instrumental variables

Regional democratization	Regional waves of democratization and transitions to nondemocracy, excluding information in the borrower's country (for construction details, see Appendix).	Acemoglu et al. (2017)
Regional unrest	Regional unrest, excluding information in the borrower's country (for details, see Appendix).	Acemoglu et al. (2017)

Table 2. Summary statistics

	Obs.	Mean	Std. Dev.	Min.	Max.
AISD	14,575	190.28	152.46	-212.50	1,600
Democracy	14,575	9.57	1.36	0	10
Polity	14,575	9.52	2.16	-10	10
Competitiveness of executive recruitment	14,575	2.96	0.24	1	3
Openness of executive recruitment	14,575	3.99	0.12	1	4
Executive constraints	14,575	6.83	0.66	1	7
Competitiveness of participation	14,575	4.85	0.57	0	5
Democracy (BMR)	13,942	0.97	0.16	0	1
Democracy (Freedom House)	14,282	0.96	0.20	0	1
Democracy (Acemoglu et al.)	14,282	0.97	0.16	0	1
Creditor rights	14,575	1.46	0.92	0	4
Loan amount	14,575	17.82	2.18	7.18	24.47
Maturity	14,575	46.38	34.65	0.00	1,140
Collateral	14,575	0.45	0.50	0	1
Number of lenders	14,575	5.32	6.81	1	67
Performance provisions	14,575	0.24	0.43	0	1
General covenants	14,575	2.08	2.24	0	10
Firm size	14,575	20.57	2.41	6.91	28.87
Firm market-to-book ratio	14,575	1.96	21.85	0.09	2,665
Firm tangibility	14,575	0.031	0.025	0	0.099
Firm leverage	14,575	0.032	0.18	0.00	14.20
GDP per capita	14,575	34,319	8,957	1,606	62,043
GDP growth	14,575	3.31	2.85	-14.8	14.47
Stock-market capitalization	14,036	108.09	41.41	0.005	299.6
Financial freedom	13,760	73.23	15.92	30.0	90.0
Systemic risk	14,575	164.07	109.28	-212.50	1,555
Information transparency	14,311	79.88	6.25	40.00	88.00
Domestic unrest	14,575	12.72	33.32	0	100
Regional trade	14,575	6.01	8.04	-39.30	20.63
Political stability	11,663	0.44	0.54	-2.81	1.67
Institutional quality	14,120	0.78	0.09	0.31	0.89
Property rights	14,062	83.19	13.78	10	95
Regional democratization	14,575	0.93	0.21	0	1
Regional unrest	14,575	0.12	0.11	0	1

Table 3. Democracy and loan spreads: OLS results

The table reports coefficients and t-statistics (in brackets). Dependent variable is *AISD* and all variables are defined in Table 1. Estimation method is OLS with standard errors clustered by borrower's country. The lower part of the table denotes the type of fixed effects used in each specification. Specifications 1, 3, and 5 include only macro controls and specifications 2, 4, and 6 additionally include the loan characteristics as controls. The *, **, and *** marks denote statistical significance at the 10%, 5%, and 1% level, respectively.

	1	2	3	4	5	6
Democracy	-24.253***	-19.207***	-22.005***	-19.918***	-33.260***	-31.703***
	[-2.323]	[-2.079]	[-2.163]	[-2.252]	[-4.134]	[-3.743]
Creditor rights	-35.595***	-27.683**	-31.012***	-21.985*	-16.988***	-7.741***
	[-3.558]	[-1.981]	[-3.032]	[-1.858]	[-6.482]	[-4.216]
Loan amount		-11.749***		-10.095***		-7.243**
		[-10.696]		[-8.242]		[-2.478]
Maturity		-0.058		0.044		-0.127
		[-0.870]		[0.517]		[-1.671]
Collateral		55.668***		32.157***		74.471***
		[14.630]		[7.501]		[15.402]
Number of lenders		0.013		-0.161		-0.441**
		[0.074]		[-1.135]		[-2.234]
Performance provisions		-33.853***		-27.377***		-41.107***
		[-10.399]		[-10.342]		[-9.662]
General covenants		4.965***		4.439***		5.803***
		[3.890]		[4.513]		[3.458]
Firm size		-9.394***		-4.121		-13.322***
		[-8.782]		[-1.399]		[-7.634]
Firm market-to-book ratio		-0.123***		-1.270		-0.148***
		[-3.085]		[-1.659]		[-3.146]
Firm tangibility		96.088**		80.704*		122.230***
		[2.308]		[1.656]		[3.001]
Firm leverage		14.704		25.379*		9.948
		[1.268]		[1.768]		[1.038]
GDP per capita	-0.002	-0.001	-0.002	-0.001	0.003***	0.001***
	[-1.283]	[-0.964]	[-0.973]	[-0.917]	[6.857]	[2.965]
GDP growth	-4.030**	-3.631**	-3.790**	-2.910**	-7.230**	-7.104**
	[-2.506]	[-2.369]	[-2.476]	[-2.261]	[-2.268]	[-2.140]
Domestic unrest	0.007	0.033	0.073*	0.100**	0.038	0.038
	[0.149]	[0.882]	[1.766]	[2.265]	[0.312]	[0.619]
Regional trade	-0.870**	-1.398***	-0.796**	-0.748**	-0.080	-0.851
	[-2.321]	[-4.487]	[-2.294]	[-2.172]	[-0.130]	[-1.422]
Observations	18,062	14,575	17,320	13,830	145,407	131,313
Adjusted R-squared	0.506	0.531	0.527	0.546	0.620	0.663
Loan type effects	Y	Y	Y	Y	Y	Y
Loan purpose effects	Y	Y	Y	Y	Y	Y
Year effects	Y	Y	Y	Y	Y	Y
Bank effects	Y	Y	Y	Y	N	N
Country effects	Y	Y	N	N	N	N
Firm effects	N	N	Y	Y	N	N
Clustered standard errors	Country	Country	Country	Country	Country	Country

Table 4. Democracy and loan spreads: IV results

The table reports coefficients and t-statistics (in brackets). Dependent variable is *AISD* and all variables are defined in Table 1. Estimation method is the IV procedure of equations 2 and 3 with standard errors clustered by borrower's country. The intermediate part of the table shows the main first-stage results (common across all regressions). The lower part of the table denotes the type of fixed effects used in each specification. Specifications 1, 3, and 5 include only macro controls and specifications 2, 4, and 6 additionally include the loan characteristics as controls. The *, **, and *** marks denote statistical significance at the 10%, 5%, and 1% level, respectively.

	1	2	3	4	5	6
Democracy	-25.247**	-23.123**	-30.909***	-28.554***	-30.276***	-34.476***
	[-2.372]	[-2.244]	[-2.660]	[-2.626]	[-3.043]	[-3.258]
Creditor rights	-35.743***	-30.189**	-30.769***	-21.637*	-16.792***	-7.587***
	[-4.117]	[-2.224]	[-2.965]	[-1.813]	[-6.346]	[-3.950]
Loan amount		-11.733***		-10.093***		-7.289**
		[-10.658]		[-8.229]		[-2.488]
Maturity		-0.058		0.043		-0.129
		[-0.874]		[0.513]		[-1.706]
Collateral		55.806***		32.215***		74.508***
		[14.675]		[7.492]		[15.495]
Number of lenders		0.016		-0.154		-0.439**
		[0.091]		[-1.079]		[-2.203]
Performance provisions		-33.724***		-27.415***		-41.075***
		[-10.360]		[-10.373]		[-9.727]
General covenants		4.931***		4.432***		5.842***
		[3.868]		[4.503]		[3.469]
Firm size		-9.375***		-4.022		-13.334***
		[-8.779]		[-1.367]		[-7.611]
Firm market-to-book ratio		-0.123***		-1.265		-0.148***
		[-3.086]		[-1.656]		[-3.154]
Firm tangibility		94.557**		77.501		121.851***
		[2.271]		[0.630]		[2.990]
Firm leverage		14.699		25.409*		9.937
		[1.270]		[1.772]		[1.037]
GDP per capita	-0.002	-0.001	-0.001	-0.001	0.003***	0.001**
	[-1.034]	[-0.601]	[-0.657]	[-0.615]	[6.075]	[2.385]
GDP growth	-3.986**	-3.678**	-3.841**	-3.947**	-6.731**	-6.176**
	[-2.343]	[-2.253]	[-2.457]	[-2.780]	[-2.095]	[-2.188]
Domestic unrest	0.013	0.037	0.085**	0.105**	0.038	0.035
	[0.239]	[0.892]	[2.080]	[2.530]	[0.309]	[0.567]
Regional trade	-0.906**	-1.430***	-0.705**	-0.777**	-0.113	-0.829
	[-2.329]	[-4.247]	[-2.292]	[-2.333]	[-0.183]	[-1.424]
First stage results						
Regional democratization	4.504***					
	[2.702]					
Regional unrest	-1.523***					
	[-2.661]					
Observations	18,062	14,575	17,320	13,830	145,407	131,313
Loan type effects	Y	Y	Y	Y	Y	Y
Loan purpose effects	Y	Y	Y	Y	Y	Y
Year effects	Y	Y	Y	Y	Y	Y
Bank effects	Y	Y	Y	Y	N	N
Country effects	Y	Y	N	N	N	N
Firm effects	N	N	Y	Y	N	N
Clustered standard errors	Country	Country	Country	Country	Country	Country

Table 5. Including only countries in which there is a change in *Democracy*

The table reports coefficients and t-statistics (in brackets) from models where the sample is restricted to countries that experience at least one change in *Democracy*. Dependent variable is *AISD* and all variables are defined in Table 1. In specifications 1 and 2 the estimation method is OLS and in specifications 3 and 4 the IV procedure of equations (2) and (3). Standard errors in both specification are clustered by borrower's country. The lower part of the table denotes the type of fixed effects used in each specification. The *, **, and *** marks denote statistical significance at the 10%, 5%, and 1% level, respectively.

	1	2	3	4
Democracy	-19.342***	-19.918***	-23.112**	-28.560**
	[-3.211]	[-2.752]	[-2.179]	[-2.521]
Creditor rights	-27.607*	-21.987*	-30.176**	-21.624*
	[-1.707]	[-1.763]	[-2.117]	[-1.713]
Loan amount	-11.703***	-10.099***	-11.725***	-10.080***
	[-8.622]	[-7.554]	[-8.347]	[-6.927]
Maturity	-0.056	0.044	-0.050	0.040
	[-0.781]	[0.448]	[-0.795]	[0.427]
Collateral	55.704***	32.140***	55.368***	32.237***
	[12.643]	[6.742]	[12.613]	[5.978]
Number of lenders	0.013	-0.160	0.014	-0.163
	[0.070]	[-1.028]	[0.088]	[-0.899]
Performance provisions	-33.821***	-27.370***	-33.685***	-27.389***
	[-10.102]	[-10.028]	[-9.305]	[-8.388]
General covenants	4.973***	4.435***	4.920***	4.448***
	[3.641]	[4.028]	[3.432]	[4.731]
Firm size	-9.307***	-4.118	-9.361***	-3.984
	[-7.044]	[-1.305]	[-7.024]	[-1.236]
Firm market-to-book ratio	-0.120***	-1.260	-0.116***	-1.257
	[-2.980]	[-1.552]	[-2.866]	[-1.432]
Firm tangibility	96.171**	80.717	94.502**	77.610
	[2.271]	[1.553]	[2.045]	[0.584]
Firm leverage	14.694	25.360*	14.650	25.416*
	[1.199]	[1.694]	[1.027]	[1.670]
GDP per capita	-0.001	-0.001	-0.001	-0.001
	[-0.955]	[-0.894]	[-0.507]	[-0.590]
GDP growth	-1.631	-0.914	-1.686	-0.958
	[-1.375]	[-0.682]	[-1.144]	[-0.710]
Domestic unrest	0.034	0.114**	0.039	0.111**
	[0.865]	[2.126]	[0.671]	[2.327]
Regional trade	-1.390***	-0.740**	-1.440***	-0.783**
	[-4.375]	[-2.077]	[-3.881]	[-2.228]
Observations	15,331	13,955	12,822	11,540
Adjusted R-squared	0.520	0.517		
Loan type effects	Y	Y	Y	Y
Loan purpose effects	Y	Y	Y	Y
Year effects	Y	Y	Y	Y
Bank effects	Y	Y	Y	Y
Country effects	Y	N	Y	N
Firm effects	N	Y	N	Y
Clustered standard errors	Country	Country	Country	Country

Table 6. Alternative measures of democracy

The table reports coefficients and t-statistics (in brackets). Dependent variable is *AISD* and all variables are defined in Table 1. Estimation method is OLS with standard errors clustered by borrower's country. The lower part of the table denotes the type of fixed effects used in each specification. The first four specifications include country fixed effects and the latter four firm fixed effects. The *, **, and *** marks denote statistical significance at the 10%, 5%, and 1% level, respectively. The *, **, and *** marks denote statistical significance at the 10%, 5%, and 1% level, respectively.

	1	2	3	4	5	6	7	8
Polity	-10.791***				-14.479**			
	[-2.695]				[-2.005]			
Democracy (BMR)		-170.144***				-191.255***		
		[-4.064]				[-4.158]		
Democracy (Freedom House)			-122.911***				-97.958***	
			[-4.866]				[-3.181]	
Democracy (Acemoglu et al.)				-141.776***				-117.093**
				[-4.014]				[-1.994]
Creditor rights	-28.940**	-25.474*	-28.609**	-27.737**	-21.814*	-20.646*	-20.998*	-20.848*
	[-2.067]	[-1.860]	[-2.139]	[-2.069]	[-1.841]	[-1.730]	[-1.754]	[-1.735]
Loan amount	-11.740***	-11.755***	-11.796***	-11.736***	-10.095***	-10.102***	-10.080***	-10.123***
	[-10.682]	[-10.661]	[-10.679]	[-10.569]	[-8.247]	[-8.228]	[-8.244]	[-8.239]
Maturity	-0.058	-0.057	-0.056	-0.058	0.044	0.046	0.043	0.044
	[-0.874]	[-0.869]	[-0.854]	[-0.877]	[0.517]	[0.547]	[0.507]	[0.528]
Collateral	55.705***	55.682***	55.648***	55.755***	32.188***	32.122***	32.039***	32.270***
	[14.641]	[14.716]	[14.700]	[14.667]	[7.506]	[7.505]	[7.455]	[7.510]
Number of lenders	0.014	0.015	0.020	0.019	-0.160	-0.154	-0.150	-0.152
	[0.077]	[0.082]	[0.111]	[0.104]	[-1.133]	[-1.085]	[-1.049]	[-1.066]
Performance provisions	-33.822***	-33.903***	-33.725***	-33.804***	-27.366***	-27.342***	-27.363***	-27.387***
	[-10.386]	[-10.484]	[-10.402]	[-10.361]	[-10.332]	[-10.386]	[-10.363]	[-10.329]
General covenants	4.955***	4.991***	4.994***	4.940***	4.437***	4.439***	4.442***	4.420***
	[3.882]	[3.927]	[3.952]	[3.867]	[4.512]	[4.519]	[4.516]	[4.491]
Firm size	-9.391***	-9.397***	-9.342***	-9.386***	-4.102	-4.177	-4.146	-4.074
	[-8.784]	[-8.828]	[-8.747]	[-8.783]	[-1.392]	[-1.420]	[-1.401]	[-1.384]
Firm market-to-book ratio	-0.123***	-0.123***	-0.122***	-0.123***	-1.270	-1.273	-1.270	-1.272
	[-3.084]	[-3.086]	[-3.098]	[-3.080]	[-1.658]	[-1.663]	[-1.660]	[-1.656]
Firm tangibility	95.850**	97.660**	95.308**	96.629**	80.455	75.135	72.696	75.934
	[2.303]	[2.339]	[2.293]	[2.325]	[0.654]	[0.603]	[0.590]	[0.613]
Firm leverage	14.708	14.700	14.703	14.751	25.388*	25.348*	25.279*	25.506*
	[1.269]	[1.268]	[1.271]	[1.269]	[1.768]	[1.769]	[1.764]	[1.773]
GDP per capita	-0.001	-0.001	-0.002	-0.001	-0.001	-0.002	-0.002	-0.001
	[-0.834]	[-1.150]	[-1.533]	[-0.931]	[-0.852]	[-1.171]	[-1.013]	[-0.890]
GDP growth	-3.665**	-3.394**	-3.624**	-3.142**	-3.893***	-3.745***	-3.600**	-3.448**
	[-2.356]	[-2.262]	[-2.517]	[-2.082]	[-2.741]	[-2.641]	[-2.502]	[-2.387]
Domestic unrest	0.035	0.030	0.035	0.024	0.102**	0.097**	0.097**	0.092**
	[0.909]	[0.803]	[0.943]	[0.646]	[2.311]	[2.198]	[2.244]	[2.115]
Regional trade	-1.388***	-1.504***	-1.240***	-1.535***	-0.740*	-0.840*	-0.705	-0.867**
	[-4.306]	[-5.240]	[-4.145]	[-5.340]	[-1.750]	[-2.028]	[-1.598]	[-2.069]
Observations	14,575	14,282	14,282	14,282	13,830	13,536	13,536	13,536
Adj. R-squared	0.560	0.560	0.561	0.560	0.685	0.686	0.685	0.685
Loan type	Y	Y	Y	Y	Y	Y	Y	Y
Loan purpose	Y	Y	Y	Y	Y	Y	Y	Y
Year effects	Y	Y	Y	Y	Y	Y	Y	Y
Bank effects	Y	Y	Y	Y	Y	Y	Y	Y
Country effects	Y	Y	Y	Y	N	N	N	N
Firm effects	N	N	N	N	Y	Y	Y	Y
Clustering	Country	Country	Country	Country	Country	Country	Country	Country

Table 7. Excluding small changes in *Democracy*

The table reports coefficients and t-statistics (in brackets) from models where the sample is restricted to countries that experience at least one change in *Democracy*. Dependent variable is *AISD* and all variables are defined in Table 1. In specifications 1 and 2 the estimation method is OLS and in specifications 3 and 4 the IV procedure of equations 2 and 3. Standard errors in both specification are clustered by borrower's country. In specifications 1 and 3 *Democracy* is altered to equal the previous year's value if the overall within-country change during our sample period is less than two points on the 0-10 scale. In specifications 2 and 4 we use *Democracy dummy* (definition in Table 1). The lower part of the table denotes the type of fixed effects used in each specification. All specifications include the control variables of specification 2 in Table 3. The *, **, and *** marks denote statistical significance at the 10%, 5%, and 1% level, respectively.

	1	2	3	4
Democracy	-24.120***		-28.360**	
	[-2.316]		[-2.245]	
Democracy dummy		-87.311***		-97.698***
		[-3.024]		[-2.811]
Creditor rights	-27.710**	-27.529**	-30.045**	-31.040**
	[-1.992]	[-1.975]	[-2.185]	[-2.199]
GDP per capita	-0.001	-0.001	-0.001	-0.001
	[-0.935]	[-0.920]	[-0.610]	[-0.594]
GDP growth	-3.711**	-3.740**	-3.844**	-3.822**
	[-2.405]	[-2.489]	[-2.207]	[-2.286]
Domestic unrest	0.041	0.050	0.040	0.039
	[0.902]	[0.985]	[0.910]	[0.894]
Regional trade	-1.362***	-1.381***	-1.438***	-1.483***
	[-4.128]	[-4.288]	[-4.339]	[-4.406]
Observations	14,575	14,575	14,575	14,575
Adjusted R-squared	0.529	0.533		
Loan type effects	Y	Y	Y	Y
Loan purpose effects	Y	Y	Y	Y
Year effects	Y	Y	Y	Y
Bank effects	Y	Y	Y	Y
Country effects	Y	Y	Y	Y
Loan controls	Y	Y	Y	Y
Firm controls	Y	Y	Y	Y
Clustered standard errors	Country	Country	Country	Country

Table 8. Reversals

The table reports coefficients and t-statistics (in brackets). Dependent variable is *AISD* and all variables are defined in Table 1. Specifications 1 is estimated with OLS and specification 2 with the IV procedure of equations 2 and 3. Standard errors are clustered by borrower's country. The lower part of the table denotes the type of fixed effects and the control variables (loan and firm controls as in column 2 of Table 3) used in each specification. The *, **, and *** marks denote statistical significance at the 10%, 5%, and 1% level, respectively.

	1	2
Reversals	47.790***	52.340***
	[3.169]	[3.043]
Creditor rights	-29.072**	-29.574**
	[-2.124]	[-2.086]
GDP per capita	-0.001	-0.001
	[-0.512]	[-1.124]
GDP growth	-3.691**	-3.677**
	[-2.343]	[-2.408]
Domestic unrest	0.035	0.030
	[0.903]	[0.783]
Regional trade	-1.420***	-1.410***
	[-4.210]	[-4.660]
Observations	14,575	14,575
Adjusted R-squared	0.559	
Loan type effects	Y	Y
Loan purpose effects	Y	Y
Year effects	Y	Y
Bank effects	Y	Y
Loan controls	Y	Y
Firm controls	Y	Y
Country effects	Y	Y

Table 9. Results from country subsamples

The table reports coefficients and t-statistics (in brackets) from models where we include interaction terms between *Democracy* and two regional groups: the former socialist European countries and Latin American countries. Dependent variable is *AISD* and all variables are defined in Table 1. In specification 1 the estimation method is OLS and in specification 2 the IV procedure of equations 2 and 3. Standard errors in both specification are clustered by borrower's country. The lower part of the table denotes the type of fixed effects used in each specification. Also, both specifications include the loan and firm controls of Table 3. The *, **, and *** marks denote statistical significance at the 10%, 5%, and 1% level, respectively.

	1	2
Democracy	-7.006**	-10.052**
	[-1.983]	[-1.973]
Democracy*Former socialist European countries	-35.564***	-37.715***
	[-3.743]	[-3.185]
Democracy*Latin American countries	-38.622***	-34.579***
	[-4.587]	[-4.071]
Creditor rights	-20.420	-22.081*
	[-1.672]	[-1.832]
GDP per capita	-0.005	-0.003*
	[-1.482]	[-1.793]
GDP growth	-3.306***	-3.192**
	[-3.130]	[-2.529]
Domestic unrest	0.047	0.091*
	[1.210]	[1.957]
Regional trade	-1.475***	-1.385***
	[-5.167]	[-4.139]
Observations	14,575	14,575
Adjusted R-squared	0.594	
Loan type effects	Y	Y
Loan purpose effects	Y	Y
Year effects	Y	Y
Country effects	Y	Y
Loan controls	Y	Y
Firm controls	Y	Y
Clustered standard errors	Country	Country

Table 10. Controlling for financial development and systemic risk

The table reports coefficients and t-statistics (in brackets). Dependent variable is *AISD* and all variables are defined in Table 1. Estimation method is OLS with standard errors clustered by borrower's country. The lower part of the table denotes the type of fixed effects and the control variables (loan and firm controls as in column 2 of Table 3) used in each specification. The *, **, and *** marks denote statistical significance at the 10%, 5%, and 1% level, respectively.

	1	2	3
Democracy	-21.794***	-20.302***	-21.678***
	[-2.300]	[-2.111]	[-2.254]
Creditor rights	-21.336	-16.210	-11.141
	[-1.463]	[-0.497]	[-0.819]
GDP per capita	-0.002*	-0.001	-0.001
	[-1.775]	[-0.406]	[-0.520]
GDP growth	-3.579**	-3.884**	-2.060*
	[-2.362]	[-2.480]	[-1.755]
Domestic unrest	0.039	0.039	0.017
	[1.000]	[0.987]	[0.472]
Regional trade	-1.320***	-1.510***	-1.034***
	[-4.284]	[-4.228]	[-3.999]
Stock-market capitalization	-0.118*		
	[-1.962]		
Financial freedom		-0.524***	
		[-3.200]	
Systemic risk			0.520***
			[11.581]
Observations	14,036	13,760	14,575
Adjusted R-squared	0.562	0.565	0.567
Loan type	Y	Y	Y
Loan purpose	Y	Y	Y
Year effects	Y	Y	Y
Bank effects	Y	Y	Y
Country effects	Y	Y	Y
Loan controls	Y	Y	Y
Firm controls	Y	Y	Y
Clustered standard errors	Country	Country	Country

Table 11. Controlling for firm political connections

The table reports coefficients and t-statistics (in brackets). Dependent variable is *AISD* and all variables are defined in Table 1. Both specifications are estimated with OLS. Specification 1 includes *Firm political connections* taken only from NRG metrics (data for 2015) and specification 2 adds data from Faccio (2006), where firm political connections are given for 2001 but for fewer countries for which Democracy changes (and therefore a lower number of loans). Standard errors are clustered by borrower's country. The lower part of the table denotes the type of fixed effects and the control variables (loan and firm controls as in column 2 of Table 3) used in each specification. The *, **, and *** marks denote statistical significance at the 10%, 5%, and 1% level, respectively.

	1	2
Democracy	-24.419**	-22.210**
	[-2.277]	[-2.093]
Firm political connections	-12.620**	-14.579**
	[-2.274]	[-2.371]
Creditor rights	-26.315*	-27.574*
	[-1.719]	[-1.922]
GDP per capita	-0.001	-0.001
	[-0.325]	[-0.722]
GDP growth	-3.827***	-3.716**
	[-2.599]	[-2.463]
Domestic unrest	0.040	0.045
	[1.032]	[1.071]
Regional trade	-1.315***	-1.329***
	[-3.820]	[-3.975]
Observations	10,510	10,023
Adjusted R-squared	0.531	0.538
Loan type effects	Y	Y
Loan purpose effects	Y	Y
Year effects	Y	Y
Country effects	Y	Y
Loan controls	Y	Y
Firm controls	Y	Y
Clustered standard errors	Country	Country

Table 12. Medium and longer-term effects of democratic development

The table reports coefficients and t-statistics (in brackets). Dependent variable is *AISD* and most variables are defined in Table 1. Estimation method is OLS with standard errors clustered by borrower's country. In specification 1, *Democracy* is the five-year average of the original *Democracy* variable and in specification 2 the ten-year average. In the rest of the specification *Democracy* is as defined in Table 1 (i.e., the annual variable). The lower part of the table denotes the type of fixed effects and the control variables (loan and firm controls as in column 2 of Table 3) used in each specification. The *, **, and *** marks denote statistical significance at the 10%, 5%, and 1% level, respectively.

	1	2	3	4
Democracy	-28.739***	-32.731***	-15.344***	-16.666***
	[-3.289]	[-3.709]	[-2.349]	[-2.770]
Democracy (t-1)			-11.684**	-10.044*
			[-2.466]	[-1.777]
Democracy (t-2)			-0.895	-0.782
			[-0.345]	[-0.263]
Democracy (t-3)				-0.007
				[-0.014]
Democracy (t-4)				0.340
				[0.518]
Democracy (t-5)				-0.491
				[-0.119]
Creditor rights	-28.408*	-32.224**	-29.661*	-27.859
	[-1.975]	[-2.284]	[-1.763]	[-1.575]
GDP per capita	-0.001	-0.002	-0.002	-0.002
	[-1.133]	[-1.229]	[-0.722]	[-1.143]
GDP growth	-1.818	-1.846	-0.852	-1.106
	[-1.515]	[-1.553]	[-0.664]	[-0.692]
Domestic unrest	-0.030	-0.028	-0.044	-0.056
	[-0.788]	[-0.741]	[-1.079]	[-1.243]
Regional trade	-1.395***	-1.412***	-1.360***	-1.298***
	[-4.549]	[-4.765]	[-4.625]	[-4.133]
Observations	14,575	14,575	13,722	12,127
Adjusted R-squared	0.538	0.540	0.559	0.557
Loan type	Y	Y	Y	Y
Loan purpose	Y	Y	Y	Y
Year effects	Y	Y	Y	Y
Bank effects	Y	Y	Y	Y
Country effects	Y	Y	Y	Y
Loan controls	Y	Y	Y	Y
Firm controls	Y	Y	Y	Y
Clustered standard errors	Country	Country	Country	Country

Table 13. Differences between the borrower's country, lender's country, and country of syndication

The table reports coefficients and t-statistics (in brackets). Dependent variable is *AISD* and most variables are defined in Table 1. *Lender's democracy* is *Democracy* in the lender's country. *Difference in democracy* is the difference between *Democracy* in the borrower's and the lender's countries. *Different country of syndication* is a dummy variable taking the value 1 if the country of syndication is different than the borrower's country and 0 otherwise. Estimation method is OLS with standard errors clustered by borrower's country. The lower part of the table denotes the type of fixed effects and the control variables (loan and firm controls as in column 2 of Table 3) used in each specification. The *, **, and *** marks denote statistical significance at the 10%, 5%, and 1% level, respectively.

	(1)	(2)	(3)	(4)
Democracy	-22.265**	-23.116**	-24.318*	-22.117**
	[-1.989]	[-2.115]	[-1.835]	[-2.125]
Lender's democracy	-1.328	-2.649		
	[-0.129]	[-0.250]		
Democracy*Lender's democracy		0.195		
		[1.028]		
Difference in democracy			3.106	
			[0.206]	
Democracy*Difference in democracy			-0.354	
			[-1.428]	
Different country of syndication				5.042
				[0.405]
Democracy*Different country of syndication				0.293
				[0.178]
Observations	14,575	14,575	14,575	14,575
Adjusted R-squared	0.547	0.547	0.548	0.550
Loan type	Y	Y	Y	Y
Loan purpose	Y	Y	Y	Y
Year effects	Y	Y	Y	Y
Bank effects	Y	Y	Y	Y
Country effects	Y	Y	Y	Y
Loan controls	Y	Y	Y	Y
Firm controls	Y	Y	Y	Y
Clustered standard errors	Country	Country	Country	Country

Table 14. Additional falsification tests

The table reports coefficients and t-statistics (in brackets). The dependent variable is denoted in the second line of the table. Estimation method is OLS with standard errors clustered by borrower's country. The lower part of the table denotes the type of fixed effects and the control variables (loan and firm controls as in column 2 of Table 3) used in each specification. The *, **, and *** marks denote statistical significance at the 10%, 5%, and 1% level, respectively.

	(1)	(2)	(3)	(4)	(5)	(6)
Democracy	-19.045**	-19.275**	-18.657**	-18.640**		
	[-2.063]	[-2.116]	[-2.040]	[-2.006]		
Creditor rights	-28.334*	-28.381*	-25.403*	-15.865	-30.415**	-29.799**
	[-2.034]	[-2.040]	[-1.833]	[-1.093]	[-2.246]	[-2.168]
GDP per capita	-0.001	-0.001	-0.001	-0.001	-0.001	-0.001
	[-0.990]	[-0.988]	[-0.889]	[-0.904]	[-0.693]	[-0.834]
GDP growth	-3.691**	-3.686**	-4.766***	-4.781***	-3.566**	-3.755***
	[-2.512]	[-2.511]	[-3.424]	[-4.479]	[-2.453]	[-2.597]
Domestic unrest	0.030	0.030	0.034	0.036	0.030	0.031
	[0.820]	[0.820]	[0.893]	[0.956]	[0.796]	[0.842]
Regional trade	-1.393***	-1.394***	-1.442***	-1.493***	-1.388***	-1.424***
	[-4.488]	[-4.504]	[-4.428]	[-4.618]	[-4.270]	[-4.284]
Life expectancy at birth	-0.497					
	[-0.839]					
Survival rate to age 65		-3.008				
		[-1.302]				
Investor protection			0.659			
			[1.264]			
Contract enforcement				0.992		
				[1.004]		
Forward democracy (3-years)					-3.329	
					[-1.116]	
Forward democracy (5-years)						-1.362
						[-0.540]
Observations	13,981	13,981	9,830	9,830	13,128	12,240
Adjusted R-squared	0.521	0.521	0.548	0.548	0.559	0.560
Loan type	Y	Y	Y	Y	Y	Y
Loan purpose	Y	Y	Y	Y	Y	Y
Year effects	Y	Y	Y	Y	Y	Y
Bank effects	Y	Y	Y	Y	Y	Y
Country effects	Y	Y	Y	Y	Y	Y
Loan controls	Y	Y	Y	Y	Y	Y
Firm controls	Y	Y	Y	Y	Y	Y
Clustered standard errors	Country	Country	Country	Country	Country	Country

Table 15. Effect of democracy on other loan characteristics

The table reports coefficients and t-statistics (in brackets). The dependent variable is denoted in the second line of the table. In the first three specifications, estimation method is OLS with standard errors clustered by borrower's country. In the latter three specifications, estimation method is the IV procedure of equations (2) and (3) with standard errors clustered by borrower's country. The lower part of the table denotes the type of fixed effects and the control variables (loan and firm controls as in column 2 of Table 3) used in each specification. The *, **, and *** marks denote statistical significance at the 10%, 5%, and 1% level, respectively.

	1	2	3	4	5	6
	Collateral	Performance provisions	General covenants	Collateral	Performance provisions	General covenants
Democracy	-0.033***	-0.030***	0.227***	0.019	-0.017	-0.022
	[-3.285]	[-3.011]	[2.719]	[0.456]	[-0.480]	[-0.211]
Creditor rights	0.137	0.048	0.279	0.135	0.043	0.307
	[1.645]	[1.207]	[1.152]	[1.635]	[1.078]	[1.283]
GDP per capita	-0.000	0.000	0.000	-0.000	0.000	0.000
	[-0.397]	[1.498]	[0.676]	[-0.310]	[1.682]	[0.437]
GDP growth	0.003	-0.003	-0.002	0.003	-0.003	-0.002
	[0.554]	[-1.070]	[-0.136]	[0.545]	[-1.101]	[-0.163]
Domestic unrest	0.000	-0.000	0.002***	0.000	-0.000	0.002**
	[0.190]	[-1.151]	[3.257]	[0.193]	[-1.095]	[2.762]
Regional trade	0.004**	-0.001	-0.003	0.004**	-0.001	-0.002
	[2.617]	[-1.077]	[-0.506]	[2.661]	[-1.152]	[-0.449]
Observations	14,575	14,575	14,575	14,575	14,575	14,575
Adjusted R-squared	0.428	0.349	0.445	0.432	0.354	0.450
Loan type	Y	Y	Y	Y	Y	Y
Loan purpose	Y	Y	Y	Y	Y	Y
Year effects	Y	Y	Y	Y	Y	Y
Bank effects	Y	Y	Y	Y	Y	Y
Country effects	Y	Y	Y	Y	Y	Y
Loan controls	Y	Y	Y	Y	Y	Y
Firm controls	Y	Y	Y	Y	Y	Y
Clustered standard errors	Country	Country	Country	Country	Country	Country

Table 16. Components of the Polity IV index

The table reports coefficients and t-statistics (in brackets). Dependent variable is *AISD* and the main independent variable ("Democracy channel") is denoted in the second line of the table. All variables are defined in Table 1. Estimation method is OLS with standard errors clustered by borrower's country. The variable *Democracy channel* is defined by the variable in the first line of the table. The lower part of the table denotes the type of fixed effects and the control variables (loan and firm controls as in column 2 of Table 3) used in each specification. The *, **, and *** marks denote statistical significance at the 10%, 5%, and 1% level, respectively.

	1 Competitiveness of executive recruitment	2 Openness of executive recruitment	3 Executive constraints	4 Competitiveness of participation
Democracy channel	-21.314	-16.390	-38.088***	-31.684**
	[-1.307]	[-0.907]	[-3.850]	[-2.502]
Creditor rights	-26.896*	-30.170**	-27.191*	-30.937**
	[-1.991]	[-2.220]	[-1.995]	[-2.210]
GDP per capita	-0.001	-0.001	-0.001	-0.001
	[-1.106]	[-0.589]	[-1.027]	[-0.585]
GDP growth	-3.839**	-3.721**	-3.513**	-3.722**
	[-2.484]	[-2.372]	[-2.276]	[-2.416]
Domestic unrest	0.033	0.034	0.032	0.034
	[0.887]	[0.863]	[0.846]	[0.890]
Regional trade	-1.403***	-1.429***	-1.439***	-1.381***
	[-4.518]	[-4.253]	[-4.672]	[-4.193]
Observations	14,575	14,575	14,575	14,575
Adjusted R-squared	0.560	0.559	0.560	0.559
Loan type	Y	Y	Y	Y
Loan purpose	Y	Y	Y	Y
Year effects	Y	Y	Y	Y
Bank effects	Y	Y	Y	Y
Country effects	Y	Y	Y	Y
Loan controls	Y	Y	Y	Y
Firm controls	Y	Y	Y	Y
Clustered standard errors	Country	Country	Country	Country

Table 17. Civil liberty indices

The table reports coefficients and t-statistics (in brackets). Dependent variable is *AISD* and the main independent variable ("Civil liberty") is denoted in the second line of the table. All variables are defined in Table 1. Estimation method is OLS with standard errors clustered by borrower's country. The variable Civil liberty is defined by the variable in the first line of the table. The lower part of the table denotes the type of fixed effects and the control variables (loan and firm controls as in column 2 of Table 3) used in each specification. The *, **, and *** marks denote statistical significance at the 10%, 5%, and 1% level, respectively.

	1 Information transparency	2 Stock-market capitalization	3 Institutional quality	4 Property rights
Civil liberty	-1.407**	-0.062	-24.561**	-14.731**
	[-2.038]	[-0.401]	[-2.524]	[-2.378]
Creditor rights	-31.777**	-24.804*	-21.908	-16.861
	[-2.326]	[-1.802]	[-1.595]	[-0.814]
GDP per capita	-0.001	-0.002	-0.000	-0.000
	[-0.519]	[-1.197]	[-0.164]	[-0.327]
GDP growth	-3.610**	-3.817**	-3.615**	-3.544**
	[-2.261]	[-2.458]	[-2.297]	[-2.272]
Domestic unrest	0.035	0.041	0.030	0.030
	[0.874]	[0.983]	[0.784]	[0.710]
Regional trade	-1.432***	-1.319***	-1.423***	-1.436***
	[-4.279]	[-3.654]	[-3.937]	[-3.642]
Observations	14,311	14,036	14,120	14,062
Adjusted R-squared	0.559	0.561	0.563	0.564
Loan type	Y	Y	Y	Y
Loan purpose	Y	Y	Y	Y
Year effects	Y	Y	Y	Y
Bank effects	Y	Y	Y	Y
Country effects	Y	Y	Y	Y
Loan controls	Y	Y	Y	Y
Firm controls	Y	Y	Y	Y
Clustered standard errors	Country	Country	Country	Country

Figure 1. Institutionalized democracy and aggregate lending rates

The figure reports the correlation between the institutionalized democracy index (Polity IV Project) and the aggregate lending interest rate from the World Development Indicators (WDI). 0 indicates no institutional democracy and 10 indicates a maximum level of institutional democracy. The panel consists of 89 countries over 1984-2014. The slope of the regression line is -0.62 with t-stat = 42.60.

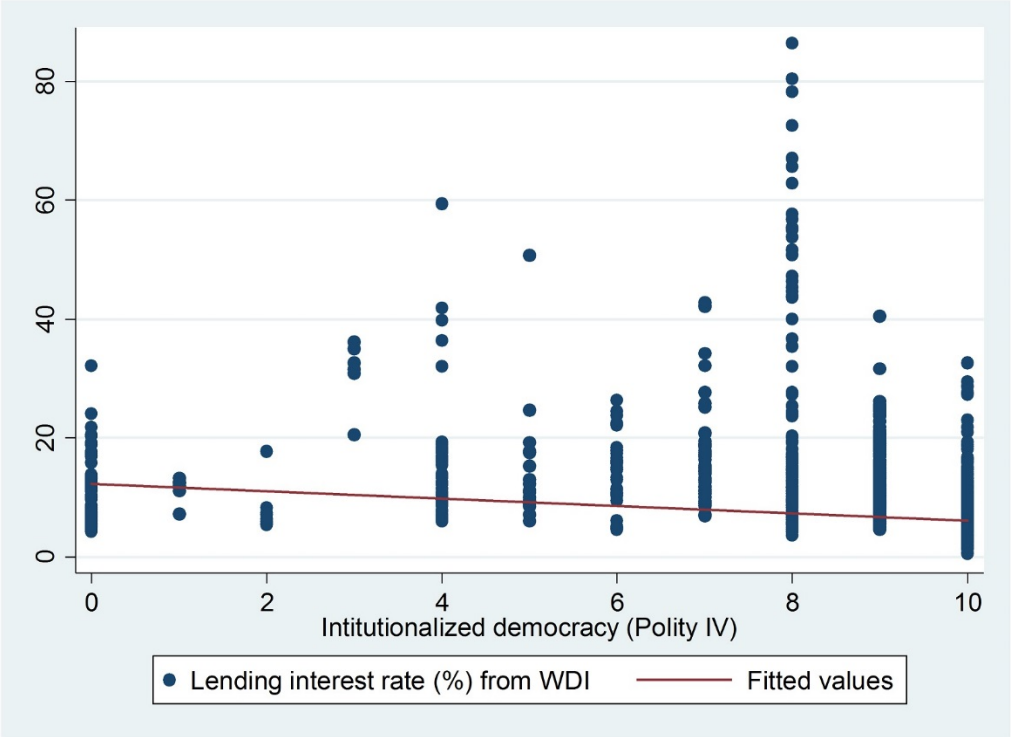
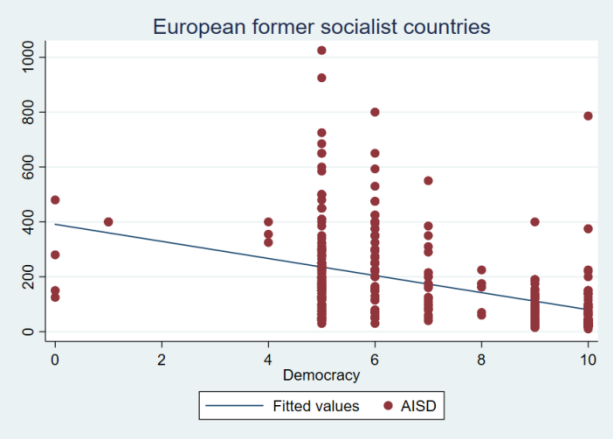
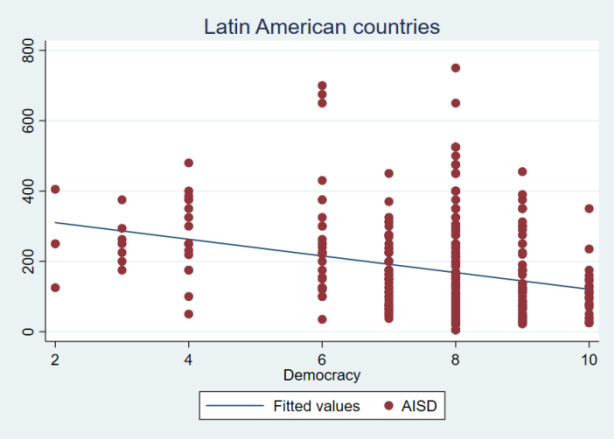


Figure 2. Institutionalized democracy and AISD in regional groups

The figures report the correlation between the institutionalized democracy index (Polity IV Project) and the aggregate lending interest rate from the World Development Indicators (WDI). 0 indicates no institutional democracy and 10 indicates a maximum level of institutional democracy. The panel consists of 89 countries over 1984-2014. The slope of the regression line is -0.62 with t-stat = 42.60.





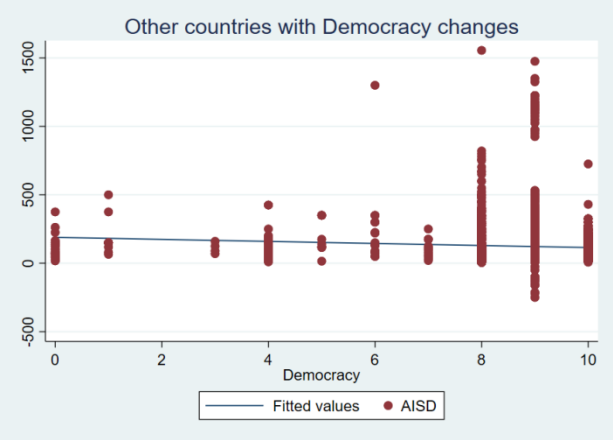
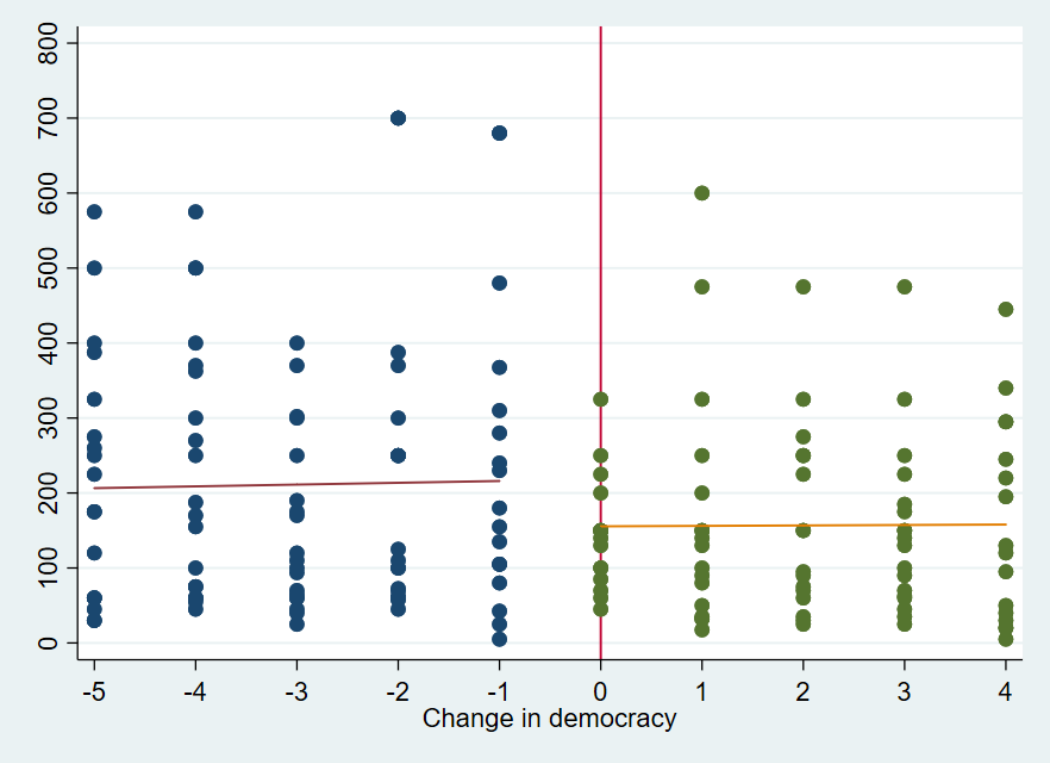


Figure 3. Country-year AISD averages around Democracy changes

The figure plots the country-year average *AISD* in the ten-year window around within-country positive changes in *Democracy* (including the year of the change). We also add regression lines for the pre- and post-change periods.



Online Appendix for
"Democracy Doesn`t Come Cheap"
But At Least Credit to Its Corporations Will Be Cheaper

Abstract

This online appendix includes additional information on the sample and empirical results of the paper "Democracy Doesn`t Come Cheap" But At Least Credit to Its Corporations Will Be Cheaper. The first section includes additional information on the construction of the sample and summary statistics. The second section discusses in detail the construction of the instrumental variables (IVs). The third section provides more results from the IV method. The last section examines the sensitivity of our results from econometric and sample-selection viewpoints.

A.1. Sample construction and additional summary statistics

We begin with the full set of loans in DealScan. This sample includes 86,198 loan facilities, corresponding to 65,042 loan packages. The unit of our analysis is still the loan facility. The difference between the two is that the loan facility refers to each individual portion of a deal, whereas the deal itself possibly (but obviously not usually) comprises more than one loan facilities and covers the full amount of credit granted to the firm on that occasion. A loan-facility analysis is appropriate for the following reason. Loan facilities may have different starting dates, maturity, amount, and loan type. Hence, multiple loan facilities, even when in the same loan deal, are not fully dependent observations (e.g., simply adding facilities and ignoring their differences, may therefore introduce a bias in the estimates). However, all results presented in this paper are robust to a loan-package analysis.

From this initial sample, we exclude loan facilities that do not report an *AISD*. This excludes specific loan categories, such as loans given by Islamic banks. We then match the sample of borrowers with data from Compustat and other macroeconomic sources. The matching process between DealScan and Compustat is done using the link-table provided by WRDS (facility and gvkey). For each and every one of the measures of democracy and the control variables included in our baseline specifications there are some missing observations, which lower the number of observations to the numbers shown in the lower part of each table. For replication purposes the data set with the full set of observations and Stata codes (do file) is available to editors and referees under the understanding that it will not be publicly available due to restrictions from DealScan and Compustat.

In Table A.1 we provide summary statistics for the country-year sample only (i.e., when we collapse all variables in our sample by country and year). These statistics provide a better

reflection of the averages and variability of the variables observed at the country-year level. In Table A.2 we provide the number of loans by country in our sample, as well as the mean and standard deviation of the democracy indicators used in the empirical analysis. Note that this table is important to view for the analysis that includes country fixed effects in the estimations, because only countries with a positive (non-zero) standard deviation in the democracy indicators affect the results. The table also includes the number of changes in *Democracy* in each country.

Last, Table A.3 reports the pairwise correlation coefficients between the loan characteristics and two indices of financial development (stock-market capitalization and financial freedom as defined in Table 1). This is important to view when discussing the role of financial development in the relation between democracy and loan pricing (mainly the discussion of results reported in Table 10).

[Please insert Tables A.1, A.2, & A.3 about here]

We should note that Polity is a reliable index of democracy used in several studies. We searched the literature for problems regarding coding and timing of changes, we looked into the Polity IV manuals, and contacted Polity IV. We did find a study in the literature suggesting that there are some flaws in Polity IV database in Latin American countries (Bowman, et al., 2005). This study is also mentioned in the V-Dem's website https://www.v-dem.net/en/), which is another source of data for Democracy-related indicators). However, we should mention that the flaws identified by Bopwman et al. (2005) are in Costa Rica, Nicaragua, and El Salvador and only concern the early 1900s. We did not find concerns on earlier years, as regards the reliability of changes in the Polity IV Democracy measure.

We then read the Polity IV manual (http://www.systemicpeace.org/inscr/p4manualv2016.pdf). In page 5-8 of that manual, Polity IV discusses reliability of the indices. To summarize this

document, we can say that there were revisions and improvements every time a new version of Polity became available. Polity IV is the latest outcome of this process and the conclusion is that: "In summation, the Polity project's data collection and updating procedures contain periodic coding review and revision mechanisms that maintain a high degree of reliability and consistency in the dataset."

There is one final issue worth noting. Studies criticizing Polity IV mainly criticize the one-measure for all aspect and not accuracy issues. The V-Dem measures are an example, where many different dimensions are brought into place, without converging to a single indicator. Our paper, however, aims to introduce a starting point in the literature between democratic development and finance; thus we need a general indicator of democracy. Constructing one on the basis of V-Dem, might be an unconvincing exercise at this point. In contrast, these measures might be excellent for future studies further pinpointing the channels. As we suggest in our conclusions, working in this direction in the current version will simply produce an even larger paper, deviating the focus from our main message.

A.2. Discussion of instrumental variables' construction

In this section, we more or less replicate the discussion in Acemoglu et al. (2017) with respect to the construction of the main IV used in our empirical analysis. For each country c, let D_{c1960} denote whether the country was a democracy or nondemocracy in 1960, and R_c denote the geographic region in which the country lies. These regions are Africa, East Asia and the Pacific, Eastern Europe and Central Asia, Western Europe and other developed countries, Latin America and the Caribbean, the Middle East and the North of Africa, and South Asia. We assume that democracy

in country c is influenced by democracy in the set of countries in the same region that also share a similar political history, meaning an equal value for D_{ct0}.

This approach defines the regional influence to democratize that a country c faces, Z_{ct}, as

$$Z_{ct} = \frac{1}{|I_c|}\sum_{c' \in I_c} D_{c't}. \quad \text{(A.1)}$$

In (A.1), I_c is the set of countries c' influencing democracy in country c. Z_{ct} is the jack-knifed average of democracy in a region × the initial regime cell, which leaves out the own-country observation. We name this instrumental variable *Regional democratization*. We use the exact same procedure to construct the variable *Regional unrest*, using the variable *Social unrest* as the starting point of the construction process.

A.3. Additional results from the IV method

Table A.4 reports additional results from the IV method described in equations (2) and (3). In the first four columns, we measure democratic development using variables other than *Democracy*. In the rest of the columns, we conduct the sensitivity tests mentioned in the notes of the table. Perhaps the results in column 9 need some additional discussion. We use the fitted values directly obtained from the baseline instrumental variable model of Acemoglu et al. (2017). This measure controls, *inter alia*, for lags of regional waves of democratization and the country level controls *C* to capture possible regional dynamics. In this way, we further exclude the possibility of a three-way correlation between regional waves of democratization, average lending rates, and unobserved regional characteristics. The only difference from Acemoglu et al. (2017) is that we use *Democracy*, as this is the main variable of our study to better capture democratic development and transition. The results are economically stronger and thus, if anything, unobserved regional variables downward bias our baseline estimates.

[Please insert Table A.4 about here]

We consider other models in which we include in the vector *C* numerous other country-year control variables. We experiment with more than 100 variables (from numerous sources) describing economic and social development (e.g., literacy, educational attainment, life expectancy, infant mortality, R&D expenses, government expenditure, capital and income tax rates, bank competition, etc.). We also use variables describing economic and financial freedom, freedom from corruption, trade freedom, and interest rate liberalization. We list these variables at the end of the Appendix. We find that using country fixed effects, takes away any statistical significance of the economic variables as determinants of democracy, a result in line with Acemoglu et al. (2017). The only set of variables that does explain democracy independently from regional democratization and unrest and country fixed effects is educational attainment in the 15-25 age group (variable from Gender and Education Association) and other education-related variables. Thus, we use this variable in the first stage of the IV model. We find that our results are economically a bit more potent.

A.4. Additional sensitivity tests

In Table A.5 we further consider the role of creditor rights as per our discussion in the main text. In Table A.6 we first report robustness tests for different clustering of standard errors. In columns 1 to 4 we confirm that all our democracy indicators are robust to the double clustering of standard errors by loan *and* year. We must note that results are also robust to the clustering of standard error by country *and* year (results available on request). In columns 5 to 8 we use weighted least squares with sampling weights to further reduce heteroscedasticity concerns originating in imbalances in the number of loans issued by country-year. The weights are the number of loans issued in the

borrowers' country in a given year over the total number of loans issued in all countries in that year.

[Please insert Tables A.5 & A.6 about here]

In Table A.7 we report sensitivity tests from a sample-selection viewpoint. We conduct the tests using specification 2 of Table 3, on which we base most of our inference. In specification 1 of Table A.7 we only include observations where collateral is non-missing (i.e., we do not impute zero collateral when collateral is missing). In specification 2, we strictly include term and revolver loans and exclude other specialized loan facilities. In specification 3 we exclude loans for LBOs and M&As. In specification 4, we do not exclude the participant (non-lead) banks from the sample, which results in a significant increase in sample size. Evidently, results are very similar to our baseline.

[Please insert Table A.7 about here]

In Table A.8 we replicate our baseline results when using additional fixed effects. In specification 1 we add country-time trends for firm's country and each bank's country and in 2 we add country-pair fixed effects between the country of the firm and the country of the lead bank. Again, results are similar to the baseline. We avoid using these fixed effects in our baseline specifications because we oversaturate the model with fixed effects, without observing any substantial effect on our estimates.

[Please insert Table A.8 about here]

Table A.1. Summary statistics of main variables by country-year

The table reports the number of observations, mean, standard deviation, minimum and maximum obtained from collapsing the loan-level sample by country and year.

	Obs.	Mean	Std. Dev.	Min.	Max.
AISD	1,112	148.61	123.53	-212.50	1,555.00
Democracy	1,462	7.59	3.40	0	10
Polity	1,462	6.57	5.63	-10	10
Competitiveness of executive recruitment	1,462	2.60	0.76	0	3
Openness of executive recruitment	1,462	3.79	0.78	0	4
Executive constraints	1,462	5.94	1.66	1	7
Competitiveness of participation	1,462	3.99	1.32	0	5
Democracy (BMR)	1,194	0.82	0.39	0	1
Democracy (Freedom House)	3,040	0.48	0.50	0	1
Democracy (Acemoglu et al.)	3,059	0.61	0.49	0	1
Regional democratization	3,069	0.55	0.40	0	1
Regional unrest	3,069	0.21	0.16	0	1

Table A.2. Number of loans by country and mean and standard deviation of *Democracy*

The table reports the number of observations, and the mean, standard deviation and number of changes (if there is a change) in *Democracy* by country. The total number of loans is 280,357 and the number of loans from countries that experience a change in Democracy is 33,357.

Country	Obs.	Mean of Democracy	Std. dev. of Democracy	Number of changes
Albania	10	8.00	1.41	1
Argentina	656	7.68	0.48	1
Armenia	12	5.00	0.00	
Australia	11,146	10.00	0.00	
Austria	390	10.00	0.00	
Bahrain	183	0.10	0.32	2
Bangladesh	52	5.50	0.71	1
Belarus	54	0.00	0.00	
Belgium	790	9.24	1.00	1
Brazil	1,286	8.00	0.00	
Bulgaria	143	9.00	0.00	
Cambodia	11	3.00	0.00	
Canada	8,727	10.00	0.00	
Chile	548	9.14	0.85	2
China	4,133	0.00	0.00	
Colombia	225	7.13	0.52	1
Cyprus	102	10.00	0.00	
Czech Republic	321	9.69	0.48	1
Denmark	506	10.00	0.00	
Egypt	250	0.38	0.51	2
Estonia	58	8.00	1.00	2
Finland	849	10.00	0.00	
France	7,320	9.00	0.00	
Gabon	10	2.00	2.83	1
Germany	6,271	10.00	0.00	
Ghana	94	4.80	2.49	2
Greece	632	10.00	0.00	
Hungary	358	10.00	0.00	
India	3,271	8.91	0.29	1
Indonesia	2,723	5.39	3.68	3
Ireland	921	10.00	0.00	
Israel	160	9.71	0.47	1
Italy	2,988	10.00	0.00	
Japan	26,054	10.00	0.00	
Kazakhstan	263	0.13	0.35	1
Korea	5,625	7.74	0.45	1
Kuwait	163	0.00	0.00	
Latvia	64	8.00	0.00	
Liberia	68	6.00	2.00	1
Lithuania	65	10.00	0.00	

Luxembourg	763	10.00	0.00	
Malaysia	2,945	4.73	0.94	2
Mauritania	7	0.00	0.00	
Mauritius	63	10.00	0.00	
Mexico	1,309	6.25	2.38	3
Mongolia	44	10.00	0.00	
Morocco	55	0.00	0.00	
Netherlands	3,440	10.00	0.00	
New Zealand	1,588	10.00	0.00	
Nigeria	125	4.00	0.00	
Norway	1,419	10.00	0.00	
Oman	147	0.00	0.00	
Pakistan	193	4.88	3.26	6
Panama	342	9.00	0.00	
Papua New Guinea	39	4.08	0.29	1
Peru	182	7.00	2.93	3
Philippines	1,153	8.00	0.00	
Poland	430	9.68	0.48	1
Portugal	426	10.00	0.00	
Qatar	236	0.00	0.00	
Romania	251	8.43	1.09	2
Russia	1,796	5.25	0.68	2
Saudi Arabia	439	0.00	0.00	
Singapore	2,736	2.00	0.00	
Slovak Republic	130	8.90	1.10	2
Slovenia	168	10.00	0.00	
South Africa	496	9.00	0.00	
Spain	4,522	10.00	0.00	
Sri Lanka	80	5.56	1.24	2
Sweden	1,568	10.00	0.00	
Switzerland	1,266	10.00	0.00	
Taiwan	6,680	9.18	1.05	3
Thailand	2,233	7.13	2.94	5
Turkey	1,348	8.36	0.49	2
USA	139,876	10.00	0.00	
Ukraine	285	6.36	0.50	2
United Arab Emir	781	0.00	0.00	
United Kingdom	12,837	10.00	0.00	
Venezuela, Rep.	149	7.25	0.96	2
Vietnam	308	0.00	0.00	

Table A.3. Correlation matrix between financial development and loan characteristics

The table reports pairwise correlation coefficients between variables related to financial development and loan characteristics. The * mark denotes statistical significance at the 1% level.

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
(1) Loan amount	1							
(2) Collateral	0.0645*	1						
(3) Number of lenders	0.4033*	-0.0224*	1					
(4) Performance provisions	0.2728*	0.2359*	0.2315*	1				
(5) General covenants	0.2186*	0.4008*	0.1459*	0.5494*	1			
(6) Stock-market capitalization	0.2465*	0.1562*	0.0363*	0.2537*	0.2533*	1		
(7) Financial freedom	0.4211*	0.1743*	0.0266*	0.2627*	0.2271*	0.4352*	1	
(8) Systemic risk	0.1756*	0.1518*	0.0092*	0.1138*	0.1139*	0.0203*	0.2023*	1

Table A.4. Sensitivity tests using the IV method

The table reports coefficients and t-statistics (in brackets). Dependent variable is *AISD*. All variables are defined in Table 1. Estimation method is the IV procedure of equations 2 and 3 with standard errors clustered by borrower's country. The instruments used are *Regional democratization* and *Regional unrest* (also defined in Table I), except from specification 7 where *Regional democratization* is the only instrument. In specification 5, we include four lags of GDP growth and regional GDP growth in both stages of the IV model. In specification 6 we use country-year averages of all the loan-level and the firm-level controls in both stages of the IV model. In specification 7, *Regional democratization* is the only instrument. In specification 8, we use all the control variables in both stages of the IV model (pure two-stage least squares). In specification 9, we use directly in equation (3), the fitted values from the baseline instrumental variable model of Acemoglu et al. (2017), as further discussed in Appendix A.3. The lower part of the table denotes the type of fixed effects used in each specification. The regressions include the control variables of column 2, Table 3. The *, **, and *** marks denote statistical significance at the 10%, 5%, and 1% level, respectively.

	1	2	3	4	5	6	7	8	9
Democracy					-22.827**	-21.752**	-34.758**	-40.321**	-26.460**
					[-2.160]	[-2.155]	[-2.306]	[-2.258]	[-2.407]
Polity	-13.728**								
	[-2.016]								
Democracy (BMR)		-203.125***							
		[-2.610]							
Democracy (Freedom House)			-170.744***						
			[-2.591]						
Democracy (Acemoglu et al.)				-81.228**					
				[-2.270]					
First stage results									
Regional democratization	6.759***	0.814***	0.747***	0.779***	4.516***	4.382**	5.030***	4.117***	
	[2.551]	[2.824]	[2.612]	[2.724]	[2.749]	[2.514]	[2.688]	[2.486]	
Regional unrest	-1.692***	-0.209***	-0.269***	-0.185**	-1.209**	-1.446**		-1.385**	
	[-2.130]	[-2.814]	[-2.832]	[-2.489]	[-2.237]	[-2.479]		[-2.394]	
Observations	14,575	14,282	14,282	14,282	14,203	14,575	14,575	14,575	14,575
Loan type	Y	Y	Y	Y	Y	Y	Y	Y	Y
Loan purpose	Y	Y	Y	Y	Y	Y	Y	Y	Y
Year effects	Y	Y	Y	Y	Y	Y	Y	Y	Y
Bank effects	Y	Y	Y	Y	Y	Y	Y	Y	Y
Country effects	Y	Y	Y	Y	Y	Y	Y	Y	Y
Clustering	Country	Country	Country	Country	Country	Country	Country	Country	Country

Table A.5. More on the role of creditor rights

The table reports coefficients and t-statistics (in brackets). Dependent variable is *AISD* and all variables are defined in Table 1. For specifications 1 and 3, estimation method is OLS with standard errors clustered by borrower's country. For specifications 2 and 4, estimation method is the IV procedure of equations 2 and 3 with standard errors clustered by borrower's country. The lower part of the table denotes the type of fixed effects used in each specification. Specifications 1 and 2 include interaction terms between *Creditor rights* and *Firm size* and *Firm tangibility*. Specifications 3 and 4 exclude countries for which there is a change in both *Creditor rights* and *Democracy* within a five-year interval (the countries are India, Indonesia, Israel, Russia, and Thailand). The *, **, and *** marks denote statistical significance at the 10%, 5%, and 1% level, respectively.

	1	2	3	4
Democracy	-20.711**	-22.382**	-35.702***	-49.867**
	[-2.207]	[-2.448]	[-4.616]	[-2.201]
Creditor rights	-62.446*	-55.062	-47.914**	-51.724**
	[-1.774]	[-1.466]	[-2.467]	[-2.407]
Creditor rights*Firm size	-0.787	-0.698		
	[-1.062]	[-0.896]		
Creditor rights*Firm tangibility	-166.370*	-202.246*		
	[-1.786]	[-1.709]		
Loan amount	-11.674***	-11.660***	-12.080***	-12.070***
	[-10.559]	[-10.524]	[-11.487]	[-11.532]
Maturity	-0.057	-0.057	-0.068	-0.067
	[-0.853]	[-0.834]	[-0.982]	[-0.968]
Collateral	55.420***	55.563***	55.657***	55.886***
	[14.574]	[14.601]	[14.881]	[14.893]
Number of lenders	0.014	0.017	0.004	0.013
	[0.077]	[0.095]	[0.024]	[0.074]
Performance provisions	-33.906***	-33.776***	-33.911***	-33.828***
	[-10.459]	[-10.418]	[-10.375]	[-10.350]
General covenants	4.968***	4.934***	4.998***	4.955***
	[3.896]	[3.873]	[3.908]	[3.869]
Firm size	-10.404***	-10.370***	-9.159***	-9.117***
	[-6.308]	[-6.280]	[-8.631]	[-8.640]
Firm market-to-book ratio	-0.124***	-0.124***	-0.121***	-0.121***
	[-3.145]	[-3.127]	[-3.138]	[-3.131]
Firm tangibility	123.990*	123.320*	96.844**	96.560**
	[1.723]	[0.000]	[2.302]	[2.299]
Firm leverage	15.298	15.277	14.671	14.708
	[1.337]	[1.338]	[1.279]	[1.282]
GDP per capita	-0.004	-0.004	-0.005**	-0.004*
	[-1.341]	[-1.209]	[-2.124]	[-1.839]
GDP growth	-3.884***	-3.658**	-3.757**	-3.896**
	[-3.097]	[-2.234]	[-2.277]	[-2.481]
Domestic unrest	0.032	0.039	0.015	0.035
	[0.823]	[1.055]	[0.483]	[0.955]
Regional trade	-1.396***	-0.791*	-1.403***	-1.345***
	[-4.451]	[-1.864]	[-4.717]	[-3.860]
Observations	14,575	14,575	10,056	10,056
Adjusted R-squared	0.520		0.549	
Loan type effects	Y	Y	Y	Y
Loan purpose effects	Y	Y	Y	Y
Year effects	Y	Y	Y	Y
Bank effects	Y	Y	Y	Y
Country effects	Y	Y	Y	Y
Clustered standard errors	Country	Country	Country	Country

Table A.6. Sensitivity to the type of clustering of standard errors and the use of weighted least squares

The table reports coefficients and t-statistics (in brackets). Dependent variable is *AISD* and all variables are defined in Table 1. In the first four specifications, estimation method is OLS and in the latter four weighted least squares (using as weights the number of loans by country and year over the total number of loans in that year). In all specifications, the standard errors are clustered by loan and year. The lower part of the table denotes the type of fixed effects used in each specification. The regressions include the control variables of column 2, Table 3. The *, **, and *** marks denote statistical significance at the 10%, 5%, and 1% level, respectively.

	1	2	3	4	5	6	7	8
Democracy	-19.207***				-22.297***			
	[-4.578]				[-2.388]			
Democracy (BMR)		-170.144***				-168.119***		
		[-3.965]				[-2.745]		
Democracy (Freedom House)			-122.911***				-120.620***	
			[-5.448]				[-4.046]	
Democracy (Acemoglu et al.)				-141.776**				-127.311***
				[-2.307]				[-3.205]
Creditor rights	-27.683**	-25.474**	-28.609**	-27.737**	-3.809	-3.102	-20.989	-7.199
	[-2.305]	[-2.352]	[-2.409]	[-2.311]	[-0.144]	[-0.100]	[-1.110]	[-0.258]
GDP per capita	-0.001*	-0.001*	-0.002**	-0.001*	-0.010***	-0.013**	-0.013**	-0.013**
	[-1.713]	[-1.870]	[-2.175]	[-1.770]	[-2.893]	[-2.605]	[-2.661]	[-2.595]
GDP growth	-4.030***	-3.394**	-3.624***	-3.142**	-3.335**	-3.835**	-4.000**	-3.818**
	[-2.765]	[-2.510]	[-3.020]	[-2.534]	[-2.124]	[-2.448]	[-2.591]	[-2.443]
Domestic unrest	0.033	0.030	0.035	0.024	0.045	0.028	0.029	0.020
	[1.422]	[1.361]	[1.504]	[1.211]	[1.321]	[0.705]	[0.819]	[0.597]
Regional trade	-1.398***	-1.504***	-1.240***	-1.535***	-1.351***	-1.426***	-1.119***	1.455***
	[-5.948]	[-6.620]	[-5.026]	-[6.795]	[-4.020]	[-3.819]	[-3.406]	[-4.019]
Observations	14,575	14,282	14,282	14,282	14,575	14,282	14,282	14,282
Adjusted R-squared	0.531	0.560	0.561	0.560	0.529	0.530	0.528	0.530
Loan type	Y	Y	Y	Y	Y	Y	Y	Y
Loan purpose	Y	Y	Y	Y	Y	Y	Y	Y
Year effects	Y	Y	Y	Y	Y	Y	Y	Y
Bank effects	Y	Y	Y	Y	Y	Y	Y	Y
Country effects	Y	Y	Y	Y	Y	Y	Y	Y
Loan controls	Y	Y	Y	Y	Y	Y	Y	Y
Firm controls	Y	Y	Y	Y	Y	Y	Y	Y
Clustered standard errors	Loan&Year	Loan&Year	Loan&Year	Loan&Year	Country	Country	Country	Country

Table A.7. Additional sensitivity tests from a sample-selection viewpoint

The table reports coefficients and t-statistics (in brackets). Dependent variable is *AISD*. All variables are defined in Table 1. Estimation method is OLS with standard errors clustered by borrower's country. In specification 1 we only include observations where collateral is non-missing (i.e., we do not impute zero collateral when collateral is missing). In specification 2, we strictly include term and revolver loans and exclude other specialized loan facilities. In specification 3 we exclude loans for LBOs and M&As. In specification 4, we do not exclude the participant (non-lead) banks from the sample, which results in a significant increase in sample size. The lower part of the table denotes the type of fixed effects used in each specification. The regressions include the control variables of column 2, Table 3. The *, **, and *** marks denote statistical significance at the 10%, 5%, and 1% level, respectively.

	1	2	3	4
Democracy	-23.699***	-20.140**	-20.540**	-20.711**
	[-2.382]	[-2.172]	[-2.199]	[-2.048]
Creditor rights	-36.364***	-29.552**	-33.752***	-25.419*
	[-3.290]	[-2.425]	[-2.615]	[-1.946]
GDP per capita	-0.004*	-0.004**	-0.004*	-0.003
	[-1.815]	[-2.047]	[-1.847]	[-1.589]
GDP growth	-4.422**	-3.567**	-3.307**	-3.902***
	[-2.408]	[-2.316]	[-2.195]	[-2.841]
Domestic unrest	0.024	0.034	0.029	0.071*
	[0.710]	[0.926]	[0.848]	[1.750]
Regional trade	-0.820**	-1.350***	-1.015***	-1.420***
	[-2.327]	[-4.116]	[-2.866]	[-4.219]
Observations	8,548	14,335	12,016	31,786
Adjusted R-squared	0.511	0.538	0.560	0.563
Loan type	Y	Y	Y	Y
Loan purpose	Y	Y	Y	Y
Year effects	Y	Y	Y	Y
Bank effects	Y	Y	Y	Y
Country effects	Y	Y	Y	Y
Loan controls	Y	Y	Y	Y
Firm controls	Y	Y	Y	Y
Clustered standard errors	Country	Country	Country	Country

Table A.8. Additional fixed effects

The table reports coefficients and t-statistics (in brackets). Dependent variable is *AISD* and all variables are defined in Table 1. Estimation method is OLS with standard errors clustered by borrower's country. The lower part of the table denotes the type of fixed effects used in each specification. The regressions include the control variables of column 2, Table 3. The *, **, and *** marks denote statistical significance at the 10%, 5%, and 1% level, respectively.

	1	2
Democracy	-20.410**	-21.440**
	[-2.195]	[-2.209]
Creditor rights	-34.311**	-28.356**
	[-2.547]	[-2.104]
GDP per capita	-0.002	-0.001
	[-1.397]	[-1.010]
GDP growth	-4.295***	-3.640**
	[-3.145]	[-2.406]
Domestic unrest	0.038	0.030
	[1.004]	[0.759]
Regional trade	-1.450***	-1.380***
	[-4.442]	[-4.450]
Observations	14,120	14,575
Adjusted R-squared	0.512	0.534
Loan type effects	Y	Y
Loan purpose effects	Y	Y
Year effects	Y	Y
Bank effects	Y	Y
Country-pair effects	Y	N
Country-year trends	N	Y
Loan controls	Y	Y
Firm controls	Y	Y
Clustered standard errors	Country	Country

Table A.9. List of additional country-year control variables

The table provides a list of more than 100 control variables, which we use in additional regressions. We do not report the results from these regressions, but the effect of democracy is similar or higher compared to that in our baseline regressions. In many respects, we use more than one variable (i.e. from a different source) for the same country-year characteristic (e.g., corruption). Abbreviation of sources: ICRG: International Country Risk Guide; FH: Freedom House; WB: World Bank (either World Development Indicators or Quality of Governance indices); HF: Heritage Foundation; SWIID: Standardized World Income Inequality Database; GFDD: Global Financial Development Database. Many of the variables below are % of GDP.

Variable	Source	Variable	Source
Corruption	ICRG, FH, WB, HF	Bank accounts (per 1,000 people)	GFDD
Rule of law	ICRG, FH, WB, HF	Bank branches (per 1,000 people)	GFDD
Government quality	ICRG, FH, WB	Corporate bonds to total bonds	GFDD
Ethnic fractionalization	Alesina et al. (2003)	Private credit by banks	GFDD
Language fractionalization	Alesina et al. (2003)	Domestic credit to private sector	GFDD
Religion fractionalization	Alesina et al. (2003)	Outstanding public debt to securities	GFDD
Population size	WB	Syndicated loan issuance volume	Own calculations
Population density	WB	Syndicated loan average maturity	Own calculations
Population growth	WB	Bank net interest margin	GFDD
Urban population	WB	Bank lending-deposit spread	GFDD
Political terror	US state department	Bank return on assets	GFDD
Armed forces	WB	Bank cost to income ratio	GFDD
Military expenditure	WB	Foreign bank ownership	Claessens and Van Horen (2014)
Average schooling (years)	Barro and Lee (2013)	Bank Z-score	GFDD
Average schooling (male and female)	Barro and Lee (2013)	Bank non-performing loans ratio	GFDD
Government education expenditure	UNESCO	Banking industry H-statistic	GFDD
Age dependency (% of labor)	WB	Bank Lerner index	Delis et al. (2015), GFDD
Agriculture value added	WB	Boone indicator	Delis et al. (2015), GFDD
Birth rate (per 1,000 people)	WB	Remittance inflows	GFDD
CO2 emissions	WB	Banking crisis dummy	GFDD
Death rate (per 1,00 people)	WB	Consumer price index	GFDD
DEC alternative conversion factor	WB	Capital stringency	Barth et al. (2013)
External balance on goods & services	WB	Bank activity restrictions	Barth et al. (2013)
Electric power consumption	WB	Official bank supervisory powers	Barth et al. (2013)
Various employment ratios	WB, IMF	Bank private monitoring	Barth et al. (2013)
Consumption expenditure	WB	Bank external governance	Barth et al. (2013)
Foreign direct investment inflows	WB	Bank deposit insurance	Barth et al. (2013)
Fertility rate	WB	Bank entry requirements	Barth et al. (2013)
Forest area	WB	Corporate tax rates	WB, OECD, Tax foundation
Gini coefficient	SWIID	Business freedom	HF
Lending interest rate	WB	Labor freedom	HF
Deposit interest rate	WB	Trade freedom	HF
Arable land	WB	Investment freedom	HF
Life expectancy at birth	WB	Financial freedom	HF
Mobile subscriptions	WB	Tax burden	HF
Infant mortality	WB	Government spending	HF, WB
Official exchange rate	WB	Fiscal health	HF
Country size	WB	Fiscal deficit	WB
Longitude	G-Econ project	Fiscal debt	WB
Terrain roughness	G-Econ project	Monetary freedom	HF

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