

How Do High Interest Rates Limit Development?



Credit markets in developing countries are characterized by large gaps between lending and deposit rates.



Interest rate spreads in Brazil are high and vary significantly across similar firms.



High interest rate spreads can substantially decrease a country's output since they reduce access to credit for potentially productive firms.

CONTEXT

The credit market features a sizable gap between lending and deposit rates, and these spreads are larger in poorer countries. According to the International Financial Statistics, the average interest rate spread is approximately 0.7 percent in Japan, 3 percent in the United States, 10 percent in Uruguay and 40 percent in Brazil, and these spreads can vary considerably across borrowers. Since previous work has examined only small subsets of the credit market, however, the relevance of spreads for the macroeconomy is less clear.

PROJECT

This project focuses on Brazil because of the availability of high-quality data, using a confidential loan-level dataset covering all credit operations in Brazil from January 2006 to December 2016. These data are merged with Brazil's linked employer-employee administrative dataset to examine how interest rates and loan size vary with firm characteristics. Financing spreads are then introduced into a standard model of credit-constrained entrepreneurs to examine their impact on entrepreneurship, firm dynamics, and economic development. We calibrate the model to match key characteristics of the Brazilian economy, including standard macro aggregates as well as firm characteristics and credit market moments.

RESULTS

Empirically, we find that, even after controlling for a host of firm and loan characteristics, loan interest rates (and indeed ex-post or default-adjusted interest rates) are strikingly high, vary substantially across loan type, and vary with firm size and age (see [Figure 1](#)). In particular, young and small firms pay higher interest rates. For instance, on average a firm with three employees pays an ex-post spread above 75 percentage points, as does the average new firm. Firms that are 10 years old pay spreads roughly 10 percentage points lower, while firms with 100 employees on average pay spreads roughly 20 percentage points less. These lower average spreads still exceed 65 and 55 percentage points, respectively.

In quantifying the aggregate impacts, the calibrated financial frictions lower output per capita by 39% relative to a frictionless credit benchmark, and wages fall by 32%. Both lower total factor productivity (TFP) and lower capital usage play key roles in driving these aggregate results. TFP is 28% lower and capital is 41% lower relative to the frictionless credit benchmark.

Additional counterfactual simulations reveal that spreads coming from direct intermediation costs drive the vast majority of impacts. First, the calibration implies that direct quantity constraints play a minor role in Brazil. This means that spreads account for essentially the full aggregate impacts, with the vast majority of losses in our benchmark calibration stemming from the high overall level of spreads. Second, intermediation costs rather than market power are the dominant spread frictions, especially those that vary by productivity rather than assets. Finally, the sources of frictions interact with one another, so eliminating one friction has smaller impacts in the presence of others.

POLICY IMPLICATIONS

While earlier work had focused almost solely on collateral constraints, the findings in this project indicate that financial frictions are more important than previously believed. Earlier work had focused almost entirely on collateral constraints. This project shows that interest rate spreads have a significant effect on the macroeconomy and are thus an important financial friction to be considered both by researchers and policymakers.

This study also motivates future work on the causes of credit spreads to improve financial development. Spreads arising from market power or falling disproportionately on small firms are particularly harmful, so they should receive more focus in policy discussions and research. In particular, empirically identifying the sources of these frictions is important. Moreover, antitrust policies that foster competition in the banking sector can have important effects.

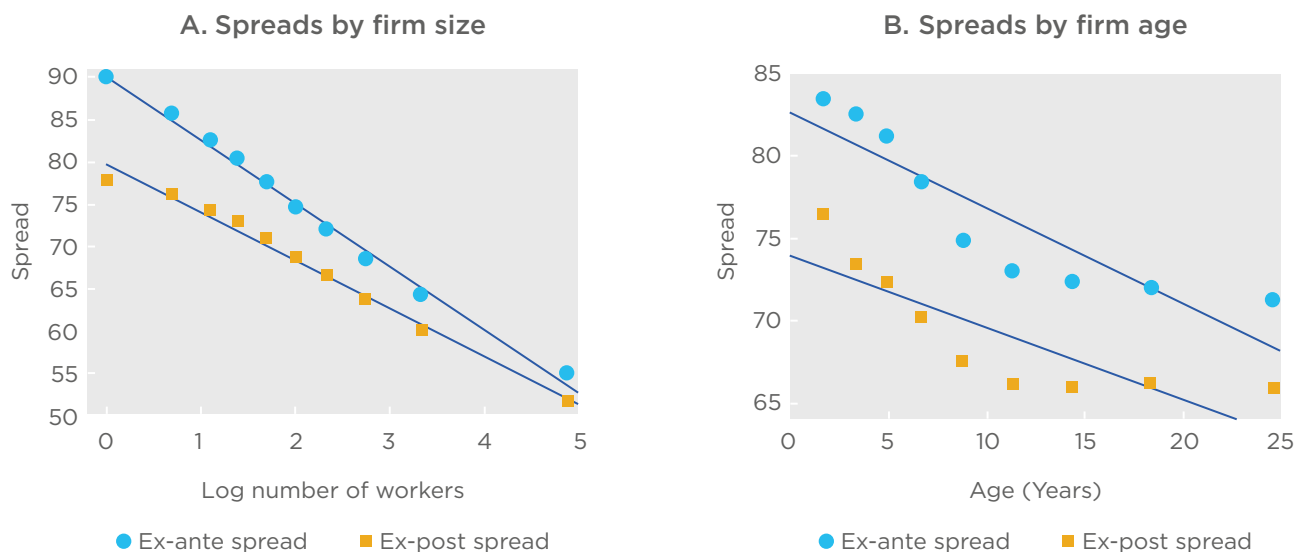
Key Concept



INTEREST RATE SPREAD

The gap between the lending rate that banks charge from borrowers and the deposit rates that banks pay depositors.

Figure 1. Interest Rate Spreads



Note: Ex-ante spreads are based on contracted interest rates. Ex-post spreads are calculated by setting the interest rate to -100% for loans in default.



FULL STUDY

[Cavalcanti, Tiago, Joseph P. Kaboski, Bruno Martins, and Cezar Santos. 2023. "Financing Costs and Development." IDB Working Paper No. 1526. Washington, DC: Inter-American Development Bank.](#)

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