



ARE LOANS TO MINORITY FIRMS MISPRICED?

Measuring the Risk Mispricing for Firms Owned by
People of Color and the Lost Economic Opportunity
That It Creates

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Credit mispricing occurs when lenders adjust the terms for borrowers based on factors unrelated to their financial risk, such as the race of the business owner, rather than economic and creditworthiness indicators.

This research explores whether interest rate and collateral mispricing are evident across racial groups using survey data on small business loans.

Organization

I. Overview of Study

II. Background

III. Findings

IV. Conclusions

I. Overview



- Nationwide Survey on Small Business Lending
- Assessment of loan terms—interest rates and collateral—for loans granted to small businesses across the U.S. from Jan 2022 to Jun 2023. Similar data has not been available since the Federal Reserve’s 2003 Survey of Small Business Finances (SSBF).

Findings

Interest Rates

- Our data indicates statistically significant mispricing resulting in higher interest paid by Asian American-, Black- and Hispanic-owned firms.

Collateral

- Co-signatures from third parties are required for Asian American-, Black-Hispanic- and Native-owned firms more frequently than is justified by our economic analysis.

II. Background

- **Conducted By:**
 - The Foster School of Business, University of Washington
 - Social & Economic Sciences Research Center (SESRC), Washington State University
- **Focus Areas:**
 - National survey on business loan and credit accessibility, equity, and related challenges
- **Sponsor:**
 - The Schultz Family Foundation

Description of Surveys

- Supplier.IO provided the authors with a nationwide list of over 300,000 firms, to which we sent an internet survey.
- The firms were potential or actual government or business suppliers, some of which also served personal consumers.
- The survey collected firm/owner/lender information on non-government guaranteed borrowing by small firms (< 500 employees) from January 2022 through May 2023.
- Duns credit score information was added for a subset of firms that completed the survey.
- To be eligible for the survey, a business must be operating at the time of the survey and a for-profit firm with employees.
- The firm must have borrowed during the specified period through a line of credit or loan. Following previous studies, firms in the finance industry were ineligible.



III. FINDINGS

Quantifying Impact of Race on Interest Rates and Collateral

- I = interest rate charged to borrowing firms
 I is based on a set of controls (attributes) that gauge the lender's risk:

$$I = \beta_0 + \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_3 + \dots + \beta_N X_N + \beta_R \text{Race} \quad (1)$$

- β_0 is the base interest rate charged
- β_j ($j = 1$ through N) is the coefficient reflecting the effect of attribute j on the interest rate. X_j is the firm's quantity of attribute j .
- Mispricing indicated if β_R is statistically different from zero.
- Estimate each β_i through ordinary least squares regressions.

For Collateral, change I to C in the model above. C and β_j are estimated using model (1) with Probit regressions.



Comparison Process

Minority -Owned vs. White -Owned Firms in Loan Pricing

- **Separate Comparisons:**
Each minority group is compared individually to white-owned firms.
- **Indicator Variable:**
An indicator variable for each minority group is included, capturing the loan rate difference between the minority and white-owned firms.
- **Sequential Analysis:**
The minority-white loan pricing difference is analyzed by sequentially adding control variables to examine the impact on loan rate disparities.

Control Variables

Firm Characteristics

Category	Control Variables
Location & Industry	<ul style="list-style-type: none"> - State of Firm's Headquarters - Industry
Firm Profile	<ul style="list-style-type: none"> - Business Age - Sales Level (categories) - Assets Level (categories) - Family Business - Limited Liability Protection
Owner Characteristics	<ul style="list-style-type: none"> - Most Responsible Owner's Experience - Most Responsible Owner's Age - Most Responsible Owner's Percentage Ownership
Financial Health	<ul style="list-style-type: none"> - Firm Suffered Loss in 2021 - Revenue Stability (2021-2022) - Employee Stability (2021-2022) - In Good or Very Good Condition at Year-End 2022
Credit Profile	<ul style="list-style-type: none"> - Credit Score - Duns Credit Rating - Woman-Majority-Owned (for racial analysis)

Loan Characteristics

Category	Control Variables
Loan Type & Purpose	<ul style="list-style-type: none"> - Loan vs. Line of Credit - Purpose of Loan (Debt Consolidation) - Fixed Rate vs. Variable Rate
Loan Details	<ul style="list-style-type: none"> - Year and Month of Loan - Term of the Loan (in months)

Lender Characteristics

Category	Control Variables
Lender Type	<ul style="list-style-type: none"> - Large Bank (deposits > \$10 billion) - Small Bank - Credit Union - CDFI - Fintech Lender - Nonbank Finance Company
Lender-Firm Relationship	<ul style="list-style-type: none"> - Years of Relationship with Firm - Previous Lending Experience
Geographic Market Factors	<ul style="list-style-type: none"> - Bank Deposit Concentration Index in County - Number of Bank Branches in County

Regressions
Controlling for
Different
Characteristics

Minority vs.
White Firms

	Comparison	Model 1	Model 2	Model 3	Model 4	Model 5
Hispanic	Panel A: Hispanic vs. White	2.0026**	2.3430**	2.6620**	2.8372***	2.9087***
		(0.9234)	(1.0678)	(0.9907)	(0.9854)	(0.9956)
	Sample Size (N)	1641	1641	1641	1641	1641
Black	Panel B: Black vs. White	1.8639***	1.9852***	2.1188***	2.0053***	3.0893***
		(0.4687)	(0.5124)	(0.7415)	(0.6930)	(0.8492)
	Sample Size (N)	1426	1426	1426	1426	1426
Asian	Panel C: Asian vs. White	2.4219***	3.1231***	3.1949***	2.8458***	2.8815***
		(0.7679)	(0.9138)	(1.0042)	(0.9661)	(0.8325)
	Sample Size (N)	1312	1312	1312	1312	1312
Native	Panel D: Native vs. White	0.5918	1.0220**	0.7642*	0.6510	1.1290
		(0.4708)	(0.4383)	(0.4459)	(0.4468)	(1.0911)
	Sample Size (N)	1381	1381	1381	1381	1381
	Sample Size (N)	2392	2392	2392	2392	2392

Control Variables by Model

Control Variable	Included in Model
State and Time Fixed Effects	2, 3, 4, 5
Firm Characteristics	3, 4, 5
Loan Characteristics	4, 5
Lender Characteristics	5

Collateral

Minority vs. White Firms

- Notes:
- Dependent Variable: Loan Collateral Requirements
 - Standard errors in parentheses
 - Significance levels:
 - $p < 0.10$ (*)
 - $P < 0.05$ (**)
 - $P < 0.01$ (***)

Dependent Variable	Race			
	Hispanic vs. White	Black vs. White	Asian vs. White	Native vs. White
Required Collateral Value Relative to Loan (Intervalled #)	0.2898**	0.1488	0.2860	0.0967
	(0.1140)	(0.2016)	(0.2131)	(0.1785)
Required Collateral (vs. Not)	-0.0248	-0.0107	0.0311	-0.0136
	(0.0430)	(0.0652)	(0.0810)	(0.0493)
Require More Collateral than Loan Amount	0.0753***	0.0504	0.0282	-0.0264
	(0.0276)	(0.0385)	(0.0471)	(0.0358)

#The survey asked the firm where it placed in six intervals of collateral relative to the amount of credit it granted: 0, 1-50%, 51-99%, 100%, 101-150%, or great than 150%

Collateral (cont.)

Minority vs. White Firms

Notes:

- Dependent Variable: Loan Collateral Requirements
- Standard errors in parentheses
- Significance levels:
 - $p < 0.10$ (*)
 - $P < 0.05$ (**)
 - $P < 0.01$ (***)



Dependent Variable	Race			
	Hispanic vs. White	Black vs. White	Asian vs. White	Native vs. White
Required Blanket Lien	0.0109	0.1020*	-0.1180	-0.0953*
	(0.0453)	(0.0600)	(0.1016)	(0.0527)
Required Business Assets as Collateral	-0.2607***	-0.0270	-0.0173	-0.2427***
	(0.0536)	(0.0722)	(0.0887)	(0.0445)
Required Personal Assets as Collateral	0.0103	0.0145	0.0165	-0.0135
	(0.0474)	(0.0814)	(0.0845)	(0.0500)
Required Both Business and Personal Assets as Collateral	-0.1814***	0.0002	-0.0046	-0.1756***
	(0.0602)	(0.0836)	(0.0890)	(0.0437)
Lender Required External Party to Sign	0.1184**	0.2589***	0.2069***	0.2609***
	(0.0510)	(0.0350)	(0.0413)	(0.0393)
Sample Size (N)	1641	1426	1312	1381
Control Variables	All	All	All	All

Robustness Tests

Duns Credit Scores

For the firm's credit rating , we used the self -reported credit scores of the firm. We obtained the Duns credit scores for 937 of the sample firms. When using the Duns credit scores instead of the self -reported scores, we obtain the results in Online Appendix. Those results are consistent with the findings shown on slide 12

Definition of Racial Groups

We define racial groups based on a t least 50% ownership of that racial/ethnic group while all other racial/ethnic groups have less than 50% combined ownership. When we re-define groups based upon at least 51% ownership we obtain results close to those we report in slide 12

Robustness Tests Using Weights

Sample Composition

- Our sample of 2,784 firms includes a higher concentration from more populated states.
- However, it does not fully mirror the U.S. distribution of minority and white -owned firms by state and industry.

Weighted Analyses

- We conducted two separately weighted analyses to enhance representativeness.
- In both analyses, weights were applied to reflect the national distribution of white -owned and minority -owned firms across different states.

Excerpts from Weighted Regressions

Using Race - State or Race - State -Industry Weights

Notes:

- **Dependent Variable:**
Loan Rate and
Requirement for
External Party
Signature
- **Standard errors in
parentheses**
- **Significance levels:**
 - $p < 0.10$ (*)
 - $P < 0.05$ (**)
 - $P < 0.01$ (***)

	Race			
Dependent Variable	Hispanics vs. Whites	Blacks vs. Whites	Asians vs. Whites	Natives vs. Whites
Loan Rate	3.7351***	3.3082***	3.9554***	1.3963
	(1.2385)	(0.6926)	(0.9551)	(0.9967)
Lender Required External Party to Sign	0.1114***	0.3084***	0.1926***	0.2331***
	(0.0411)	(0.0449)	(0.0534)	(0.0449)
Sample Size (N)	1,622	1,404	1,294	1,360

Dependent Variable	Hispanics vs. Whites	Blacks vs. Whites	Asians vs. Whites	Natives vs. Whites
Loan Rate	3.3733***	2.0552***	5.0559***	1.3299
	(0.9317)	(0.6055)	(1.3493)	(1.1203)
Lender Required External Party to Sign	0.1523***	0.2703***	0.1563***	0.2693***
	(0.0333)	(0.0486)	(0.0487)	(0.0478)
Sample Size (N)	1,622	1,404	1,294	1,360

IV. Conclusion

We find that in 2022 -2023, Hispanic-, Black- and Asian American -owned firms paid higher interest rates than risk comparable white owned firms. Asiedu et al. (2012), using the 2003 SSBF (the most recent comparable data), found that only the Hispanic owned firms paid a higher rate than white owned firms. The 2003 SSBF did not contain a Native American group.

Concerning collateral, we find that for all minority groups, co-signatures from third parties are required more frequently than for white owned firms. Blanchflower et al. (2008) find this result using the 1998 SSBF. Asiedu et al (2012) did not consider collateral using the 2003 SSBF.



Conclusion (con.)

Disparities in borrowing experiences extend beyond economics, fueling broader inequalities and perpetuating historical discrimination.

Addressing these issues requires joint efforts from policymakers, regulators, lenders, and other stakeholders to improve credit access and reduce discrimination in lending.