Testing Models of Economic Discrimination Using the Discretionary Markup of Indirect Auto Loans

by Jonathan Lanning

Discussion by Christopher Palmer

MIT Sloan & NBER

NBER Inequality, Discrimination, and the Financial System

April 2, 2021

MIT MANAGEMENT SLOAN SCHOOL

Summary

- Fact: Large black-white gap in direct car loan interest rates
- Question: What model of discrimination can explain these results in this market?
- Data: CFPB markup data
- Strategy: Model-implied tests
- Findings: Discrimination mostly taste-based

Outline of Comments

1. Differentiation with/complementing of literature
2. “Unequal observables”
3. Mapping of statistical tests to models
   a. Search model as distinct mechanism
   b. Validate statistical discrimination signals with take-up
   c. Identification: prejudice measures not exogenous

1. Connection to Literature

- Missing modern literature testing difference between statistical and taste-based discrimination
  - Bohren et al. (2019 AER) “The Dynamics of Discrimination: Theory and Evidence”
  - Dobbie et al. (2021 ReStud) “Measuring Bias in Consumer Lending”
  - Giacoletti et al. (2021 WP) “Using High-Frequency Evaluations to Estimate Discrimination…”
- Missing literature on direct car-loan markups
  - Busse and Silva-Risso (2010 AER P&P) “‘One Discriminatory Rent’ or ‘Double Jeopardy’: Multicomponent Negotiation for New Car Purchases”
  - Butler et al. (2019 WP) “Racial Discrimination in the Auto Loan Market”
- Suggestions: acknowledge modern work, make differentiation clearer with Butler et al., demonstrate comparative advantage of data, demonstrate ability of data to detect statistical discrimination

Racial Discrimination in the Auto Loan Market

76 Pages • Posted: 2 Jan 2019 • Last revised: 1 Apr 2021

Alexander W. Butler
Rice University - Jesse H. Jones Graduate School of Business

Erik J. Mayer
Southern Methodist University - Cox School of Business

James Weston
Rice University - Jesse H. Jones Graduate School of Business

Date Written: March 31, 2021

Abstract

We provide evidence of discrimination in auto lending. Combining credit bureau records with borrower characteristics, we find that Black and Hispanic applicants' loan approval rates are 1.5 percentage points lower, even controlling for creditworthiness. In aggregate, discrimination crowds out 80,000 minority loans each year. Results are stronger where racial biases are more prevalent and banking competition is lower. Minority borrowers pay 70 basis point higher interest rates, but default less ceteris paribus, consistent with racial bias rather than statistical discrimination. A major anti-discrimination enforcement policy initiated in 2013, but halted in 2018, reduced discrimination in interest rates by nearly 60%.

Keywords: Discrimination, Race, Auto Lending, Credit Access, Household Finance, Household Debt

2. “Unequal Observables”

- Is the right measure of across-group disparities *conditional* or *unconditional* on observables?
- Depends on the question. Unconditional disparities problematic, too.
- If controlling for *X* closes some of a racial gap in outcomes, does that mean that the racial gap is “actually” smaller? Those differences in *X*s came from somewhere, too… tricky issue for industry + policy + research
- More broadly, important to acknowledge that the distinction between taste-based and statistical discrimination is often tenuous and stressing the importance of the distinction can be problematic
- Suggestions for us all: Read Spriggs (2020), don’t take for granted that conditional gaps are what matter, dig into unequal Xs, always pinpoint different policy implications of statistical and taste-based discrimination

HOWARD UNIVERSITY
DEPARTMENT OF ECONOMICS

Is now a teachable moment for economists?

An open letter to economists from Bill Spriggs

The views expressed here do not reflect those of the Federal Reserve Bank of Minneapolis or the Board of Governors of the Federal Reserve System.

Dear colleagues,

I have been warmed by the opening of the hearts of some economists who have displayed a new, and renewed, sense of angst about the racial issues our nation confronts because recent events have moved them. Watching the gut-wrenching brutal murder of George Floyd has gotten them to think

https://www.minneapolisfed.org/~/media/assets/people/william-spriggs/spriggs-letter_0609_b.pdf?la=en

3a. Is the search model a distinct explanation?

- Framing of paper is a horse race between three explanations (that are acknowledged could overlap):
  1. Taste-based discrimination
  2. Statistical discrimination
  3. Search: because of lower likelihood of approval/higher rates, black borrowers will accept higher markups because they expect having to search more otherwise

- Not clear that #3 is distinct. Could be caused by #1 *or* #2.
- More of an amplification mechanism of some underlying origin.
- More broadly, seems like necessary condition: lender heterogeneity can only affect borrowers if there are search costs! Cf. Argyle Nadauld Palmer (2020 RFS needing 2020 WP)

3b. Dignified Test of Statistical Discrimination?

- Degree of difficulty for model is high since identification relies on model-implied predictions. Joint hypothesis test. Illustrative model won't do.
- Logic of test for statistical discrimination: black-white gap in willingness to pay a markup should be *higher* for high FICO people: σ diverges in FICO

This would result if

$$\frac{dE[\sigma]}{ds_w} > \frac{dE[\sigma]}{ds_{nw}}, \qquad \text{(A7)}$$

- Could be the opposite. Or FICO/buy rate might not be a good predictor of WTP for a markup => could be a weak test
- To test statistical discrimination, need to find a strong enough signal that it could reasonably change the black-white gap.
- Need to ~~believe~~ demonstrate that FICO and buy rate are such signals

Validating a Statistical Discrimination Signal

- Presumably, supervision of both underwriting and pricing?
- Data on approvals + originations = data on loan take-up
- Seems like all the action is at the max markup => estimate models of

  Pr(accept max markup) = f(race, X, state prejudice, interactions)
- For FICO*black coefficient to be a useful test of statistical discrimination, show first that FICO*black is a strong predictor of markup WTP.
  - Extreme example: eye color*black is observable. But not a useful text
- Would like to find a set of signals that predict black-white markup WTP
- Those are the signals that should capture some statistical discrimination

3c. Racial prejudice measures not exogenous

- For local prejudice moments and black share of population to test taste-based discrimination, they need to not correlate with signals useful for price discrimination.
- Can use the statistical discrimination tests above to show that these factors are unrelated to state-level markup WTP
- If they are correlated, how do we know that prejudice moments are picking up variation in likely prevalence of taste-based discrimination vs. extra motivation to statistically discriminate?
- Multicollinearity of prejudice distribution moments muddies inference

Conclusion

- Super cool data pulls curtains on very opaque, impt, expensive market
- Nice laboratory to think about discrimination models
- ∃ other nice laboratories => make distinction clear
- Search-based explanation seems necessary, amplifier not root cause
- Support the statistical discrimination tests with evidence from take-up regressions that these are the right signals to use in that test
- Check what % black and prejudice measures are related to

- Let us all think harder/deeper about statistical discrimination