2022 Access to Credit Report

At Upstart, we're dedicated to improving access to credit for all. We believe our AI model is one of the most accurate, fair, and inclusive underwriting models in the market, and helps make the credit system more accessible, affordable, and secure. With Upstart's AI, lenders can approve more applicants with lower average APRs and at lower loss rates than traditional credit score models. This improves the financial health of Americans and unlocks opportunity for them.

Each year, Upstart evaluates the ability of our personal loan model to underwrite applicants in comparison to a more "traditional" model. We conduct the research looking back at the prior year. In 2023, this research showed that the Upstart model continues to approve more applicants, including Black and Hispanic applicants, at lower APRs than a more traditional underwriting model. In comparison to the traditional model, the Upstart model:

- Approves 44% more applicants and results in APRs that are 36% lower
- Approves 35% more Black[1] borrowers and results in APRs that are 29% lower
- Approves 46% more Hispanic[1] borrowers and results in APRs that are 34% lower

The purpose of this report is to summarize the analysis which led to these conclusions, including a description of the traditional model's construction and the sample used as a basis for comparison. The traditional model used in the access-to-credit comparison uses a Cox Proportional Hazard modeling framework with six inputs:

1. *FICO Score*
2. *Debt-to-Income Ratio*
3. *Loan Amount*
4. *Number of Trade Accounts*
5. *Number of Inquiries*
6. *Monthly Income*

This traditional model is trained on a subset of unsecured personal loans originated via the Upstart platform prior to November 2022, with a particular focus on 3-year and 5-year term options, which are the most popular loan terms. In addition, to ensure that the traditional model is calibrated to a similar level of risk as Upstart's state-of-the-art model, a post-processing adjustment is applied to the traditional model's predictions to facilitate an apples-to-apples comparison.

[1] Upstart does not collect demographic information from its applicants. The demographic attributes are estimated via location and surname using the BISG methodology.

In order to compare Upstart's state-of-the-art model and this traditional benchmark, we simulate approval and pricing decisions for all applicants to the Upstart platform in calendar year 2022.[2] Approval comparisons are based on applicants receiving an offer for either a 3-year or 5-year loan, and APR comparisons are based upon pricing for 5-year loan offers while holding the approval rate of both models constant. This is necessary to get an apples-to-apples comparison of the average APRs.[3]

We hope this report provides a better understanding of one of the important ways we measure progress against our efforts to advance access to affordable and inclusive credit nationwide.

[2] We use version 12.0.1 of Upstart's personal loan underwriting model, launched in January 2023, for purposes of this analysis.
[3] Consider a model that approves a certain set of applicants. A second model that approves exactly these same applicants at the same APR, plus another set of applicants at the maximum APR will have a higher approval rate, but also a higher average APR. However, this inappropriately penalizes the second model in the comparison of APRs, even though it offers applicants the same APR if we consider the set of applicants approved by both the first and second model.