Use of Educational Data to Make Credit Determinations

The Equal Credit Opportunity Act (ECOA) prohibits discrimination in any aspect of a credit transaction.[1] Under the statute, creditors can be liable if they treat applicants differently based on a prohibited basis, such as race or national origin.[2] In addition, creditors can be liable if their practices have a disparate impact on a protected class.[3]

In February 2020, in response to reports of alleged discrimination in the private student lending market,[4] Senator Brown, Ranking Member of the Senate Committee on Banking, Housing, and Urban Affairs, and other Senators requested information from six companies on their use of educational data for underwriting and how they test for compliance with fair lending laws. Five of the respondents are lenders: Upstart Network, Inc. (Upstart), Climb Credit, College Ave., Earnest, and Social Finance Inc. (SoFi).[5] An additional respondent, Measure One, is a company that offers its proprietary credit scoring model to lenders and creditors to make credit determinations.[6]

Based on the information we received from the six respondents, we identified two underwriting practices that may result in violations of ECOA and Regulation B: (1) considering the school an applicant attended to determine creditworthiness; (2) considering an applicant's major or program to determine creditworthiness. In addition, we found that the respondents had inconsistent and often inadequate programs to ensure compliance with fair lending laws. These three issues are discussed below.

Assessing creditworthiness based on school

One respondent, Upstart, considers an applicant's school when making credit determinations. Upstart's proprietary credit scoring model uses the school the applicant attended as one of the variables to determine creditworthiness.

Federal and state regulators have long raised concerns that using an applicant's school to determine creditworthiness can result in discrimination against minority borrowers.[7] In a 2012 report, the Consumer Financial Protection Bureau (CFPB or Bureau) studied private student lenders' use of a school's "cohort default rate" (CDR)—which measures the rate at which students at a given school default on their student loans—when determining creditworthiness.[8] Because racial and ethnic minorities are disproportionately concentrated at schools with higher CDRs, the Bureau found that the "[u]se of CDR to determine loan eligibility, underwriting, and pricing may have a disparate impact on minority students by reducing their access to credit and requiring those minority students . . . to pay higher rates than are otherwise available to similarly creditworthy non-Hispanic White students at schools with lower CDRs."[9] In 2014, the FDIC brought an enforcement action against Sallie Mae Bank and Navient Solutions, Inc., when it found that the use of CDR in their credit-scoring model for the pricing of private student loans violated ECOA.[10]

Upstart does not use a school's CDR, but its credit scoring model does utilize a school's average incoming standardized test score to place that school within one of eight groups. Upstart then utilizes this school grouping as a variable to determine an applicant's creditworthiness. Below are the school groupings based on the most recent data received from Upstart:

School Incoming Test Score Group	**Number of schools**
790 – 890	999
890 – 990	503
990 – 1090	656
1090 – 1190	390
1190 – 1290	192
1290 – 1390	92
1390 – 1490	64
1490+	7

Upstart's ranking of schools based on average incoming standardized test scores raises the same types of fair lending concerns as the use of CDR. In both instances, the lender is making a credit determination based on *non-individualized* data: the lender is not evaluating the applicant based on their own characteristics, but instead based on the characteristics of other students at their school (or grouping of schools). The CFPB found that the use of non-individualized education data—CDR—resulted in discrimination because "racial and ethnic minority students are disproportionately concentrated in schools with higher CDRs."[11] Likewise, Upstart's consideration of school's average incoming standardized test score may result in discrimination because racial and ethnic minority students are disproportionately concentrated in schools with lower incoming average standardized test scores.[12]

A recent study by the Student Borrower Protection Center (SBPC) supports this conclusion. Based on the results of their testing, the SBPC found that that Upstart charged borrowers who attended Historically Black Colleges and Universities (HBCUs) and Hispanic-Serving Institutions (HSIs) higher fees and interest than similarly situated borrowers who graduated from non-minority serving institutions.[13] For example, the SBPC found that a graduate of Howard University, an HBCU, would be charged $3,499 more over the life of five-year loan than a similarly-situated graduate of New York University (presumably because Howard University has a lower average incoming standardized test score than New York University).[14] Based on the racial demographics at these schools,[15] these findings indicate that Upstart's use of educational data may have a disparate impact on minority borrowers.

Upstart claims that its credit scoring model does not discriminate against minority borrowers. But the company has not disputed that, using their credit scoring model, an applicant will be charged more in interest and fees if, to use the above example, the borrower graduated from Howard University instead of New York University. Upstart's written response also includes data that the company contends show its credit scoring model does not have a disparate impact. The methodology Upstart uses, however, is not consistent with generally-accepted methodology used to test for disparate impact.[16] Upstart has also argued that its credit scoring model cannot have a disparate impact because its testing shows increased rates of approval for minority borrowers; even if true, Upstart's credit scoring model may still create disparate impacts if minority borrowers are charged more than similarly situated white borrowers.

Recommendations:

- The CFPB should re-examine Upstart's and other lenders' use of non-individualized educational data, including school attended, to make credit determinations. As part of any such examination, the Bureau should use generally-accepted methodology to test for disparate impact on minority borrowers or other members of a protected class under ECOA.
- In 2017, the CFPB granted Upstart a "No Action" letter, which signifies that the CFPB has no intent to recommend initiation of a supervisory of enforcement action against Upstart under ECOA. Based on the above concerns that Upstart's use of educational data has a disparate impact on minority borrowers, the CFPB should terminate (and certainly not renew) Upstart's No Action Letter and should not issue "No Action" letters to any lender or company under ECOA.

Assessing creditworthiness based on anticipated income for major or program

One respondent, Climb Credit, considers an applicant's major or program when determining creditworthiness. Climb Credit uses the applicant's major or program to determine post-graduation anticipated income,[17] which it then uses to calculate a future debt to income (DTI) ratio. Climb Credit uses this future DTI ratio and data from credit reports to determine whether to approve the loan. Once Climb Credit approves the applicant for a loan, it uses the applicant's FICO score to determine the offered interest rate.

As with any non-individualized factor, Climb Credit's reliance on an applicants' major or program raises fair lending concerns. A recent study by the American Enterprise Institute examined whether a creditor's use of college major as a factor determining creditworthiness has a disparate impact on minority borrowers. [18] Based on a comparison of majors of selected racial groups compared to the top and bottom 100 majors for future income, the study concluded that "the potential for ECOA risks is high."[19] The study further found that use of major or program as a factor for determining creditworthiness "may be more difficult to show statistically when factors that courts have found nondiscriminatory (such as credit reports) are already highly predictive of likelihood of repayment."[20] Other studies have found that providing repayment terms based on a student's major also may have a disparate impact on women.[21] One respondent, Measure One, specifically explained that it does consider an applicant's school or major because they "could serve as proxies for fair lending concerns" and "could create a disparate impact."

In its response, Climb Credit states that it does not conduct any testing to determine whether its underwriting practices have a disparate impact on any protected classes. This is problematic and inadequate given that studies have shown that consideration of an applicant's major or program can have a disparate impact on minority and women borrowers.

Recommendation:

- The CFPB should conduct further study to determine whether an applicant's major or program could serve as a proxy for race, gender, or other protected class or has a disparate impact on borrowers based on a protected class. As part of any such study, the Bureau should use generally-accepted methodology to test for disparate impact on minority borrowers or other members of a protected class under ECOA.

Inadequate fair lending compliance programs

We observed significant differences in the programs respondents have in place to ensure compliance with ECOA and Regulation B. For example, only some of the respondents indicated that they have written fair lending policies and procedures or utilize transaction testing to monitor for fair lending compliance. One respondent, Climb Credit, even indicated that it did not conduct any testing for disparate impact.

In order to ensure compliance, it is critical that lenders should have all of the following in place: management (and board, as applicable) oversight of fair lending compliance; written policies and procedures on fair lending; training on fair lending; fair lending monitoring or auditing, including a process for taking corrective action or other steps to mitigate risk; a consumer complaint process; and oversight of any service provider that could pose fair lending risks to the lenders' applicants or borrowers.[22]

Recommendations:

- The CFPB should immediately send a supervisory information request to all supervised entities to assess the prevalence of the practices discussed above, including the reliance upon educational criteria in underwriting or credit decision making.
- Conduct fair lending examinations of all supervised entities, including private student lenders, that rely upon educational criteria in underwriting or credit decision making.
- Issue guidelines on recommended fair lending compliance management systems for all lenders, including private student lenders and creditors, that include the following requirements: management (and board, as applicable) oversight of fair lending compliance; written policies and procedures on fair lending; training on fair lending; fair lending monitoring or auditing, including a process for taking corrective action or other steps to mitigate risk; a consumer complaint process; and oversight of any service provider that could pose fair lending risks to the lenders' applicants or borrowers.

- Encourage creditors, including private student lenders, to conduct voluntary self-tests (under 12 CFR 10012.15) to determine the extent or effectiveness of the creditor's compliance with ECOA or Regulation B.

END NOTES

[1] 15 U.S.C. § 1691(a)(1) (prohibiting discrimination on the basis of race, color, religion, national origin, sex or marital status, age, because all or part of an applicant's income derives from public assistance, or because the applicant has in good faith exercised any right under the Consumer Credit Protection Act).

[2] *Id*.

[3] 12 C.F.R. Part 1002, Supp. 1, § 1002.4(a)-1. "Disparate treatment" may be "overt" (when the creditor openly discriminates on a prohibited basis) or it may be found by comparing the treatment of applicants who receive different treatment for no discernable reason other than a prohibited basis. In the latter case, it is not necessary that the creditor act with intent to discriminate.

[4] The Student Borrower Protection Center conducted testing that indicated that Upstart charged higher interest rates and fees if a borrower attended a Historically Black College or University (HBCU) than if that borrower had attended New York University (where the majority of students are white. Educational Redlining, Student Borrower Protection Center (Feb. 2020), available at https://protectborrowers.org/wp-content/uploads/2020/02/Education-Redlining-Report.pdf.

[5] In addition to private student loans, Upstart and SoFi also offer other loan products.

[6] Upstart also offers its proprietary credit scoring model to other lenders.

[7] In 2007, the New York Attorney General criticized private student lenders' consideration of a student's school in determining creditworthiness and described the practice as "educational redlining. *See* https://www.nytimes.com/2007/06/19/us/19loans.html?_r=1&oref=slogin. He also specifically criticized one lender that "divided colleges into groups based on how their alumni repaid federally subsidized loans . . . ." *Id*.

[8] CFPB Report: Private Student Loans (Aug. 29, 2012) at 79-80, *available at* https://files.consumerfinance.gov/f/201207_cfpb_Reports_Private-Student-Loans.pdf.

[9] *Id*. at 80.

[10] *In re Sallie Mae Bank*, Consent Order, No. FDIC-13-0366b, FDIC-13-0367k (filed May 13, 2014), *available at* https://www.fdic.gov/news/news/press/2014/salliemae.pdf.

[11] *Id*. at 80.

[12] *See* Smith, Ashley, *Report: Minority Students Overrepresented in Less Selective Colleges*, Inside Higher Ed (Oct. 13, 2016), *available at* https://www.insidehighered.com/quicktakes/2016/10/13/report-minority-students-overrepresented-less-selective-colleges. In addition, there is abundant research showing cultural bias and racial disparities in standardized test scores. *See*, *e.g*., Maria Veronica Santelices and Mark Wilson, *Unfair Treatment? The Case of Freedle, the SAT, and Standardization Approach to Differential Item Functioning*, 80 Harv. Edu. Rev. 106 (Spring 2010), *available at* https://bearcenter.berkeley.edu/sites/default/files/Wilson%20%2322.pdf. As a result, researchers have found that "inequalities in SAT score distribution reflect and reinforce racial inequalities across generations." Richard Reeves and Dimitrious Halikias, *Report: Race Gaps in SAT Scores Highlight Inequality and Hinder Upward mobility*, Brookings Institute (Feb. 1, 2017), *available at* https://www.brookings.edu/research/race-gaps-in-sat-scores-highlight-inequality-and-hinder-upward-mobility/.

[13] https://protectborrowers.org/wp-content/uploads/2020/02/Education-Redlining-Report.pdf.

[14] Upstart has not disputed this finding, either in its written response or in discussion with Senate staff.

[15] According to the Student Borrower Protection Center data from the U.S. Department of Education, 89 percent of students at Howard University are African American, while African Americans and Latinos the comprise less than 20 percent of the students at NYU. *See* https://protectborrowers.org/new-report-finds-educational-redlining-penalizes-borrowers-who-attended-community-colleges-and-minority-serving-institutions-perpetuates-systemic-disparities/.

[16] Despite Upstart's assertion that its model increases affordable access to credit for Black and Hispanic consumers, the company only compares its underwriting outputs to a hypothetical credit scoring model it has created solely for testing purposes. However, the more appropriate measure of the discriminatory impact present in Upstart's scoring model would compare outcomes of Black and Hispanic applicants with similarly situated white applicants. *See* https://files.consumerfinance.gov/f/documents/cfpb_supervision-and-examination-manual_ecoa-baseline-exam-procedures_2019-04.pdf.

[17] Climb Credit relies on data from schools, third parties, and surveys of borrowers to determine pay rates for the anticipated vocation in the relevant geographic areas.

[18] *See* Dowse B. Rustin IV, Neil E. Grayson, Kiersty M. Degroote, *Pricing Without Discrimination, Alternative Student Loan Pricing, Income Share Agreements, and the Equal Credit Opportunity Act*, AEI (Feb. 2017), available at https://www.aei.org/wp-content/uploads/2017/02/Pricing-Without-Discrimination.pdf; *see also* Jonathan D. Glater. Law School, Debt, and Discrimination. Journal of Legal Education, Volume 68, Number 3. Spring 2019. https://jle.aals.org/cgi/viewcontent.cgi?article=1632&context=home.

[19] *Id*. at 14.

[20] *Id*. at 15.

[21] *See* Jen Mishory. *Private ISA Student Loans Highlight Consumer Protection Challenges*. The Century Foundation. (Aug. 22, 2019), available at https://tcf.org/content/commentary/private-isa-student-loans-highlight-consumer-protection-challenges/; CJ Libassi. *The Neglected College Race Gap: Racial Disparities Among College Completers*. (May 23, 2018), Center for American Progress, *available at* https://www.americanprogress.org/issues/education-postsecondary/reports/2018/05/23/451186/neglected-college-race-gap-racial-disparities-among-college-completers/.

[22] *See generally* CFPB Examination Procedures, ECOA Baseline Review (Module 2: Fair Lending Compliance Management Systems), *available at* https://files.consumerfinance.gov/f/documents/cfpb_supervision-and-examination-manual.pdf.

Appendix – Responses

Climb Credit
133 West 19th St, Fl 4
New York, NY 10011
888-510-0533

February 28, 2020

VIA UNITED STATES MAIL AND ELECTRONIC MAIL

The Honorable Sherrod Brown
503 Hart Senate Office Building
United States Senate
Washington, D.C. 20510

The Honorable Elizabeth Warren
309 Hart Senate Office Building
United States Senate
Washington, D.C. 20510

The Honorable Robert Menendez
528 Hart Senate Office Building
United States Senate
Washington, D.C. 20510

The Honorable Cory Booker
717 Hart Senate Office Building
United States Senate
Washington, D.C. 20510

The Honorable Kamala D. Harris
112 Hart Senate Office Building
United States Senate
Washington, D.C. 20510

Re: Your Letter Dated February 13, 2020

Dear Honorable Senators Brown, Menendez, Harris, Warren and Booker,

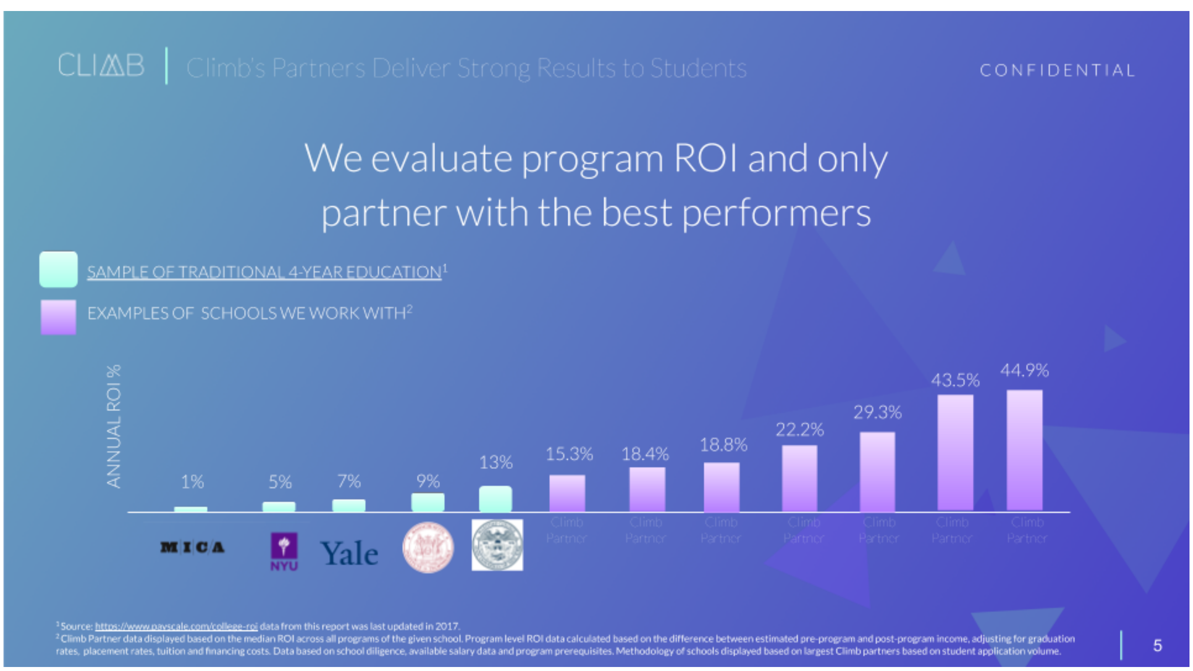
Thank you for the opportunity to address the Senate on the important issue of discrimination in educational lending. We appreciate the Senate addressing the industry in order to ensure a lending environment compliant with applicable law, and look forward to sharing how we advance student interests and earning potential in our skills-based economy.

Climb Credit is a mission-driven student lender focused on helping students attend vocational and career-advancing programs at schools with which we partner. Our partner programs prepare students for a variety of careers, such as cybersecurity, heavy machine operation, culinary arts, and software development. Our borrowers are generally sourced from applicants who have already been accepted into a program at one of our partner schools. We are not a lender under Title IV of the Higher Education Act of 1965 and therefore do not participate in federal student loan programs.

Climb Credit finds and partners with schools that prepare students for careers with strong earnings potential. Our proprietary return on investment (ROI) calculation and diligence procedures ensure we partner only with programs that we have confirmed are delivering income boosting opportunities worthy of the educational investment being made by students. Information we review as part of this diligence process includes graduation rates, job placement rates post-program, and student post-program salaries; schools that do not meet our standards for these crucial metrics do not become Climb partners.

To that end, Climb Credit calculates a debt to income ratio, where income is generally the anticipated income of an applicant following completion of their program (because, in most cases, we expect an applicant's income to increase as a result of the program in which they are enrolling). We believe in funding students based on their future potential (as supported by our extensive research and diligence with respect to our partner programs) rather than their past (we do not consider students' past education as part of our underwriting model).

We are proud of our ROI model and believe we are making a meaningful difference for students in helping them attend programs that will significantly improve their earning potential. Based on Climb graduate student survey responses, the median salary increase for Climb Credit school graduates has been 66.7%. Please see the chart below illustrating the effects of our ROI focus.



We believe this is the right way to finance education and wish to lead the rest of the industry to create a lending framework that rewards future potential rather than penalizes students for their past circumstances. Please see further responses to your questions below:

1. Describe how Climb Credit tests whether its credit determinations have a disparate impact on borrowers of a protected class under ECOA, and the results of any such testing.

Based on our business and underwriting model, applicant base, and non-use of historical educational data to determine interest rates, all as described herein, we have no reason to believe our underwriting standards have a disparate impact on members of a protected class. Accordingly, we have not conducted such empirical testing and we believe such testing would be unwarranted.

2. Describe how your company uses educational data as part of its loan underwriting model, including:

> **a. A description of how the underwriting model considers an applicant's specific institution of higher education;**

Climb Credit does not factor the highest education level attained nor an applicant's historical specific institution of an higher education into our underwriting model. As described above, Climb Credit uses anticipated income of applicants following graduation from the applicable program for purposes of calculating a future debt to income ratio, which is used in determining whether to grant a loan, in addition to data from credit reports. Anticipated income information is gathered from our partner schools as well as third party data reflecting pay rates for the anticipated vocation in the relevant geographic area. Climb Credit also surveys student-borrowers after the loans are made to obtain similar data. The debt to income ratio is a factor only in determining whether an applicant is approved to receive financing from Climb Credit; once an applicant is approved, the interest rate assigned is based solely on that applicant's FICO score, subject to regulatory constraints.

> **b. A description of how the underwriting model considers an applicant's institution of higher education as part of a group of institutions of higher education; or**

See answer to 2.a.

> **c. Identify and describe how the underwriting model considers any other non-individualized data points.**

As described above, Climb Credit uses anticipated income of applicants following graduation from the applicable program for purposes of calculating a future debt to income ratio, which is used in determining whether to grant a loan. We do not consider other factors that might impact future income for a student, such as undergraduate school or graduate school previously attended (some borrowers did not attend college), past internships, personal connections, proficiency in LinkedIn and other social media, family circumstances, flexibility to move, computer proficiency, or foreign language skills. Once a decision is made to grant the loan, the interest rate is based on the applicant's FICO score.

3. If your company's underwriting model considers the applicant's institution of higher education as part of a group of institutions of higher education, please provide a chart identifying each grouping and the institutions of higher education within each grouping.

Not applicable.

4. If your company uses educational data in its loan underwriting model, please provide the following information:

> **a. State your company's loan approval and denial rates for loans made using non individualized education data in the underwriting process;**
>
> **b. State your company's loan approval and denial rates where the applicant indicates they attended a higher education institution enrolling populations with significant percentages of minority students;**
>
> **c. State your company's loan approval and denial rates where the applicant indicates they attended a higher education institution other than one that does not enrolling populations with significant percentages of minority students;**
>
> **d. State your company's loan approval and denial rate where an applicant indicates that they attended community college;**
>
> **e. State your company's loan approval and denial rates where an applicant indicates that they attended an institution of higher education other than a community college;**
>
> **f. Your company's interest rate spread (25th percentile, median, 75th percentile) for loans made using individualized education data (*e.g.*, school, school grouping, major) in the underwriting process; and**
>
> **g. Your company's interest rate spread (25th percentile, median, 75th percentile) where an applicant indicates that he or she attended an institution of higher education enrolling populations with significant percentages of undergraduate**

minority students.

h. Your company's interest rate spread (25th percentile, median, 75th percentile) where an applicant indicates that they attended an institution of higher education other than one enrolling populations with significant percentages of undergraduate minority students.

i. Your company's interest rate spread (25th percentile, median, 75th percentile) where an applicant indicates that they attended a community college; and

j. Your company's interest rate spread (25th percentile, median, 75th percentile) where an applicant indicates that they attended an institution of higher education other than a community college.

Since we do not use historical educational levels for underwriting purposes, we believe this is inapplicable.

5. State whether your company licenses its underwriting model that considers educational data to other lenders, and if so, identify each such lender.

Climb Credit does not license our loan underwriting model to other lenders.

Please do not hesitate to contact Climb Credit should you have any further questions.

Respectfully,

Angela Galardi Ceresnie

Chief Executive Officer

cc: Jan Singelmann, Counsel

Senate Committee on Banking, Housing, and Urban Affairs

(via email: Jan_Singelmann@banking.senate.gov)

Alecia Chen, Esq., General Counsel, Climb Credit

College Avenue Student Loans LLC
233 N King Street
Suite 400
Wilmington, DE 19801

February 27, 2020

Via E-Mail
Jan_Singelmann@banking.senate.gov

Re: February 13, 2020 Educational Data Letter

Dear Senators:

On behalf of College Avenue Student Loans, LLC ("College Ave"), and pursuant to the request in your letter dated February 13, 2020, this letter provides information about College Ave's student loan underwriting.

By way of background, College Ave is a technology-enabled company simplifying the student loan experience. We use proprietary technology and deep industry expertise to provide private student loans when savings, scholarships, and federal student loans don't cover the full cost of college. As a fintech specializing in student loans, we deliver loans that are simple, clear, and personalized.

We appreciate your interest in private student loans and in broadening the availability of higher education opportunities, and address your concerns in turn below:

1. College Ave takes the requirements of the Equal Credit Opportunity Act ("ECOA") seriously and takes significant steps to ensure it adheres to fair lending laws. College Ave does not collect, and therefore does not consider, any individualized data related to any prohibited basis. To prevent fair lending violations, College Ave takes the following steps:

   a. **Model Variables** – College Ave reviews all variables utilized in its underwriting models for potential fair lending implications. These reviews occur prior to implementation and occur regularly thereafter. College Ave utilizes only individualized consumer data in its underwriting process (*e.g.*, individual credit report data, supplied by one of the national reporting bureaus; an applicant's income; residency status).

   b. **Automated Decision** – College Ave utilizes an automated decisioning system for applications. This ensures each application is decisioned in a consistent manner and prevents human bias related to manual processing.

   c. **Production Audits** – College Ave utilizes frequent production and compliance audits to ensure its system is decisioning applications as expected, and that it is adhering to the provisions of ECOA.

   d. **Testing** – Our Compliance Department regularly tests internal controls to ensure compliance with consumer protection laws, including ECOA. These tests include, among other things, reviewing variables utilized in underwriting for fair lending risk.

   e. **Training** – All College Ave employees receive annual Fair Lending training.

College Avenue Student Loans LLC
233 N King Street
Suite 400
Wilmington, DE 19801

f. **Compliance Management System ("CMS")** – College Ave maintains a CMS which includes, among other things, policies, procedures, and complaint monitoring to ensure adherence to consumer protection laws, including ECOA.

2. College Ave does not utilize an applicant's specific institution of higher education or any other non-individualized data as part of its loan underwriting model.

3. College Ave does not utilize an applicant's specific institution of higher education or any other non-individualized data as part of its loan underwriting model.

4. College Ave does not utilize an applicant's specific institution of higher education or any other non-individualized data as part of its loan underwriting model.

5. College Ave does not utilize an applicant's specific institution of higher education or any other non-individualized data as part of its loan underwriting model.

Sincerely,

Joseph A. DePaulo, Jr.
Chief Executive Officer
College Avenue Student Loans, LLC
233 N. King St., Suite 400
Wilmington, DE 19801

March 5, 2020

<u>BY FIRST CLASS MAIL AND EMAIL</u>

The Honorable Sherrod Brown
United States Senate
503 Hart Senate Office Building
Washington, D.C. 20510

The Honorable Elizabeth Warren
United States Senate
217 Hart Senate Office Building
Washington, D.C. 20510

The Honorable Robert Menendez
United States Senate
528 Hart Senate Office Building
Washington, D.C. 20510

The Honorable Cory Booker
United States Senate
717 Hart Senate Office Building
Washington, D.C. 20510

The Honorable Kamala D. Harris
United States Senate
112 Hart Senate Office Building
Washington, D.C. 20510

Re: Use of Educational Data in Credit Determinations

Dear Senators:

This responds to your letter dated February 13, 2020 regarding the use of educational data to make credit determinations. We appreciate your interest in this important topic. We care deeply about creating a robust and competitive consumer lending market that maximizes financial inclusion and credit access. We hope this response provides clarity on how Earnest's underwriting models use educational data to enhance consumer borrowing opportunities.

Introduction to Earnest

Founded in 2013, our mission is to make credit more accessible by reducing the costs and barriers that millions of financially responsible people face. We accomplish our mission by offering low-cost refinance student loans, private student loans and personal loans and by allowing our customers to customize their repayment plans to fit their needs. By making lending more fair, transparent and customized, we help our clients take control of their finances and realize their dreams.

Commitment to Fair Lending

Earnest is committed to maintaining a culture of fair lending throughout our organization and to marketing and originating our consumer loan products in a fair, consistent and responsible manner. We comply with all applicable fair lending laws.

In the context of our loan origination business, applicable federal fair lending laws include the Equal Credit Opportunity Act ("ECOA," 15 U.S.C. § 1691 et seq.) and its implementing regulation, Regulation B (12 C.F.R. Part 1002). We have extensive processes to ensure compliance with those federal laws and similar state statutes, including a Fair Lending Policy and Fair Lending Program overseen by our team of compliance professionals.

In developing models for the underwriting process for our consumer loan products, we avoid attributes or outcomes that could be considered unfair, deceptive or abusive to customers or discriminatory on a prohibited basis. Through transactional testing, our compliance team monitors for fair lending or discrimination concerns during the underwriting process or any actions which involve a judgmental credit decision. Because our underwriting and pricing decisions are highly automated, human involvement is largely limited to verifying inputs and other quality control activities.

Earnest Underwriting Process

Earnest's data-driven credit underwriting process is built on many factors. When our borrowers approach us, our first step is to evaluate whether they meet the eligibility criteria for one of our loan products. If they are eligible to be considered for the loan, we proceed to evaluate the borrower's credit profile and ability to repay the loan. We do this by evaluating the borrower's application information through an underwriting and pricing decision process that is highly automated.

Among the many factors considered in evaluating a borrower's overall creditworthiness, Earnest uses educational data points that are predictive of the borrower's ability and stability to repay. Earnest does not use any educational data point in isolation in making a credit underwriting determination.

Earnest has two refinance student loan products: Earnest Refinance Student Loans ("SLR Loans") and NaviRefi Refinance Student Loans ("NaviRefi Loans"). In this letter, we provide information about our use of educational data in the underwriting models for each of these two loan products.[1]

Earnest Refinance Student Loans

Our longest-running and largest program, the Earnest Student Loan Refinance Program offers borrowers the opportunity to refinance their outstanding education loans. We call loans originated under this program "SLR Loans." The proceeds of SLR Loans are paid directly to the holders or servicers of the loans being refinanced. No cash is disbursed directly to any borrower of a SLR Loan.

To be eligible for a SLR Loan, the applicant must meet certain eligibility requirements, including that the applicant must:

- Be a U.S. citizen or an eligible permanent resident;

[1] Note that while Earnest also offers a personal loan product, we do not use educational data in the underwriting process for that product. For the 2019-2020 academic school year, Earnest piloted a private student loan product that uses educational data in the underwriting process, but for which we do not have sufficient data to provide responses to your questions.

- Have graduated or be scheduled to graduate within 6 months, from a Title IV-eligible, accredited post-secondary school or program, or be the parent of a graduate or student; and
- Meet the minimum credit eligibility criteria described below.

Credit eligibility criteria for SLR Loans include the following: (i) amount and stability of income; (ii) if employed, career experience and specialization; (iii) qualifying credit history, taking into account FICO score; (iv) debt-to-income ratio; (v) demonstrated ability to pay through free cash flow calculations;[2] (vi) savings and investments; and (vii) additional data points gathered from financial account statements submitted in the application process.

For the SLR Loan product, the only educational data point we use in the underwriting process is the type of degree earned by the borrower. We categorize educational degrees into 16 different degree types (for example, None, BS, MS, JD, MBA, etc.) and assign a weighting to each degree type based on historical unemployment rates by degree type. We do not use school, school grouping or major data as part of the underwriting model for SLR Loans.

In Appendix A, we provided the information you requested regarding our loan approval and denial rates and interest rate distributions for SLR Loans originated through this underwriting process.

We do not license the SLR Loan underwriting model to other lenders.

NaviRefi Refinance Student Loans

Launched in 2018, the NaviRefi Student Loan Program offers borrowers the opportunity to refinance their outstanding education loans.[3] We call loans originated under this program "NaviRefi Loans." The proceeds of NaviRefi loans are paid directly to the holders or servicers of the loans being refinanced. No cash is disbursed directly to any borrower of a NaviRefi Loan.

To be eligible for a NaviRefi loan, applicant must meet certain eligibility requirements, including that the applicant must:

- Be a U.S. citizen or an eligible permanent resident;
- Either:
  (i) have graduated from a Title IV-eligible institution; provided, however, that, if an applicant has graduated from a for-profit institution, they must have graduated at least four or more years prior to the date of the application for the NaviRefi Loan and met the minimum FICO requirements; or
  (ii) have attended a Title IV-eligible not-for-profit institution where the last date of attendance was at least six or more years prior to the date of application for the NaviRefi Loan, and have met the minimum FICO requirement; and
- Meet the minimum credit eligibility criteria described below.

Credit eligibility criteria for the NaviRefi Loan product include the following: (i) borrower is in good standing on their existing credit obligations; (ii) qualifying credit history, taking into account FICO score; (iii) qualifying debt-to-income ratio; (iv) meets the minimum student loan balance requirements; and (v) meets minimum income requirements.

For the NaviRefi Loan product, we use the following educational data points in program eligibility and underwriting:

---

[2] Free cash flow is generally defined as after-tax monthly income of a borrower minus the sum of rent or mortgage payments, student loan payments and any other fixed expenses of such borrower.
[3] This product was designed by Earnest to meet the demand of Navient customers with private student loans and commercial FFELP loans.

- Graduates of for-profit institutions must demonstrate a longer repayment history and higher credit score than graduates of not-for-profit institutions.
- Non-graduates of not-for-profit institutions must demonstrate a longer repayment history and higher credit score than graduates of the same institution.
- Non-graduates of for-profit institutions are not eligible for this loan product at this time.

Provided that the applicable demonstrated repayment history and FICO score requirements are met, all other aspects of underwriting and pricing are identical. Other than to differentiate between for-profit and not-for-profit schools (as described above), we do not use school, school grouping or major data as part of the underwriting model for the NaviRefi Loan product.

In Appendix B, we provided the information you requested regarding our loan approval and denial rates and interest rate distributions for NaviRefi Loans originated through this underwriting process.

We do not license the NaviRefi Loan underwriting model to other lenders.

Conclusion

Earnest looks forward to working with policymakers on solutions to help more borrowers succeed and to continue to deliver industry-leading results to the customers we serve.

Respectfully submitted,

Susan Ehrlich
Chief Executive Officer
Earnest

Appendix A:
Earnest Refinance Student Loans

The following is the information you requested regarding our loan approval and denial rates and interest rate distributions for Earnest Refinance Student Loans originated through this underwriting process. The time period utilized for this analysis was from 4/1/2019 to 1/31/2020.

	Questions Regarding Approval and Denial Rates[4]	**Approval Rate**	**Denial Rate**
a)	State your company's loan approval and denial rates for loans made using non-individualized education data in the underwriting process	73.4%	26.6%
b)	State your company's loan approval and denial rates where the applicant indicates they attended a higher education institution enrolling populations with significant percentages of minority students[5] [6]	64.2%	35.8%
c)	State your company's loan approval and denial rates where the applicant indicates they attended a higher education institution other than one enrolling populations with significant percentages of minority students	73.5%	26.5%
d)	State your company's loan approval and denial rates where an applicant indicates that they attended a community college[7] [8]	48.0%	52.0%
e)	State your company's loan approval and denial rates where an applicant indicates that they attended an institution of higher education other than a community college	73.9%	26.15%

[4] The approval and denial rates are represented as a percentage of submitted applications.

[5] We obtained a list of institutions that enroll a significant percentage of minority students here: https://www2.ed.gov/about/offices/list/ocr/edlite-minorityinst-list-tab.html.

[6] The difference in approval rates for applicants that attended institutions enrolling significant percentages of minority students is driven by applicant income and the individual applicant's credit profile, including FICO score.

[7] We identified community colleges by filtering the IPEDS dataset for 2-year Public schools.

[8] The difference in approval rates for applicants that attended a community college is driven by applicant income and the individual applicant's credit profile, including FICO score.

	Questions Regarding Interest Rate Distribution[9]	25th Percentile	Median	75th Percentile
f)	Your company's interest rate spread (25th percentile, median, 75th percentile) for loans made using [non][10] individualized education data (e.g., school, school grouping, major) in the underwriting process	4.50%	4.83%	5.31%
g)	Your company's interest rate spread (25th percentile, median, 75th percentile) where an applicant indicates that he or she attended an institution of higher education enrolling populations with significant percentages of undergraduate minority students[11]	4.58%	4.91%	5.42%
h)	Your company's interest rate spread (25th percentile, median, 75th percentile) where an applicant indicates that they attended an institution of higher education other than one enrolling populations with significant percentages of undergraduate minority students	4.50%	4.83%	5.31%
i)	Your company's interest rate spread (25th percentile, median, 75th percentile) where an applicant indicates that they attended a community college[12]	4.75%	5.21%	5.92%
j)	Your company's interest rate spread (25th percentile, median, 75th percentile) where an applicant indicates that they attended an institution of higher education other than a community college	4.49%	4.83%	5.31%

[9] The interest rates are based on signed loans and represent the interest rate agreed in the borrower's contract. Note that a borrower may select a repayment term ranging from 60 to 240 months and may also select between an interest rate type of fixed or variable. Differences in the average interest rates represented in this table may be influenced by the borrowers' selections for their repayment terms.

[10] Please note that while the original question asked for a response related to "individualized education data", we believe the question was meant to relate to "**non**-individualized education data" and responded accordingly.

[11] The difference in interest rates for applicants that attended institutions enrolling significant percentages of minority students is driven by applicant income and the individual applicant's credit profile, including FICO score.

[12] The difference in interest rates for applicants that attended a community college is driven by applicant income and the individual applicant's credit profile, including FICO score.

Appendix B:
NaviRefi Refinance Student Loans

The following is the information you requested regarding our loan approval and denial rates and interest rate distributions for NaviRefi Refinance Student Loans originated through this underwriting process. The time period utilized for this analysis was from 1/1/2019 to 1/31/2020.

	Questions Regarding Approval and Denial Rates[13]	Approval Rate	Denial Rate
a)	State your company's loan approval and denial rates for loans made using non-individualized education data in the underwriting process	68.0%	32.0%
b)	State your company's loan approval and denial rates where the applicant indicates they attended a higher education institution enrolling populations with significant percentages of minority students[14] [15]	64.4%	35.6%
c)	State your company's loan approval and denial rates where the applicant indicates they attended a higher education institution other than one enrolling populations with significant percentages of minority students	68.1%	31.9%
d)	State your company's loan approval and denial rates where an applicant indicates that they attended a community college[16] [17]	62.1%	37.9%
e)	State your company's loan approval and denial rates where an applicant indicates that they attended an institution of higher education other than a community college.	68.3%	31.7%

[13] The approval and denial rates are represented as a percentage of submitted applications.
[14] We obtained a list of institutions that enroll a significant percentage of minority students here: https://www2.ed.gov/about/offices/list/ocr/edlite-minorityinst-list-tab.html.
[15] The difference in approval rates for applicants that attended institutions enrolling significant percentages of minority students is driven by applicant income and the individual applicant's credit profile, including FICO score.
[16] We identified community colleges by filtering the IPEDS dataset for 2-year Public schools.
[17] The difference in approval rates for applicants that attended a community college is driven by applicant income and the individual applicant's credit profile, including FICO score.

	Questions Regarding Interest Rate Distribution[18]	25th Percentile	Median	75th Percentile
f)	Your company's interest rate spread (25th percentile, median, 75th percentile) for loans made using [non][19] individualized education data (e.g., school, school grouping, major) in the underwriting process.	4.73%	5.29%	5.89%
g)	Your company's interest rate spread (25th percentile, median, 75th percentile) where an applicant indicates that he or she attended an institution of higher education enrolling populations with significant percentages of undergraduate minority students[20]	4.96%	5.59%	6.21%
h)	Your company's interest rate spread (25th percentile, median, 75th percentile) where an applicant indicates that they attended an institution of higher education other than one enrolling populations with significant percentages of undergraduate minority students	4.73%	5.29%	5.86%
i)	Your company's interest rate spread (25th percentile, median, 75th percentile) where an applicant indicates that they attended a community college. [21]	5.03%	5.49%	6.05%
j)	Your company's interest rate spread (25th percentile, median, 75th percentile) where an applicant indicates that they attended an institution of higher education other than a community college.	4.73%	5.29%	5.88%

[18] The interest rates are based on signed loans and represents the contractual rate. Note that a borrower may select a repayment term ranging from 60 to 240 months and an interest rate type of fixed or variable. Those consumer selections influence the average interest rates represented in this table.

[19] Please note that while the original question asked for a response related to "individualized education data", we believe the question was meant to relate to "**non**-individualized education data" and responded accordingly.

[20] The difference in interest rates for applicants that attended institutions enrolling significant percentages of minority students is driven by applicant income and the individual applicant's credit profile, including FICO score.

[21] The difference in interest rates for applicants that attended a community college is driven by applicant income and the individual applicant's credit profile, including FICO score.

SoFi

BY EMAIL

February 21, 2020

Jan Singelmann, Counsel
U.S. Senate Committee on Banking, Housing and Urban Affairs
Ranking Member Sherrod Brown (D-OH)
SD-534, Washington, D.C. 20510
Jan_Singelmann@banking.senate.gov

Re: Social Finance, Inc.

Dear Ms. Singelmann:

I am writing in response to the letter dated February 13, 2020 from certain members of the Senate Banking Committee addressed to Anthony Noto, Chief Executive Officer of Social Finance, Inc. which asks how Social Finance, Inc. ("SoFi") has used educational data to make credit determinations as well as how SoFi tests for and demonstrates compliance with fair lending laws. I want to stress that SoFi recognizes the importance of fair lending practices and is fully committed to upholding both the spirit and letter of the Equal Credit Opportunity Act and Regulation B. SoFi understands the underlying concern behind this inquiry - the fear that as companies increasingly rely on algorithm-based technology to make lending decisions there is both opportunity as well as risk, and SoFi will be vigilant about assessing our practices to reduce the risk that our systems unintentionally lead to biased outcomes.

This response includes confidential commercial information which we consider proprietary. Accordingly, we request that you preserve the confidentiality of SoFi's response. At the outset, Social Finance, Inc. is a holding company and does not make loans. SoFi student loans, including student loan refinance and in-school and parent loans, are originated by SoFi Lending Corp., a wholly owned subsidiary of Social Finance, Inc. and a state licensed consumer lender. Our responses to your specific requests are set forth below. The term "SoFi" in this response refers to SoFi Lending Corp.

1. Describe how SoFi tests whether its credit determinations have a disparate impact on borrowers of a protected class under ECOA, and the results of any such testing.

ANSWER: SoFi has employed Charles River Associates ("CRA") on a regular basis to conduct disparate impact testing on its student loan activities. CRA is a leading independent consultant in the fair lending area and it employs the methodology that the Consumer Financial Protection Bureau ("CFPB") uses in examining private education loan lenders for compliance with the fair lending laws. CRA's reviews have consistently found that SoFi's underwriting policies are sound; that SoFi's underwriting process is highly automated; that there are minimal exceptions to SoFi's underwriting and credit risk policies; and that there is little risk of any disparate impact from SoFi's student lending activity. Apart from hiring CRA, SoFi also sells loans to large regional banks which conduct extensive due diligence of SoFi's loan origination process, including compliance with fair lending

laws. Further, SoFi's Legal Department and Compliance Group actively advise SoFi's management and board of directors on the fair lending laws and SoFi has written policies for compliance with fair lending laws. Finally, as a private educational loan lender, SoFi is subject to examination by the CFPB on student lending, including examinations for compliance with fair lending.

2. Describe how your company uses educational data as part of its loan underwriting model, including:
    a. A description of how the underwriting model considers an applicant's specific institution of higher education;

ANSWER: SoFi does not use the specific school an applicant attended or attends in its underwriting model.

    b. A description of how the underwriting model considers an applicant's institution of higher education as part of a group of institutions of higher education; or

ANSWER: SoFi's underwriting model does not consider an applicant's institution of higher education as part of a group of institutions of higher education. SoFi launched an in-school business in the fall of 2019 and for that business, SoFi only lends to borrowers attending 4-year schools that participate in Title IV and it requires school certification of the cost of attendance for in-school applicants.

    c. Identify any describe how the underwriting model considers any other non-individualized data points.

ANSWER: In assessing applications for student loan refinance or in-school or parent loans, SoFi considers the applicant's ability to pay using a custom model that considers the applicant's free cash flow. SoFi uses non-individualized data which is not educational data in a "capacity to pay" assessment. We believe that examining capacity to pay through income, net of tax burden, housing costs, and monthly line item expenses (utilities, transportation, healthcare, groceries, etc) paints a better picture of affordability and subsequent borrower outcomes when taking out a loan. Please note that we leverage the proxies described below since this information is not collected by applicants during the application process.

Tax Burden:
- We review federal tax tables by gross income and state tax tables by gross income and zip code to arrive at income net of taxes.

Housing Expense:
- We review distinct public information for housing costs by owners and renters on a zip code basis to reduce income net of taxes by this obligation
- Our sources for this data are the Council for Community and Economic Research (C2ER) and the US Department of Housing and Urban Development (HUD)

Monthly Line Item Expenses (MLIE):
- We reduce an applicant's income net of taxes and housing expense by the indexed MLIE estimate by zip code to arrive at a Personal Net Income figure
- The Council for Community and Economic Research (C2ER) is the source for this information.

3. If your company's underwriting model considers the applicant's institution of higher education as, part of a group of institutions of higher education, please provide a chart identifying each grouping and the institutions of higher education within each grouping.

ANSWER: Not applicable. See answer to Question 2.

4. If your company uses educational data in its loan underwriting model, please provide the following information [see footnote in original letter]:
    a. State your company's loan approval and denial rates for loans made using non-individualized education data in the underwriting process;
    b. State your company's loan approval and denial rates where the applicant indicates they attended a higher education institution enrolling populations with significant percentages of minority students
    c. State your company's loan approval and denial rates where the applicant indicates they attended a higher education institution other than one that does not enroll populations with significant percentages of minority students;
    d. State your company's loan approval and denial rate where an applicant indicates that they attended community college;
    e. State your company's loan approval and denial rates where an applicant indicates that they attended an institution of higher education other than a community college;
    f. Your company's interest rate spread (25^{th} percentile, median, 75^{th} percentile) for loans made using individualized education data *(e.g.*, school, school grouping, major) in the underwriting process; and
    g. Your company's interest rate spread (25th percentile, median, 75th percentile) where an applicant indicates that he or she attended an institution of higher education enrolling populations with significant percentages of undergraduate minority students.
    h. Your company's interest rate spread (25th percentile, median, 75th percentile) where an applicant indicates that they attended an institution of higher education other than one enrolling populations with significant percentages of undergraduate minority students.
    i. Your company's interest rate spread (25th percentile, median, 75th percentile) where an applicant indicates that they attended a community college; and
    j. Your company's interest rate spread (25th percentile, median, 75th percentile) where an applicant indicates that they attended an institution of higher education other than a community college.

ANSWER to all parts of Question 4: Not applicable as SoFi does not use educational data in its underwriting model.

5. State whether your company licenses its underwriting model that considers educational data to other lenders, and if so, identify each such lender.

ANSWER: SoFi does not license its underwriting model and its underwriting model does not consider educational data in any event.

Please feel free to contact me if you have any questions relating to SoFi's response.

Sincerely,

Robert Lavet
General Counsel
Social Finance, Inc.
234 1st Street
San Francisco, CA 94015
(703) 972 – 2039
rlavet@sofi.org

February 28, 2020

Dear Senators Brown, Warren, Menendez, Booker and Harris:

We are writing in response to your February 13 letter expressing concern about the use of education-related variables in Upstart's consumer lending platform and to confirm our compliance with the federal fair lending standards set forth in the Equal Credit Opportunity Act[1] and its implementing regulation, Regulation B.[2] Responses to the specific questions set forth in your letter are attached.

As a company founded with the goal of improving access to affordable credit, we were very disappointed with the recent study by the Student Borrower Protection Center, which was both inaccurate and misleading.[3] Upstart takes its legal obligations very seriously and from our launch we developed a robust compliance program to ensure we comply with all the requirements of applicable law. We welcome this opportunity to provide you with information about how these variables are (and in some cases, are not) used in credit determinations on our platform and how we do this in a responsible, consumer-friendly way.

We believe that credit is a cornerstone of the U.S. economy, and access to affordable credit is central to unlocking upward mobility and opportunity for consumers. Studies have shown that reducing the price of borrowing for consumers has the potential to improve the quality of life for millions of people.[4]

FICO was invented in 1989 and remains the standard for determining who is approved for credit and at what interest rate.[5] However, according to the Federal Reserve, traditional credit scores classify more than 3 times as many Black consumers (53%) and almost two times as many Hispanic consumers (30%) as White consumers (16%) into the lowest two deciles of credit scores.[6] Further, while FICO is rarely the only input in a lending decision, most lenders use simple rules-based systems that consider only a handful of variables.[7] Unfortunately, because legacy credit systems fail to properly quantify risk, millions of creditworthy individuals are left

---

[1] 15 U.S.C. § 1691 *et seq*.

[2] 12 C.F.R. § 1002.

[3] The flaws in the SBPC's study were outlined by Upstart in its statement in response to the study: https://www.upstart.com/blog/upstarts-commitment-to-fair-lending

[4] Studies have demonstrated a strong statistical link among access to affordable credit, personal well-being, and income growth - see Kirsten Wysen, Open Source Solutions: Why Credit Scores and Payday Lending Matter for Health, October 2019: https://www.frbsf.org/community-development/publications/open-source-solutions/2019/october/why-credit-scores-and-payday-lending-matter-for-health

[5] Rob Kaufman, MyFico Blog: The History of the Fico Score, August 2018; Kaufman asserts that the FICO score is used by over 90% of lenders to determine who is approved for credit and at what interest rate - see the section titled "Industry, Market and Other Data"

[6] See https://www.federalreserve.gov/boarddocs/rptcongress/creditscore/performance.htm#toc9.2

[7] Naeem Siddiqi, Intelligent Credit Scoring – 2nd Edition, 2017. Siddiqi, a leading expert, found that bank credit models commonly incorporate 8 to 15 variables, with the more sophisticated models using as many as 30

Upstart Network, Inc., 2950 South Delaware Street, Ste 300, San Mateo, CA 94403. Telephone: 650-204-1000. www.upstart.com

out of the system, and millions more pay too much to borrow money.[8] For example, according to a retrospective study we completed in December 2019, four in five Americans who have taken out a loan have never defaulted, yet less than half have access to prime credit.[9] Upstart's model helps to address the bias endemic in traditional lending models by expanding access to affordable credit to those most disadvantaged by the current system.

In order to improve access to credit on fairer terms, Upstart's model uses data that goes beyond traditional credit scoring, helping our system to identify additional creditworthy consumers. Upstart has developed an automated, AI credit model that considers over 1500 traditional and non-traditional variables, including education.[10] No single variable, or even small set of variables, dominates - all of them, including education, contribute to an applicant's final rate. As discussed in more detail in our attached responses, the education variables are one subset of variables present in our model that help us to identify which consumers are creditworthy, and in combination with the others significantly increase the accuracy and predictive value of our model. This in turn enables the lenders that use our platform to approve more consumers at lower interest rates, while maintaining loss rates and complying with fair lending laws.

Since our inception, we have invested countless hours, resources and energy into fair lending to ensure our business operations align with our core mission. To that end, since the launch of our lending platform, we have strived to ensure that our underwriting methods, including our use of alternative variables, do not discriminate against any protected class on a prohibited basis, implementing appropriate policies and procedures, and through the use of ongoing monitoring and testing of our platform's origination data. We understood what we were doing was innovative and novel. As we developed our model we were transparent and proactive with regulators, as is best demonstrated by our engagement with the Consumer Financial Protection Bureau ("**CFPB**") from our very early days. This proactive effort and transparency ultimately resulted in our application for,[11] and receipt of, a No-Action Letter in September 2017[12] (the "**NAL**") from the Cordray-led CFPB.

As part of a compliance plan we agreed to with the CFPB, we not only report our quarterly fair lending test results conducted according to rigorous statistical testing methods that CFPB and Upstart developed (as described in more detail in response to your specific questions), but also report annually on whether our underwriting methods increase access to credit, using methodology specified by the CFPB. To date, none of our tests have identified any unlawful bias against any protected class, including any racial group.

---

[8] Patrice Ficklin and Paul Watkins, Consumer Financial Protection Bureau Blog: An Update on Credit Access and the Bureau's First No-Action Letter, August 2019, which reports findings from Upstart's annual access to credit analysis provided to the CFPB in accordance with methodology specified by the CFPB.

[9] In an internal study, Upstart analyzed approximately one million randomly sampled credit reports, provided by TransUnion, dated September 30, 2019. The study defined access to prime credit as individuals with credit reports reporting TransUnion Vantage 3.0 scores above 720. The study calculated default percentages based on the number of individuals who have charged off trades and tradeline bankruptcies on their credit reports divided by the total number of individuals with debt on their credit reports.

[10] The volume and variety of the data sets used by Upstart's models and the complexity involved in identifying predictive, nonobvious associations necessitates the use of AI and machine-learning algorithms.

[11] Upstart No-Action Letter request: https://files.consumerfinance.gov/f/documents/201709_cfpb_upstart-no-action-letter-request.pdf

[12] CFPB issued Upstart No-Action Letter: https://files.consumerfinance.gov/f/documents/201709_cfpb_upstart-no-action-letter.pdf

In addition, we are able to demonstrate that our model does in fact help consumers. As reported by the CFPB based on our analysis, for borrower applicants during 2018, Upstart's AI model increased access to credit across all tested race, ethnicity, and gender segments by 23-29% while also decreasing average rates by 15-17%.[13] In these same 2018 tests, we were able to demonstrate that Upstarts model increased approval rates for Black applicants by 28% with 17% lower APRs, compared to a traditional model developed by Upstart in accordance with specifications from the CFPB. More recent data is even more encouraging: in 2019 Black applicants approval rates improved by more than 45% with 21% lower APRs. Additionally, in 2019, near-prime borrowers on Upstart (which we define as those with 620-660 FICO scores) saw more than twice the approval rates with 25% lower APRs compared to traditional models. The benefits of Upstart's underwriting model are clear.

We hope that this information is helpful and underscores how genuinely committed we are to responsibly expanding access to credit on fair and responsible terms. We look forward to meeting with each of you to discuss these important issues further.

Best regards,

Dave Girouard

Enclosure

[13] Ficklin and Watkins, supra 8.

To: Senators Brown, Warren, Menendez, Booker and Harris

Re: Upstart Response to Information Requested in February 13 Letter

Date: February 28, 2020

---

1. Describe how Upstart tests whether its credit determinations have a disparate impact on borrowers of a protected class under ECOA, and the results of any such testing.

Test Procedures

Upstart has conducted fair lending testing on its underwriting model since its launch in April 2014, and such testing has evolved over time with the needs and growth of the platform. We currently engage sophisticated testing techniques described below that take into account the model's machine learning methods. These tests include quarterly testing of all applicant data on underwriting and pricing outcomes and testing on model updates, including new variables, before they are implemented.

Upstart's current testing procedures are in accordance with the confidential compliance plan it agreed to as part of the No-Action letter issued to it by the Cordray-led Consumer Financial Protection Bureau ("**CFPB**") in September 2017. Pursuant to this confidential compliance plan, Upstart reports its quarterly test results to the CFPB, who reviews and comments on the results.

Upstart uses the CFPB approved proxy testing methodology Bayesian Improved Surname Geocoding ("**BISG**") to approximate race, ethnicity and gender demographics of each of the applicants and borrowers on its platform.[1] Using these approximated demographics, we are able to breakdown our applicant pool into race and gender groups that enables our fair lending testing.

Upstart looks at the demographics for all applications for each lender individually, as well as platform-wide.[2] It compares the national demographic breakdown for each age, race and gender group, with the demographic breakdown of applicants on the site, to confirm no statistically significant discrepancies exist that might indicate prohibited discrimination in Upstart marketing strategies.

Upstart then on a quarterly basis conducts a series of statistical tests to assess disparities (in price or approval) in Upstart's underwriting for each lender. These include

1. A ratio test on the lender's entire applicant pool that identifies approval and pricing disparities within age, gender and racial groups. This test compares the Upstart's model results with the results for a traditional underwriting model developed by Upstart according to the specifications agreed to with the CFPB ("**Traditional Model**").[3] It evaluates each model's approval rates and

---

[1] For further explanation, see CFPB, *Using publicly available information to proxy for unidentified race and ethnicity,* Summer 2014, *at* https://files.consumerfinance.gov/f/201409_cfpb_report_proxy-methodology.pdf

[2] Banks and other lenders use Upstart's lending platform, technology and related services to originate online loans to consumers.

[3] The Traditional Model used by Upstart was developed according to specifications agreed to in its No-Action Letter compliance plan. The "challenger" Traditional Model is trained on Upstart platform data, uses logistic regression, and considers traditional application and credit file variables only. As such, while it uses only traditional variables, it is a sophisticated automated model that is likely more sophisticated than that used by most traditional lenders.

APRs and calculates the disparity between the disadvantaged group and the control group.[4] To the extent the ratio of disparities between the two models crosses a predefined threshold for any disadvantaged group then the test would fail and additional analysis would be required for that group.

2. A test that assesses whether the model under- or over- predicts defaults (resulting in over- or under- charging) for a specific group. This test compares predicted performance (defaults) with actual performance for a group to determine if the model accurately predicted the credit risk of the group or unfairly penalized the group for reasons unrelated to credit risk.

In the event any group does not pass test 1, then test 2 must be performed for any group which failed to pass the threshold.

These two tests combined ensure that any potential bias in Upstart's model would be quickly identified. They identify underwriting and pricing disparities in the Upstart model compared to the status quo; stated differently, they analyze whether our model treats historically disadvantaged groups better or worse in a material way than the Traditional Model. If they do, they also assess that to the extent disparities exist, if our model treats that group in a manner commensurate with true credit risk, i.e. are these outcomes warranted/accurate. In the event the model fails both these tests, additional specific variable and model redevelopment tests must also be performed.[5]

In addition to quarterly testing, prior to any update being implemented in our credit model we run a random statistically significant sample of recent applicant data through the new updated model to assess its impact for potential bias or issues. We then perform our fair lending tests described above on these results to confirm there are no issues as a result of the proposed changes.

Test Results

Upstart has performed quarterly fair lending tests on its applicant data since the third quarter of 2014. It has followed the testing methodology described above since 2017. Since the first quarter of 2018 and for each quarter after that it has shared its testing results for it's largest lending program with the CFPB, which are summarized below.[6]

Approval Rates

	Q118	**Q218**	**Q318**	**Q418**	**Q119**	**Q219**	**Q319**	**Q419**
Gender (female)	Pass (Test 1)	Pass (Test 1)	Pass (Test 1)	Pass (Test 1)	Pass (Test 1)	Pass (Test 1)	Pass (Test 1)	Pass (Test 1)
Age>62 years	Pass (Test 1)	Pass (Test 1)	Pass (Test 1)	Pass (Test 1)	Pass (Test 1)	Pass (Test 1)	Pass (Test 1)	Pass (Test 1)
Ethnicity (Hispanic)	Pass (Test 1)	Pass (Test 1)	Pass (Test 1)	Pass (Test 1)	Pass (Test 1)	Pass (Test 1)	Pass (Test 1)	Pass (Test 1)
Race (Black)	Pass (Test 1)	Pass (Test 1)	Pass (Test 1)	Pass (Test 1)	Pass (Test 1)	Pass (Test 1)	Pass (Test 1)	Pass (Test 1)
Race (Asian)	Pass (Test 1)	Pass (Test 1)	Pass (Test 1)	Pass (Test 1)	Pass (Test 1)	Pass (Test 1)	Pass (Test 1)	Pass (Test 1)
Race (American Indian)	Pass (Test 1)	Pass (Test 1)	Pass (Test 1)	Pass (Test 1)	Pass (Test 1)	Pass (Test 1)	Pass (Test 1)	Pass (Test 1)

[4] For example, for race, each racial group would be compared to White applicants (the control group).

[5] Upstart has never been required to perform these tests because its model has never failed the initial tests performed for it's lenders' programs.

[6] At the time of it's No-Action Letter, Cross River Bank was the only originating bank on Upstart's platform. Since 2018, 7 additional bank partners use Upstart's platform, including its model, to offer online personal loans to consumers. Cross River Bank still represents a majority of the loans originated through our platform.

Race (Multirace)	Pass (Test 1)	Pass (Test 1)	Pass (Test 1)	Pass (Test 1)	Pass (Test 1)	Pass (Test 1)	Pass (Test 1)	Pass (Test 1)

APR Test

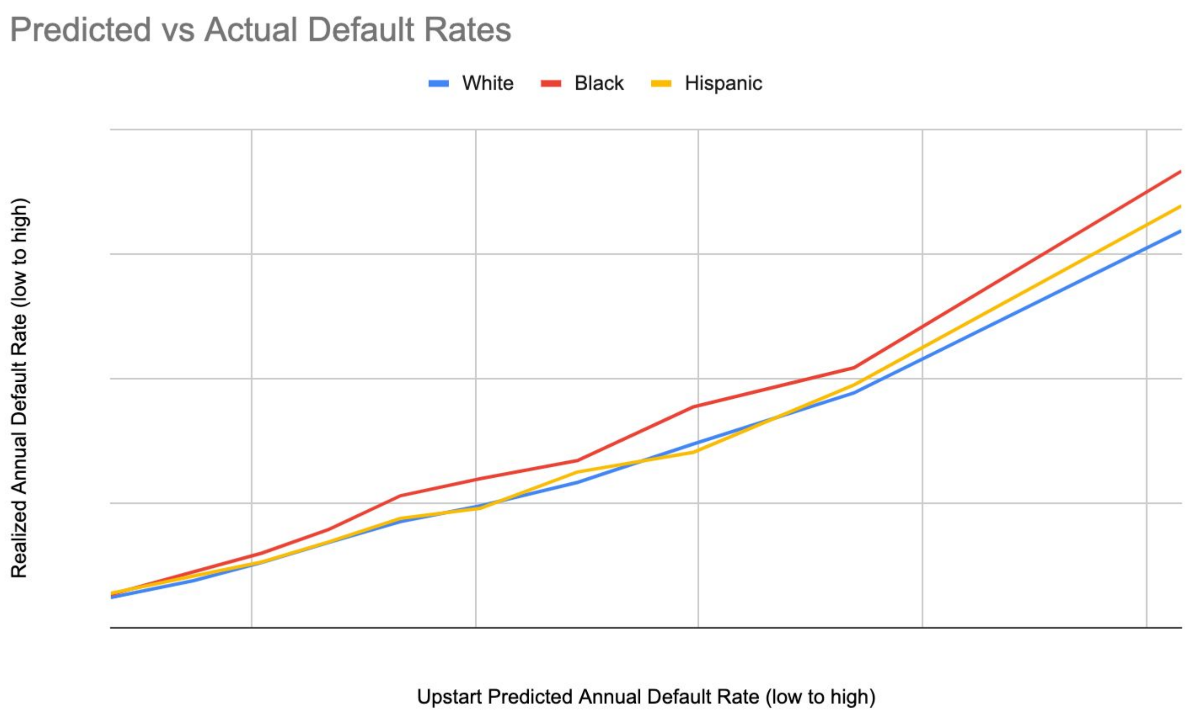
	Q118	**Q218**	**Q318**	**Q418**	**Q119**	**Q219**	**Q319**	**Q419**
Gender (female)	Pass (Test 1)	Pass (Test 1)	Pass (Test 1)	Pass (Test 1)	Pass (Test 1)	Pass (Test 1)	Pass (Test 1)	Pass (Test 1)
Age>62 years	Pass (Test 1)	Pass (Test 1)	Pass (Test 1)	Pass (Test 1)	Pass (Test 1)	Pass (Test 1)	Pass (Test 1)	Pass (Test 1)
Ethnicity (Hispanic)	Pass (Test 1)	Pass (Test 1)	Pass (Test 1)	Pass (Test 1)	Pass (Test 1)	Pass (Test 1)	Pass (Test 1)	Pass (Test 1)
Race (Black)	Pass (Test 1)	Pass (Test 1)	Pass (Test 1)	Pass (Test 1)	Pass (Test 1)	Pass (Test 1)	Pass (Test 1)	Pass (Test 1)
Race (Asian)	Pass (Test 1)	Pass (Test 1)	Pass (Test 1)	Pass (Test 1)	Pass (Test 1)	Pass (Test 1)	Pass (Test 1)	Pass (Test 1)
Race (American Indian)	Pass (Test 1)	Pass (Test 1)	Pass (Test 1)	Pass (Test 1)	Pass (Test 1)	Pass (Test 1)	Pass (Test 1)	Pass (Test 1)
Race (Multirace)	Pass (Test 1)	Pass (Test 1)	Pass (Test 1)	Pass (Test 1)	Pass (Test 1)	Pass (Test 1)	Pass (Test 1)	Pass (Test 1)

The key question in test 1 is whether the improvements in approval rates and APRs for each demographic group is materially different from the improvements for the control group such that they exacerbate existing inequalities. The below data reveals measurable improvements in both approvals and pricing metrics for all 2019 applicants across all demographic groups compared to the Traditional Model.[7]

	Approval Rate Improvement	**APR Improvement**
Male	+45%	-26%
Female	+46%	-26%
White	+46%	-26%
Race (Black)	+46%	-25%
Race (Asian)	+36%	-25%
Race (American Indian)	+49%	-26%
Ethnicity (Hispanic)	+42%	-23%
Race (Multirace)	+42%	-25%
Age < 62 years	+45%	-26%
Age >= 62 years	+32%	-15%

[7] Certain small methodological improvements are currently being considered in consultation with the CFPB. These test results reflect the updated methodology. Results do not differ substantially across the prior and updated methodologies.

While not required, we have run Test 2 and these results have consistently demonstrated that disadvantaged groups are treated fairly, if not favorably by our model. The following graph shows the results of this test on our borrower data through the end of 2019:



For each predicted level of default, this graph shows the actual default rates for each demographic group. It shows that actual default rates are similar or slightly higher for Black and Hispanic borrowers. If the use of alternative data in our model was introducing bias to the credit decision, this test would show lower default rates for the disadvantaged groups.

2. Provide the following information about the use of "educational characteristics" used to determine the "groups of schools" in Upstart's model, including:

   a. Each "educational characteristic" considered by Upstart;
   b. An explanation of how Upstart selected each characteristic;
   c. An explanation of how and the extent to which the educational characteristics factor into credit determinations.

Upstart's model is a machine learning model that uses over 1,500 variables to make credit and pricing decisions. Variables are selected and used in the model on the basis of their ability to more accurately predict default. Model development follows a rigorous statistical process of cross-validation to ensure that every added variable produces a robust improvement in model accuracy. This accuracy, in turn, allows the model to discover more consumers who would not be considered creditworthy by the traditional credit scoring system. Education characteristics are among the highly predictive variables selected by the model.

With respect to the education variables used, in our application form we ask consumers for their most recent school attended, highest degree, area of study and graduation year. With respect to school specifically, we map from the school to a list of available numeric characteristics about the school's academic or economic-outcome measures, and pass those numeric characteristics to the model. In this way, the model anonymizes schools and does not identify any individual schools, know about their demographics, have any knowledge of whether a school is an HBCU or other group affiliation, nor does it group them according to any of the foregoing.

Today, average incoming standardized test scores is the primary characteristic used to group these schools, although others — like graduation rate, average graduate income, and admission rate — are also in our database and could be selected for use in the future by the model depending on data completeness and predictiveness. Currently, we have more complete data on incoming standardized test scores than we do on some of these other features.

Education variables are considered in a similar way to other predictors of default such as FICO, credit report data, and income. The model attempts to make use of these variables to predict default in the same way, and their ultimate importance in the model is determined by their predictiveness. Today, over 50% of the variables and the overall predictive power of the model comes from credit reports. While education data is only a small minority of the overall model, it helps in predicting ability to repay, increasing the model's accuracy and therefore allows us to better serve some consumers.

3. Provide the following information about the use of "economic outcomes" to determine the "groups of schools" used in Upstart's model

- **a. Each "economic outcome" considered by Upstart;**
- **b. An explanation of how Upstart selected each outcome;**
- **c. An explanation of how and the extent to which they factor into credit determinations**

See response to question 2 above.

4. Provide any other relevant detail regarding how these "groups of schools" were formulated, including what metrics and cutoffs are used to determine the groups.

Our model anonymizes and groups schools using their incoming standardized test score, according to the score grouping that is most predictive.[8] No cutoffs or groups are manually specified. This means that schools that have close incoming standardized test scores would be treated similarly by the model.

5. Provide details on the number and characteristics of the "groups" constructed for your underwriting model, including:

- **a. The number of groups;**
- **b. A list of the names or identifiers used to signify each individual group;**
- **c. The total number of schools across all groups;**
- **d. The number of schools in each individual group;**
- **e. The total number of MSis, including:**
    - **The number of HBCUs;**

[8] This is done using a widely accepted machine learning algorithm called stochastic gradient boosted decision trees.

- **The number of HSis;**
- **The number of AANAPISI-serving institutions;**

f. The number of women's colleges; and

g. The proportion of existing MSis and women's colleges in the U.S. that are in each bucket.

As described in our response to question 4 above, we do not manually construct any school groups for the model. Instead the model dynamically groups the numeric values associated with each school in a manner that best predicts successful loan repayment,[9] as shown in our response to question 6 below. The model necessarily groups close values together, approximately in 100 point incoming standardized test score bands. Notwithstanding the fact that these groups are dynamic, the below is an example of these bands and the number of schools that would be included, with over 2,900 schools are grouped into these bands[10]:

School Incoming Test Score Group	Number of Schools
790 - 890	999
890 - 990	503
990 - 1090	656
1090 - 1190	390
1190 - 1290	192
1290 - 1390	92
1390 - 1490	64
1490+	7

We do not collect or use any information related to the demographic group affiliation or demographics of schools. As such, we do not have a reliable way to identify HBCUs, HSIs, women's colleges or any other school demographic characteristic. As described above, our database groups schools using certain academic or economic-outcome based variables, not demographic ones.

We have, however, conducted further analysis to confirm that a school's average standardized test score is not a proxy for any demographic group. This analysis shows it has only a weak relationship to race, one that is similar or lower than that of many traditional credit variables like the credit score. Specifically, analyzing all our 2019 applicant information, as shown below, we observe that there is a stronger relationship between FICO and race than between school and race.

[9] This is done using stochastic gradient boosted decision trees.

[10] The test score range used is 790 to 1590, which represent standardized test scores normalized to the 1600 max score SAT range. This grouping is consistent with the 100 point incoming standardized test score bands specified by the CFPB for our annual access to credit testing. Standardized test score data is not available for all schools.

Further, using the BISG tool, we can estimate the demographic make-up of Upstart applicants, by race and gender, who fall into each of the school groups:

School Groups	Female	Black	White	Hispanic
790 - 890	44%	18%	43%	14%
890 - 990	47%	14%	55%	12%
990 - 1090	45%	13%	57%	9%
1090 - 1190	43%	12%	57%	9%
1190 - 1290	40%	11%	53%	10%
1290 - 1390	36%	11%	48%	9%
1390 - 1490	34%	12%	48%	8%
1490+	32%	11%	48%	8%

While demographic distributions are not equal across groups, they are in many cases far more equal than the demographic distribution of traditional credit scores, as shown in the table below. Because of this, and because of its significant non-correlation with traditional credit scores, use of education variables allows us to better serve (higher approval, lower APR) many consumers of all races and genders.

See below table for the same exercise for FICO score. We estimated, using the BISG tool, the demographic make-up of Upstart applicants, by race and gender, who fall into each of the FICO groups.[11]

FICO Score	Female	Black	White	Hispanic
395 - 451	45%	25%	51%	10%
452 - 508	46%	22%	53%	10%
509 - 565	50%	21%	54%	9%
566 - 622	48%	18%	53%	10%
623 - 678	45%	13%	53%	11%
679 - 735	42%	11%	55%	10%
736 - 792	37%	9%	55%	9%
793 - 850	34%	8%	60%	7%

Because our model considers educational data and does its own grouping based on incoming test scores, we estimate that it improves approval rates for Black applicants by 45% amount and lower APRs by 25% versus a Traditional Model.[12]

[11] We chose 8 equally spaced score bands applied to Upstart applicants
[12] As provided in the third table in our response to question 1.

6. **Provide an explanation, supported by analysis, describing how grouping impacts credit determinations, including:**
   a. **How each "group" is tiered with regard to credit determinations; and**
   b. **How distributions of approval rates, financing fees, and interest rates charged to borrowers differ across "groups."**

As part of our No-Action-Letter, we conduct annual access to credit testing, to measure our approval rate and pricing impacts on consumers, segmented in numerous ways as defined by CFPB. One of those segmentations is based on standardized test score grouping. The below table shows for 2019 applicants the approval and APR improvements of our model as compared to the Traditional Model.[13]

School Groups	Approval Rate Improvement	APR Improvement
790 - 890	44%	23%
890 - 990	46%	26%
990 - 1090	47%	27%
1090 - 1190	49%	28%
1190 - 1290	47%	27%
1290 - 1390	44%	26%
1390 - 1490	45%	25%
1490+	45%	17%

7. **Provide an explanation, supported by analysis, describing the impact that school grouping has on credit determinations for similarly situated borrowers across demographic groups.**

See table from question 6 above. Given the sheer number of variables used by our model there are never two applicants that are the same. Notwithstanding this, borrowers from every group of schools benefit significantly from the Upstart model. The Traditional Model is used in this testing precisely to provide a comparison benchmark, to understand the unique impact our model has on consumers.

8. **Identify the sources of any data concerning the relationship between educational characteristics and economic outcomes used by your model.**

The school data we use comes from a variety of sources, principally the Department of Education's online College Scorecard tool, US News & World Report, and data manually collected by the Upstart team from school websites and online materials.

[13] Certain small methodological improvements are currently being considered in consultation with the CFPB. These test results reflect the updated methodology. Results do not differ substantially across the prior and updated methodologies.

February 26, 2020

United States Senate
Washington, DC 20510

Dear Senators,

This letter is in response to your letter February 13, 2020.

To help set the context to the answers to your questions, we would like to provide an overview of MeasureOne, Inc. ("MeasureOne").

MeasureOne is a technology company whose product enables students to share their academic data with businesses and institutions for use in products and services. Our core value proposition is to enable young consumers to benefit from their academic achievements by enabling them to share those achievements -- **with their explicit consent** -- with businesses and institutions that then may use this academic data to provide products and services to those students that these consumers may not otherwise have access to, such as student discounts with retailers. Other example use cases include determining educational persistence rate, educational transfer and reverse transfer management.

Germane to your letter, MeasureOne's products are also used by lenders to incorporate academic data into their underwriting processes. We reiterate that all data provided by MeasureOne to any of our customers, and lenders in particular, is done only pursuant to an explicit consent by the student at the time of the data request by the product or service provider and solely for the specific purpose designated by the product or service provider.

It is important to emphasize that MeasureOne is not a lender. Rather, MeasureOne is a data company that, with student consent, enables lenders to incorporate students' academic data into their underwriting process. In particular, MeasureOne has pioneered a predictive model that establishes a correlation between academic performance and credit default risk. This product -- which we market as the "MeritScore" -- is incorporated into lenders' underwriting policies as an component of a lender's overall credit decisioning process. **Of note, and as further detailed in the next paragraph, our score does not take into account the applicant's institution of higher education and/or the applicant's declared or completed major.**

We at MeasureOne are passionate about ensuring that our products expand opportunity and provide a path for students to benefit from their academic achievements. We believe that properly used academic data can provide tremendous benefits to students at a period of their lives when they most need help. We fully recognize and share the Senators' concerns around the potential for misuse of this data in Fair Lending practices. To that end, we have explicitly designed the MeritScore to not take into account a student's school or major in its evaluation, factors that we believe could -- intentionally or unintentionally -- serve as proxies for Fair Lending concerns. The result is that the MeritScore provides a quantitative validation to the following statement: rather establishing credit default risk based on whether an applicant attended an Ivy League School or regional public university, that risk can be determined solely based on the individual's academic achievement within whatever institution they attended.

As an example, the table below demonstrates how academic records from two different students yield equivalent MeritScores, ignoring the students' institution and declared major.

Data Points	**Student A**	**Student B**
Degree Type	Bachelor's	Master's
Years in School	3	1
Minimum Grade	C	C
Average GPA	2.6	3.4
Last Term GPA	2.9	3.0
Credits Earned	87	15
MeritScore	**572**	**572**

With that, we welcome the Senators' inquiry and look forward to answering your questions below.

Please see specific responses to your questions below:

1. Describe how your company uses education data as part of any services it offers to consumer lenders including:
    a. A description of how your products consider an applicant's specific institution of higher education;
    b. A description of how your products consider an applicant's specific institution of higher education as part of a group of institution of higher education; or
    c. A description of how your products consider any non-individualized other education data points

    Response: Strictly with student consent, on an opt-in basis, MeasureOne's product accesses, extracts, parses and standardizes and provides transcript data the student has requested to provide to lenders for use in the lenders' underwriting processes. In addition, a lender may choose to incorporate our predictive model, MeritScore, a credit default risk score based on academic achievements. We reiterate that our product is strictly opt-in, i.e., the student must provide explicit consent to provide the transcript data for the specific purpose of a service provider. Also of note, is that this consent is a one-time consent so that any subsequent data access would require an additional consent by the student. In all cases, our data privacy policies are covered by our privacy policy as detailed in https://www.measureone.com/privacy-policy.

Once a student opts-in and provides consent, MeasureOne captures and "digitizes" the transcript information. Transcript data is notoriously inconsistent -- with different grading schemes, credit schemes, and calculations of GPA. This presents problems to customers trying to assess records from different institutions. To address this our product standardizes the transcript information to a single "dictionary" that we maintain. Note that the process of standardization is a conversion process, *not* a measure of institutional strength. This is often a source of confusion which is worth reiterating with an example. An "A" at John Hopkins University is the same as a grade of "A" at St. Mary's College, though the "A" grade at St. Mary's College may be represented as a "4.0" on its college transcript. It is this conversion to a consistent format -- a 4 point scale -- that is the task of our standardization process, not the comparison of institutional strength. That assessment is outside the scope of our product.

As discussed above, MeasureOne's MeritScore is a score we provide to lenders. MeritScore is a predictive algorithm that uses academic data to provide a score that may be used by our customers for their credit decisioning processes. **Our score does not include institution of higher education and/or an applicant's declared or completed major as we felt that these could create a disparate impact.** Our score does include the following data from the applicant's most recent institution of higher education, regardless of the institution's name:

- Degree type (e.g. associates, bachelors, masters)
- Cumulative GPA
- Credit earned
- Hours earned
- Number of years of attendance
- Lowest grade earned (A-F)

Our score is based on a scale similar to FICO: from 300 to 850. Much in the same way as FICO does not make credit determinations, the MeritScore does not provide a credit decision, but rather can be used to help lenders in their underwriting processes. We currently have two customers actively using our MeritScore for student lending underwriting purposes, which MeasureOne does not participate in any capacity.

2. If your company's products consider the applicant's institution of higher education as part of a group of institutions of higher education, please provide a chart identifying each group in the institution of higher education within each group.

   Response: As illustrated above, MeasureOne's product **does not use institution of higher education** to generate a MeritScore.

3. If your company uses educational data in a loan underwriting model that is sold to third parties for use in credit decisions, please provide the following information:
   a. State loan approval and denial rates for loans made using individualized education data in the underwriting process;
   b. State the loan approval and denial rates where the applicants indicates they attended a higher educational institution enrolling populations with significant percentages of minority students;
   c. State the loan approval and denial rates where the applicants indicates they attended a higher educational institution other than one that does not enrolling populations with significant percentages of minority students;
   d. State the loan approval and denial rates where the applicants indicates they attended a community college;
   e. State the loan approval and denial rates where the applicants indicates they attended an institution of higher education other than a community college;

   Response: MeasureOne is not a lender. We do not have information or participate in our customer's credit decision making process.

4. If your company uses educational data in a loan underwriting model that is sold to third parties for use in credit pricing, please provide the following information:
   a. State the interest rate spread (25th percentile, median, and 75th percentile) for loans made using individualized education data (e.g., school, school group, major) in the underwriting process; and
   b. State the interest rate spread (25th percentile, median, and 75th percentile) where an applicant indicates they had attended an institution of higher education enrolling populations with significant percentages of undergraduate minority students
   c. State the interest rate spread (25th percentile, median, and 75th percentile) where an applicant indicates they had attended an institution of higher education other than one enrolling populations with significant percentages of undergraduate minority students
   d. State the interest rate spread (25th percentile, median, and 75th percentile) where an applicant indicates that they attended a community college

Response: MeasureOne is not a lender. We do not have information or participate in our customer's credit pricing.

5. State the interest rate spread (25th percentile, median, and 75th percentile) where an applicant indicates that they attended a institution of higher education other than a community college

   Response: MeasureOne is not a lender. We do not have information or participate in our customer's credit pricing.

Thank you for your interest in this important topic. If you have further questions, please contact me at elan@measureone.com.

Sincerely,

Elan Amir
CEO
MeasureOne, Inc.