APPLICATION OF UPSTART NETWORK, INC.
FOR CFPB NO-ACTION LETTER

On September 14, 2017, the Consumer Financial Protection Bureau ("Bureau") issued a No-Action Letter to Upstart Network, Inc. ("Upstart"). As noted at that time, Upstart was an online lending platform facilitating the receipt and evaluation of consumer loan application using traditional factors, such as credit score and income, as well as incorporating non-traditional sources of information, such as education and employment history. That 2017 letter indicated that staff had no present intent to recommend initiation of supervisory or enforcement action against Upstart with respect to the Equal Credit Opportunity Act or Regulation B as to Upstart's automated underwriting model. That letter also contemplated that Upstart would regularly report lending and compliance information to the Bureau to mitigate risk to consumers and aid the Bureau's understanding of the real-world impact of alternative data on lending decision-making. Since 2017, Upstart has on a quarterly basis provided information to the Bureau regarding the model. On September 11, 2020, the Bureau extended the expiration of this letter to December 1, 2020.

Upstart has found the existing No-Action Letter process to be productive and important for advancing the use of traditional and alternative data for the purpose of expanding access to credit for all consumers. Thus, the following No-Action Letter application seeks to continue and expand the existing arrangement with the Bureau. Specifically, and as described in response to Question 7, Upstart has worked with the Bureau during the application process to significantly expand its reporting obligation to the Bureau and engage in additional fair lending testing beyond the testing and reporting under the current No-Action Letter. While Bureau staff would continue not to recommend initiation of supervisory or enforcement action against Upstart with respect to ECOA arising from the use of its underwriting model for unsecured, closed-end loans, the new No-Action Letter, and accompanying compliance plan, would build upon the information the Bureau has already collected from Upstart.

Question 1

Please list full name of applicant(s).

Response to Question 1

Upstart Network, Inc.

Question 2

Please list the mailing address of your company's headquarters.

Response to Question 2

2950 S. Delaware St. San Mateo, CA 94403

Question 3

Please list the contact information of the person responsible for communicating with the CFPB.

Response to Question 3

Alison Nicoll – (408) 596-6563; alison@upstart.com

Question 4

Describe how your product or service functions, the terms on which it will be offered, and the manner in which it is offered or provided (including any consumer disclosures).

Response to Question 4

A. Upstart's Platform

Upstart has developed a cloud-based artificial intelligence ("**AI**") loan origination and underwriting platform (the "**Platform**") that offers lenders access to Upstart's AI-driven underwriting model (the "**underwriting model**" or "**model**"),[1] a consumer-facing web application and back-end servicing function that streamlines the end-to-end process of originating consumer loans. Banks, credit unions and non-bank lenders that partner with Upstart ("**Partners**")[2] are able to utilize the Platform to originate loans through two channels: Upstart's branded website at www.upstart.com ("**Upstart.com Channel**") and directly through a white label loan application web flow that utilizes the Partner's brand and is integrated into their website but which resides on a subdomain hosted by Upstart containing the Platform (the "**White Label Channel**"). In either channel, Upstart provides marketing-related services and the Platform enables consumers to quickly and easily inquire about a rate for a credit product offered by the Partner(s), evaluate and choose a loan offer, provide necessary information for verification and review required disclosures before final acceptance of the loan. A consumer initially provides certain information to initiate a loan request via the Platform and, provided they qualify for a loan from one of the Partners, is then matched by Upstart to the creditor who offers a loan product to the consumer.[3]

[1] Note that this underwriting model consists of a default risk model and prepayment risk model, and incorporates a branch of artificial intelligence known as machine learning, which applies and refines a series of algorithms on a large data set by optimizing iteratively as it learns in order to identify patterns and make predictions for new data. The model makes both approve/deny decisions and pricing decisions.

[2] When Upstart onboards its Partners, each party undertakes a significant due diligence process, including with regard to an assessment of commitment to matters of regulatory compliance.

[3] Applicants are matched to lenders for whom they qualify for a loan offer based on the Partner's underwriting requirements and pricing thresholds. Where an applicant qualifies for a loan under more than one lender's underwriting and pricing guidelines, they are matched to a lender based on, among other things, the availability of funding by the particular lender.

Upstart's highly configurable Platform allows each Partner to define its eligibility requirements and credit policy and determine the other significant parameters of its lending program, including loan terms, fees, APR and loan size ranges, and target loss rates. All loans originated on the Platform have an APR of 35.99% or lower.

The AI underwriting model used in connection with each of the Partners' lending programs is shared. As a result, this model is trained by every loan underwritten through the Platform, and each Partner benefits from participating in a unified AI lending platform.

Loans originated by Partners can be retained by the Partner, or alternatively distributed to a broad base of institutional investors who purchase or invest in Upstart-powered loans.
In connection with each online loan application received through the Upstart.com Channel, consumers are typically provided with the following agreements and disclosures (where applicable):

- Partner promissory note (if the applicant is approved);
- Credit report and information verification consent;
- Upstart Privacy Policy and Partner privacy disclosure;
- Electronic communications policy and consent;
- Fair Credit Reporting Act ("FCRA") Risk-Based Pricing Disclosure;
- Final Truth in Lending Act ("TILA") Disclosure (if the applicant is approved);
- Adverse Action Notice (if taken); and
- Upstart Terms and Conditions.

Similar agreements and disclosures are provided to consumers applying through the White-Label Channel.

B. Upstart's AI Underwriting Model

Upstart's automated underwriting model uses AI and is designed to assess the individual risk profile for each applicant for each credit offer (a combination of loan duration and loan amount). It is responsible for assigning the maximum amount an applicant can borrow and the appropriate interest rate on the loan based on that risk assessment. It operates within the credit policy of the applicable Partner, meaning the model evaluates only those loans that meet the baseline requirements specified within the lender's underwriting policy. Notwithstanding this, the underwriting model can decline borrowers who meet the baseline requirements of the applicable lending program where the overall risk profile indicates that the interest rate assigned to an applicant is above the allowed interest rate for the program. Upstart uses AI techniques and alternative data to improve underwriting accuracy and outcomes. By combining a more robust utilization of the data in credit files, alternative data points such as education and employment history, and modern AI techniques, Upstart believes it has developed a model that is more predictive of credit performance than a traditional model. As a result, the Platform enables Partners to offer credit to segments of the population with limited credit or work history at lower interest rates.

The Upstart model has been developed to help lenders better understand the credit risk of individual applicants and thereby make more appropriate offers of credit. Upstart believes many lenders, by relying exclusively on the credit report and traditional modeling techniques, ignore some of the most predictive information about potential borrowers. Traditional credit metrics have limited predictive capacity to identify good credit risks from bad credit risks, especially for unsecured consumer installment loans. Upstart, like others in the industry, believes that traditional credit scores are a good predictor of the likelihood that a prospective borrower will repay a loan. In Upstart's view, however, traditional credit scores are simply one good predictor of loan repayment, and it believes that underwriters should use other variables as well.

By complementing (not replacing) traditional underwriting signals with others that it believes are correlated with financial capacity as well as propensity to repay a loan, Upstart's model properly understands and quantifies risk associated with all borrowers, including those with credit history, and those without. Upstart's underwriting model leverages advanced AI techniques to more effectively identify good borrowers and allow lenders to offer better-priced credit to a wider segment of consumers. To help achieve this objective, Upstart continues to refine the model and evaluate new possible variables to help improve the predictive capacity of the model, and thereby the ability of lenders leveraging the model to broaden the applicants to whom they can effectively offer credit. Upstart's underwriting model is designed to assess the default and prepayment risk for each combination of applicant and offer of credit. Upstart's advanced methodologies are utilized to further its goal of designing a model that is as accurate and objective as possible.

In the six years since launching the loan products on the Upstart Platform, the model has demonstrated strong performance and has improved across model versions.[4]

Question 5

Describe the potential consumer benefits associated with your product or service.

Response to Question 5

Upstart believes that its underwriting model expands credit access and offers better loan terms to promising individuals with limited credit history than traditional models. Borrowers who receive credit also end up improving their credit scores, which expands their access to future credit and improves their eligibility for other transactions for which credit scores may be a factor, such as property rentals. The results Upstart has shared with the Bureau under the 2017 NAL, and that are described below, support this view. We are achieving these results by using AI in our underwriting model, which allows us to more accurately quantify the true risk of a loan. We regularly monitor the accuracy of our model in comparison with simple credit score based

[4] Since the Platform's launch in 2014, there have been nine major versions, and numerous minor versions, of Upstart's underwriting model, and its accuracy contribution over a traditional benchmark model has improved an average of 1.34% per month. Further, loan performance (actual defaults/predicted defaults) has improved for every vintage between 2014 and 2019. Since then, actual defaults have been at or below predicted default levels in every cohort.

models.[5] We have seen higher model accuracy across a variety of statistical measures relating to each model's predictive accuracy. Our model's accuracy contribution, that is, its accuracy above and beyond random accuracy, is 4 to 8.8 times that of a traditional model, depending on the accuracy metric used.

Our constantly improving underwriting model enables the growth of originations on our Platform, which results in an increase of data to train the model, which in turn leads to higher approval rates and lower interest rates at the same loss rate. In addition, consumers receiving loans originated through the Platform tend to see increases in their credit scores starting after the first year of receiving the loan. We estimate that borrowers who do not default are able to improve their credit scores by an average of almost 15 points after 36 monthly repayments. This results in significant benefits to consumers who receive loans with the assistance of our underwriting model.

Upstart's underwriting model also enables lenders to reach a broader population of consumers than is possible through traditional underwriting methods. Upstart's use of alternative variables complements but does not replace traditional underwriting signals, and the alternative variables it uses are, it has found, correlated with a consumer's financial capacity and propensity to repay a loan. As a result, Upstart's underwriting properly understands and quantifies risk associated with all applicants, including those with a limited credit history.

The problems with relying almost exclusively on traditional credit scores to predict repayment risk are most pronounced in the case of borrowers with shorter credit histories. Traditional credit scores, although predictive, are not as predictive for borrowers with shorter credit histories. As a result, most large lenders require borrowers to have at least three years of credit history, and their average customer has almost 20 years of credit history.

In the years since launching the loan products on the Platform, Upstart's model has demonstrated strong performance, with lower realized loss rates, increased access to credit and lower borrower costs across model versions. Internal analytics show that Upstart achieves significantly more application approvals than three certain large banks, while maintaining the same loss rates as compared to loans originated by those large banks.[6] In addition, realized loss rates on pools of securitized loans were approximately half of those predicted by Kroll, a prominent credit rating agency.[7]

Upstart's routine reporting to the Bureau under the confidential compliance plan ("**Compliance Plan**") in connection with the existing NAL has supported Upstart's hypothesis regarding the

---

[5] Upstart does this as part of the fair lending testing it performs under the 2017 Compliance Plan, and also as part of its model validation reviews. We compare the performance of our AI model with that of hypothetical lending models formulated using Upstart's approximation of credit score variables used in traditional simple rules-based lending models and additional variables including loan amount, debt-to-income ratio, monthly income, number of credit inquiries and number of trade accounts.

[6] Upstart determined this by replicating three bank models and evaluating their hypothetical loss rates and approval rates using Upstart's applicant base in late 2017.

[7] Upstart determined this by comparing the actual realized loss rates of loans powered by Upstart and securitized between June 2017 and September 2019 with the realized loss rate predictions for those loans based on Kroll surveillance reports in December 2019.

impact its underwriting model has on prospective applicants. Specifically, Upstart has found that:

- In 2018, the model approved 27% more consumers and lowered their APRs by 3.57 percentage points, compared to a traditional lending model. In 2019, the model approved 44% more consumers and lowered their APRs by 4.79 percentage points, compared to a traditional lending model. This shows a year-over-year improvement of 13% increase in approval rates and 1.22 percentage point reduction in APRs respectively.

- In 2018, for near-prime consumers (620-660 FICO), the model approved 95% more consumers and lowered their APRs by 5.42 percentage points compared to a traditional model. In 2019, it approved 105% more near prime consumers and lowered their APRs by 6.93 percentage points compared to a traditional model. This shows a year-over-year improvement of 5% increase in approval rates and 1.51 percentage point reduction in APRs respectively.

- The model provides higher approval rates and lower interest rates for historically underserved demographics as compared to traditional models.

In addition, as more lenders use the Platform, the benefits to consumers are expected to increase. This may be especially true with regard to the addition of depository institutions because, among other advantages, such lenders typically enjoy a low cost of funding and these cost savings can be passed through to borrowers in the form of lower interest rates. This, in turn, will increase the number of borrowers and the amount of training data that the model receives, making the model more accurate.

Question 6

Describe the potential consumer risks associated with your product or service.

Response to Question 6

The potential consumer risks associated with loans originated on the Platform include risks associated with any loan product. These include the following:

1. There is a potential risk that Upstart's underwriting model will deny protected class applicants at rates that are higher than non-protected class applicants, and that there will be an insufficient business justification to support such higher denial rates, or that Upstart's legitimate business needs could be reasonably achieved by alternatives less disparate in their impact.

2. There is a potential risk that Upstart's underwriting model will result in the origination of loans to protected class applicants at prices that are higher than non-protected class applicants, and that there will be an insufficient business justification to support those higher prices, or that Upstart's legitimate business needs could be reasonably achieved by alternatives less disparate in their impact.

3. There is a potential risk that Upstart's underwriting model will fail to adequately predict the creditworthiness of borrowers due to the design of the model or programming, bias in the training data, or other errors, and that the underwriting model does not detect and account for such errors. As a result, borrowers underwritten with the assistance of the Upstart model may be charged higher rates than necessary and/or are inappropriately offered credit and default in higher than forecasted rates.

Question 7

Describe how you will mitigate the anticipated consumer risks.

Response to Question 7

As noted in response to Question 6, some of the risks to consumers are similar in type to those associated with any underwriting model. The risks specifically pertain to (1) whether the credit model properly assesses credit risk in a manner that ensures credit is extended to consumers who have the ability to repay the obligation and (2) whether the credit model provides access to credit on a non-discriminatory basis. Upstart's existing model governance and fair lending monitoring framework both operate to mitigate these risks. This compliance framework also enables Upstart to respond to results that suggests heightened fair lending risk and take any appropriate corrective action.

A. Upstart maintains a robust model governance process.

Upstart has been building and refining its underwriting model for six years. Upstart's model currently incorporates more than 800 variables and is trained by more than 9million repayment events. Beyond the advantages accrued by the constantly growing volume of training data, Upstart's data science team continues to upgrade model forms regularly and it has a pipeline of potential model improvements it expects to implement in the future.

Upstart has implemented a model risk management program in line with existing regulatory guidance. Its model risk management framework is comprised of a number of systematic and operational procedures designed to reduce the risks associated with Upstart's use of models by providing reasonable assurance the model is operating as intended, ensuring ongoing model improvements maintain effectiveness, and promoting effective oversight. It requires that (i) the appropriate policies and oversight are implemented for each model Upstart uses, (ii) documentation that provides a thorough understanding of the model's theory and operational procedures is maintained, and (iii) internal and third-party model validation procedures are implemented.

B. Upstart maintains a comprehensive fair lending program that enables it to manage and control fair lending risk.

Upstart is committed to conducting its business in a manner consistent with fair lending laws, including the Equal Credit Opportunity Act ("ECOA") and Regulation B. To that end, Upstart maintains a Fair Lending/ECOA Policy clearly communicating to employees an expectation that the Company's practices not discriminate against consumers on a prohibited basis. To solidify this commitment, Upstart developed a detailed Fair Lending Oversight Procedure defining processes for ensuring that the Company's underwriting model is consistent with fair lending laws and requiring periodic fair lending testing to confirm compliance. Upstart also maintains a documented complaint program, which also serves as an early detection control in the event consumers raise concerns regarding discrimination or unfair treatment.

C. Upstart will enter into a Model Risk Assessment Plan with the Bureau to facilitate oversight and compliance with the No-Action Letter.

Upstart agrees to enter into a Model Risk Assessment Plan with the Bureau to facilitate ongoing oversight and compliance with the no-action letter, which will include fair lending testing and periodic reporting to the Bureau of lending and compliance information.

Question 8

Explain why you need a No-Action Letter and identify the statutory and/or regulatory provisions for which you seek no-action.

Response to Question 8

As noted, Upstart sought and obtained a No-Action Letter from the Bureau in 2017 with a stated duration of three years. Upstart is grateful to have been the first recipient of a No-Action Letter from the Bureau and has found the letter to be very valuable in addressing regulatory uncertainties associated with Upstart's underwriting model. As discussed further below, given the relative novelty of AI methods and machine learning in the underwriting process, there remain significant legal ambiguities around the use of AI-based underwriting models and the use of non-traditional credit attributes in credit decisions that support the need for a new No-Action Letter.

ECOA and Regulation B prohibit creditors from discriminating against an applicant for credit on the basis of race, religion, sex, age, color, national origin, marital status, receipt of public assistance, and exercise of certain legal rights. 15 U.S.C. § 1691(a); 12 C.F.R. § 1002.4(a). Creditors are also prohibited from making any oral or written statement, in advertising or otherwise, to applicants or prospective applicants that would discourage on a prohibited basis a reasonable person from making or pursuing an application. 12 C.F.R. § 1002.4(b). A person who, in the ordinary course of business, regularly refers applicants or prospective applicants to creditors, or selects or offers to select creditors to whom requests for credit may be made, is considered a "creditor" for purposes of these anti-discrimination and discouragement provisions. 12 C.F.R. § 1002.2(l).

Although the general principles reflected in ECOA and Regulation B are clear, there remains substantial uncertainty concerning the application of those principles to models like Upstart's that use AI and include alternative variables to help identify applicants for credit and/or help participating lenders make credit decisions based on that lender's credit guidelines. In particular, there is a lack of certainty regarding the sufficiency of the analysis required to confirm that the use of AI and facially neutral alternative variables do not have an unjustified disparate impact on applicants and borrowers. Regulators expect institutions to conduct statistical analyses for compliance with ECOA and Regulation B, but have so far declined to establish firm parameters regarding what testing results would suggest an unjustified disparate impact in the context of AI models and use of alternative data.

Granting a No-Action Letter with respect to Upstart's underwriting model would foster innovation, enable more adoption of efficient and more accurate credit underwriting the benefits of which can be passed onto consumers, while reducing this legal uncertainty. Upstart also hopes that, over time, and perhaps through this process, there will be more regulatory certainty generally with respect to the use of AI models and of non-traditional credit attributes in credit decisions.

Question 9

If the applicant would like the CFPB to coordinate with other regulators on this application, please identify those regulators and provide their contact information, if available.

Response to Question 9

We do not request that the CFPB coordinate with other regulators.

Question 10

If the applicant wishes to request confidential treatment for certain information or data, the applicant should identify this information or data and the basis for such treatment as specifically as possible.

Response to Question 10

Confidential treatment has been requested by separate letter.