

# WHAT'S IN THE "BLACK BOX"? BALANCING FINANCIAL INCLUSION AND PRIVACY IN DIGITAL CONSUMER LENDING

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## ABSTRACT

*The availability of credit is a foundation of the American economy, but not everyone has an avenue to credit. Financial Technology ("FinTech") lending plays a sizable role in providing these avenues for Americans who would not otherwise have access to loans and are forced to turn to high-cost loan instruments like payday lending. Most scholars who have contributed to the topic of FinTech lending have focused on the risk of discrimination by Artificial Intelligence within FinTech lending platforms. This Note argues that given the recent history of data breaches in the credit industry, privacy issues should be a part of the larger discussion. Furthermore, balancing privacy with FinTech lending's goal of financial inclusion will be a task required by regulation such as the Fair Credit Reporting Act.*

*This Note argues that the number of issues that might arise—the inherent invasiveness of FinTech and the unfairness of the contracts; the biased nature of their algorithms; the lack of transparency; and the danger of data breaches—should ultimately play second fiddle to the goal of financial inclusion. The reason is that although the two priorities of privacy and access to credit seem to offset one another, they actually balance in counterintuitive ways. Even though there are legitimate privacy concerns with the FinTech model, they can be softened by greater transparency. Toward this end, this Note discusses the solutions that have been offered to help eliminate the opacity of FinTech lending's Artificial Intelligence and ultimately proposes the use of counterfactual explanations to develop accountability in FinTech lending while expanding financial inclusion.*

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## INTRODUCTION

Imagine a person, Brad Freeman, who is interested in taking out a consumer loan. Brad considers himself middle class but does not have a credit score, so he does not qualify for a bank loan. Instead, he hears about a new online lender called IntelligentLoan, which can lend him money at an interest rate close to what a bank would offer. All it takes is Brad's consent for the lender to search through his debit card purchases, computer, and cell phone records. Once Brad agrees, the lender will be able to employ a computer program to search through Brad's records and, in as little as forty-eight to seventy-two hours,<sup>1</sup> spit out a yes-or-no determination on whether to grant Brad Freeman a loan.

Now envision what the computer program might find from just one of Brad's typical evenings after work. On his way home, Brad stops by a gas station to fill up his car. He chooses to pay inside so that he can buy a bottle of Dr. Pepper. Unbeknownst to him, most card users at this gas station fail to repay their credit card debt on time. Brad also works long hours, so it is late in the night when he arrives home, which is nestled in a neighborhood with a high unemployment rate. As usual, he logs onto his computer to check social media and do some browsing. He sees a banner ad for a grill and, because he has been interested in buying a new one for a while, he clicks on the ad and purchases the grill. Finally, Brad glances over his son's homework before texting him this reminder for the morning: "Morgan make sure 2 pick up HW...on desk -DAD."<sup>2</sup> Many of Brad's nights proceed in the same fashion, and his day-to-day habits are more or less the same.

When it comes time for the computer program to decide whether Brad qualifies for a consumer loan, it may decide that all of these microdecisions are factors that weigh against him. The algorithm may not discern that Brad went into the gas station for soda, and instead, it may identify risk under the theory that people who pay inside are more likely to be smokers, a quality often correlated with lack of creditworthiness.<sup>3</sup> It may also knock Brad down a few theoretical pegs

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1. U.S. DEP'T OF THE TREASURY, OPPORTUNITIES AND CHALLENGES IN ONLINE MARKETPLACE LENDING 5 (2016) [hereinafter DOT, LENDING], [https://www.treasury.gov/connect/blog/documents/opportunities\\_and\\_challenges\\_in\\_online\\_marketplace\\_lending\\_white\\_paper.pdf](https://www.treasury.gov/connect/blog/documents/opportunities_and_challenges_in_online_marketplace_lending_white_paper.pdf) [https://perma.cc/NPL3-QJCS].

2. This kind of text would not be unusual for this author's own father to send.

3. Charles Lane, *Will Using Artificial Intelligence To Make Loans Trade One Kind of Bias for Another?*, NPR (Mar. 31, 2017, 5:06 AM), <https://www.npr.org/sections/alltechconsidered/>

because he paid at an establishment where a significant number of customers default on their payments<sup>4</sup> or because there is a high unemployment rate in the area where he resides.<sup>5</sup> Other algorithms capture late-night internet use,<sup>6</sup> shopping habits,<sup>7</sup> hobbies,<sup>8</sup> and punctuation quality in text messages<sup>9</sup> as part of their computations.

These types of data are known in the lending industry as alternative data,<sup>10</sup> and the composite of alternative data is known as big data.<sup>11</sup> Companies that mine big data and use it to provide financial services are part of the growing field of Financial Technology ("FinTech").<sup>12</sup> Although IntelligentLoan is an imaginary company, it is not entirely fictional. Hundreds of companies operate like IntelligentLoan by collecting big data to determine creditworthiness. These companies, also known as FinTech lenders, are shaking up the financial services industry, with FinTech lending expected to reach

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2017/03/31/521946210/will-using-artificial-intelligence-to-make-loans-trade-one-kind-of-bias-for-anot [https://perma.cc/F28T-Z7CS].

4. See Mikella Hurley & Julius Adebayo, *Credit Scoring in the Era of Big Data*, 18 YALE J.L. & TECH. 148, 150–51 (2016) (describing the story of a credit card client whose credit limit was reduced because he shopped at an establishment where other customers had high default rates).

5. Atay Kizilaslan & Aziz Lookman, *Peer-to-Peer Loans: Can Economically Intuitive Factors Improve Ability of Proprietary Algorithms To Predict Defaults?*, LENDING TIMES (July 17, 2017), <https://lending-times.com/2017/07/17/peer-to-peer-loans-can-economically-intuitive-factors-improve-ability-of-proprietary-algorithms-to-predict-defaults> [https://perma.cc/LRE5-QCS6] (analyzing how unemployment rates increase the ability to predict defaults in peer-to-peer loans offered by FinTech company Lending Club).

6. See Lane, *supra* note 3 (suggesting that late-night internet use corresponds with poor loan repayment and asserting that this could be used as a factor in calculating digital loans).

7. Chris Brummer & Yesha Yadav, *Fintech and the Innovation Trilemma*, 107 GEO. L.J. 235, 273–74 (2019).

8. *Id.*

9. *Id.*

10. Compare Request for Information Regarding Use of Alternative Data and Modeling Techniques in the Credit Process, 82 Fed. Reg. 11,183, 11,184 (Feb. 21, 2017) ("‘Alternative data’ refers to any data that are not ‘traditional.’ We use ‘alternative’ in a descriptive rather than normative sense and recognize there may not be an easily definable line between traditional and alternative data."), with *id.* ("‘Traditional data’ refers to data assembled and managed in the core credit files of the nationwide consumer reporting agencies . . . It also refers to data customarily provided by consumers as part of applications for credit, such as income or length of time in residence.").

11. See *What Is Big Data?*, ORACLE, <https://www.oracle.com/big-data/guide/what-is-big-data.html> [https://perma.cc/4H3C-3WWT] ("Put simply, big data is larger, more complex data sets, especially from new data sources.").

12. See STEPHEN FROMHART, DELOITTE CTR. FOR FIN. SERVS., MARKETPLACE LENDING 2.0, at 1 (2017), <https://www2.deloitte.com/content/dam/Deloitte/us/Documents/financial-services/us-fsi-marketplace-lending2.pdf> [https://perma.cc/24YL-PASX] ("Marketplace lending is an integral piece of a larger fintech puzzle that is transforming the financial services industry.").

nearly 10 percent of all consumer loans in the United States and Europe within the next three years.<sup>13</sup>

Thus far, the practice of FinTech lending may appear to be a bit nefarious, especially after learning how the information collected on individuals like Brad can be equal parts misleading and invasive. Despite these concerns, FinTech also provides hope for underserved families who cannot obtain traditional loans. As this Note will discuss, many families do not have a reliable way to access credit, either in the form of loans or credit cards. Even middle-class families like Brad's will struggle to put together an application that will be competitive for a traditional loan. FinTech is an alternative solution. If Brad's loan application is approved by IntelligentLoan, he now has access to a line of credit, likely at a lower interest rate than what he would otherwise have had to pay. Perhaps Brad needs the loan to pay off hospital bills, childcare costs, or any number of other expenses families face today.

As with many other technology-based solutions, government regulation may compromise FinTech lending's ability to provide a benefit; in this case, increased credit to underserved families. It is understandable why regulators might harbor reservations about FinTech lending. In his article, Professor Matthew Adam Bruckner discusses how the "primary threat" to the promise of increasing financial access is the peril of financial services discrimination.<sup>14</sup> Indeed, legal academia in this field has largely focused the discussion on the risk of disparate impact.<sup>15</sup> The argument generally follows that algorithms could mistakenly discriminate against certain groups of people even if a company is not "motivated by an intent to discriminate."<sup>16</sup> For example, certain data collected on Brad—most notably the neighborhood unemployment rate—may be used as proxies for race or education.

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13. Lane, *supra* note 3.

14. Matthew Adam Bruckner, *The Promise and Perils of Algorithmic Lenders' Use of Big Data*, 93 CHI-KENT L. REV. 3, 7, 25 (2018).

15. See, e.g., Sonia K. Katyal, *Private Accountability in the Age of Artificial Intelligence*, 66 UCLA L. REV. 54, 56–74 (2019) (noting the tension between Artificial Intelligence and civil rights).

16. Lauren Kirchner, *When Discrimination Is Baked Into Algorithms*, ATLANTIC (Sept. 6, 2015), <https://www.theatlantic.com/business/archive/2015/09/discrimination-algorithms-disparate-impact/403969> [<https://perma.cc/9K63-6BWE>].

On the other hand, as the Equifax data breach in 2017 demonstrated,<sup>17</sup> privacy risks can be just as pervasive as discriminatory risks in the lending sphere. For instance, although Brad agreed to provide IntelligentLoan access to his computer and phone, he may not have realized that the lender would track his internet browsing history or his text messages. After all, such information is not something the average Brad would expect to be related to his ability to pay back a loan. If Brad's loan is denied, he could decide to request information on the reasoning, but it is unclear whether IntelligentLoan would respond with anything other than an inscrutable notice that the algorithm had deemed him a default risk.

Although authors like Bruckner have homed in on the risk that algorithmic discrimination impedes the progress of FinTech lending, it is very likely the greater threat will come from regulations intended to protect user privacy. As the spotlight shines brighter on Artificial Intelligence ("AI"), calls for increased regulation of algorithmic decision-making have amplified.<sup>18</sup> From the push behind the European Union's passage of the General Data Protection Regulation ("GDPR")<sup>19</sup> to American citizens' newfound interest in privacy following the Facebook–Cambridge Analytica scandal,<sup>20</sup> data privacy has never been a more important topic. Many key players have criticized algorithms for being "black boxes,"<sup>21</sup> a term used to describe

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17. Sara Ashley O'Brien, *Giant Equifax Data Breach: 143 Million People Could Be Affected*, CNN BUSINESS (Sept. 8, 2017, 9:23 AM), <https://money.cnn.com/2017/09/07/technology/business/equifax-data-breach/index.html> [<https://perma.cc/5CVP-ZQSW>].

18. E.g., Navneet Alang, *Algorithms Have Gotten Out of Control. It's Time To Regulate Them*, WEEK (Apr. 3, 2019), <https://theweek.com/articles/832948/algorithms-have-gotten-control-time-regulate> [<https://perma.cc/RQY7-7PWM>]; see also Kirchner, *supra* note 16 (describing bias within algorithmic lending).

19. The GDPR is a "European Union data privacy and protection regime" that was designed to provide increased protection for EU citizens' personal data. *The General Data Protection Regulation: A Primer for U.S.-Based Organizations that Handle EU Personal Data*, GIBSON DUNN (Dec. 4, 2017), <https://www.gibsondunn.com/the-general-data-protection-regulation-a-primer-for-u-s-based-organizations-that-handle-eu-personal-data> [<https://perma.cc/Y567-VFYS>]. Two law professors have theorized that an unstated reason for the GDPR's passage was to fight back against American companies' lax data-privacy standards. Kimberly A. Houser & W. Gregory Voss, *GDPR: The End of Google and Facebook or a New Paradigm in Data Privacy?*, 25 RICH. J.L. & TECH. 1, 8–9 (2018).

20. Issie Lapowsky, *How Cambridge Analytica Sparked the Great Privacy Awakening*, WIRED (Mar. 17, 2019, 7:00 AM), <https://www.wired.com/story/cambridge-analytica-facebook-privacy-awakening> [<https://perma.cc/YC4D-8T3J>].

21. See, e.g., Lilian Edwards & Michael Veale, *Slave to the Algorithm? Why a 'Right to an Explanation' Is Probably Not the Remedy You Are Looking For*, 16 DUKE L. & TECH. REV. 18,

the opacity of their processes. These larger, general data-privacy concerns over big data can be expected to spill over to FinTech, which collects big data in spades. The looming question, then, is whether the country's growing concern for data privacy should leave any room for algorithms in digital lending to operate. This Note argues that the answer is yes.

The argument proceeds as follows. Part I briefly surveys the history and background of traditional and FinTech lending. Part II explores the role FinTech lending can play in increasing access to credit for borrowers who have traditionally been denied such access, outlines the privacy concerns with big data, and attempts to weigh the balance between access and privacy. Finally, Part III counters several categorical solutions that have been offered for combatting privacy risks and discusses how an optimal solution exists for addressing privacy concerns while simultaneously increasing access to credit.

## I. BACKGROUND

This Part examines the process that resulted in FinTech lending's rollout. The first Section details the traditional lending model that existed for much of history. The second Section introduces FinTech lending, which is displacing many of the basic assumptions of traditional lending.

### A. *Introduction to Traditional Lending*

The business model for any bank lender is typically the same: find borrowers who will pay back their loans at a greater interest-rate spread compared to what the lender paid while simultaneously minimizing the number of borrowers who will end up failing to pay back their loans.<sup>22</sup> In traditional banks, the role of screening out those who were not creditworthy fell on real people, usually loan officers or credit managers.<sup>23</sup> Even though this model has persisted throughout history, there is a genuine question as to whether humans are satisfactorily capable of judging financial risk. One study conducted by psychologists revealed that in addition to "hard financial data," loan

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56 (2017) (quotations omitted) (noting that such complex models have been characterized by the media as "black boxes").

22. Marcy Gordon, *Banking 101: How Banks Make Their Money*, THESTREET (Apr. 20, 2009, 2:24 PM), <https://www.thestreet.com/story/12802821/1/banking-101-how-banks-made-their-money.html> [<https://perma.cc/FH79-PVMR>].

23. Hurley & Adebayo, *supra* note 4, at 155.

officers in large commercial banks also relied upon “soft impressions and gut feelings” regarding the credibility of the applicant.<sup>24</sup> Another study found that loan officers frequently reach a conclusion early in the lending process and subsequently ignore information that is inconsistent with their initial impression.<sup>25</sup>

Another pertinent issue is the type of information that lenders collect. Most lending “[i]n recent memory” has been done by a prospective borrower entering a brick-and-mortar bank and filling out paperwork about her “income, assets, and debts.”<sup>26</sup> Over time though, lenders have learned to rely on the computation done by other companies, such as the Fair Isaac Corporation (“FICO”), so that along with the paperwork, banks pull the prospective borrower’s credit score to decide whether to extend a loan.<sup>27</sup> Today, nearly every traditional loan decision is based on a credit score.<sup>28</sup> A consumer could theoretically avoid going through this process of obtaining a loan by using a credit card and racking up credit card debt, but the consumer would still run into the same hurdles because credit card companies use similar information when evaluating prospective cardholders.<sup>29</sup> The issue is that the time it takes for loan officers to review this information is costly and inefficient.<sup>30</sup> Moreover, evidence suggests that credit history may not even be the best predictor of loan repayment rates.<sup>31</sup>

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24. Raanan Lipshitz & Nurit Shulimovitz, *Intuition and Emotion in Bank Loan Officers’ Credit Decisions*, 1 J. COGNITIVE ENG. & DECISION MAKING 121, 212 (2007) (quotations omitted).

25. Paul Danos, Doris L. Holt & Eugene A. Imhoff, Jr., *The Use of Accounting Information in Bank Lending Decisions*, 14 ACCT., ORGS. & SOC’Y 201, 235 (1989).

26. Bruckner, *supra* note 14, at 11–12.

27. Request for Information Regarding Use of Alternative Data and Modeling Techniques in the Credit Process, 82 Fed. Reg. 11,183, 11,184 (Feb. 21, 2017).

28. Luke Herrine, *Credit Reporting’s Vicious Cycles*, 40 N.Y.U. REV. L. & SOC. CHANGE 305, 307 (2016).

29. See Melanie Lockert, *Credit Card Approval: What Factors Matter?*, CREDIT KARMA (July 22, 2019), <https://www.creditkarma.com/credit-cards/i/credit-card-approval> [<https://perma.cc/EP8U-WEPH>] (detailing the factors that credit card companies consider when issuing a credit card).

30. See EVA WOLKOWITZ & SARAH PARKER, CTR. FOR FIN. SERVS. INNOVATION, BIG DATA, BIG POTENTIAL: HARNESSING DATA TECHNOLOGY FOR THE UNDERSERVED MARKET 4 (2015), <https://s3.amazonaws.com/cfsi-innovation-files/wp-content/uploads/2017/02/13062352/Big-Data-Big-Potential-Harnessing-Data-Technology-for-the-Underserved-Market.pdf> [<https://perma.cc/7Q2G-BR3B>] (describing traditional lenders’ use of “rudimentary computing power” and the difficulty of “gathering and normalizing data” as “relatively inefficient”).

31. See Louise Matsakis, *Your Smartphone Choice Could Determine If You’ll Get a Loan*, WIRED (May 8, 2018, 11:00 AM), <https://www.wired.com/story/your-smartphone-could-decide-whether-youll-get-a-loan> [<https://perma.cc/FP75-AWKD>] (“The researchers ultimately found

## B. *Primer on FinTech Lending*

In an industry built on eliminating default risk, a new type of lender has emerged to modernize the old system for evaluating creditworthiness. Instead of resembling banks, credit card companies, or credit bureaus, “FinTech lenders” are online-only startups that shun the human-based lending model to make lending quicker, more efficient, and less expensive so that reduced expenses can be passed onto borrowers.<sup>32</sup> FinTech is a term used to describe “the wide universe of innovative technology-enabled financial services”;<sup>33</sup> FinTech lending is simply one of those services. One way to think about FinTech is to view the technologies as alternatives to traditional financial services. Cryptocurrencies like BitCoin are alternatives to slow payments.<sup>34</sup> Automated advisers, “colloquially referred to as ‘robo-advisers,’”<sup>35</sup> are an alternative to human wealth managers.<sup>36</sup> Likewise, FinTech lending is an alternative to the traditional lending model described above.<sup>37</sup>

FinTech lenders use a wide array of data to inform their lending decisions regarding whether to extend a loan and what interest rate to offer.<sup>38</sup> The idea of using multiple data points to inform these lending

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that digital footprints equaled or exceeded the predictive power of traditional FICO-like credit scores.”).

32. U.S. DEPT OF THE TREASURY, A FINANCIAL SYSTEM THAT CREATES ECONOMIC OPPORTUNITIES: NONBANK FINANCIALS, FINTECH, AND INNOVATION 85 (2018) [hereinafter DOT, FINTECH], <https://home.treasury.gov/sites/default/files/2018-07/A-Financial-System-that-Creates-Economic-Opportunities--Nonbank-Financi....pdf> [https://perma.cc/2G5J-DUP2].

33. Saule T. Omarova, *New Tech v. New Deal: Fintech as a Systemic Phenomenon*, 36 YALE J. ON REG. 735, 736 (2019).

34. *Id.* at 771.

35. DIV. OF INV. MGMT., U.S. SEC. & EXCH. COMM’N, IM GUIDANCE UPDATE: ROBO-ADVISERS 1 (2017) [hereinafter IM GUIDANCE UPDATE], <https://www.sec.gov/investment/im-guidance-2017-02.pdf> [https://perma.cc/8HL2-EALP].

36. Omarova, *supra* note 33, at 787.

37. This Note will mainly use the term “FinTech lending” to capture this identity of being an alternative to traditional lending. FinTech lending has been called several other names, including digital lending, *see generally* AM. BANKERS ASS’N, *infra* note 146, algorithmic lending, *see generally* Bruckner, *supra* note 14, peer-to-peer lending, and marketplace lending, *see, e.g.*, Odinet, *infra* note 147, at 784. Although these terms are mostly synonymous, the latter two terms hint at another unique aspect of FinTech lending: the creation of a decentralized credit market between consumers and lenders. While this Note focuses on the use of alternative data to determine creditworthiness, it is important to note that the field of FinTech lending is broader and worthy of examination beyond this Note. Omarova, *supra* note 33, at 743–44.

38. Eric Bank, *How Marketplace Lenders Decide If You’re a Good Risk*, CREDIBLE (Feb. 10, 2017), <https://www.credible.com/blog/personal-loan/marketplace-lenders-decide-good-risk> [https://perma.cc/R737-7EQ4].

decisions is not novel, however. The three major credit bureaus—Experian, Equifax, and TransUnion<sup>39</sup>—collect the personal and financial information of consumers, compile them into a credit report, and provide the information to lenders and credit scorers, including FICO.<sup>40</sup> The specific information carried varies between the credit bureaus, but in general, they include performance of a consumer's prior loans, public records, credit inquiries, income, and length of time at their home and employer.<sup>41</sup>

The problem with using credit or FICO scores is that many Americans have limited credit histories, making it difficult for them to take out traditional loans. Such consumers are either "unscorable," meaning they have insufficient credit histories to generate a credit score, or "credit invisible," meaning they do not possess any credit record at all.<sup>42</sup> According to a Consumer Financial Protection Bureau's ("CFPB") estimate, twenty-six million American consumers are credit invisible and another nineteen million are unscorable.<sup>43</sup> The same study found that one's likelihood of being credit invisible is correlated with income and race. In low-income neighborhoods, almost 30 percent of adult consumers are credit invisible and an additional 15 percent are unscorable.<sup>44</sup> Contrast that with upper-income neighborhoods where only 4 percent of consumers are credit invisible and another 5 percent are unscorable.<sup>45</sup> Similarly, "[a]bout 15 percent of Black and Hispanics are credit invisible (compared to 9 percent of Whites and Asians)."<sup>46</sup> Many of the credit invisible may want to establish a credit record but need a credit score to do so. Not knowing where to start, they turn to

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39. *Credit Reports and Scores*, USA.GOV (Aug. 22, 2019), <https://www.usa.gov/credit-reports> [<https://perma.cc/SWY7-Q976>].

40. See LESLIE PARRISH, AITE, *ALTERNATIVE DATA ACROSS THE LOAN LIFE CYCLE: HOW FINTECH AND OTHER LENDERS USE IT AND WHY* 4 (2018), [https://www.experian.com/assets/consumer-information/reports/Experian\\_Aite\\_AltData\\_Report\\_Final\\_120418.pdf](https://www.experian.com/assets/consumer-information/reports/Experian_Aite_AltData_Report_Final_120418.pdf) [<https://perma.cc/8G8M-TQRW>] (describing how lenders use Experian's core credit files); *What Is a Credit Score?*, MYFICO, <https://www.myfico.com/credit-education/credit-scores> [<https://perma.cc/4RCU-QVJE>] (explaining that FICO credit scores are calculated based on reports provided by credit bureaus Equifax, TransUnion, and Experian).

41. PARRISH, *supra* note 40.

42. CFPB OFFICE OF RESEARCH, *DATA POINT: CREDIT INVISIBLES* 4 (2015), [https://files.consumerfinance.gov/f/201505\\_cfpb\\_data-point-credit-invisibles.pdf](https://files.consumerfinance.gov/f/201505_cfpb_data-point-credit-invisibles.pdf) [<https://perma.cc/XVN2-XDBP>].

43. *Id.* at 6.

44. *Id.*

45. *Id.*

46. *Id.*

high-cost loan products<sup>47</sup> that do next to nothing in helping them build credit.<sup>48</sup>

A creative solution to this problem was to expand the type of data that lenders gathered. Lenders began expanding the breadth of big data to reach the prospective borrowers that traditional lenders could not.<sup>49</sup> The idea was that even if credit-invisible consumers did not have credit scores, the lender could base its decision off of other nontraditional data points.<sup>50</sup> At first, alternative data merely meant data that were not specifically used by banks but were linked to traditional factors such as rent and utility payments, job stability, and others.<sup>51</sup> Eventually, digital lenders expanded where they collected data to include information that few thought were relevant before.<sup>52</sup> The new model embraced the idea that data collected should measure a person's character instead of just their credit history<sup>53</sup> and today includes information and sources such as cell phone data, social media, shopping preferences, and personal habits.<sup>54</sup>

The final wrinkle to FinTech lending arrived when FinTech developers applied machine learning to lending evaluations to form “smart” algorithms.<sup>55</sup> Before smart algorithms, lending models relied on humans to determine the weight of each factor, whereas smart algorithms are able to weigh the factors themselves.<sup>56</sup> Specifically, smart-algorithm systems are trained to “recursively evaluat[e] the

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47. See *infra* Part II.A.

48. Kim Porter, *Understanding Payday Loans and Your Options*, CREDIT KARMA (Sept. 12, 2019), <https://www.creditkarma.com/advice/i/payday-loans> [<https://perma.cc/2WR2-6B4U>] (“[P]ayday lenders usually don’t report your payment history to the credit bureaus, which means the loan is not helping you build credit.”).

49. Bruckner, *supra* note 14, at 13.

50. *Id.*

51. See Peter P. Swire, *The Persistent Problem of Lending Discrimination: A Law and Economics Analysis*, 73 TEX. L. REV. 787, 836–37 (1995) (finding that alternative selection practices used in 1995 included new criterion like the ones listed).

52. See EXEC. OFFICE OF THE PRESIDENT, BIG DATA: A REPORT ON ALGORITHMIC SYSTEMS, OPPORTUNITY, AND CIVIL RIGHTS 11–12 (2016), [https://obamawhitehouse.archives.gov/sites/default/files/microsites/ostp/2016\\_0504\\_data\\_discrimination.pdf](https://obamawhitehouse.archives.gov/sites/default/files/microsites/ostp/2016_0504_data_discrimination.pdf) [<https://perma.cc/FC3W-3WPA>] (“Some companies look at previously untapped data” with the less conventional sources including “information gleaned from social media platforms, purchasing preferences via online shopping histories, and even the speeds at which applicants scroll through personal finance websites.”).

53. Nizan Geslevich Packin & Yafit Lev-Aretz, *On Social Credit and the Right To Be Unnetworked*, 2016 COLUM. BUS. L. REV. 339, 343.

54. Brummer & Yadav, *supra* note 7, at 279.

55. See Bruckner, *supra* note 14, at 14 (describing previous iterations as “dumb” algorithms).

56. *Id.*

output of each algorithm against a desired result.”<sup>57</sup> To illustrate, if a human programmer premarked a sample borrower as creditworthy and the algorithm found that sample borrower to be creditworthy, the system would mark it as a success. If the algorithm incorrectly labeled the sample borrower as not creditworthy, the programmer would have the algorithm continue to refine its calculation of which data it used and how much it weighted them along with other factors until it reached the proper result. By autonomously doing this process thousands of times, the program would “learn” by making its own connections within the available data.

This discussion may make it seem like FinTech lending was rolled out in a uniform manner, but FinTech lending is still a broad concept used to describe a highly variable practice that is constantly evolving. To illustrate, even the methods that FinTech lenders use to gather information can vary. Some companies may selectively collect information from public records.<sup>58</sup> Others may require a user to “opt in” and share personal information “in exchange for more attractive offers and lower rates.”<sup>59</sup> The common thread connecting FinTech lenders is their collective ability to assist underserved communities—a benefit which the following Part will hold up to the light for examination.

## II. THE BENEFITS AND RISKS OF FINTECH LENDING

Among industry experts, expanded access to credit is the most frequently mentioned expected benefit of FinTech’s use of AI.<sup>60</sup> At the same time, “71% of consumers fear AI will infringe on their personal privacy in some way.”<sup>61</sup> These results represent competing principles. This Part will first assess how FinTech lending can effectuate financial

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57. KEVIN PETRASIC, BENJAMIN SAUL & MATTHEW BORNFREUND, RISK & COMPLIANCE MAGAZINE, THE EMERGENCE OF AI REGTECH SOLUTIONS FOR AML AND SANCTIONS COMPLIANCE 4 (2017), available at [https://www.whitecase.com/sites/whitecase/files/files/download/publications/rc\\_apr17\\_reprint\\_white.pdf](https://www.whitecase.com/sites/whitecase/files/files/download/publications/rc_apr17_reprint_white.pdf) [<https://perma.cc/Y9RZ-2CBN>].

58. PARRISH, *supra* note 40, at 9.

59. WOLKOWITZ & PARKER, *supra* note 30, at 6; *see also id.* at 9 (discussing FinTech lender Mint’s practice of collecting bank activity).

60. *See* Vincent Di Lorenzo, *Fintech Lending: A Study of Expectations Versus Market Outcomes*, REV. BANKING & FIN. L. (forthcoming 2019) (manuscript at 7) (on file with the *Duke Law Journal*) (listing commentators’ responses to potential benefits in the OCC Request for Comments).

61. Olivia Krauth, *Report: 71% of Consumers Fear AI Will Infringe on Their Privacy*, TECHREPUBLIC (Dec. 6, 2017, 6:59 AM), <https://www.techrepublic.com/article/report-71-of-consumers-fear-ai-will-infringe-on-their-privacy> [<https://perma.cc/ZES8-SFTY>].

inclusion for communities that need it most, reviewing both the necessity and empirical basis for this purpose. This Part will then discuss the costs of FinTech lending, with a particular focus on privacy. The final Section will attempt to “balance” the two interests by arguing that FinTech lending can improve data privacy, not hinder it.

A. *The Role of FinTech Lending in Increasing Access*

In 2016, the Obama administration announced that FinTech and big data could have a large role to play in increasing access to credit for underserved, unbanked communities.<sup>62</sup> If FinTech lending can, in fact, play a role in increasing access to credit, it would go a long way toward alleviating a serious issue plaguing low-income individuals and families in America: predatory lending. When traditional lenders turn away borrowers, borrowers are forced to seek out funds from other sources; for many low-income families, the only option is to turn to payday lenders.<sup>63</sup> Payday lending, which has been labeled “predatory lending” and “modern-day loan shark[ing],” is the practice of extending “extremely high-interest, short-term loans . . . to cash-strapped customers.”<sup>64</sup> Annual percentage rates for payday loans have been spotted at rates as high as 400 percent, far outpacing the interest-rate caps set by most states.<sup>65</sup> Additionally, the payday-lending business model revolves around forcing customers to pay these astronomical interest rates all at once, without the opportunity for partial payments.<sup>66</sup> The result: customers are forced to take out a new loan from the same payday lender just to pay off their old loan.<sup>67</sup> This

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62. EXEC. OFFICE OF THE PRESIDENT, *supra* note 52, at 11.

63. See Creola Johnson, *Payday Loans: Shrewd Business or Predatory Lending?*, 87 MINN. L. REV. 1, 8 (2002) (explaining that the typical payday loan borrower “lack[s] access to traditional forms of credit”).

64. *Id.* at 2–3.

65. *Payday Lending: A 400% Interest Debt Trap*, CTR. FOR RESPONSIBLE LENDING, <https://www.responsiblelending.org/issues/payday-lending-400> [<https://perma.cc/9GVM-R5HQ>].

66. Bethany McLean, *Payday Lending: Will Anything Better Replace It?*, ATLANTIC (May 2016), <https://www.theatlantic.com/magazine/archive/2016/05/payday-lending/476403> [<https://perma.cc/LLH9-XJHD>].

67. See Lynn Drysdale & Kathleen E. Keest, *The Two-Tiered Consumer Financial Services Marketplace: The Fringe Banking System and Its Challenge to Current Thinking About the Role of Usury Laws in Today's Society*, 51 S.C. L. REV. 589, 601 (2000) (describing this practice of “touch and go” in payday lending).

creates a vicious cycle for lower-income borrowers whereby they struggle to ever fully pay off their loans.<sup>68</sup>

To alleviate this concern, FinTech lenders claim that their products increase access to nonpredatory loans. For example, FinTech lender Upstart's company mission is "[f]inancial fitness for all."<sup>69</sup> If their claims are accurate, FinTech lending would be a substantial improvement over payday lending by first, providing lower interest rates, and second, reducing the number of credit-invisible consumers. If they are not, then FinTech would simply be an elegant idea for serving tech-savvy borrowers who already have credit access.<sup>70</sup>

First, in terms of interest rates, FinTech lenders typically offer APR rates below 36 percent, and many have stated they would be willing to accept a 36 percent cap on consumer loans.<sup>71</sup> Part of the reason why rates can be low is because FinTech lenders generally originate smaller loans.<sup>72</sup> When lower-income consumers—the type that take out payday loans—borrow money, they often only need a relatively small amount to cover an expense.<sup>73</sup> FinTech lenders and

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68. Many of these stories have been told, including that of Leticia Ortega, who Professor Creola Johnson introduced in her article. Johnson, *supra* note 63, at 2–3. Ortega was a cashier who took out a payday loan because she feared she did not have enough cash to pay her overdue bills. For a \$300 loan, the National Money Service charged her \$90 in interest due by her next payday. When the loan became due, Ortega lacked the cash to repay the entire loan, so the company continued to charge her \$90 every two weeks. In the end, even after Ortega had paid \$1800 in interest, the company still did not consider her original \$300 loan paid off. *Id.*

69. *Our Mission: Financial Fitness for All*, UPSTART, <https://www.upstart.com/blog/financial-fitness> [<https://perma.cc/DV2B-PU8A>].

70. One version of this theory is that the real FinTech borrowers are not underserved but simply have self-control issues, overborrow, and exceed the limits on their non-FinTech loans. See MARCO DI MAGGIO & VINCENT YAO, FINTECH BORROWERS: LAX-SCREENING OR CREAM-SKIMMING? 27 (2018), [https://philadelphiafed.org/-/media/bank-resources/supervision-and-regulation/events/2018/fintech/resources/session%207\\_marco\\_dimaggio.pdf?la=en](https://philadelphiafed.org/-/media/bank-resources/supervision-and-regulation/events/2018/fintech/resources/session%207_marco_dimaggio.pdf?la=en) [<https://perma.cc/3RXH-NNMA>].

71. DOT, FINTECH, *supra* note 32, at 91.

72. DAVID W. PERKINS, CONG. RESEARCH SERV., R44614, MARKETPLACE LENDING: FINTECH IN CONSUMER AND SMALL-BUSINESS LENDING 2 (2018), <https://fas.org/sgp/crs/misc/R44614.pdf> [<https://perma.cc/MPZ5-RQU9>].

73. CONG. RESEARCH SERV., R44868, SHORT-TERM, SMALL-DOLLAR LENDING: POLICY ISSUES AND IMPLICATIONS 1 (2017), [https://www.everycrsreport.com/files/20170614\\_R44868\\_aab54dca525aba5babea4bb8beca992d5888f91.pdf](https://www.everycrsreport.com/files/20170614_R44868_aab54dca525aba5babea4bb8beca992d5888f91.pdf) [<https://perma.cc/X4BW-29UT>] (“Short-term, small-dollar loan products are frequently used to cover cash flow shortages that may occur due to unexpected expenses or periods of inadequate income.”); THOMAS A. DURKIN, GREGORY ELLIEHAUSEN, MICHAEL E. STATEN & TODD J. ZYWICKI, CONSUMER CREDIT AND THE AMERICAN ECONOMY 383 (2014) (drawing a parallel between payday loans and small consumer finance loans because “[m]ost customers used payday loans because they had an urgent need . . . [and] used payday loans over relatively short time intervals”).

their financiers can be more certain that consumers will pay back small loans while financial institutions, consistent with their business model, continue to extend large loans with loan periods of several years.<sup>74</sup>

Second, current practices suggest FinTech lending will reach more underserved consumers than traditional lending fueled by credit scores. Although there is reason to doubt FinTech lenders would be willing to extend loans to the credit invisible or unscorable,<sup>75</sup> there are perhaps ten million reasons to believe they will. Specifically, about one-third of unscorable consumers—or ten million—are *not* considered to be high risk despite lacking a credit score.<sup>76</sup> Additionally, more than 40 percent of unscorable customers are homeowners, and their incomes resemble consumers who do have credit scores.<sup>77</sup> FinTech lenders can gain an advantage over traditional lenders by capturing this market of unscored consumers with comparable risk profiles to consumers who receive traditional loans.

FinTech lenders also have obligations to assist borrowers who have difficulty securing loans. FinTech lenders that apply for a charter from the Office of the Comptroller (“OCC”) to operate as special purpose national banks are required to describe “how they will support the needs of the communities they serve and promote financial inclusion.”<sup>78</sup> Obtaining a special purpose charter can benefit FinTech firms by granting them OCC preemption of state law.<sup>79</sup> According to the OCC, even FinTech lenders that are not chartered under a special

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74. See PERKINS, *supra* note 72, at 22 (explaining why FinTech and traditional lenders have thus far catered to different borrowers and predicting traditional lender responses to marketplace lending).

75. It is inferable that lenders’ general wariness of fraudulent borrowers would produce reluctance to lend to those with uncertain credit because they lack reliable records. Cf. PARRISH, *supra* note 40, at 6 (presenting evidence of lender concern about fraudulent borrowers and stating that the need to “root out fraud is particularly acute for fintech lenders, which do not know prospective borrowers through existing banking relationships and conduct most—if not all—of their loan originations online”).

76. Blake Ellis, *Millions Without Credit Scores Not So Risky After All*, CNN MONEY (Aug. 14, 2013, 6:08 AM), <https://money.cnn.com/2013/08/14/pf/credit-scores> [<https://perma.cc/49G9-4EJQ>].

77. *Id.*

78. Penny Crosman, *Is It OK for Lending Algorithms To Favor Ivy League Schools?*, AM. BANKER (Mar. 9, 2017, 3:33 PM) (quoting Comptroller of the Currency Thomas Curry), <https://www.americanbanker.com/news/is-it-ok-for-lending-algorithms-to-favor-ivy-league-schools> [<https://perma.cc/R25P-EH97>].

79. *The U.S. Office of the Comptroller of the Currency Will Permit Special Purpose National Bank Charters for Fintech Firms*, GIBSON DUNN (Aug. 6, 2018), <https://www.gibsondunn.com/us-office-of-comptroller-of-currency-will-permit-special-purpose-national-bank-charters-for-fintech-firms> [<https://perma.cc/E939-HC2Z>].

purpose status have a duty to avoid policies that “might exclude a high number of applicants who have lower income levels or lower home values than the rest of the applicant pool.”<sup>80</sup>

The empirics also support FinTech lenders’ claims that their services will benefit the underserved. An academic study of a FinTech company called Lending Club’s data history found that the company’s algorithms led it to areas where a shortage of credit existed.<sup>81</sup> Lending Club continued to refine its algorithm, and as the correlation between its grades on borrowers and FICO scores declined, its algorithm’s ability to predict loan delinquency remained strong.<sup>82</sup> All the while, the use of alternative data allowed Lending Club to increase the number of subprime borrowers who receive better loan grades.<sup>83</sup> Its ability to price prospective borrowers who banks considered to be subprime at a lower-risk rate meant borrowers at Lending Club paid lower interest than their counterparts with the same default risk who borrowed from traditional banks or used credit cards.<sup>84</sup> In sum, the study indicates that the use of alternative data granted consumers with historically weak credit profiles newfound access to loans.<sup>85</sup> Another study found that alternative data has high predictive value and strengthens lenders’ ability to reliably rank risk in borrowers.<sup>86</sup> This allows lenders to extend loans to “underserved consumers represent[ing] prime or near-prime credit risk to lenders.”<sup>87</sup>

Though there are some mixed commentaries,<sup>88</sup> FinTech lending shows great promise because of the commitment to underserved

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80. Crosman, *supra* note 78 (quoting the OCC’s guidance on disparate impact).

81. Julapa Jagtiani & Catharine Lemieux, *Fintech Lending: Financial Inclusion, Risk Pricing, and Alternative Information* 35–36 (Fed. Reserve Bank of Phila., Working Paper No. 17-17, 2017).

82. *Id.* at 35.

83. *Id.* at 25–26.

84. *See id.* at 34 (“[F]or the same risk of default, consumers pay smaller spreads on loans from the Lending Club than from traditional lending channels, implying that Fintech lending has provided credit access to consumers at a lower cost.”).

85. *See id.* (“[C]onsumers with few or inaccurate credit records (based on FICO scores) [were now allowed] to access credit.”).

86. RACHEL SCHNEIDER & ARJAN SCHÜTTE, CTR. FOR FIN. SERVS. INNOVATION, THE PREDICTIVE VALUE OF ALTERNATIVE CREDIT SCORES 17 (2017), <https://s3.amazonaws.com/cfsi-innovation-files/wp-content/uploads/2017/02/05053225/The-Predictive-Value-of-Alternative-Credit-Scores.pdf> [<https://perma.cc/6RBV-SHMP>].

87. *Id.*

88. Other research, for instance, indicates that although FinTech lenders have increased access to credit, the evidence is divided on whether this credit is being made “available to borrowers who are less creditworthy under traditional underwriting standards.” Di Lorenzo, *supra* note 60, at 14.

communities that public figures and FinTech lenders have touted. At the same time, obstacles such as privacy concerns may stymie this growing industry.

*B. Risks Facing FinTech Borrowers*

Privacy and borrowing have always been intrinsically linked. “Money is an intensely private matter. Private debts are not the sort of thing people like to discuss . . . not even to themselves in diaries and journals.”<sup>89</sup> Part of this is a product of the fact that Americans are embarrassed to talk about their inability to make payments, even though “financial impotence” is a far more widespread issue than many people realize.<sup>90</sup> This type of behavior is even more acute for lower-income households struggling with debt. Low-income families desire a public image of fiscal responsibility,<sup>91</sup> so instead of asking their families and friends for assistance with debts, they develop “an extensive set of personal coping strategies to manage their bills in private.”<sup>92</sup> As a result, many low-income households bear their debt alone; for instance, more than a quarter of families turn to credit cards or loans as coping strategies, more than the number of families that rely on their social networks for financial assistance.<sup>93</sup>

In the context of FinTech lending, the concept of privacy has evolved from consumers’ interest in the privacy of their personal debts to privacy in terms of the scope of information creditors have access to. FinTech lenders collect and aggregate consumers’ personal information, granting them access to thousands of data points.<sup>94</sup> Some of this data could be considered quite sensitive. If there are indeed privacy concerns that arise from gathering certain types of alternative data, consumers will be forced to make a tradeoff between the ability to keep their debts private from family and friends in return for the

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89. LENDOL CALDER, FINANCING THE AMERICAN DREAM: A CULTURAL HISTORY OF CONSUMER CREDIT 14 (1999).

90. Forty-seven percent of Americans say they would not be able to pay for a \$400 emergency with cash. Neal Gabler, *The Secret Shame of Middle-Class Americans*, ATLANTIC (May 2016), <https://www.theatlantic.com/magazine/archive/2016/05/my-secret-shame/476415> [<https://perma.cc/UD7L-ZL2S>].

91. Laura M. Tach & Sara Sternberg Greene, “Robbing Peter To Pay Paul”: *Economic and Cultural Explanations for How Lower-Income Families Manage Debt*, 61 SOC. PROBS. 1, 5 (2014).

92. *Id.*

93. *See id.* at 10–11 (describing the results of a survey showing that 26.9 percent of respondents choose a coping strategy of “debt juggling” compared to 11.8 percent that choose social networks).

94. WOLKOWITZ & PARKER, *supra* note 30, at 11.

potentially uncomfortable idea of sending sensitive information to a faceless commercial lender.

Data privacy is also likely to be at the forefront of consumers' minds after the credit industry's recent incident of data breach. In 2017, a data breach of the credit bureau Equifax's database exposed the sensitive personal information of over 146 million Americans.<sup>95</sup> Hackers were able to access data including passport information, credit card numbers, and Social Security numbers.<sup>96</sup> In the aftermath, a fourteen-month congressional investigation found that the data breach was "entirely preventable" and that Equifax failed to take basic steps such as modernizing its technology and storing the sensitive data on up-to-date systems.<sup>97</sup> Although this type of privacy risk is different from concerns over *how* information is gathered, the risk of exposure from data breaches is yet another reason to consider data privacy in FinTech lending.

Privacy concerns are not restricted to FinTech lenders' ownership of data. Critics have raised concerns over the transparency of data suppliers, particularly when their interests do not fully align with those of FinTech lenders. FinTech algorithms collect thousands of relevant data points, often including repayment rates on payday loans.<sup>98</sup> The problem is that payday lenders control whether they release the borrower's repayment information.<sup>99</sup> Perhaps at the risk of losing borrowers to other underwriters, most payday lenders do not report their customers' positive payment histories to credit bureaus.<sup>100</sup> Conversely, payday lenders are not shy about threatening to report delinquencies to credit bureaus when consumers default on their loans.<sup>101</sup> This method of selective information hoarding implicates consumer privacy rights because consumers lack control over what

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95. Alex Johnson, *Equifax Breaks Down Just How Bad Last Year's Data Breach Was*, NBC NEWS (May 8, 2018, 7:25 PM), <https://www.nbcnews.com/news/us-news/equifax-breaks-down-just-how-bad-last-year-s-data-n872496> [https://perma.cc/Z3DM-8HYN].

96. *Id.*

97. *Equifax Data Breach Was "Entirely Preventable," Congressional Report Finds*, CBS NEWS (Dec. 11, 2018, 7:19 AM), <https://www.cbsnews.com/news/equifax-data-breach-was-entirely-preventable-congressional-report-finds> [https://perma.cc/7VFZ-JP97].

98. See SCHNEIDER & SCHÜTTE, *supra* note 86, at 7 (listing payday lending as one of the behaviors analyzed by the consumer analytics service company L2C, Inc.).

99. Porter, *supra* note 48.

100. *Id.*

101. Liz Weston & Amrita Jayakumar, *What Happens When You Can't Repay a Payday Loan?*, NERDWALLET (June 8, 2018), <https://www.nerdwallet.com/blog/loans/payday-loan-default> [https://perma.cc/8FLH-WRYH].

information of theirs is disseminated, which is a requirement of the Fair Credit Reporting Act (“FCRA”).<sup>102</sup> Information hoarding also implicates a financial lender’s ability to analyze its customers, further limiting access to credit.<sup>103</sup> To resolve this, FinTech lending broadens the amount of information that lenders can consider.<sup>104</sup> Even if a credit report showed that a consumer failed to repay their loans, the algorithm-based approach can consider that factor as a part of a whole.

Finally, industry leaders recognize that privacy concerns warrant discussion. In 2015, the U.S. Treasury Department submitted a Request for Information (“RFI”) to marketplace lenders, trade associations, academics, and others seeking feedback on marketplace lending.<sup>105</sup> Many of the responses commented on the need for stronger data-privacy laws as more lenders expanded the data sources they relied upon.<sup>106</sup> Some of those responses also highlighted the need for more disclosure so that consumers could conduct comparison shopping across multiple lenders.<sup>107</sup> Then in 2017, the CFPB released an RFI regarding the use of alternative data sources and modeling techniques.<sup>108</sup> In the press release for the RFI, the CFPB described one of the reasons it was seeking information:

The CFPB is looking into privacy and security issues in the use of alternative data that contains sensitive personal information. Consumers may not know that it has been collected and shared or

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102. See *infra* Part III.A.1. That Part discusses § 1681m of the FCRA in greater depth. In summary, the Act “gives consumers important rights to know what information is being used and when it impacts them adversely.” LAUREN SAUNDERS, NAT’L CONSUMER L. CTR., FINTECH AND CONSUMER PROTECTION: A SNAPSHOT 5 (2019), <https://www.nclc.org/images/pdf/consumer-protection/rpt-fintech-and-consumer-protection-a-snapshot-march2019.pdf> [https://perma.cc/SL5S-2LEB].

103. See Brad Brown, Michael Chui & James Manyika, *Are You Ready for the Era of ‘Big Data’?*, MCKINSEY Q. (Oct. 2011), <https://www.mckinsey.com/business-functions/strategy-and-corporate-finance/our-insights/are-you-ready-for-the-era-of-big-data> [https://perma.cc/JKQ9-Z74C] (explaining how information hoarding prevents “companies from forming a coherent view” of customers).

104. See *supra* note 50 and accompanying text.

105. DOT, LENDING, *supra* note 1, at 19.

106. The responses commented on lending to small businesses, but the rationale for stronger data privacy applies to consumer lending as well. *Id.* at 24.

107. *Id.*

108. At the time of the writing of this Note, the aggregate of the results has not been published. CONSUMER FIN. PROT. BUREAU, REQUEST FOR INFORMATION REGARDING USE OF ALTERNATIVE DATA AND MODELING TECHNIQUES IN THE CREDIT PROCESS (2017), <https://www.consumerfinance.gov/policy-compliance/notice-opportunities-comment/archive-closed/request-information-regarding-use-alternative-data-and-modeling-techniques-credit-process> [https://perma.cc/M77Q-DF8S].

how it will be used in the credit process. The Bureau will also explore whether some data are more prone to errors because of weaker or different standards than data traditionally used in credit decisions, and whether consumers can correct errors in this information.<sup>109</sup>

The RFIs are just one hint that the state of financial regulation is in flux.<sup>110</sup> This Note does not dive into how existing financial regulation can be rebooted to account for FinTech, but the key is that privacy laws are a part of the current regulatory framework. The question then becomes how stringent the regulation should be while accounting for FinTech's benefits.

### C. *The Balance Between Privacy and Access*

To visualize how privacy and access to credit can be balanced in the context of FinTech, these interests can be considered along a spectrum. At one end of the spectrum is the view that privacy is supreme. Advocates for this perspective might argue that the industry should limit FinTech lending until government entities, such as the CFPB, can conduct more research on how alternative data is used in FinTech lending. A less radical approach would contend that the government should regulate FinTech lending to ensure only a limited universe of data points can be used by lenders.<sup>111</sup>

At the other end of the spectrum is the view that access to credit is an absolute end. Under this school of thought, privacy should not be a consideration if we are increasing access to borrowers at a lower cost compared to current options such as payday lending. In other words, if it takes companies searching through a borrower's social media feed<sup>112</sup>

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109. CONSUMER FIN. PROT. BUREAU, CFPB EXPLORES IMPACT OF ALTERNATIVE DATA ON CREDIT ACCESS FOR CONSUMERS WHO ARE CREDIT INVISIBLE (2017), <https://www.consumerfinance.gov/about-us/newsroom/cfpb-explores-impact-alternative-data-credit-access-consumers-who-are-credit-invisible> [<https://perma.cc/AWX3-7NHJ>].

110. See also DOT, FINTECH, *supra* note 32, at 63 (“[T]he regulatory framework, for banks and nonbanks alike, must evolve to enable innovation on an orderly and sustainable basis.”).

111. See *infra* notes 194–95 and accompanying text.

112. The topic of social media as data in FinTech lending is noteworthy because FinTech lenders are split on whether social network data is too intrusive. Although Lending Club claims that its underwriting machines do not use social media data in assessing someone's risk because “[t]here are a ton of privacy concerns around using someone's social media feeds,” many FinTech lenders do not hide from the fact that they use social media in their datasets. Penny Crosman, *Can AI Be Programmed To Make Fair Lending Decisions?*, AM. BANKER (Sept. 27, 2016, 1:59 PM) (quoting Lending Club's chief investment officer), <https://www.americanbanker.com/news/can-ai-be-programmed-to-make-fair-lending-decisions> [<https://perma.cc/2EDH-3BEU>]. One such digital lender, Lenddo, collects over 12,000 data points

without disclosing it to help that borrower gain access to cheap, affordable credit, then it will have been worth it.

This Note does not advocate for either of these extremes. Nor does it choose to oscillate between each end, simply arguing that both interests are important and that the advocates for both sides are well intentioned. Rather, it contends that financial inclusion should be the primary goal because there is more to be gained in access to credit and because prioritizing access will help resolve data-privacy risks in counterintuitive ways.

Financial instability is no longer limited to the poor; most families today are deeply indebted due to a shrinking middle class.<sup>113</sup> When people lose jobs, their living expenses are not magically wiped away.<sup>114</sup> Among families with incomes between two and six times the federal poverty level, nearly four in five do not have sufficient assets to cover three-quarters of essential living expenses for three months if they were to suddenly lose their source of income.<sup>115</sup> When medical emergencies hit, they can cause, on average, over \$15,000 in uncovered expenses resulting in an “exogenous shock” to the family’s personal budgets.<sup>116</sup> In these situations, millions of Americans, especially in the low-to-middle class, may suddenly require loans at a moment’s notice. Given the promising data indicating that FinTech lending can help underserved communities, credit should not be reserved for those borrowers who are best positioned to access it.

In terms of the costs, privacy—despite its importance—should not be a bar to financial inclusion. In today’s online era, there is a healthy level of privacy that a person is willing to give up before they draw the theoretical line.<sup>117</sup> For most Americans, trading privacy for

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from users’ social media sites like Google, LinkedIn, Twitter, and Facebook. Bank, *supra* note 38.

113. Jacob S. Hacker, *The Middle Class at Risk*, in *BROKE: HOW DEBT BANKRUPTS THE MIDDLE CLASS* 226 (Katherine Porter ed., 2012).

114. Take, for example, a Pennsylvania couple that fought to keep their home amid bankruptcy after the husband lost his job as a police officer. After their total family income shrank, the couple only “had \$130 per month that was not taken up by budgeted expenses.” TERESA A. SULLIVAN, ELIZABETH WARREN & JAY LAWRENCE WESTBROOK, *AS WE FORGIVE OUR DEBTORS: BANKRUPTCY AND CONSUMER CREDIT IN AMERICA* 53 (1989).

115. *Id.*

116. Christopher Tarver Robertson, Richard Egelhof & Michael Hoke, *Get Sick, Get Out: The Medical Causes of Home Mortgage Foreclosures*, 18 *HEALTH MATRIX* 65, 97–98 (2008).

117. Patrick Oppmann, *In Digital World, We Trade Privacy for Convenience*, CNN (Apr. 14, 2010, 10:29 AM), <http://www.cnn.com/2010/TECH/04/14/oppmann.off.the.grid/index.html> [<https://perma.cc/CM33-PV8Z>].

convenience is worth it for the ability to do things such as stay connected with friends and family on social media.<sup>118</sup> But the line does have to be drawn somewhere: those same internet users may be concerned with the possibility that companies such as Facebook and Amazon track and use their telephone conversations and text messages to provide more relevant ads.<sup>119</sup>

FinTech lenders would argue that the location of the line in the sliding scale of acceptable data collection is easier to identify in FinTech lending. They contend that to access a user's data, they must first gain the user's consent, and the borrower can always decide what "consent to share, or not."<sup>120</sup> For example, many digital lenders require that prospective borrowers download an app onto their cell phones so that the algorithm can collect data from their phones.<sup>121</sup> Before proceeding, the app may request access to information stored on the user's phone,<sup>122</sup> and the FinTech firms will treat an agreement as binding consent.<sup>123</sup> This is similar to the defense used by social media sites accused of providing data to third-party apps, a practice which has generated criticism.<sup>124</sup> But whether it is allowing a social media app to access one's contacts or allowing a FinTech lender to access personal data, the user is entering into a transaction in return for a product or

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118. *Id.*

119. Kaitlyn Tiffany, *The Perennial Debate About Whether Your Phone Is Secretly Listening to You, Explained*, VOX (Dec. 28, 2018, 11:50 AM), <https://www.vox.com/the-goods/2018/12/28/18158968/facebook-microphone-tapping-recording-instagram-ads> [<https://perma.cc/997Y-VFBV>]; see also Rick Edmonds, *People Don't Want To Trade Privacy for Targeted Ads*, POYNTER (Jan. 14, 2016), <https://www.poynter.org/business-work/2016/people-dont-want-to-trade-privacy-for-targeted-ads> [<https://perma.cc/Z5L7-9ZN4>] (finding that consumers consider the trade-off unfair and unbalanced).

120. *E.g.*, Kathryn Petralia, *Regulate Fintechs for What They Do, Not What They Don't*, FORTUNE (Aug. 15, 2019), <https://fortune.com/2019/08/15/fintech-companies-regulation-kabbage> [<https://perma.cc/773N-H8TY>] (pointing to fellow FinTech company's data access policy). Kathryn Petralia is the cofounder and president of FinTech lender Kabbage. *Id.*

121. Lane, *supra* note 3.

122. Penny Crosman, *How Fintechs Are Using AI To Transform Payday Lending*, AM. BANKER (Mar. 7, 2017, 3:01 PM), <https://www.americanbanker.com/news/how-fintechs-are-using-ai-to-transform-payday-lending> [<https://perma.cc/BG6Z-BJ79>].

123. See *id.* (relating FinTech company MyBucks' deputy CEO's statement that Android and iPhone do not have privacy restrictions preventing apps from directly obtaining information from a customer's device with their consent).

124. *E.g.*, Facebook (@facebook), TWITTER (June 4, 2018, 8:53 AM), <https://twitter.com/facebook/status/1003665970089603072?lang=en> [<https://perma.cc/8PVT-A9N8>] (responding to a tweet alleging that Mark Zuckerberg lied to Congress about users' control over their data on Facebook by explaining that "companies could not integrate people's Facebook information with their devices without that person's permission").

service. Such transactions are justified on freedom-of-contract grounds. If a customer is willing to disclose information about themselves and their activities in return for the opportunity to better their financial situation, regulators should not intervene to prevent them from doing so.

Critics of this argument claim that user consent is meaningless for multiple reasons. First, they argue that the lack of alternatives for consumers grants lenders substantially more bargaining power than consumers.<sup>125</sup> This “imbalance of bargaining power” could essentially result in banks forcing consumers to sign consent agreements, regardless of whether the consumer finds the terms agreeable.<sup>126</sup> Second, critics argue the willingness to disclose information is often based on irrational decision-making.<sup>127</sup> The problem is that even when consumers enter into what the critics would consider to be balanced and rational transactions, they put their privacy at risk. Consumers already provide vital information to traditional credit bureaus such as Equifax, but their private information was still exposed.<sup>128</sup> In this respect, AI may be better equipped to protect against data breaches.<sup>129</sup> Since digital lenders rely even more on data than physical banks, many of them spend more resources on building up fraud detection and cybersecurity measures.<sup>130</sup>

Perhaps more importantly, the critics’ concerns exist as part of the modern social contract in which people make cost-benefit decisions about data privacy every day. “People who are underbanked tend to be unconcerned about privacy. They’re more worried about meeting an urgent need for cash.”<sup>131</sup> Although roughly 70 percent of online households report having privacy concerns, only 33 percent said privacy concerns stopped them from revealing information in their

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125. See Guido Noto La Diega, *Against the Dehumanisation of Decision-Making: Algorithmic Decisions at the Crossroads of Intellectual Property, Data Protection, and Freedom of Information*, 9 J. INTELL. PROP., INFO. TECH. & ELECTRONIC COM. L. 3, 20 (2018) (“[G]iven the imbalance of bargaining power that characterizes many transactions, one should not be surprised if . . . a bank could force a potential client requesting a loan to consent to a decision taken by an algorithm.”).

126. *Id.*

127. Packin & Lev-Aretz, *supra* note 53, at 366.

128. See *supra* note 95 and accompanying text.

129. Zack Miller, *Gaming the System: Loan Applicants Are Reverse Engineering the Online Lending Algorithms*, TEARSHEET (July 11, 2018), <https://tearsheet.co/data/gaming-the-system-online-loan-applicants-are-reverse-engineering-the-algorithms> [<https://perma.cc/26BR-CTGE>].

130. *Id.*

131. Crosman, *supra* note 122.

online activities.<sup>132</sup> These modern understandings of digital privacy should prompt requirements for more comprehensive disclosure about collected data rather than limitations on FinTech lending.<sup>133</sup> Such disclosures might include a statement that an algorithm is being used, where information is being collected, and a description of the risks inherent in the use of an algorithm.<sup>134</sup>

Even with the focus on financial inclusion, access to credit can actually work hand-in-hand with promoting privacy.<sup>135</sup> Increased transparency about the type of data that FinTech lenders collect and how companies evaluate this data helps consumers understand what they can do to increase their creditworthiness while helping lenders improve their customer base.<sup>136</sup> If a loan request is rejected, the borrower will be able to head back to the drawing board, assuming she understands the data that is being incorporated into the company's lending decisions. If a request is successful, the borrower can still alter her habits with the prospect of receiving a more favorable interest rate the next time they borrow. Additionally, "establishing clear avenues of inquiry and communication for consumers to advise on the accuracy of data points or dispute their veracity goes one step further toward encouraging the consumer to be a partner in enhancing data accuracy."<sup>137</sup> Achieving greater accuracy then lowers risks for lenders, which can lead to better product access and terms for borrowers.<sup>138</sup>

Finally, it is important to note that the risks in digital lending are not siloed to privacy. Algorithm-based discrimination, the other main concern, has received significant scholarly attention, but it is worth a brief discussion here. Even if FinTech lending companies "have no animus against minority groups, they can induce disparate impact by

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132. Fred Donovan, *Americans Fret About Loss of Control over Personal Information*, HEALTH IT SECURITY (Aug. 21, 2018), <https://healthitsecurity.com/news/americans-fret-about-loss-of-control-over-personal-information> [<https://perma.cc/G4P5-7X5P>].

133. The Securities and Exchange Commission ("SEC") appears to be ahead of the curve on this matter. The SEC regulates robo-advisers, or automated investment advisers, under the Investment Act. IM GUIDANCE UPDATE, *supra* note 35, at 1. In 2017, the SEC released guidance directed at robo-advisers with recommendations on how to properly disclose the services they perform to investors. *Id.* at 3. The CFPB could look to the example set by the SEC and require FinTech lenders adopt similar disclosures.

134. For a full list of the SEC's suggested disclosures, see *id.* at 3–4. It should be fairly self-explanatory how several of the disclosures could be applied to FinTech lending.

135. *See infra* Part III.A.

136. WOLKOWITZ & PARKER, *supra* note 30, at 11.

137. *Id.*

138. *Id.*

their use of Big Data variables.”<sup>139</sup> Research indicates discrimination is in fact a statistically valid concern in FinTech lending.<sup>140</sup> One study found that FinTech lenders charge minority borrowers up to 5.3 percent more in interest on mortgage loans.<sup>141</sup> But the same research concluded that “FinTech algorithms discriminate 40% less than face-to-face lenders.”<sup>142</sup> And although lenders charged higher interest rates, they found that “FinTech lenders do not discriminate in mortgage accept/reject decision-making.”<sup>143</sup>

Notably, the results of the study improved between 2009 and 2015, which the researchers attributed to increased competition in the FinTech lending space, as one of two possibilities.<sup>144</sup> Because the potential benefits for a new class of borrowers has great promise, the solution to the problem should be minimizing the discrimination in algorithmic lending, not eliminating the technology itself and perpetuating human biases.<sup>145</sup> Even if the balance between privacy and financial access could be struck, the industry should never stop reevaluating how it can improve itself. The following Part takes a deeper look at what a potential solution for alleviating both privacy and discriminatory risks could look like.

### III. THE REALITIES OF REGULATION

Algorithmic lending is already here and here to stay. FinTech consumer-loan originations are expected to reach \$90 billion by 2020.<sup>146</sup> Relatedly, FinTech lending is already being canned into existing regulatory laws.<sup>147</sup> This Note has established that no new and dramatic regulations should be passed to limit innovation. But any solution will have to come with adjustments to the way FinTech lending complies

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139. Robert Bartlett, Adair Morse, Richard Stanton & Nancy Wallace, *Consumer-Lending Discrimination in the FinTech Era 2* (Nat'l Bureau of Econ. Research, Working Paper No. 25943, 2019), <https://www.nber.org/papers/w25943.pdf> [<https://perma.cc/PZ5J-G6UN>].

140. *See id.* at 4 (noting statistical disparities in FinTech lending).

141. *Id.*

142. *Id.*

143. *Id.* at 20. This was after accounting for “underwriting variables,” which is an assumption that could be challenged but one that this Note will not address. *Id.*

144. *Id.* at 16.

145. *See supra* notes 24–25 and accompanying text.

146. AM. BANKERS ASS'N, *THE STATE OF DIGITAL LENDING 5* (2018), <http://www.aba.com/Products/Endorsed/Documents/ABADigitalLending-Report.pdf> [<https://perma.cc/5KQC-LQZU>].

147. Christopher K. Odinet, *Consumer Bitcredit and Fintech Lending*, 69 ALA. L. REV. 781, 816 (2018).

with existing regulations. This Part will first examine the framework of laws that will mandate some form of ex post disclosure. Then, it will discuss what types of ex post disclosure solutions have been offered but why they should ultimately be rejected. Finally, this Note will provide a new solution by applying an old proposal for algorithms in general.

#### A. Framework

Improved contracting and preliminary disclosures are important and much-needed changes for combatting privacy concerns, but they are insufficient means of resolving the tension because FinTech lenders must also deal with usury laws mandating disclosure of information *after* a decision is made as well. The following sections detail the framework of laws mandating disclosure that any FinTech lender will have to operate within.

1. *Truth in Lending Act and Fair Credit Reporting Act: Regulations on Disclosure.* There are two laws that regulate the disclosure of consumer information in the lending industry. The first is the Truth in Lending Act ("TILA").<sup>148</sup> Because "enforcement of TILA is relegated, per the Dodd-Frank Act, to the CFPB,"<sup>149</sup> the CFPB issued its own regulation interpreting TILA, titled Regulation Z.<sup>150</sup> TILA aims "to provide meaningful disclosures to borrowers in helping them understand the nature of the financial transactions they enter into."<sup>151</sup> It is important to note that TILA is focused on requiring the disclosure of information related to the financial terms of the loan itself,<sup>152</sup> which may not bear much on privacy.

A second relevant law focuses on the disclosure of substantive information. The FCRA aims to promote "fairness, impartiality, and a respect for the consumer's right to privacy."<sup>153</sup> FCRA § 1681m(h) imposes a duty to disclose on third-party creditors who use credit

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148. Truth in Lending Act, 15 U.S.C. §§ 1601–1667f (2018).

149. See Odinet, *supra* note 147, at 817.

150. See *id.* at 816.

151. *Id.*

152. See *id.* at 817 ("TILA requires the disclosure of finance and any other charges, periodic interest rates, any security interests to be taken in connection with the loan, payment information, and more specific information relative to the type of loan and repayment structure.").

153. 15 U.S.C. § 1681(a)(4).

reports and “take adverse action” on an application for credit.<sup>154</sup> If adverse action is taken, which is interpreted to mean either loan denial or increased costs,<sup>155</sup> the FCRA requires creditors to provide “adverse action notices specifying the top factors used to make that decision.”<sup>156</sup> Creditors are also required to provide notice to consumers if the credit’s “material terms” are “materially less favorable than the most favorable terms available to a substantial proportion of consumers.”<sup>157</sup> Under § 1022 of Regulation V (“Reg V”), which interprets the FCRA,<sup>158</sup> creditors must provide such consumers a “risk-based pricing notice.”<sup>159</sup> An adequate risk-based pricing notice must include, among other disclosures, why a lender turned down an applicant and the sources of information it used in its analysis.<sup>160</sup>

In other words, the FCRA, with guidance from the CFPB, requires lenders to provide borrowers with relevant information about why they were given adverse or materially worse credit determinations. In practice, however, the FCRA is loosely enforced. When most credit agencies or credit-scoring vendors make decisions or generate ratings, they mail a standard form with at most four numeric codes checked off,

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154. U.S. GOV'T ACCOUNTABILITY OFFICE, FINANCIAL TECHNOLOGY: INFORMATION ON SUBSECTORS AND REGULATORY OVERSIGHT 15 (2017), <https://www.gao.gov/assets/690/684187.pdf> [<https://perma.cc/G2GZ-P7HS>].

155. David F. Freeman, Jr., Christopher L. Allen, Ronald D. Lee, Thomas A. Magnani & Nancy L. Perkins, *FTC Report on Big Data Could Foreshadow Big Compliance Issues: Implications for Unfair Lending, Credit Reporting, and Unfair and Deceptive Practices Compliance*, ARNOLD & PORTER (Jan. 20, 2016), <https://www.arnoldporter.com/en/perspectives/publications/2016/1/ftc-report-on-big-data> [<https://perma.cc/D6AQ-K2M2>].

156. Carol A. Evans, *Keeping Fintech Fair: Thinking About Fair Lending and UDAP Risks*, CONSUMER COMPLIANCE OUTLOOK (2017), <https://www.consumercomplianceoutlook.org/2017/second-issue/keeping-fintech-fair-thinking-about-fair-lending-and-udap-risks> [<https://perma.cc/AA4A-BB5A>].

157. 15 U.S.C. § 1681m(h)(1).

158. *Part 1022 – Reg V – Fair Credit Reporting (FCRA) Compliance*, COMPLIANCE ALLIANCE, <https://www.compliancealliance.com/laws-regulations/federal-bank-regulations/fcra-compliance> [<https://perma.cc/57V3-X5Z2>].

159. General Requirements for Risk-Based Pricing Notices, 12 C.F.R. § 1022.72(a) (2019); see also *Using Consumer Reports for Credit Decisions: What To Know About Adverse Action and Risk-Based Pricing Notices*, FED. TRADE COMM'N (Mar. 2019), <https://www.ftc.gov/tips-advice/business-center/guidance/using-consumer-reports-credit-decisions-what-know-about-adverse> [<https://perma.cc/GF4Z-UB6T>].

160. Content, Form, and Timing of Risk-Based Pricing Notices, 16 C.F.R. § 640.4(a)–(b) (2019).

each one associated with a brief, standard explanation.<sup>161</sup> In the end, this list is usually only decipherable to lawyers and compliance staff.<sup>162</sup>

Although FinTech lenders are a relative newcomer to the scene, they are most likely<sup>163</sup> covered under the statutory scope of § 1681m of the FCRA.<sup>164</sup> Actual compliance, however, is a more complex matter. The black box nature of machine-learning algorithms complicates disclosure. Because machine learning operates via its own designs, owners of AI tools have a difficult time explaining with precision why AI makes certain decisions.<sup>165</sup> Forcing FinTech lenders to spend significant resources reverse-engineering the algorithms for the formulas they used would not help further the goal of increased access to credit. Fortunately, cracking the black box does not seem as impossible as it once did. Companies like Alphabet, IBM, and KPMG are in the process of creating or “have already built tools for explaining

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161. Greg Fisher, *US FICO Credit Risk Score Reason Codes*, CREDIT SCORING SITE (Mar. 31, 2010), <http://www.creditscoring.com/creditscore/fico/factors/reason-codes.html> [<https://perma.cc/Z8JM-RMFT>].

162. *Id.*

163. See, e.g., NAT'L CONSUMER L. CTR., CREDIT INVISIBILITY AND ALTERNATIVE DATA: THE DEVIL IS IN THE DETAILS 2 (2015), [https://www.nclc.org/images/pdf/credit\\_reports/ib-credit-invisible-june2015.pdf](https://www.nclc.org/images/pdf/credit_reports/ib-credit-invisible-june2015.pdf) [<https://perma.cc/VN46-2YTR>] (“‘Big Data’ used for credit, employment, insurance, or other purposes is covered by the Fair Credit Reporting Act.”); Mark MacCarthy, Opinion, *EU Privacy Law Says Companies Need To Explain the Algorithms They Use*, CIO (Oct. 19, 2017, 4:00 AM), <https://www.cio.com/article/3234305/eu-privacy-law-says-companies-need-to-explain-the-algorithms-they-use.html> [<https://perma.cc/FP67-5UW7>] (explaining that the U.S. has disclosure rules requiring all lenders, including digital lenders, disclose “major factors”).

164. Even if we considered the statutory scope of the FCRA as an original matter—in other words, without taking the articles cited *supra* note 163 at their word—FinTech lenders would most likely lose if challenged in court. The FCRA applies to agencies that furnish consumer reports, which are defined as information “bearing on a consumer’s credit worthiness, credit standing, credit capacity, character, general reputation, personal characteristics, or mode of living.” 15 U.S.C. § 1681a(d)(1) (2018). Courts have interpreted this to be a fairly generous definition. See *Johnson v. Fed. Express Corp.*, 147 F. Supp. 2d 1268, 1273 (M.D. Ala. 2001) (determining that “handwriting is a ‘personal characteristic’ under the FCRA” so that a report on Johnson’s handwriting could qualify as a “consumer report”); see also *Rowe v. UniCare Life & Health Ins. Co.*, No. 09 C 2286, 2010 WL 86391, at \*3 (N.D. Ill. Jan. 5, 2010) (holding that communications about a person’s income, employment, or medical history qualify as consumer reports under FCRA because they concern a consumer’s “personal characteristics”). This definition suggests that any big data collected for the purpose of evaluating a consumer’s creditworthiness do, in fact, constitute consumer reports.

165. See FIN. STABILITY BD., ARTIFICIAL INTELLIGENCE AND MACHINE LEARNING IN FINANCIAL SERVICES 13 (2017), <http://www.fsb.org/wp-content/uploads/P011117.pdf> [<https://perma.cc/9DJF-S6NB>] (noting that it is generally harder to provide an explanation of challenged credit scores).

how their AI products come to conclusions.”<sup>166</sup> Additionally, many technology firms have recognized the lack of checks on AI and are attempting to provide a market solution by developing AI tools that can in turn be used to provide oversight of FinTech; hence, these tools being referred to as RegTech.<sup>167</sup> In other words, the field is already improving and addressing this concern.<sup>168</sup>

2. Inclusive Communities: *Case Law on Disclosure*. The issue of how much information ought to be disclosed would gain significant clarity if the courts weighed in. But waiting for a major court to rule on this issue, or even on an issue tangentially related to algorithm-based decision-making, is not feasible. Technology is growing faster than jurisprudence can reach it.<sup>169</sup> Fortunately, courts have provided some guidance on a related issue.

The Supreme Court case that pertains most to FinTech lending is *Texas Department of Housing and Community Affairs v. Inclusive Communities Project, Inc.*, decided in 2015.<sup>170</sup> In *Inclusive Communities*, the plaintiff brought a disparate-impact claim under the Fair Housing Act (“FHA”).<sup>171</sup> The Court held that such claims are cognizable under the FHA<sup>172</sup> and that to succeed on a disparate-impact claim, plaintiffs need not show that a policy was intentionally discriminatory.<sup>173</sup> Rather, they must merely demonstrate that it had a discriminatory impact on a protected class.<sup>174</sup> However, the Court also described limitations “necessary to protect potential defendants

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166. Louise Matsakis, *What Does a Fair Algorithm Actually Look Like?*, WIRED (Oct. 11, 2018, 6:35 PM), <https://www.wired.com/story/what-does-a-fair-algorithm-look-like> [<https://perma.cc/73EM-T3KD>].

167. FIN. STABILITY BD., *supra* note 165, at 19.

168. Allowing the field time to improve is also the rationale behind “regulatory sandboxes,” which are laws that grant regulatory relief for innovators in various sectors. Aaron Stanley, *Arizona Becomes First U.S. State To Launch Regulatory Sandbox for Fintech*, FORBES (Mar. 23, 2018, 12:45 PM), <https://www.forbes.com/sites/astanley/2018/03/23/arizona-becomes-first-u-s-state-to-launch-regulatory-sandbox-for-fintech> [<https://perma.cc/WXX9-N89Z>].

169. See Bruckner, *supra* note 14, at 57 (recognizing that even though some have suggested that the judiciary is better suited to regulate algorithmic lending than the slow process of legislation, “[t]he comparative institutional disadvantage of courts’ in regulating consumer credit markets has been repeatedly noted” (alteration in original) (quoting Oren Bar-Gill & Elizabeth Warren, *Making Credit Safer*, 157 U. PA. L. REV. 1, 75 (2008))).

170. *Tex. Dep’t of Hous. & Cmty. Affairs v. Inclusive Cmty. Project, Inc.*, 135 S. Ct. 2507 (2015).

171. *Id.* at 2513.

172. *Id.* at 2525.

173. *Id.* at 2513.

174. *Id.*

against abusive disparate-impact claims”<sup>175</sup> and emphasized that the plaintiff has the burden to establish a “robust causality” between the challenged practice and the alleged discriminatory effect.<sup>176</sup> “[A] disparate-impact claim that relies on a statistical disparity must fail if the plaintiff cannot point to a defendant’s policy or policies causing that disparity.”<sup>177</sup> Only by proving a robust causation does the burden shift back to the defendant to prove “one or more substantial, legitimate, nondiscriminatory interests.”<sup>178</sup> When that occurs, courts should grant businesses “leeway to state and explain the valid interest served by their policies.”<sup>179</sup>

One view of *Inclusive Communities* is that it is “a particularly sobering result” for FinTech lenders.<sup>180</sup> By deeming the FHA claim valid, the Court took a massive step toward strengthening disparate-impact claims under equal opportunity laws<sup>181</sup> such as the Equal Credit Opportunity Act (“ECOA”).<sup>182</sup> An alternative interpretation of the Court’s holding is that it supports disclosure of information so that claims brought under laws like the ECOA can be properly adjudicated. Courts could potentially apply this rule to cases where plaintiffs claim a failure to disclose. Since plaintiffs have the burden of establishing statistical evidence and a robust causal connection,<sup>183</sup> it follows that borrowers who have legitimate concerns over a company’s compliance with the ECOA or FCRA should be allowed to review the type of information that was used in a tangible and digestible form. Then, when businesses must explain their policies to prove a valid interest, they will be expected to identify what factors they used in their analysis. The bottom line is that if a black box case appeared before the courts, it is likely that the courts would be sympathetic to the consumers’ argument that the black box nature of algorithm-based decision-making impedes, rather than excuses, disclosure.

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175. *Id.* at 2524.

176. *Id.* at 2523.

177. *Id.*

178. *Id.* at 2514–15 (quoting 24 C.F.R. § 100.500(c)(2) (2014)).

179. *Id.* at 2522.

180. KEVIN PETRASIC, BENJAMIN SAUL, JAMES GREIG, MATTHEW BORNFREUND & KATHERINE LAMBERTH, WHITE & CASE, ALGORITHMS AND BIAS: WHAT LENDERS NEED TO KNOW 6 (2017), <https://www.whitecase.com/publications/insight/algorithms-and-bias-what-lenders-need-know> [<https://perma.cc/9Z45-V8JR>].

181. *See id.* (explaining that “[a]n algorithm that inadvertently disadvantages a protected class” must now contend with laws that may give rise to “fair lending claims”).

182. Equal Credit Opportunity Act, 15 U.S.C. §§ 1691–1691f (2018).

183. *Inclusive Cmty.*, 135 S. Ct. at 2523.

*B. Proposed Solutions for Compliance with the Law*

In tandem, the FCRA and the *Inclusive Communities* decision seemingly give teeth to regulation of FinTech lending. For each of the general issues contemplated by the CFPB and the Court—such as lack of transparency, privacy invasion, and the biased nature of algorithms—more specific proposals have been pushed forward as means of achieving those ends. Proposals to regulate FinTech fall within several broad categories. These include proposals for algorithmic transparency,<sup>184</sup> opt-out rights,<sup>185</sup> and a “right to explanation.”<sup>186</sup>

Algorithmic transparency, the most common of these proposals, requires companies “expose their algorithms” to the public.<sup>187</sup> Proponents of algorithmic transparency support disclosure of algorithmic code so that regulators and the public can identify how an algorithm is producing any allegedly harmful effects.<sup>188</sup> Even though this solution may help identify how algorithms may be secretly discriminatory,<sup>189</sup> algorithmic transparency does little to assuage the public’s privacy concerns. Most people are not computer scientists, so handing them code is about as useful as not disclosing at all. Furthermore, this solution has been criticized for the side-effect of revealing intellectual property and proprietary information.<sup>190</sup> Even if the United States’ intellectual property laws could offer some protections, it becomes “significantly easier for bad actors . . . to steal source code.”<sup>191</sup> In the context of financial inclusion, this would disincentivize companies from continuing to develop their algorithms at the risk of other companies copying it.

Another solution that has been offered is to allow users to limit the universe of data that companies are permitted to collect. Professors Nizan G. Packin and Yafit Lev-Aretz were among the first to form a

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184. JOSHUA NEW & DANIEL CASTRO, CTR. FOR DATA INNOVATION, HOW POLICYMAKERS CAN FOSTER ALGORITHMIC ACCOUNTABILITY 8 (2018), <http://www2.datainnovation.org/2018-algorithmic-accountability.pdf> [<https://perma.cc/7JTT-B9A9>].

185. Packin & Lev-Aretz, *supra* note 53, at 416–17.

186. See generally Margot E. Kaminski, *The Right to Explanation, Explained*, 34 BERKELEY TECH. L.J. 189 (2019).

187. NEW & CASTRO, *supra* note 184, at 8.

188. *Id.*

189. New and Castro consider algorithmic transparency a flawed proposal but see *id.* for a survey of sources arguing this point.

190. *Id.* at 12.

191. *Id.*

framework for combatting privacy harms in social credit,<sup>192</sup> which they termed the “right to be unnetworked.”<sup>193</sup> Essentially, they advocate for allowing consumers to opt-out of having their social information collected unless it falls within a narrow set of exclusions.<sup>194</sup> They argue that the FCRA does the same thing with its provision limiting the ability of creditors to use medical information to determine creditworthiness.<sup>195</sup> For instance, although identifying when a “consumer is terminally ill and factoring that information into [a lending calculation] makes perfect financial sense,” the FCRA still prohibits it.<sup>196</sup> It is difficult to think of a reason this type of information receives special treatment other than the fact that medical history is uniquely sensitive information.

Packin and Lev-Aretz are clearly correct that, at minimum, some information must be excluded from the universe of calculations because existing regulations already contemplate such omissions.<sup>197</sup> A general opt-out policy where consumers can exclude any information they see fit, however, faces several pitfalls. First, allowing customers to pick and choose what they want to opt-out of allows them to game the system. If consumers are aware that there is a wide universe of data—and that they can choose which of their best information is used to portray an online image of creditworthiness—the algorithm model begins to lose its accuracy. As mentioned earlier, one of the reasons that FinTech lenders have been able to maintain low interest rates is an algorithm’s predictive ability. If that capacity is taken away, Packin and Lev-Aretz’s model of allowing users to choose certain data to be excluded begins to sacrifice access for a minimal improvement in privacy. Moreover, it is unclear who would be responsible for implementing this solution, as both regulators and companies might be averse to giving consumers this much discretion and will not act unless compelled.

Finally, many key players have argued that consumers are entitled to know how the algorithm reached its result, dubbed as the “right to explanation.”<sup>198</sup> But a full right to explanation, which would “explain”

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192. As mentioned in *supra* note 112, social credit is one form of alternative data collection. It relies upon information on consumers’ social contacts and activities.

193. Packin & Lev-Aretz, *supra* note 53, at 417.

194. *Id.*

195. *Id.* at 422–23.

196. *Id.* at 423.

197. *See id.* at 422–23 (discussing restriction on terminal illness data imposed by the FCRA).

198. Kaminski, *supra* note 186.

information such as which factors the algorithm used and how it weighed those factors, faces many of the same issues plaguing algorithmic transparency, like the danger of having proprietary information stolen and the deterrent effect on innovation.<sup>199</sup> Additionally, “[a]n algorithm’s accuracy typically increases with its complexity, but the more complex an algorithm is, the more difficult it is to explain.”<sup>200</sup> To provide everyone a right to explanation, more resources must be spent dumbing down the technology for interpretability rather than accuracy, which will in turn sacrifice gains in financial inclusion.

### C. *The Optimal Approach*

Of the preceding solutions, a full right to explanation most closely aligns with the goal of transparency because it endeavors to provide consumers usable information; however, the solution falls short of the goal of prioritizing financial inclusion. Professor Sandra Wachter, Dr. Brent Mittelstadt, and Dr. Chris Russell proposed one twist to the approach: provide a right to “counterfactual explanations,” which, according to the authors, can be offered without opening the black box.<sup>201</sup> A counterfactual explanation consists of a decision followed by a counterfactual, or a “statement of how the world would have to be different for a desirable outcome to occur.”<sup>202</sup> For example: “You were denied a loan because your annual income was [\$]30,000. If your income had been [\$]45,000, you would have been offered a loan.”<sup>203</sup> From a technical perspective, these explanations are far easier for developers to produce because algorithms are often simply a series of if-then counterfactuals.<sup>204</sup> Once the machine weighs all variables, it can provide the “minimal amount of information capable of altering a decision.”<sup>205</sup>

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199. See NEW & CASTRO, *supra* note 184, at 9–13 (arguing that solutions for “explainability” and transparency share the same flaws).

200. *Id.* at 13.

201. Sandra Wachter, Brent Mittelstadt & Chris Russell, *Counterfactual Explanations Without Opening the Black Box: Automated Decisions and the GDPR*, 31 HARV. J.L. & TECH. 841, 843–44 (2018).

202. *Id.* at 844.

203. *Id.*

204. The calculations and reasoning behind this premise are admittedly beyond this author’s technical knowledge, but for a comprehensive explanation, see *id.* at 849–51, 854–55.

205. *Id.* at 851.

Counterfactual explanations fit seamlessly within FinTech lending because they allow FinTech lenders to comply with the requirements of the FCRA. If credit is denied, or unfavorable terms are provided, the FCRA and Reg V require lenders to provide customers an "adverse action" or "risk-based pricing notice," respectively.<sup>206</sup> Counterfactual explanations would exceed those minimal requirements and perhaps set a new standard for what a transparent credit denial looks like.<sup>207</sup> The sample form for credit denials under Reg V currently offers a limited number of nondescriptive categories for credit companies to state their reasoning.<sup>208</sup> Counterfactual explanations, alternatively, would provide action items for borrowers to undertake.

For this reason, counterfactual explanations are also the optimal solution for effectuating financial inclusion because borrowers who comply with the counterfactuals place themselves in an improved position to receive loans. From the lender's perspective, these explanations are a mechanism for improving the risk profile of their customer base so that defaults are further minimized. Counterfactual explanations also prevent "gaming of decision-making systems"<sup>209</sup> because borrowers must better themselves rather than artificially choosing the factors they are evaluated under. "Well-informed consumers who are empowered to report erroneous data or shift behaviors to improve their financial standing can enhance data quality and reduce risk for providers while securing better outcomes for themselves."<sup>210</sup> Since FinTech lenders can be confident that the customers are genuinely improving their spending behavior, the lenders can continue to extend loans to individuals who would otherwise be considered subprime.

In terms of the risk of disparate impact, counterfactual explanations offer users the ability to identify whether any proxies for a protected class are affecting the decision. Each decision is

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206. FED. TRADE COMM'N, *supra* note 159.

207. See WOLKOWITZ & PARKER, *supra* note 30, at 6 ("[I]nnovative companies are going beyond legally required minimums of disclosure by transparently conveying the types of data sources they use or explaining to consumers how their behavior can drive profile improvements . . .").

208. 12 C.F.R. pt. 1002 app. C, Form C-1, Part I—Principal Reason(s) for Credit Denial, Termination, or Other Action Taken Concerning Credit (2015) (listing twenty-four options for why credit action was taken, including an option labeled "other" for a company to describe its reasoning).

209. Wachter, *supra* note 201, at 883.

210. WOLKOWITZ & PARKER, *supra* note 30, at 6.

individualized, which means the disclosure provides the necessary information for a disparately impacted consumer to file a claim under the *Inclusive Communities* standard of a robust causal connection between a factor and a discriminatory effect.<sup>211</sup> The following illustrative counterfactual explanation provides a rejected borrower evidence of a robust causal connection between an illicit algorithmic methodology and the loan decision: “You were denied a loan because your close circle of contacts had low incomes. If your top contact had been [Caucasian Friend], you would have been offered a loan.” From the FinTech lender’s side, counterfactual explanations can be tested to ensure compliance with the law. For example, they can be used to regularly check whether changing a factor related to race or gender affects whether a borrower receives a loan.<sup>212</sup> Overall, this tool would need to be implemented alongside other data protection tools, but it offers numerous benefits for alternative lenders to increase access to lending.

#### CONCLUSION

Now recall Brad Freeman, who has requested a digital consumer loan. This Note has established some potential parameters since initially considering Brad’s circumstances. First, when it asks for Brad’s consent, IntelligentLoan must comply with rules mandating clear and transparent disclosures about the fact that an algorithm will be used and where the information is sourced from. Second, it is possible the risk factor of smoking is automatically off limits as a data point now. Although FinTech companies might find the factor relevant, regulators may consider smoking habits to fit within the same circle of policy exclusions as medical history. Third, an early counterfactual explanation trial of IntelligentLoan’s algorithm identifies the use of neighborhood unemployment rates, a factor that is disqualified as a form of redlining. Finally, if Brad’s application is indeed denied, IntelligentLoan can mail Brad this notice, in compliance with the FCRA:

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211. Tex. Dep’t of Hous. & Cmty. Affairs v. Inclusive Cmty. Project, Inc., 135 S. Ct. 2507, 2523 (2015).

212. Amit Katwala, *How To Make Algorithms Fair When You Don’t Know What They’re Doing*, WIRED (Dec. 11, 2018), <https://www.wired.co.uk/article/ai-bias-black-box-sandra-wachter> [<https://perma.cc/8NXQ-45HS>].

Dear Mr. Freeman,

Thank you for your interest. Unfortunately, our system has calculated your credit profile and at this time, we are unable to offer you a loan. You were denied a loan because you use the internet late in the evening, you demonstrate impulse-based shopping habits, and the punctuation and grammar in your text messaging is either incorrect or deficient. If you make at minimum one or two changes by refraining from late-night internet use, searching options before purchasing goods online, or correctly applying punctuation and grammar in your text messages, you may be offered a loan. Please feel free to reapply, and we look forward to receiving your application again soon.

Sincerely,

IntelligentLoan

Brad may still be slightly uncomfortable, but now he understands what he can do to improve his standing the next time he seeks a loan. The next day, Brad begins to do just that. FinTech is only going to play a larger role in lending decisions made across the country, and the industry should fully embrace FinTech lending for the promise of greater financial inclusion of people like Brad. Ultimately, FinTech regulators endeavor to protect consumers who are at risk of exploitation. Brad Freeman represents the consumer who would accept learning the minimum in the black box. If consumers are making such informed decisions to improve their self-value, regulators will have accomplished their job, too.