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Nicole K. McConlogue
West Virginia University College of Law, nicole.mcconlogue@mail.wvu.edu

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DISCRIMINATION ON WHEELS: HOW BIG DATA USES LICENSE PLATE SURVEILLANCE TO PUT THE BRAKES ON DISADVANTAGED DRIVERS

Nicole K. McConlogue*

As scholarly discourse increasingly raises concerns about the negative societal effects of "fintech," "dirty data," and "technochauvinism," a growing technology provides an instructive illustration of all three of these problems. Surveillance software companies are using automated license plate reader (ALPR) technology to develop predictive analytical tools. In turn, software companies market those tools to auto financers and insurers as a risk assessment input to evaluate consumers seeking to buy a car. Proponents of this technology might argue that more information about consumer travel habits will result in more accurate and individualized risk predictions, potentially increasing vehicle ownership among marginalized groups. Expanding access to cars would go a long way toward undoing the economic suppression of many people who are low-income or of color.

However, discrimination in the consumer scoring cycle shows that ALPR-based data analytics will only exacerbate the economic and racial disparities in car ownership. Competing incentives and biased assumptions steer the choices of the humans who collect ALPR data, creating a conflict that irredeemably poisons the data and any consumer access decisions that spring from it. Moreover, using location data to assess risk means that automobile costs may be based on value judgments about the neighborhoods that consumers visit. Thus, rather than creating an equal path to economic mobility, the tainted ALPR data collection methodology

*Associate Professor and Clinic Director, West Virginia University College of Law. B.A., Towson University, 2006; J.D., University of Maryland Francis King Carey School of Law, 2010. The author warmly acknowledges a debt of gratitude owed to former colleagues at the University of Baltimore School of Law, the members of the Lutie A. Lytle Black Women Law Faculty Writing Workshop, and the WVU Scholarly Avengers, all of whom offered overwhelmingly generous and thoughtful feedback and support. Even among that extraordinary assembly, Valarie Blake, Amy Cyphert, Michele Gilman, Margaret Johnson, Jaime Lee, Jena Martin, Audrey McFarlane, Ngozi Okidegbe, Alison Peck, and Kirsha Trychta truly went above and beyond as sources of encouragement, friendship, and inspiration. Robin Gaskins, Timmy Kopczynski, Jamie Zepeda, and Elizabeth Zahnow contributed diligent and creative research assistance. Tom McConlogue has always been a believer. Sincere thanks to the CRCL editorial staff. The Hodges Research Fund provided support for this project.

reinforces discrimination. Not only that, but using the data to score consumers risks resuscitating and repackaging the practice of redlining.

This article analyzes the fintech model as represented by the use of ALPR technology in auto financing and insurance. Existing commentary surrounding ALPR has focused on ALPR's privacy and Fourth Amendment implications. While scholars and commentators have been busy examining law enforcement's engagement with this high-tech surveillance technology, powerful private actors have flown under the radar while subjecting vulnerable consumers to ALPR's exploitative commercial applications. This article deviates from prior commentary by contemplating ALPR through a consumer law lens. It exposes the ways in which consumer laws have left disadvantaged drivers unprotected. Finally, it advances a number of proposals, including removing geographic inputs from auto access decision making, developing a central base of technological expertise to audit algorithms, and banning commercial use of ALPR.

INTRODUCTION

Lena was leaving the Pasadena restaurant where she had been celebrating her mother's birthday.[1] "Lizzy" was driving from Los Angeles to her sister's home in the desert to drop off some medicine.[2] Before they knew it, they were both involved in frightening police encounters. Lena was ordered from her car, and the police seized her vehicle; Lizzy was held at gunpoint.[3]

What did these women have in common? They had both attended a Black Lives Matter protest in Long Beach six weeks prior. Police had flagged their cars because they were parked near a looting site.[4] The technology that pinpointed them is known as an automated license plate reader (ALPR).[5] ALPR cameras mounted on the roofs of squad cars passively scan all the license plates they encounter and store the data for future use.[6] The officer whose camera scanned Lena and Lizzy's plates was probably not looking for them, and there is no indication that any direct evidence existed connecting them to the looting activity.[7] But because their plates were scanned, they were added to a list of people that the police could detain, question, and deprive of their property after the fact, simply because their cars were near the crime scene.[8]

The tool is widely used to solve crimes and enforce parking restrictions, but law enforcement departments also use it to track immigrants and Muslims and to scrutinize low-income communities of color.[9] Advocates for privacy and fair policing are sounding the alarm about ALPR technology and are vocally pushing

1. Danielle Berrin, *Two Months After Black Lives Matter March, Police Confiscate Cars of Peaceful Protesters*, FORWARD (July 27, 2020), https://forward.com/news/451568/two-months-after-black-lives-matter-march-police-confiscate-cars-of.

2. Stephen Drowning, *LBPD Dragnet Snags the Innocent*, BEACHCOMBER (Aug. 7, 2020, 10:26 PM), https://beachcomber.news/content/lbpd-dragnet-snags-innocent.

3. Berrin, *supra* note 1.

4. Drowning, *supra* note 2.

5. *Id.*

6. ACLU, YOU ARE BEING TRACKED: HOW LICENSE PLATE READERS ARE BEING USED TO RECORD AMERICANS' MOVEMENTS 2 (2013), https://www.aclu.org/other/you-are-being-tracked-how-license-plate-readers-are-being-used-record-americans-movements.

7. Drowning, *supra* note 2.

8. Lena's attorney pointed out that "To impound a vehicle, you have to have probable cause. So to say, 'They were in the area near the protests,' well, anyone could have parked their car in that area." Berrin, *supra* note 1.

9. *See* Gustavo Solis, *Chula Vista Gives Immigration Officials, Others Access to License*

for regulations such as warrant requirements and policies limiting how long police departments can retain the data the technology generates.[10]

But what if I told you the same technology is also used commercially? What if I told you that ALPR data could impact what interest you pay for financing when you trade in your car, or for auto insurance when you renew your policy? And what if I told you that commercial uses of this technology show the same propensity for race- and class-based discrimination that ALPR displays in the hands of the police?

It's true. ALPR is increasingly ubiquitous nationwide, and the data it produces is finding its way into all kinds of automated decision-making processes that can impact the financial futures of countless people.[11] However, these commercial uses have not inspired the same vehement pushback that law enforcement uses have unleashed. Thus, ALPR data are up for sale, and spreading insidiously because their commercial use flies under consumer advocates' radar. ALPR is going viral, and few know that it is happening or what it means.

This Article endeavors to shed light on the dangers of ALPR's commercial uses. Automated license plate reader technology has taken its place among other forms of Big Data, which data brokers fold into predictive analytics programs. Those programs try to anticipate consumer behavior and "score" consumers' creditworthiness (for a price!).[12] And the race and class of the consumers swept up in its reach very likely influence the algorithm's results. Data collectors are financially incentivized to surveil neighborhoods where they think people do not pay their bills—which means they often disproportionately monitor poor, marginalized communities.[13] Once in possession of the data, predictive analytics customers—including auto financers and insurers—may draw biased conclusions about consumers and, as a result, adjust their prices in a discriminatory manner.

Plate Reader Data, SAN DIEGO UNION-TRIBUNE (Dec. 6, 2020, 3:59 PM), https://www.sandiegouniontribune.com/communities/south-county/chula-vista/story/2020-12-06/chula-vista-gives-immigration-officials-others-access-to-license-plate-reader-data; Suhauna Hussain & Johana Bhuiyan, *Police in Pasadena, Long Beach Pledged Not to Send License Plate Data to ICE. They Shared It Anyway*, L. A. TIMES (Dec. 21, 2020, 8:27 AM), https://www.latimes.com/business/technology/story/2020-12-21/pasadena-long-beach-police-ice-automated-license-plate-reader-data; Dave Maass & Jeremy Gillula, *What You Can Learn from Oakland's Raw ALPR Data*, ELECTRONIC FRONTIER FOUNDATION (Jan. 21, 2015), https://www.eff.org/deeplinks/2015/01/what-we-learned-oakland-raw-alpr-data.

10. Nathan Tempey, *The NYPD Is Tracking Drivers Across the Country Using License Plate Readers*, GOTHAMIST (Jan. 26, 2016, 8:18 PM), https://gothamist.com/news/the-nypd-is-tracking-drivers-across-the-country-using-license-plate-readers.

11. *See infra* Section I.A.1.

12. *Id.*

13. *See infra* note 159. Because these are private actors, not the government, the evidence would not be subject to Freedom of Information Act requests, and most verified instances of this lopsided monitoring are related to government action. This Article will discuss the implications of this secrecy further below. However, the same potential for targeting exists, and there are fewer, if any, safeguards to prevent it.

Biased price adjustments, in turn, threaten to entrench long-standing income and wealth gaps. Ultimately, if auto financers and insurers use inherently biased ALPR data to score consumers, they risk reviving and reinforcing redlining.[14] What's more, the cheaper and more accessible the technology becomes, the more areas of our economic lives it will pervade.[15]

Part I of this Article discusses how ALPR technology works, how it informs predictive risk analysis tools used by auto insurers and financers, and why some observers hope that ALPR tools can democratize auto access and counteract the discriminatory history of auto access and consumer scoring generally. Part II demonstrates that these hopes are misplaced. Predictive analytics tools use a range of criteria—including credit scores, payment histories, and past lending decisions—to assess the risk of investing in a particular consumer. Algorithmic tools and existing consumer protection laws do not effectively address discrimination's early entry points in this cycle. Nor do they address the algorithms' secrecy and reliance on biased actuarial methods.[16] Part II also introduces a framework for assessing whether regulatory consumer protections are effective. Part III offers proposals for tackling these early entry points for discrimination and interrupting the secretive and actuarial nature of consumer scoring.

I. BACKGROUND

A. ALPR technology and its uses

Automated license plate recognition (ALPR) technology integrates sophisticated software with cameras to passively collect automobile location data.[17] As a car comes within the vicinity of a camera equipped with this software, the camera records the car's license plate number and the date, time, and location.[18] This

14. *See* Section II.C.2.a.ii.

15. *See, e.g.,* Josh Kaplan, *License Plate Readers Are Creeping Into Neighborhoods Across the Country*, SLATE (July 10, 2019, 9:30 AM), https://slate.com/technology/2019/07/automatic-license-plate-readers-hoa-police-openalpr.html (noting that as ALPR technology has gotten cheaper, it's been used by more small town police departments, homeowners' associations, and property managers); Conor Friedersdorf, *Mass Surveillance of All Car Trips is Nearly Upon Us*, ATLANTIC (Feb. 19, 2014), https://www.theatlantic.com/politics/archive/2014/02/mass-surveillance-of-all-car-trips-is-nearly-upon-us/283922 (discussing the Department of Homeland Security's plans to build a national license plate reader database—plans the Department later canceled).

16. Actuarial fairness is particularly well-known in the context of insurance. It means "to classify risk and then allocate cost according to that risk; the riskier pay higher fees or have fewer benefits than those who are less risky." This idea is in contrast to the concept of mutual aid, which is "to simply share that risk equally." Valarie K. Blake, *Ensuring an Underclass: Stigma in Insurance*, 41 CARDOZO L. REV. 1441, 1448 (2020).

17. DAVID J. ROBERTS & MEGHANN CASANOVA, AUTOMATED LICENSE PLATE RECOGNITION SYSTEMS: POLICY AND OPERATIONAL GUIDANCE FOR LAW ENFORCEMENT 1-2 (2012).

18. *Id.* at 10.

data is then banked. Cameras may be mounted on a fixed location—like a roadside or a bridge—or mounted on cars guided by a human driver for mobile data collection.[19]

Readers may already be familiar with this technology in the context of toll roads. ALPR cameras have become ubiquitous at toll plazas to identify wanted vehicles and send tickets to drivers who pass through the toll lane without paying.[20] Law enforcement authorities also use this technology to search for stolen vehicles and penalize drivers who violate state car insurance requirements.[21]

The ALPR data landscape in the U.S. is dominated by one company: Motorola Solutions. Motorola Solutions operates two networks, the Vigilant LEARN platform and Digital Recognition Network (DRN).[22] These networks provide ALPR software and equipment to their customers, as well as access to massive data networks which house user-generated data.[23] Vigilant LEARN

19. *Id.* at 2, 9; Friedersdorf, *supra* note 15.

20. As of 2013, there had been 37 million transponder units issued nationwide for electronic toll collection. The number of electronic or "cashless" tolls, already on the rise, is only likely to increase, as human toll booth collectors can serve as vectors for COVID-19. INT'L BRIDGE, TUNNEL & TPK. ASS'N, 2015 REPORT ON TOLLING IN THE UNITED STATES 2 (2015), https://www.ibtta.org/sites/default/files/documents/MAF/2015_FactsInBrief_Final.pdf; *see* A-TO-BE, HOW TECHNOLOGY EMPOWERS SMART CITIES: LEARNINGS FROM EUROPE 1-2 (2020), https://www.ibtta.org/sites/default/files/documents/A-to-Be%20Article%20-%20How%20technology%20empowers%20Smart%20Cities%20%28Apr2020%29.pdf; Luz Lazo, *Another Victim of the Coronavirus: Cash Tolls*, WASH. POST (Aug. 12, 2020, 7:00 AM), https://www.washingtonpost.com/transportation/2020/08/12/another-victim-coronavirus-cash-tolls.

21. ROBERTS & CASANOVA, *supra* note 17, at 1. All states but New Hampshire and Virginia require auto insurance, or alternatively that the driver place a bond matching the state minimum in lieu of insurance. Virginia charges uninsured drivers a $500 annual fee. Mila Araujo, *Minimum Car Insurance Requirements by State*, BALANCE (Nov. 8, 2020), https://www.thebalance.com/understanding-minimum-car-insurance-requirements-2645473; *Uninsured Motor Vehicle Fee*, VA. DEP'T MOTOR VEHICLES, https://www.dmv.virginia.gov/vehicles/#uninsured_fee.asp (last visited Feb. 7, 2021); *Insurance Requirements/SR-22*, N.H. DEP'T MOTOR VEHICLES, https://www.nh.gov/safety/divisions/dmv/financial-responsibility/insurance.htm (last visited Feb. 27, 2021).

22. Tammy Waitt, *Motorola Solutions Acquires Vigilant Solutions' Parent Company VaaS*, AMERICAN SECURITY TODAY (Jan. 10, 2019), https://americansecuritytoday.com/motorola-solutions-acquires-vigilant-solutions-parent-company-vaas; MOTOROLA SOLUTIONS, MOTOROLA SOLUTIONS SECURITY AND COMPLIANCE MEMORANDUM 1 (2020), www.cityofwinters.org/wp-content/uploads/2019/10/VS-MSI-Brand-SecurityandComplianceMemorandum-V6-FINAL-051520-Digital.pdf. Per Jack Bernstein, the CEO of competitor Locator Technologies, as of 2014, DRN served 70% of the commercial market and Vigilant Solutions (now part of Motorola Solutions) had 90% of the law enforcement market for ALPR. Friedersdorf, *supra* note 15.

23. Vigilant advertises that "Vigilant PlateSearch empowers your team with patented analytics and billions of license plate scans from your agency's own cameras, other departments[sic] cameras, enterprise partners and a nationwide commercial data network to identify, predict and alert to vehicle sightings." MOTOROLA SOLUTIONS, VIGILANT PLATESEARCH 1 (2020) https://www.motorolasolutions.com/content/dam/msi/docs/products/license-plate-recognition-systems/reaperhd-mobile-lpr-system/vigilant_platesearch_fact_sheet.pdf. DRN

serves law enforcement authorities, including the federal government. Its past customers include, for example, Immigration and Customs Enforcement (ICE).[24] DRN serves the commercial market for ALPR data, in which private actors such as auto repossessors collect, share, and access license plate scans. Law enforcement agencies that work with Motorola Solutions have access to scans other agencies have chosen to share, and to DRN's vast data network—which encompasses over 9 billion license plate scans—in addition to the scans they generate themselves.[25]

DRN compiles its data by partnering with towing companies and individual tow truck drivers who are hired to repossess cars.[26] Lenders hire these repossessors to recover vehicles from car owners who are in default. In turn, DRN encourages those same repossessors to sign up as "Affiliates."[27] As Affiliates, repossessors purchase ALPR cameras and scan license plates wherever they drive. Their scans are then submitted to the DRN network. In return for collecting data for DRN, the Affiliates can access the network and benefit from scans generated by other Affiliates to help them locate cars on their bounty list.[28] They can upload "hotlists" of cars they are looking for and get an alert whenever a wanted car is spotted.[29] DRN also offers to connect Affiliates with "Forwarders," or liaisons who can connect Affiliates with more lenders and more contracts.[30]

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explains that "Our vast network of license plate recognition cameras feeds an expansive database of vehicle images. Our platform of analytic solutions then uses these images to help detect fraud, reduce risk and find vehicles with more speed and accuracy than relying solely on public data." *DRN Solutions*, DIG. RECOGNITION NETWORK, https://drndata.com/solutions (last visited Mar. 27, 2022); *see also* Kaplan, *supra* note 15.

24. ACLU, *supra* note 6, at 27; Letter from Catrina M. Pavlik-Keenan, Freedom of Information Act Officer, U.S. Dep't of Homeland Security, to Vasudha Talla, Staff Attorney, ACLU of Northern Cal. (July 13, 2017), 67, 72-75, 93 https://www.aclunc.org/docs/DOCS_031319.pdf.

25. *How Our Auto Recovery Network Works*, DIG. RECOGNITION NETWORK, https://web.archive.org/web/20210228024614/https://www.drnrecovery.com/recovery-network (Feb. 28, 2021). Motorola Solutions' client agencies own the data they generate and share and retain it according to their individual policies. Susan Crandall, *Vigilant Solutions Bolsters Commercial LPR Database through Agreement with Plate Locate*, DIG. RECOGNITION NETWORK (Apr. 19, 2018), https://drndata.com/vigilant-solutions-bolsters-commercial-lpr-database-agreement-plate-locate.

26. *How Our Auto Recovery Network Works*, *supra* note 25; *Repossession*, DIG. RECOGNITION NETWORK, https://drndata.com/repossession/ (last visited Apr. 12, 2022) (confirming that DRN "Affiliates" are car repossessors); *Equipment*, SPEEDY RECOVERY SERVICES, https://www.speedyrecoveryinc.com/our-fleet.html (last visited Apr. 12, 2022); *DRNsights: Risk Scoring*, DIG. RECOGNITION NETWORK, https://drndata.com/risk-scoring (last visited Apr. 12, 2022).

27. There are over 550 Affiliates nationwide. ACLU, *supra* note 6, at 28.

28. *How Our Auto Recovery Network Works*, *supra* note 25.

29. *Id.*

30. *Become an Affiliate*, DIG. RECOGNITION NETWORK, https://www.drnrecovery.com/affiliates/become-an-affiliate/ (last visited Feb. 18, 2021).

1. DRNsights: ALPR repurposed

In addition to repossessors, DRN also markets its data to auto financers and insurers.[31] DRNsights, DRN's data platform, boasts a menu of proprietary analytics tools it claims can help these entities assess risk and set insurance and interest rates for consumers.[32]

To financers, DRN pitches DRNsights as a "Risk Scoring service" that provides vehicle location information to help auto financers assess whether they will be able to recover a car if the borrower slips into default.[33] In an auto loan, the car serves as collateral for the transaction. If the borrower cannot repay the loan on their car, the lender can repossess and resell the car if necessary. If the lender is unable to repossess the car, the investment is lost. Thus, the more likely it is that a lender can recover the car if the borrower falls behind, the less risk there is to lenders. The less risk there is to lenders, the more loans they can originate—or so the theory goes. DRN suggests that auto financers use the DRNsights Risk Scoring analytics tool at the loan origination stage to verify the address of the trade-in and "evaluate risk."[34] DRN also claims that its data analytics can be employed early in the collection process, if payments are missed, to find the customers and get them to agree to pay, avoiding repossession.[35] That way, lenders can "mitigate risk before it has the opportunity to hurt" them.[36] Finally, if the borrower defaults, the DRN ALPR data can, of course, be used for its original purpose—to locate and repossess the car.[37]

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31. *Let Our Data Tell the Real Story*, DIG. RECOGNITION NETWORK, https://drndata.com/ (last visited Feb. 18, 2021). A more thorough examination of these two industries and their practices is available in a later subsection. *See* Section I.B.

32. *Let Our Data Tell the Real Story*, *supra* note 31; *DRN Solutions*, *supra* note 23; *DRNsights: Radius Response*, DIG. RECOGNITION NETWORK, https://drndata.com/radius-response (last visited Apr. 12, 2022) ("Radius Response uses billions of license plate detections to compare vehicle sightings with customer-provided information to optimize premiums and identify potential fraud.").

33. *DRNsights: Risk Scoring*, *supra* note 26.

34. *Id.*

35. *DRNsights: Skip Trace*, DIG. RECOGNITION NETWORK, https://drndata.com/SKIP-TRACE/ (last visited Feb. 18, 2021).

36. *DRNsights: Risk Scoring*, *supra* note 26.

37. *DRNsights: Vehicle Search*, DIG. RECOGNITION NETWORK, https://drndata.com/VEHICLE-SEARCH/ (last visited Feb. 18, 2021). Lenders also have the option to sell and assign the contract to another party, often called a debt buyer. Debt buyers purchase defaulted debts for pennies on the dollar in order to have the right to collect on the debt for themselves and profit on the difference between what they paid and what they can collect. THOMAS KANE ET AL., FTC, THE STRUCTURES AND PRACTICES OF THE DEBT BUYING INDUSTRY ii, 11-12, B-7 (2013), https://www.ftc.gov/sites/default/files/documents/reports/structure-and-practices-debt-buying-industry/debtbuyingreport.pdf; LISA STIFLER & LESLIE PARRISH, CTR. FOR RESPONSIBLE LENDING, DEBT COLLECTION AND DEBT BUYING: THE STATE OF LENDING IN AMERICA AND ITS IMPACT ON U.S. HOUSEHOLDS 2-3, 6, 9 (2014), https://www.responsiblelending.org/state-of-lending/reports/11-Debt-Collection.pdf. This is not an ideal solution for lenders, however, as the deeply discounted resale price does not allow the lender to recoup the full

DRN assures auto insurers that its analytics tools can help them "accurately rate and price policies."[38] The insurance industry is particularly concerned with "garage fraud," in which customers claim a false address (perhaps a former address, or a relative's address) in order to benefit from lower premiums in that area compared to the area where the customer actually lives.[39] DRN suggests that insurance companies review the driver's location history to "optimize premiums" at the policy's inception and whenever the policy is due to be renewed.[40] Notably, DRN does not appear to consider garage fraud to be a dealbreaker for insurance companies. Instead, it describes these cases as increased risk and suggests that insurers opt to "valu[e] bad risks appropriately for better margins and profit."[41] This language suggests that DRN anticipates its insurance customers will use the ALPR data tools to raise prices for these "higher risk" accounts, rather than reject them outright.

2. Can fintech democratize credit?

Algorithms are like recipes:[42] They include a series of prescribed steps that will yield a desired outcome. As a cook becomes more skilled with experience, they may begin incorporating slight adaptations into tried-and-true recipes, playing with proportions of ingredients to develop a more refined end product. This process is analogous to what is commonly known as "machine learning," a form of artificial intelligence. A machine learning algorithm continually adjusts itself based on what it "learns" from the data it has already processed ("training data") and the patterns it perceives therein.[43] The difference between machine learning

loan investment and may even represent a loss. Thus, reselling the defaulted loan to a debt buyer may be a last resort.

38. *Insurance*, DIGITAL RECOGNITION NETWORK, https://drndata.com/insurance/ (last visited Feb. 12, 2021).

39. Auto insurance rates are heavily informed by the customer's residential address. *See* Ashley Kilroy & Jason Metz, *9 Factors That Affect Your Car Insurance Rates*, FORBES (Mar. 10, 2022, 12:08 PM), https://www.forbes.com/advisor/car-insurance/factors-in-rates. *See generally* Ansell Fernandez, Note, *Prisoners of the Zip Code: How Single Zip Code Rate-Making Hurts the Public Interest*, 30 ST. THOMAS L. REV. 117, 120-21 (2018) (arguing that use of single ZIP code and socioeconomic factors in setting auto insurance rates can lead to higher premiums for low-income households, more uninsured drivers in low-income communities, and possibly race discrimination).

40. *Radius Response*, *supra* note 32.

41. *Id.*

42. *See* MICHELE GILMAN, DATA & SOC'Y, POVERTY LAWGORITHMS: A POVERTY LAWYER'S GUIDE TO FIGHTING AUTOMATED DECISION-MAKING HARMS ON LOW-INCOME COMMUNITIES 6 (2020), https://datasociety.net/wp-content/uploads/2020/09/Poverty-Lawgorithms-20200915.pdf.

43. Solon Barocas & Andrew D. Selbst, *Big Data's Disparate Impact*, 104 CAL. L. REV. 671, 680 (2016). Another commentator extends the recipe metaphor by describing machine learning (or "a learning algorithm") not as a recipe but as "a procedure for constructing a recipe." Suresh Venkat, *When an Algorithm Isn't . . .*, MEDIUM (Oct. 1, 2015),http://perma.cc/U7SY-CK7Z.

and a straight algorithm is that a human can replicate the result a straight algorithm produces. No matter how sophisticated an algorithm is, or how many data points it processes, if it does not engage in machine learning then a human can theoretically follow the same formula and arrive at the same result. When an algorithm engages in machine learning, it is not merely processing the data but interpreting it. A human, even an experienced programmer, cannot know or replicate the interpretations the algorithm has applied to the available data.[44]

"Fintech" is a nickname for algorithmic lending, meaning that financial lenders delegate their lending decisions to algorithms.[45] Instead of evaluating the consumer directly and making an individual decision regarding the credit risk that consumer presents, the lender feeds data about the consumer into an algorithm.[46]

Based on the information provided, the algorithm generates a score that indicates whether the financer should approve the consumer's application for credit.[47] Algorithms have continually become ever more sophisticated and often are programmed to engage in machine learning. Moreover, modern machine learning algorithms can access and process data at a scale that is almost incomprehensibly vast.[48]

Proponents of fintech argue that it can help democratize lending. Prominent law and technology scholars Kristin Johnson, Frank Pasquale, and Jennifer Chapman point out that "[a]ccording to some futurists, financial markets' automation will substitute increasingly sophisticated, objective, analytical, model-

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44. James A. Allen, *The Color of Algorithms: An Analysis and Proposed Research Agenda for Deterring Algorithmic Redlining*, 46 FORDHAM URB. L.J. 219, 228 (2019) ("These algorithms are fed data and then arrive at decisions autonomously, making transparency difficult even if mandatory disclosure were required."); *id.* at 259 (quoting Joshua A. Kroll et al., *Accountable Algorithms*, 165 U. PA. L. REV. 633, 638 (2017)) ("Transparency alone is necessary but not sufficient: 'Machine learning, one increasingly popular approach to automated decision-making, is particularly ill-suited to source code analysis [i.e., through transparency] because it involves situations where the decisional rule itself emerges automatically from the specific data under analysis, sometimes in ways that no human can explain. In this case, source code alone teaches a reviewer very little, since the code only exposes the machine learning method used and not the data-driven decision rule.'").

45. *See* Matthew Adam Bruckner, *Preventing Predation & Encouraging Innovation in Fintech Lending*, 72 CONSUMER FIN. L.Q. REP. 370, 371 (2018). Fintech has also been defined as "nondepository financial services firms that integrate artificial intelligence technology and predictive analytics into their business models." Kristin Johnson, Frank Pasquale, & Jennifer Chapman, *Artificial Intelligence, Machine Learning, and Bias in Finance: Toward Responsible Innovation*, 88 FORDHAM L. REV. 499, 499 n.3 (2019).

46. Johnson, Pasquale, & Chapman, *supra* note 45, at 500.

47. *See generally* Mikella Hurley & Julius Adebayo, *Credit Scoring in the Era of Big Data*, 18 YALE J.L. & TECH. 148, 153–183 (2016) (providing an overview of credit scoring concepts and methodologies, offering an introduction to the mostly commonly used scoring tools, and clarifying how machine learning algorithms change the credit scoring landscape).

48. *See* Timothy A. Asta, *Guardians of the Galaxy of Personal Data: Assessing the Threat of Big Data and Examining Potential Corporate and Governmental Solutions*, 5 FLA. ST. U. L. Rev. 261, 265, 267 (2017).

based assessments of, for example, a borrower's creditworthiness for direct human evaluations irrevocably tainted by bias and subject to the cognitive limits of the human brain."[49] If this were the case, disadvantaged groups would be better off when they are evaluated by artificial intelligence rather than their fellow humans—who are prone to unfair discrimination.

3. The trouble with consumer scoring

Lenders[50] have long shown a tendency to stratify consumers and favor those considered most desirable. They justify this under the rationale of managing risk and protecting their investments. Consumers who are more likely to repay the loan are considered solid investments, and consumers who are more likely to default are considered riskier investments. To mitigate the risk of nonpayment, lenders impose more onerous terms upon these less-desirable consumers, such as raising the interest rate, requiring deposits or collateral, or other terms that allow the lender to make a higher or faster profit.[51]

Lenders have historically employed a number of various scoring systems in order to quantify risk, predict the future, and identify the consumers who are most and least likely to repay their debt.[52] Consumers who are low-income or people of color have invariably borne the brunt of these risk-assessment practices, consistently being rated as undesirable or less desirable.[53] This is sometimes a function of reduced access to collateral or funding for a down payment. When the consumer has fewer resources available to repay the loan, the lender is forced to accept a greater level of risk. However, this disparity has often been a direct result of lenders' intentional discrimination against and exploitation of

49. Johnson, Pasquale, & Chapman, *supra* note 45, at 500 (citing OECD, FINANCIAL MARKETS, INSURANCE AND PENSIONS: DIGITALIZATION AND FINANCE 10-13 (2018), https://www.oecd.org/finance/private-pensions/Financial-markets-insurance-pensions-digitalisation-and-finance.pdf).

50. I consider insurers analogous to financers and include them under the umbrella of "lenders" throughout this Article for the purposes of this analysis. Where it is necessary to refer specifically to entities engaged in the business of entering loan contracts, I will refer to "financers."

51. *See, e.g.*, Megan DeMatteo, Elizabeth Gravier, & Alexandria White, *The Beginner's Guide to Credit Scores: How to Understand and Improve Your Credit Score*, CNBC, https://www.cnbc.com/select/guide/credit-scores-for-beginners/#what-are-the-factors-that-make-up-your-credit-score (Jan. 14, 2022); Daniel Kurt, *The Side Effects of Bad Credit*, INVESTOPEDIA (June 11, 2021), https://www.investopedia.com/the-side-effects-of-bad-credit-4769783.

52. *See* BD. OF GOVERNORS OF THE FED. RSRV. SYS., REPORT TO THE CONGRESS ON CREDIT SCORING AND ITS EFFECTS ON THE AVAILABILITY AND AFFORDABILITY OF CREDIT 12-13 (Aug. 2007), https://www.federalreserve.gov/boarddocs/rptcongress/creditscore/creditscore.pdf.

53. *See generally* Andrea Freeman, *Racism in the Credit Card Industry*, 95 N.C. L. REV. 1071, 1095–1106 (2017).

consumers who have limited choices.[54] As a result, these consumers are frequently unable to access loans and other economic tools, or are only able to obtain them at a considerable premium.[55]

This in turn leads to a reinforcement of race and class subordination:[56] When minority and low-income consumers are barred from accessing critical economic tools, their economic mobility is stalled, solidifying structural racism and classism. Meanwhile, their richer and whiter counterparts, who can collect these tools more easily, are able to continue advancing economically without impediment.[57]

Fintech and traditional consumer scoring are similar processes based on the same principle. The major difference is that fintech uses a more expansive set of criteria and datasets than traditional scoring has historically had at its disposal. In the age of Big Data, sophisticated corporate data brokers are able to compile incomprehensibly massive datasets from innumerable sources and deliver complex analytics tools to lenders quickly and easily. Data brokers can access detailed information about consumer behavior—including where we are shopping, what we are buying, what we are posting on social media, and more.[58] This wealth of data, when run through intricate predictive algorithms, can reveal correlations and trends far more nuanced than those a human analyst could pinpoint.

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54. *Id.* at 1096-97. For example, Ta-Nehisi Coates relates the story of Clyde Ross, a World War II veteran who, unable to access a home loan through traditional channels, fell prey to unethical loan scammers. Mr. Ross' only option was to purchase his home "on contract," a particularly vicious structure in which the seller delegates all responsibilities and burdens to the buyer, while retaining all the equity until the loan is fully paid off. Under these arrangements, sellers could change or add to the contract terms at-will, knowing that the buyers had no recourse to seek relief in the courts. Mr. Ross' story is far from unique. Ta-Nehisi Coates, *The Case for Reparations*, ATLANTIC (June 2014), https://www.theatlantic.com/magazine/archive/2014/06/the-case-for-reparations/361631.

55. *See* Freeman, *supra* note 53, at 1098-99.

56. Continual references to statuses of race and class in tandem throughout the Article are not meant to conflate the two. Although there is overlap between people of color and the poor, they are not one and the same; although there are clear similarities among their experiences and the ways in which more dominant demographics subordinate them, those experiences and subordination methods are not uniformly equivalent, and my intent is not to suggest that they are. The experiences of a poor white person and an affluent person of color can be widely divergent, though they are both targets for discrimination. Moreover, individuals belonging to both subordinated groups can observe a compounding effect as a result of differences between the two experiences of discrimination. These ideas will be explored further later in the Article.

57. This is particularly striking with regard to race; here, the existing disadvantages associated with Blackness or other minority status are increased, while the benefit of whiteness bestows additional advantage. *See* Freeman, *supra* note 53, at 1098-99; *see also* Cheryl Harris, *Whiteness as Property*, 106 HARV. L. REV. 1709, 1758 (1993).

58. Hurley & Adebayo, *supra* note 47, at 151-52, 204, 213.

B. The importance of auto access and fintech's unique threat

In theory, the advent of fintech should be a positive development. Proponents may argue that it increases the accuracy of credit-scoring and gives a leg up to individual consumers who have not had access to traditional forms of credit.[59]

Instead of relying on imprecise assessment criteria like ZIP codes—which can include thousands of people who behave very differently from one another—lenders can make assessments based on a host of minute actions and decisions by an individual consumer, all processed through a state-of-the-art algorithm capable of making hairline distinctions.[60] Moreover, the algorithm is supposed to be free from the implicit biases of human decision-makers which have hindered the full economic participation of minoritized and historically disadvantaged populations. In theory, this process is not only more accurate, but also more fair.

If true, this would have been a welcome development, particularly in the context of auto financing and insurance—the industries to which DRN markets its ALPR-based analytics tool. If the theory of algorithmic equity had born out, it would have unlocked access to a critical economic tool which has long been disproportionately—and often intentionally—denied to members of subordinated race- and income-based classes. It would have leveled an extremely high-stakes playing field. In order to assess fintech's potential for success, we must first examine the stakes and abuses at issue.

The stakes are indeed high; involuntary carlessness is an economically dire condition disproportionately suffered by people of color and those with low incomes. Cars have become ubiquitous throughout the United States, and driving is a regular and expected part of life. As early as 1977, the Supreme Court described car ownership as "a virtual necessity for most Americans."[61] Ninety-one percent of households have cars.[62] As cars became more common, various aspects of society rearranged themselves to accommodate cars and drivers. Zoning laws that favor single-family housing developments, divide commercial from residential areas, and dictate minimum lot sizes all disrupt walkability and reflect the shift away from walking as a primary means of transportation.[63] Other laws

59. *See id.* at 163, 155.

60. *See, e.g.*, Audrey G. McFarlane, *Who Fits the Profile?: Thoughts on Race, Class, Clusters, and Redevelopment*, 22 GA. ST. U.L. REV. 877, 879, 887 (2006) (noting that a metropolitan area can contain consumers of different racial and class backgrounds with different preferences). Hurley & Adebayo, *supra* note 47, at 157, 163-65.

61. Wooley v. Maynard, 430 U.S. 705, 715 (1977).

62. Fed. Highway Admin., U.S. Dep't of Transp., *Popular Household Statistics: Number of Households by Household Income*, NAT'L HOUSEHOLD TRAVEL SURV., https://nhts.ornl.gov/households (last visited Feb. 2, 2022).

63. *See* Gregory H. Shill, *Should Law Subsidize Driving?*, 95 N.Y.U. L. REV. 498, 544 (2020).

that mandate parking quotas[64] and offer subsidies for out-of-town commuters[65] also demonstrate the pervasive expectation that most Americans will drive to wherever they need to go.

This shift has been coupled with a campaign of disinvestment in public transit. Once upon a time, public transit options, such as streetcars, were affordable and widely used.[66] Such modes of transit fell out of favor as individual car ownership became more accessible.[67] This shift was hastened by de facto municipal abandonment of these transportation systems. Notably, "[h]ighway funding has historically been built into state and federal budgets, but transit funding usually requires a vote to raise taxes, creating what experts call a systemic bias toward cars over trains and buses."[68] Cash-strapped cities balanced their budgets by raising fares, reducing service, and deferring needed maintenance.[69] As public transit infrastructure has deteriorated, public transportation has presented a slow and unreliable option compared to driving.[70] Even New York, boasting the coun-

64. Gregory H. Shill, *Americans Shouldn't Have to Drive, but the Law Insists on It: The Automobile Took Over Because the Legal System Helped Squeeze Out the Alternatives*, ATLANTIC (July 9, 2019), https://www.theatlantic.com/ideas/archive/2019/07/car-crashes-arent-always-unavoidable/592447.

65. INTERNAL REVENUE SERV., PUBLICATION 15-B (2021), EMPLOYER'S TAX GUIDE TO FRINGE BENEFITS, https://www.irs.gov/publications/p15b (last updated Feb. 5, 2021).

66. Cliff Slater, *General Motors and the Demise of Streetcars*, 51 TRANSP. Q. 45, 48 (1997).

67. DAVID W. JONES, MASS MOTORIZATION + MASS TRANSIT: AN AMERICAN HISTORY AND POLICY ANALYSIS 1-2 (2008). Some have speculated that a campaign by General Motors to promote its cars to individual consumers contributed significantly to this. *See* David J. St. Clair, *The Motorization and Decline of Urban Public Transit, 1935-1950*, 41 J. ECON. HIST. 579, 580-81, 600 (1981).

68. Hiroko Tabuchi, *How the Koch Brothers are Killing Public Transit Projects Around the Country*, N.Y. TIMES (June 19, 2018), https://www.nytimes.com/2018/06/19/climate/koch-brothers-public-transit.html.

69. *See* Jonathan English, *Why Did America Give Up on Mass Transit? (Don't Blame Cars.)*, BLOOMBERG CITYLAB (Aug. 31, 2018, 11:38 AM), https://www.bloomberg.com/news/features/2018-08-31/why-is-american-mass-transit-so-bad-it-s-a-long-story; WILLIAM J. MALLETT, CONG. RSCH. SERV., R45144, TRENDS IN PUBLIC TRANSPORTATION RIDERSHIP: IMPLICATIONS FOR FEDERAL POLICY 5, 8-9 (2018), https://fas.org/sgp/crs/misc/R45144.pdf; Cyrus Moulton, *WRTA Votes to Raise Fares, Cut Service to Balance Budge*t, TELEGRAM & GAZETTE (Apr. 20, 2017, 3:52 PM), https://www.telegram.com/story/news/local/worcester/2017/04/20/wrta-votes-to-raise-fares-cut-service-to-balance-budget/21313469007/; Andrew Bowen, *MTS Raising Fares To Close $10M Budget Shortfall*, KPBS (Aug. 20, 2019, 8:28 AM), https://www.kpbs.org/news/quality-of-life/2019/08/20/mts-raising-fares-sept-1-effort-close-budget-defic.

70. Joseph Stromberg, *The Real Reason American Public Transportation is Such a Disaster*, VOX (Aug. 10, 2015, 5:49 PM), https://www.vox.com/2015/8/10/9118199/public-transportation-subway-buses. Americans see public transport as a social welfare program, so in most cities it is limited, underfunded, runs infrequently, and is primarily used by those with no other option—those too poor to own cars. *Id.*

try's largest and most-used transit system, has not been immune to these problems, with service delays and outages becoming increasingly common.[71] As a result, ridership recently declined slightly for the first time in decades.[72]

Due to the decay of the public transit system, even many low-income families keep an automobile. A recent report concludes that:

> Most American carlessness appears to be involuntary: carless households often live in places where walking and transit use are difficult, which suggests that absence of a vehicle is a constraint rather than a choice. The value of cars to low-income people is also evidenced by how eagerly the poor acquire them. Low-income households often convert even small increases in spending power—such as increases in the minimum wage—into vehicle purchases.[73]

The urgency of car ownership is illustrated by the fact that drivers prioritize staying current on car payments above other bills. When money is tight, consumers will skip paying the mortgage and credit cards before they will default on their car payments.[74] This indicates that consumers see the car payment as a more critical expense.

Drivers in financial distress likely prioritize car-related expenses because they are afraid that losing their car would threaten their livelihood and push them (further) into poverty.[75] Recent research underscores the ongoing, perhaps deepening, correlation between poverty and lack of automobile access.[76]

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71. Brian M. Rosenthal et al., *How Politics and Bad Decisions Starved New York's Subways*, N.Y. TIMES (Nov. 18, 2017), https://www.nytimes.com/2017/11/18/nyregion/new-york-subway-system-failure-delays.html.

72. Marc Santora, *Subway Ridership Falls as M.T.A. Scrambles to Improve Service*, N.Y. TIMES (Nov. 15, 2017), https://www.nytimes.com/2017/11/15/nyregion/subway-ridership-falls-as-mta-scrambles-to-improve-service.html?module=inline; Emma G. Fitzsimmons et al., *Every New York City Subway Line is Getting Worse: Here's Why*, N.Y. TIMES (June 28, 2017), https://www.nytimes.com/interactive/2017/06/28/nyregion/subway-delays-overcrowding.html.

73. David A. King, Michael J. Smart, & Michael Manville, *The Poverty of the Carless: Toward Universal Auto Access*, J. PLAN. EDUC. & RSCH., Feb. 2019, at 8.

74. Ben McLannahan, *Debt Pile-Up in US Car Market Sparks Subprime Fear*, FIN. TIMES (May 30, 2017), https://www.ft.com/content/bab49198-3f98-11e7-9d56-25f963e998b2.

75. *Id.*

76. King, Smart, & Manville, *supra* note 73, at 8 ("Between 2001 and 2015, this gulf [in income growth between families with cars and those without cars] widened even as income growth among families with cars slowed. The income increases of families with cars now averaged only 1 percent every two years, but families without cars saw average biennial declines of about 7 percent."); *id.* at 9 ("[W]here in 1955 the 75 percent of bottom-decile households without an automobile accounted for 25 percent of the nation's carless households; by 2013, the 45 percent of bottom decile households without an automobile—who were less than 5 percent of U.S. households—accounted for 41 percent of American carlessness."); *id.* at 7 ("[L]ow income might explain both the lack of cars and the lack of bank accounts. Even *within*

Labor suburbanization is at least partially responsible for this trend. Unskilled jobs that would otherwise be accessible for workers with lower levels of educational attainment are moving progressively farther from where those workers actually live. The Brookings Institution recently reported that:

> Almost every major metro area saw the balance of employment shift away from downtown during the 2000s. By the end of the decade 43 percent of jobs in the nation's largest metro areas were located more than 10 miles from downtown—nearly twice the share of jobs located within three miles of a central business district (23 percent). The manufacturing, construction, and retail services industries were among the most suburbanized, with the majority of jobs in each industry located more than 10 miles away from downtown.[77]

Black and Brown populations, who are overrepresented in these industries, are disproportionately hurt by job sprawl. As of 2017, roughly a quarter of the Black (25%) and Hispanic/Latinx (26%) workforce was employed in the service industry, compared to sixteen percent of white workers.[78] Similarly, more Black (16%) and Hispanic/Latinx (16%) workers were employed in the production, transportation, and material moving industries, compared to eleven percent of white workers.[79] Additionally, sixteen percent of Hispanic/Latinx workers were employed in the natural resources, construction, and maintenance industries, compared to ten percent of white workers.[80] Conversely, thirty-nine percent of white workers were in management, professional, or related roles, compared to twenty-one percent of Hispanic/Latinx workers and thirty percent of Black workers.[81] If fintech were to expand auto access among these groups, urbanized workers would be able to commute to suburban workplaces more quickly and easily.

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the bottom [income] decile, however, being unbanked is associated with carlessness. Thirty-eight percent of bottom decile households with checking accounts did not have a vehicle, compared with 59 percent of unbanked bottom decile households."). This commentator and others also suggest that the carless are punished in other ways and locked out of other aspects of public life. Shill, *supra* note 63, at 500-01. Here, we are focused on poverty, so the discussion is necessarily limited to access to jobs.

77. Elizabeth Kneebone, *The Changing Geography of US Poverty*, BROOKINGS (Feb. 15, 2017), https://www.brookings.edu/testimonies/the-changing-geography-of-us-poverty/; *see also* Elizabeth Kneebone & Natalie Holmes, *The Growing Distance Between People and Jobs in Metropolitan America*, BROOKINGS (Mar. 24, 2015), https://www.brookings.edu/research/the-growing-distance-between-people-and-jobs-in-metropolitan-america/.

78. U.S. BUREAU OF LAB. STATS., U.S. DEP'T OF LAB., PUB. NO. 1057, LABOR FORCE CHARACTERISTICS BY RACE AND ETHNICITY, 2014, at 4 (2015), https://www.bls.gov/opub/reports/race-and-ethnicity/archive/labor-force-characteristics-by-race-and-ethnicity-2014.pdf.

79. *Id.*

80. *Id.*

81. *Id.*

And commute they must. For workers in those sectors, moving to the suburbs is becoming a less meaningful alternative due to a shortage of affordable housing in those areas.[82] This is especially true for workers of color. The Brookings Institution found that:

> [T]he poor white population remains the most suburbanized among major racial and ethnic groups: 70 percent of poor whites in the nation's largest metro areas live in the suburbs compared to 52 percent of poor Asians, 47 percent of poor Hispanics, and 41 percent of poor African Americans.[83]

Brookings has also reported that the suburbanization gap was particularly severe for African-Americans, noting that Hispanic/Latinx populations had greater success in making the move:

> Poor whites and Latinos are more suburbanized than poor blacks in metro areas with high job sprawl. This disparity is most marked in metropolitan areas with higher poverty rates, indicating that in such regions, poor blacks may be less able to suburbanize in response to the outward movement of jobs than other groups.[84]

Additionally, as low-skilled jobs became suburbanized, they also became more competitive. A 2013 study indicated the industries most likely to suburbanize have also shrunk dramatically, leaving fewer jobs available for workers in

82. JOINT CTR. HOUS. STUD. HARV. UNIV., THE STATE OF THE NATION'S HOUSING 12, 33 (2019), https://www.jchs.harvard.edu/sites/default/files/Harvard_JCHS_State_of_the_Nations_Housing_2019.pdf; Sarah Holder, *For Low-Income Renters, the Affordable Housing Gap Persists*, BLOOMBERG CITYLAB (Mar. 13, 2018, 4:31 PM), https://www.bloomberg.com/news/articles/2018-03-13/low-income-renters-find-stubborn-affordable-housing-gap; JOINT CTR. HOUS. STUD. HARV. UNIV., AMERICA'S RENTAL HOUSING 21, 29 (2017), https://www.jchs.harvard.edu/sites/default/files/media/imp/harvard_jchs_americas_rental_housing_2017_0.pdf; Margaret Hennessy, *Suburban Housing Costs Are Stretching Families to the Brink*, SLATE (Mar. 21, 2018, 5:55 AM), https://slate.com/human-interest/2018/03/suburban-housing-costs-are-stretching-families-to-the-brink.html; *see* Matthew Yglesias, *Everything You Need to Know About the Affordable Housing Debate*, VOX, https://www.vox.com/2014/4/10/18076868/affordable-housing-explained (May 11, 2015, 11:43 AM EDT).

83. Kneebone, *supra* note 77.

84. Steven Raphael & Michael Stoll, *Job Sprawl and the Suburbanization of Poverty*, BROOKINGS (Mar. 30, 2010), https://www.brookings.edu/research/job-sprawl-and-the-suburbanization-of-poverty.

those sectors.[85] More recently, there has been some increase in suburban job concentration, but it has lagged behind job density increases in core urban areas.[86] And the industries with the least overall density growth included the retail, construction, and manufacturing sectors.[87] When there are a shrinking number of unskilled jobs located far from home—and when public transportation and relocation are not realistic options—owning a car can offer a job-seeker a competitive edge.

In theory, employers should not ask applicants if they have their own cars. The Equal Employment Opportunity Commission (EEOC) has interpreted car ownership as financial information that should not be considered in employment decisions unless the employer can demonstrate that it will help them "accurately identify responsible and reliable employees."[88] However, anecdotal data and the proliferation of worker- and employer-facing websites addressing the question suggest that employers frequently do ask applicants if they have cars (or "reliable transportation"), and that a carless applicant is at a disadvantage compared to applicants who drive.[89] Thus, a worker's carlessness not only makes it difficult—if not impossible—to commute to a suburban job, but it may also prevent the worker from landing that job in the first place.[90]

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85. Elizabeth Kneebone, *Job Sprawl Stalls: The Great Recession and Metropolitan Employment Location*, BROOKINGS (Apr. 18, 2013), https://www.brookings.edu/research/job-sprawl-stalls-the-great-recession-and-metropolitan-employment-location ("Job losses in industries hit hardest by the [Recession] . . . helped check employment decentralization in the late 2000s. Together, construction, manufacturing, and retail—each among the most decentralized of major industries—accounted for almost 60 percent of all job losses between 2007 and 2010."); Kneebone & Holmes, *supra* note 77.

86. Chad Shearer, Jennifer S. Vey, & Joanne Kim, *Where Jobs Are Concentrating and Why It Matters to Cities and Regions*, BROOKINGS (June 2019), https://www.brookings.edu/wp-content/uploads/2019/06/2019.06_Bass-Center_Geography-of-jobs-report.pdf.

87. *Id*. at 22.

88. U.S. EQUAL EMP. OPPORTUNITY COMM'N, PRE-EMPLOYMENT INQUIRIES AND FINANCIAL INFORMATION, https://www.eeoc.gov/pre-employment-inquiries-and-financial-information (last visited Feb. 9, 2021) (emphasis omitted).

89. Caitiín Eagen, *Do You Have Reliable Transportation?*, BILLFOLD (June 10, 2016), https://www.thebillfold.com/2016/06/do-you-have-reliable-transportation; *Why You're Always Asked if You Have Reliable Transportation*, CAREER CONCEPTS (Jan. 11, 2017), https://www.careerconceptsinc.com/2017/01/11/youre-always-asked-reliable-transportation/; *Can a Recruiter Ask a Candidate if He or She Owns a Car?*, SOC'Y FOR HUM. RES. MGMT., https://www.shrm.org/resourcesandtools/tools-and-samples/hr-qa/pages/cms_020894.aspx (last visited Feb. 19, 2021).

90. Additionally, the gig economy, or the informal economy in which participants perform ad-hoc or freelance jobs under an independent contractor status, has made an impact. These jobs almost universally require a personal vehicle, as task-based work requires fast, reliable, and usually private transportation. Early examples of the burgeoning gig economy were workers who served as drivers for rideshare companies Uber and Lyft, which imposed vehicle specifications on drivers, leading to some drivers investing in new, or newer, cars in order to be eligible to sign up. Alex Rosenblat, *What Motivates Gig Economy Workers*, HARV. BUS. REV. (Nov. 17, 2016), https://hbr.org/2016/11/what-motivates-gig-economy-workers.

This is particularly concerning for people of color. Compared to poor white people, poor people of color are moving to the suburbs at a faster rate.[91] People of color are also less likely to have access to cars.[92] In 2019, almost 20% of African-Americans (and 14% of people of color generally) were carless, as opposed to 6% of white people.[93] Indeed, if an employer unnecessarily considers car ownership when making hiring decisions, that could be considered evidence of racial discrimination due to its disparate impact upon racial minorities.[94] If fintech managed to democratize auto access, that form of discrimination would no longer be a concern for people of color.

Lack of access to a car does not just affect employment and housing; the carless also struggle to obtain health care and healthy food. Transportation barriers can result in deferred care, missed or rescheduled appointments, and unfilled prescriptions.[95] Numerous studies suggest that patients facing these barriers are less likely to utilize healthcare and more likely to miss medical

Exact specifications appear to be location-dependent, but all appear to include maximum vehicle age limits. *Vehicle Requirements: Boston*, UBER, https://www.uber.com/us/en/drive/boston/vehicle-requirements/ (last visited Feb. 10, 2021); *Vehicle Requirements*, LYFT, https://help.lyft.com/hc/en-us/articles/115013077448-Vehicle-requirements (last visited Feb. 10, 2021). The COVID-19 pandemic saw an explosion of grocery and takeout delivery workers for companies such as Instacart and Doordash, as well as an attendant decline in ridesharing (and a further decline in public transport) as former riders opted out to avoid the virus. These considerations resulted in a marked increase in car sales, which may only continue as the pandemic wears on and the gig economy reveals itself to be a long-term, if not permanent, trend. Nitasha Tiku, *Desperate Workers Rush to Delivery App Jobs to Find Low Pay and Punishing Rules*, WASH. POST (May 23, 2020, 6:00 AM), https://www.washingtonpost.com/technology/2020/05/23/gig-work-instacart-shipt-amazon-flex-doordash/; Kari Paul, *Car Sales Rise and Car-Share Companies Boom as Pandemic Upends Transportation*, GUARDIAN (Aug. 12, 2020, 6:00 AM), https://www.theguardian.com/technology/2020/aug/12/car-sales-covid-19-coronavirus-uber-zipcar.

91. Kneebone, *supra* note 77 (showing that poor people of color are suburbanizing faster than poor white people). *See also* Kneebone & Holmes, *supra* note 77 (showing that people of color are experiencing a greater decline in proximity to jobs than white people).

92. *Car Access: Everyone Needs Reliable Transportation Access and in Most American Communities that Means a Car*, NATIONAL EQUITY ATLAS, https://nationalequityatlas.org/indicators/Car_access#/ (last visited Feb. 10, 2021). Interestingly, Black people are less likely than white people to participate in the gig economy. Douglas Holtz-Eakin, Ben Gitis, & Will Rinehart, *The Gig Economy: Research and Policy Implications of Regional, Economic, and Demographic Trends*, ASPEN INST. (Jan. 2017), at 16, https://www.aspeninstitute.org/wp-content/uploads/2017/02/Regional-and-Industry-Gig-Trends-2017.pdf. This is perhaps attributable to their relative carlessness as compared to white people.

93. *Car Access*, *supra* note 92.

94. *See Prohibited Employment Policies/Practices*, U.S. EQUAL EMP. OPPORTUNITY COMM'N, https://www.eeoc.gov/prohibited-employment-policiespractices (last visited Feb. 10, 2021).

95. Imran Cronk, *The Transportation Barrier*, ATLANTIC (Aug. 9, 2015), https://www.theatlantic.com/health/archive/2015/08/the-transportation-barrier/399728/; Samina T. Syed, Ben S. Gerber, & Lisa K. Sharp, *Traveling Towards Disease: Transportation Barriers to Health Care Access*, 38 J. CMTY. HEALTH 976, 988-89 (2013). Moreover, it appears that distance, by itself, is not a dispositive measure of the travel burden for patients seeking health care; access to transportation, particularly private vehicle ownership, appears to be key

appointments.[96] Nutritional access studies use low vehicle access and high distance from food stores as essential indicators of a food desert.[97] Carlessness has the potential to impair access to food and healthcare, which could have disabling or lifespan-reducing repercussions, and both factors clearly and disproportionately impact the poor and people of color.[98] If fintech were successful in broadening access to cars, it would save, extend, or improve the quality of many lives.

Even as cars become increasingly necessary, affordability remains a barrier to access. Not only are there high upfront costs to car ownership, but operating costs are also significant. This Article focuses on auto financing and insurance, because these are among the steepest costs associated with buying a car, and they are largely unavoidable for most drivers.[99] That leads to a stark power imbalance between consumers and the companies providing these services. As a result, both the auto financing and auto insurance industries are marked by long histories of predation.[100] The cost to consumers in each context is calculated by closely

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to healthcare access. *Id.* Lack of access to transportation has also blocked many communities of color from accessing the COVID-19 vaccine. Akilah Johnson, *Lack of Health Services and Transportation Impede Access to Vaccine in Communities of Color*, WASH. POST (Feb. 13, 2021, 5:26 PM), https://www.washingtonpost.com/health/2021/02/13/covid-racial-ethnic-disparities/.

96. Syed, Gerber, & Sharp, *supra* note 95, at 989.

97. ALANA RHONE ET AL., USDA, UNDERSTANDING LOW-INCOME AND LOW-ACCESS CENSUS TRACTS ACROSS THE NATION: SUBNATIONAL AND SUBPOPULATION ESTIMATES OF ACCESS TO HEALTHY FOOD 40 (2019), https://www.ers.usda.gov/webdocs/publications/93141/eib-209.pdf. This study examined consumers' distance not only to the nearest food store, but also to the third nearest, which was taken to indicate the amount of choice available and the market competition between stores. *Id.* at 12.

98. Even after controlling for socioeconomic status, people of color had inferior access to healthcare when compared with their white counterparts. Syed, Gerber, & Sharp, *supra* note 95, at 987-88. The USDA study found that people who were low-income, of color, or carless were more likely to live closer to food stores than people who were white, more affluent, or owned cars. RHONE ET AL., *supra* note 97, at 8. This possibly suggests that people without cars are more limited in their residential or food choices: The carless may be forced to choose between more desirable housing (or at least broader choice in housing) and ready access to healthy and/or high-quality food.

99. Sebastian Blanco, *Annual Cost to Own, Drive a New Vehicle Inches Toward $10,000, Says AAA*, CAR AND DRIVER (Aug. 29, 2021), https://www.caranddriver.com/news/a37422784/aaa-annual-cost-new-car-expensive/; *see also* CONSUMER FED'N AM., PENALTIES FOR DRIVING WITHOUT AUTO INSURANCE BY STATE (2014), https://consumerfed.org/pdfs/140310_penaltiesfordrivingwithoutautoinsurance_cfa.pdf; *Penalties for Driving Without Car Insurance by State*, KELLEY BLUE BOOK (Jan. 20, 2021), https://www.kbb.com/car-advice/insurance/penalties-driving-without-car-insurance/; *Automobile Financial Responsibility Laws by State*, INS. INFO. INST. (July 2018), https://www.iii.org/automobile-financial-responsibility-laws-by-state.

100. *Systemic Racism in Auto Insurance Exists and Must be Addressed by Insurance Commissioners and Lawmakers*, CONSUMER FED'N AM. (June 17, 2020), https://consumerfed.org/press_release/systemic-racism-in-auto-insurance-exists-and-must-be-addressed-by-insurance-commissioners-and-lawmakers; CTR. RESPONSIBLE LENDING, THE STATE OF LENDING IN AMERICA AND ITS IMPACT ON U.S. HOUSEHOLDS (2012), 71-79, https://www.responsiblelending.org/sites/default/files/uploads/4-auto-loans.pdf.

guarded risk assessment formulas that unjustifiably rely on factors correlated with poverty.[101] These individual price-setting formulas are unavailable for scrutiny by the general public. They are also widely known to result in disparate outcomes, with low-income and minority drivers bearing the highest cost burden.[102]

Both service providers have investments to protect. The financer's business model depends on collecting as much interest as possible—or at least collecting interest as reliably as possible. The insurer's business model hinges on avoiding claim payouts. Insurers enjoy immense power over drivers, because liability insurance is a near-universal requirement for drivers and there are severe penalties for noncompliance.[103] At the same time, the formulas insurers use to calculate prices for this mandatory investment are generally proprietary trade secrets not subject to public examination.[104] Despite this secrecy, the demographic breakdown of insurance rates strongly suggests that the rate-setting process is tainted by discrimination. Drivers from historically disadvantaged groups (the poor and racial minorities) consistently pay significantly more than their whiter, richer counterparts.[105]

Having accepted the necessity of owning a private automobile, the consumer immediately faces hurdles to overcome in the upfront costs of purchasing and

101. *Low-Income Drivers Looking to Increase Auto Insurance Coverage Pay a $254 Average Annual Penalty Compared with Customers Who Already Had Higher Coverage*, CONSUMER FED'N AM. (July 15, 2019), https://consumerfed.org/press_release/low-income-drivers-looking-to-increase-auto-insurance-coverage-pay-a-254-average-annual-penalty-compared-with-customers-who-already-had-higher-coverage; *see also Systemic Racism in Auto Insurance Exists and Must be Addressed by Insurance Commissioners and Lawmakers*, *supra* note 100.

102. *Low-Income Drivers Looking to Increase Auto Insurance Coverage Pay a $254 Average Annual Penalty Compared with Customers Who Already Had Higher Coverage*, *supra* note 101; *Systemic Racism in Auto Insurance Exists and Must be Addressed by Insurance Commissioners and Lawmakers*, *supra* note 100. Alexander W. Butler, Erik J. Mayer, & James P. Weston, Racial Discrimination in the Auto Loan Market (March 31, 2021) (unpublished manuscript) (on file at https://files.consumerfinance.gov/f/documents/cfpb_mayer_racial-discrimination-in-the-auto-loan-market.pdf).

103. CONSUMER FED'N AM., *supra* note 99; *Penalties for Driving Without Car Insurance by State*, *supra* note 99; *Automobile Financial Responsibility Laws by State*, *supra* note 99.

104. *See, e.g.*, Maddy Varner & Aaron Sankin, *Suckers List: How Allstate's Secret Auto Insurance Algorithm Squeezes Big Spenders*, MARKUP (Feb. 25, 2020), https://themarkup.org/allstates-algorithm/2020/02/25/car-insurance-suckers-list

105. *See, e.g.*, *Systemic Racism in Auto Insurance Exists and Must be Addressed by Insurance Commissioners and Lawmakers*, *supra* note 100.

insuring the car. These costs are both high and unavoidable. Auto liability insurance, on average, can cost hundreds or thousands of dollars per year,[106] and almost all states require that drivers carry auto insurance.[107] Penalties for noncompliance are steep.[108]

Additionally, drivers commonly need to finance auto purchases, even for pre-owned cars.[109] It is unusual, particularly for low-income drivers, to have the cash upfront to cover the full cost of the car.[110] This presents a challenge to purchasers as the financing costs have the potential to significantly increase the long-term cost of the car above and beyond its sticker price.[111] This landscape is similar to the insurance landscape in that it creates a quagmire for would-be drivers—but the financing landscape is rife with even more abuses and less transparency.[112] Purchasers who are able to get financing approved in advance by a private lender know what they can expect to pay before committing to buy a particular vehicle. They have time to get multiple quotes, consider the impact of each on their monthly budgets, and decide which, if any, of the available options

106. Costs vary widely depending on the state, ZIP code, driving history, credit score, driver demographics (such as age, sex, marital status, and more), and level of coverage. June Sham, *Average Cost of Car Insurance in January 2022*, BANKRATE (Jan. 4, 2022), https://www.bankrate.com/insurance/car/average-cost-of-car-insurance/; Liz Knueven, *Average Car Insurance Costs in 2020*, BUS. INSIDER (Nov. 19, 2020, 12:22 PM), https://www.businessinsider.com/personal-finance/average-cost-of-car-insurance. Per NerdWallet, the average cost is $1,592, but balloons to $2,812 for a good driver with poor credit. Kayda Norman, *Average Car Insurance Costs in 2021*, NERDWALLET (Aug. 20, 2021), https://www.nerdwallet.com/blog/insurance/car-insurance-basics/how-much-is-car-insurance. As will be shown throughout the Article, seemingly irrelevant factors disproportionately—and drastically—impact costs, compared to risk assessment factors that appear to speak more directly to the potential risks at issue.

107. Kayda Norman, *Minimum Car Insurance Requirements by State*, NERDWALLET (Jan. 7, 2021), https://www.nerdwallet.com/article/insurance/minimum-car-insurance-requirements. Virginia allows drivers to pay a fee in lieu of carrying liability insurance; New Hampshire does not automatically require insurance but does require drivers convicted of driving-related offenses to purchase insurance. *Insurance Requirements/SR-22*, *supra* note 21.

108. Candace Barker, *Driving Without* Insurance, WALLET HUB (Feb. 25, 2022), https://wallethub.com/edu/ci/driving-without-insurance/14425.

109. Experian estimates that 85% of new car sales and 55% of used car sales are financed with subprime borrowers (those with low income or poor credit), representing nearly 20% of financed transactions. Melinda Zabritski, *State of the Automotive Finance Market*, EXPERIAN 11 (2019), https://www.experian.com/content/dam/marketing/na/automotive/quarterly-webinars/credit-trends/2019-q4-state-of-the-automotive-finance-market.pdf; Stefan Lembo Stolba, *U.S. Auto Debt Grows to Record High Despite Pandemic*, EXPERIAN (Apr. 12, 2021), https://www.experian.com/blogs/ask-experian/research/auto-loan-debt-study.

110. *See* Zabritski, *supra* note 109, at 17 (finding that 80-90% of subprime borrowers who buy a used car choose to get an auto loan); *see generally* Delvin Davis, *Auto Loans: The State of Lending in America & its Impact on U.S. Households*, CTR. FOR RESPONSIBLE LENDING 63 (Dec. 2012), https://www.responsiblelending.org/sites/default/files/uploads/4-auto-loans.pdf (discussing the vulnerability of subprime borrowers to predatory auto lending).

111. Davis, *supra* note 110, at 68, 74.

112. *Id.* at 71-74.

are a good fit. Conversely, purchasers who arrange financing concurrently with a sale cannot forecast their future costs with certainty until they receive the terms, which dealers may present as exploding offers in order to put pressure on purchasers to agree to the sale immediately.[113] However, purchasers with subprime credit scores—who are often the most cost-sensitive—are those least likely to enter a dealership with preapproved financing.[114]

Beyond that initial challenge, dishonesty and inequality are baked into the on-site financing process.[115] Consumers are often unaware that, despite holding itself out as a liaison or broker for financing purposes, the dealer is almost always the true originating lender when the financing occurs concurrently with the sale.[116] The entities the dealer refers to as "lenders" or "financers" are actually third-party purchasers who buy the loan from the dealer.[117] Although the dealer purports to negotiate loan terms with the financers on the consumer's behalf, in truth, the dealer is an interested party to the transaction. It is common for dealers to mark up interest rates so they can sell the loan to a third-party at a higher price. They then hide the markup from the car buyers by extending the loan term so the price increase is not felt by car purchasers—who may be more sensitive to the car's monthly cost than its ultimate cost.[118]

Other common predatory practices include pressuring the car purchaser to agree to expensive add-on products and yo-yo sales. In the latter case, the loan is cancelled after the purchaser takes the car home, forcing the purchaser to either return the car or to agree to new last-minute terms (usually slanted to the dealer's advantage).[119] These schemes most often prey upon low-income car purchasers.[120] Recent commentary indicates that predatory practices in subprime auto lending are becoming as aggressive and pervasive as the practices that precipitated the 2008 mortgage crisis.[121]

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113. *Id.* at 66

114. *Id.* at 76.

115. *Id.* at 71-72.

116. *See id.* at 65, 71-72.

117. *Id.* Some of these third-party purchasers may even put up the loan for immediate resale. *Id.*

118. *Id.* at 68, 73.

119. *Id.* at 71-73.

120. *Id.* at 72.

121. *See, e.g.*, SEN. ELIZABETH WARREN, THE UNFINISHED BUSINESS OF FINANCIAL REFORM, REMARKS AT THE LEVY INSTITUTE'S 24TH ANNUAL HYMAN P. MINSKY CONFERENCE 3-4 (2015), https://www.warren.senate.gov/files/documents/Unfinished_Business_20150415.pdf; *see also Examining Discrimination in the Automobile Loan and Insurance Industries: Before the Subcomm. on Oversight & Investigations of the H. Comm. on Fin. Servs.*, 116th Cong. 6 (2019) (statement of R.J. Cross, Policy Analyst, Frontier Grp.). For example, auto finance giant Santander "approved loans it expected would default at rates of greater than 70%." David Shepardson, *Santander Agrees to $550 Million U.S. Settlement Over Subprime Auto Loans*, REUTERS (May 19, 2020, 9:21 AM), https://www.reuters.com/article/us-usa-autos-lending/santander-agrees-to-550-million-u-s-settlement-over-subprime-auto-loans-idUSKBN22V2GS. "The amount of auto debt has increased by nearly 75 percent

Although any low-income purchaser may be vulnerable to these tricks and traps, the brunt appears to fall disproportionately upon racial minorities. Research has consistently shown that nonwhite car buyers are charged higher sticker prices and higher interest rates for less inclusive sales packages, even when they are more creditworthy than white purchasers.[122] In 2013, the Consumer Financial Protection Bureau (CFPB) estimated that discriminatory auto loan markups could cost consumers tens of millions of dollars each year.[123]

An investigation by a consortium of housing advocacy groups found that, while buyers' race and income wield undue influence on the prices they pay for cars, seemingly much more relevant information is ignored. Namely, dealers employ credit checks inconsistently, perhaps because they are relying instead on their own on-the-fly assumptions regarding the creditworthiness of nonwhite purchasers.[124] If credit scores are so important, why do dealers abandon them on a whim?

In theory, this is the exact kind of harm fintech would address. If fintech truly leveled the playing field for people of color and the poor, fintech lending would put a stop to the unfair diversion of these large sums of money—money which would instead remain in and strengthen low-income and minority communities going forward.

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since the financial crisis, and a growing proportion it comes from lending to borrowers the industry calls subprime, because of their low credit scores. Many are low-income workers who don't have access to other sources of financing." Anjali Kamat, *The Other Subprime Debt Problem*, WNYC NEWS (Dec. 12, 2019), https://www.wnyc.org/story/other-subprime-debt-problem/.

122. *See* Marissa Armas, *New Report Finds That Auto Dealerships Discriminate Against People of Color*, NBC NEWS (Jan. 12, 2018, 8:48 AM), https://www.nbcnews.com/news/latino/new-report-finds-auto-dealerships-discriminate-against-people-color-n837136; Derek Thompson, *The Price Is Racist: When Minorities (and Women) Are Asked to Pay More*, ATLANTIC (June 4, 2013), https://www.theatlantic.com/business/archive/2013/06/the-price-is-racist-when-minorities-and-women-are-asked-to-pay-more/277174/; Mayra Rodriguez Vallardes, *As Auto Lending Delinquencies Rise, Discrimination Is Even More Dangerous to the Economy*, FORBES (May 1, 2019, 1:45 PM), https://www.forbes.com/sites/mayrarodriguezvalladares/2019/05/01/as-auto-lending-delinquencies-rise-discrimination-is-even-more-dangerous-to-theeconomy/?sh=61e05d4d70e3.

123. CONSUMER FIN. PROT. BUREAU, CONSUMER FINANCIAL PROTECTION BUREAU TO HOLD AUTO LENDERS ACCOUNTABLE FOR ILLEGAL, DISCRIMINATORY MARKUP (2018), https://files.consumerfinance.gov/f/201303_cfpb_march_-Auto-Finance-Factsheet.pdf.

124. LISA RICE & ERICH SCHWARTZ JR., NAT'L FAIR HOUS. ALL., DISCRIMINATION WHEN BUYING A CAR: HOW THE COLOR OF YOUR SKIN CAN AFFECT YOUR CAR-SHOPPING EXPERIENCE 14 (2018), https://nationalfairhousing.org/wp-content/uploads/2018/01/Discrimination-When-Buying-a-Car-FINAL-1-11-2018.pdf; *see also* Emily Stewart, *Trump Just Scrapped Safeguards that Stop Auto Lenders from Discriminating Based on Race*, VOX, https://www.vox.com/policy-and-politics/2018/4/17/17248340/congressional-review-act-auto-loan-discrimination-cfpb (last updated May 21, 2018, 3:34 PM).

II. ANALYSIS: THE CONSUMER SCORING CYCLE

As shown above, increased reliance on automated forms of decision making, such as fintech, would ideally expand access to car ownership—a critical economic tool—for historically marginalized and disadvantaged populations. Unfortunately, reality holds out little hope for that to occur. This Part will demonstrate that algorithmic gatekeeping to auto access will only lock out people of color and the poor.[125] It will reveal that fintech is ineffective at eliminating bias because it does not actually address the points at which bias enters the scoring process.[126] Even with the advent of fintech, bias still infects the transactions which fintech analyzes and informs.[127]

Moreover, the advent of fintech does not change the fact that certain regulatory guardrails for auto consumers are missing or critically compromised.[128] Auto access gatekeeping occurs under the cover of darkness and under the supervision of competing, fickle, and often ineffectual enforcers.[129] Society cannot hope to unlock auto access to all without engaging meaningfully with these foundational flaws.

Finally, the concept of consumer scoring, particularly in the auto context, is deeply flawed at its core. This Part will show that any decision-making process that attempts to predict future risk for lenders based on past lending decisions will only replicate human bias exponentially under a guise of heightened credibility. Not only that, but location-based analytics, such as the ALPR-based DRN-sights, introduce an additional wrinkle. Given that residential location remains deeply influenced by the reciprocal legacies of segregation and redlining, any consumer scoring mechanism informed by the consumer's location can only serve to revive and reinforce these deliberate, systematic discriminatory practices and their effects.

A. Entry points for discrimination and the cycle of algorithmically exacerbated poverty

Fintech fails to democratize auto access because it does not directly address the actual entry points for bias. It cannot hope to succeed without taking on this task. Once breached, the entry points create a cycle of bias-building-upon-bias.

125. *See infra* Section II.A.
126. *See id.*
127. *See id.*
128. *See infra* Section II.B.
129. *See id.*.

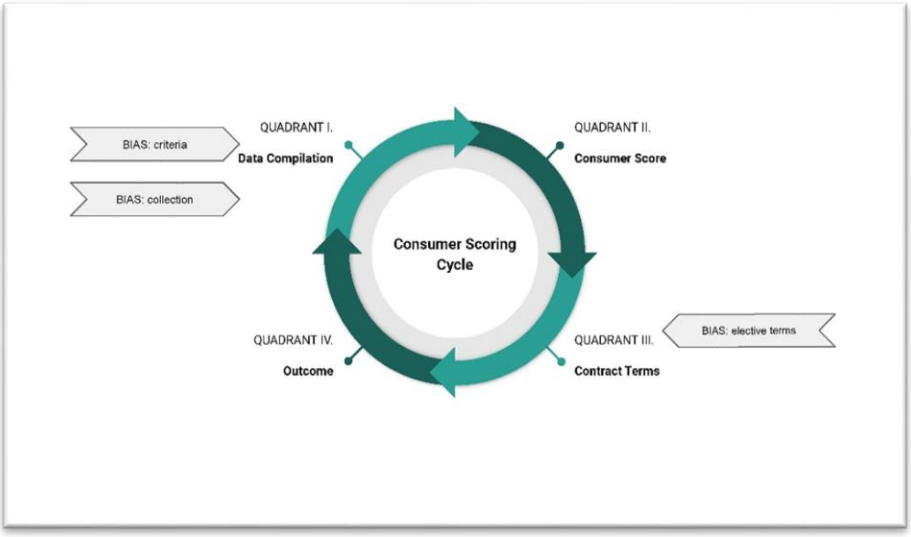

Table 1.

The image above represents the points at which bias and discrimination enter the lending process. In Quadrant I, a lender[130] compiles the data it will use to score the consumer. This is a significant entry point for bias, and there are two ways in which bias manifests here. Both involve decision-making by the lender and may be animated by the lender's (intentional or unintentional) discrimination.

The first entry point is the criteria the lender selects as a basis for judging which consumers are more or less risky. If structural inequality has affected how consumers of different demographics perform with respect to particular criteria, the data documenting that performance would reflect that bias. For example, a lender could decide to favor consumers with bachelor's degrees. "Consumers with bachelor's degrees" is a structurally biased data set because Black and Latinx people are less likely to complete a bachelor's degree than white people.[131]

130. For this purpose, "lender" also includes agents of the lender, or organizations which compile data upon which the actual lender relies.

131. *See* NAT'L CTR. EDUC. STAT., INDICATOR 23: POSTSECONDARY GRADUATION RATES, (2019), https://nces.ed.gov/programs/raceindicators/indicator_red.asp#:~:text=The%20150%20percent%20graduation%20rate,Black%20students%20(23%20percent).

The second entry point is the process by which the lender collects data meeting the criteria. Data *collection* may be biased if the lender collects this information from a database that only compiles information from universities whose demographics differ from national trends in some way. If a lender favoring "consumers with bachelor's degrees" uses a database that does not collect information from HBCUs, Black consumers would be at a significant disadvantage. Even as lenders take purportedly democratic steps to broaden the type of data they consider, the ironic result may be the increasing variance of data collection methods and the increased potential for systemic flaws.

In Quadrant II, the consumer score is processed.

In Quadrant III, the lender makes its decision, and, if the consumer applicant is approved, the lender delivers the contract terms to the consumer. This process includes two decision points: first, whether to contract with the consumer at all versus rejecting the application outright; and second, establishing the terms of the deal. These decision points may separately involve intentional or unintentional discrimination. For example, determining that a consumer's score is worthy of approval is one decision. Selecting which interest rate, deposit amount, or what other terms may apply is another set of decisions. Thus, a consumer could receive approval, only to meet another hurdle when the lender presents its terms. To the extent that any negotiation is possible, each offer and counteroffer represent individual decision points at which the lender could choose to treat the consumer favorably or unfavorably—all points at which bias could enter the process or be reinforced within it.

In Quadrant IV, the loan is resolved either by repayment or by default.

The cycle repeats when the outcome from Quadrant IV is fed back into the cycle through Quadrant I's process of establishing scoring criteria and collecting related data. Similarly, the terms themselves—or an outright rejection of them—can be fed back into the cycle as those data points become part of the consumer's record.

1. Vicious and virtuous cycles

Far from describing isolated contract negotiations, these entry points demonstrate cycles which influence the continuing fortunes of consumer borrowers. For minoritized or disadvantaged consumers, such as Black and Brown people and the poor, this bias manifests as discrimination, which creates a vicious cycle of progressively deteriorating economic status. White or affluent consumers have a markedly different experience. In that context, bias takes the form of preference, creating a virtuous cycle of increasingly fortified economic status. It is instructive to compare the experiences of two hypothetical consumers.

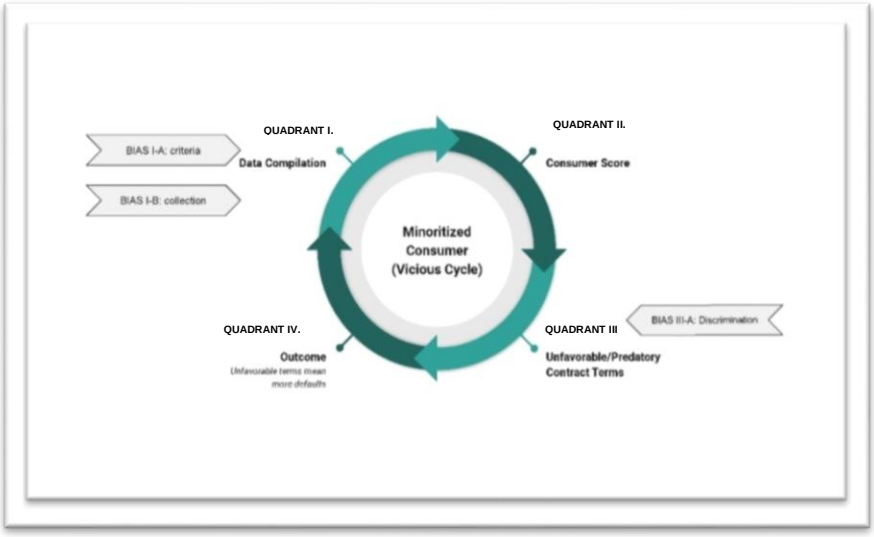

Table 2.

Pat is Black and low-income.[132] Upon applying for a car loan, Pat's lender calculates a risk score for Pat. Discrimination first enters the process by way of the scoring criteria the lender selects, which may be biased (Bias I-A). Perhaps this lender considers completion of a bachelor's degree favorably, as in the prior example. Because people of Pat's race and income level are less likely to complete a bachelor's degree, Pat is already starting out at a disadvantage.[133] Additionally, the lender may make biased distinctions between similar, analogous, or

132. As discussed above, this analysis is meant to cover affluent Black and Brown people, poor white people, and poor Black and Brown people. *See supra* note 56.

133. *See* NAT'L CTR. EDUC. STAT, *supra* note 131 (noting that people of color tend to have lower attainment rates for bachelor's degrees); NAT'L CTR. EDUC. STAT., YOUNG ADULT EDUCATIONAL AND EMPLOYMENT OUTCOMES BY FAMILY SOCIOECONOMIC STATUS, (2019), https://nces.ed.gov/programs/coe/indicator/tbe (finding that students from families with a

equally relevant criteria. For example, the lender could theoretically obtain streaming service data and make inferences about consumers' credit risk based on their viewing choices.[134] Choosing to favor one movie or TV series over another (such as reruns of *Friends* versus *Girlfriends*) is an arguably irrelevant criterion, and is also rife with the potential for bias depending on which movies and shows are favored or disfavored.[135]

There is some additional nuance[136] to this entry point for bias. Even if the type of data the lender has chosen appears demographically neutral, it may be unevenly available. For example, the lender may choose to consider Pat's payment history for housing costs—a common criteria in consumer scoring. Pat's lender might choose to raise the score for consumers who have paid their housing costs consistently. That criteria may seem reasonable at first glance, but in fact, it disadvantages renters, and even some homeowners. Large national mortgage lenders typically report on-time payments from homeowners.[137] Thus, such a payment history could hurt *or* help a homeowner's score, and over the course of their mortgage, that homeowner will have hundreds of opportunities to polish their score simply by paying their mortgage on time. On the other hand, landlords and smaller mortgage lenders are much less likely to report on-time payments because reporting borrowers' payment history to credit bureaus is costly and complicated.[138] As a result, there may be no record of those payments unless

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higher socioeconomic status were more likely to enroll in a postsecondary educational program).

134. *See* Hurley & Adebayo, *supra* note 47, at 163-67 (finding that alternative scoring platforms consider information as wide-ranging as consumers' retail habits, which phone apps they've downloaded, how quickly they scroll through terms-of-service agreements, and their social media footprints—including the credit scores of people in their online networks).

135. These shows were contemporaries and appealed to similar age groups, but *Friends* almost exclusively featured white characters, while *Girlfriends* featured Black characters. *Compare Friends*, IMDB, https://www.imdb.com/title/tt0108778/?ref_=fn_al_tt_1 (last visited Feb. 11, 2022, 9:01 PM) *with Girlfriends*, IMDB, https://www.imdb.com/title/tt0247102/?ref_=fn_al_tt_1 (last visited Feb. 11, 2022, 9:02 PM).

136. This is likely to present as a meaningless semantic difference to some. Certainly, real-world examples can blur the lines of these concepts. In the payment history example above, the decision to ignore rental payments when the consumer is following through is arguably a data collection decision as much as a criteria decision. The distinction will become more apparent and meaningful in the later analysis.

137. *See* Karen Axelton, *Why Doesn't My Mortgage Appear on My Credit Report?*, EXPERIAN (Jan. 21, 2021), https://www.experian.com/blogs/ask-experian/why-doesnt-my-mortgage-appear-on-my-credit-report/; *but see* Janna Herron, *Do Lenders Have to Report to Credit Bureaus?*, BANKRATE (Sept. 25, 2013), https://www.bankrate.com/finance/credit/lenders-report-credit-bureaus.aspx (noting that "most major banks report to all three credit bureaus" but that lenders aren't required by law to report to credit bureaus).

138. *See* Lindsay Konsko, *Do Banks Report My Account Information to the Credit Bureaus?*, NERDWALLET (Sept. 8, 2021), https://www.nerdwallet.com/article/finance/banks-credit-bureaus-opt-out-reporting-account-information#:~:text=The%20primary%20reason%20some%20banks,account%20with%20each%20credit%20bureau; *see also* Erica Sandberg, *Is My Rental History on My Credit Report?*, EXPERIAN (July 23, 2020), https://www.experian.com/blogs/ask-experian/is-my-rental-history-on-my-credit-report. It may be easier to

there has been a default, and one advocacy group estimates that "renters are seven times more likely to have a minimal credit history deemed unscorable by credit bureaus compared to homeowners."[139] Therefore, for renters or homeowners who borrowed from a small lender, their payment history can only hurt them.[140] If Pat is in this situation, even decades of diligent and timely payments will not budge their score. Lenders and credit bureaus are aware of this, and they could choose to even the playing field by disregarding on-time mortgage payment reports they receive, thereby limiting their evaluations to more uniformly available criteria. Both consumers are simply paying their housing costs.[141] Because people of Pat's race and class status are more likely to rent, or to borrow from a smaller lender, their consumer scores are likely to be artificially deflated relative to homeowners with big-bank mortgages due to the lenders' choices.[142]

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get a loan from a smaller institution such as a credit union, increasing Pat's chance of success. *See* Jim Akin, *Can I Get a Loan from a Credit Union with Bad Credit?*, EXPERIAN (Jan. 10, 2019), https://www.experian.com/blogs/ask-experian/can-i-get-a-loan-from-a-credit-union-with-bad-credit/; *see also* Lita Epstein, *Credit Unions vs. Banks: Which One is the Best for You?*, INVESTOPEDIA (June 20, 2021), https://www.investopedia.com/credit-unions-vs-banks-4590218#:~:text=Credit%20unions%20typically%20offer%20lower,than%20a%20larger%20impersonal%20bank.

139. Rocio Rodarte, *SB 1157 Becomes Law: California's First-in-the-Nation Rent Reporting Bill*, MISSION ASSET FUND (Dec. 8, 2020), https://www.missionassetfund.org/sb-1157-becomes-law-californias-first-in-the-nation-rent-reporting-bill.

140. Sandberg, *supra* note 138. Pat's options for getting some acknowledgement of their payment history are to either: 1) convince the landlord to adopt the practice of reporting the payment to the credit bureaus every month; or 2) engage a rent-reporting service. Either way, this comes at a cost either to the landlord or tenant. *See id.* This leaves tenants (who likely have a lower income) in the unreasonable position of having to expend money, time, and/or political capital to benefit from their on-time rental payments, or else remain at a scoring disadvantage compared to homeowners who borrowed from big lenders. *See* JOINT CTR. FOR HOUS. STUD. HARV. UNIV., AMERICA'S RENTAL HOUSING (2022), https://www.jchs.harvard.edu/sites/default/files/reports/files/Harvard_JCHS_Americas_Rental_Housing_2022.pdf (noting that despite increases in higher-income renters due to a difficult real estate market, nearly 40 percent of renter households earn less than $30,000 per year). The question of whether, and how, to classify landlords as creditors required to automatically report on-time payments, is an important one, but outside the scope of this Article. However, California adopted a law effective July 2021 requiring many subsidized-housing landlords to offer tenants the option of reporting payments to credit reporting bureaus for a small monthly fee, possibly creating a model for similar action in other states. *See* S.B. 1157, 2020 Reg. Sess. (Cal. 2020), https://leginfo.legislature.ca.gov/faces/billTextClient.xhtml?bill_id=201920200SB1157; *see also* Rodarte, *supra* note 139.

141. It is arguable that mortgage payments are more relevant because the homeowner is building equity, while the consumer who rents is not. However, to serve that rationale, the lender should separately consider homeowner equity in an examination of the consumer applicant's assets rather than framing only the mortgage payments as an indicator of the consumer's track record of payment behavior. Both consumers are engaged in an ongoing contract for payment of housing costs; there is no justification to focus singularly on the homeowner and exclude the renter.

142. *See* U.S. CENSUS BUREAU, HISTORICAL CENSUS OF HOUSING TABLES:

Alternatively, a lender might require the consumer applicant to submit bank or credit card statements over a period of time. But that would create a similar problem. People in Pat's demographic are less likely to have a bank account and more likely to forgo checking accounts or credit cards in favor of cash-only transactions.[143] A lender concerned with protecting its potential investment is unlikely to go out on a limb and give Pat the benefit of the doubt. Instead, the lender is more likely to determine that there is insufficient evidence to make a decision and deny their application.

Consumers like this are termed "credit invisible," meaning that the consumer has no credit record. Consumers might also be deemed "unscorable" if they have a credit record but it is too new or limited to generate a score.[144] This is a pervasive and long-standing issue in consumer scoring.[145] The CFPB reported that as of 2010, 26 million Americans were credit invisible.[146] An additional 19 million had credit records but were considered unscorable.[147] These statuses tracked closely with race and income—with 45% of consumers in low-income neighbor-

HOMEOWNERSHIP BY RACE AND HISPANIC ORIGIN (2000), https://www.census.gov/data/tables/2000/dec/coh-ownershipbyrace.html; *see also* U.S. DEP'T HOUS. & URB. DEV., HOMEOWNERSHIP GAPS AMONG. LOW-INCOME AND MINORITY BORROWERS AND NEIGHBORHOODS v-viii (Mar. 2005). "[S]ome 58 percent of Black households rented their housing in 2019, along with 52 percent of Hispanic households, 43 percent of American Indian or Alaskan Native households, and 39 percent of Asian households. The rentership rate for white households is far lower at just 28 percent." JOINT CTR. FOR HOUS. STUD. HARV. UNIV., *supra* note 140 at 12. "Overall, more than 17% of credit union members are Black, compared with around 13% of bank customers." Annie Nova & Darla Mercado, *Where you Bank can Make a Big Difference for Racial Justice*, CNBC (Jul. 4, 2020, 9:45 AM), https://www.cnbc.com/2020/07/04/upset-about-racial-injustice-where-you-bank-can-make-a-difference.html.

143. *See* MARK KUTZBACH, ALICIA LLORO, JEFFREY WEINSTEIN, & KARYEN CHU, FED. DEPOSIT INS. CORP., HOW AMERICA BANKS: HOUSEHOLD USE OF BANKING AND FINANCIAL SERVICES: 2019 FDIC SURVEY 1-2, 8 (2020), https://economicinclusion.gov/downloads/2019_FDIC_Unbanked_HH_Survey_ExecSumm.pdf. Low-income and minority households are more likely than their richer and whiter counterparts to be unbanked. As part of this report, the FDIC disaggregated consumers in the study among five annual income bands: Less Than $15,000; $15,000 to $30,000; $30,000 to $50,000; $50,000 to $75,000; and at Least $75,000. Although all race and ethnic categories saw a clear direct correlation with income and bank use, white consumers at each income level were consistently more likely to use banks than minorities in the next higher income band, with only one exception. Eighty-two percent of white people with an annual income of $50,000 to $75,000 used banks, which was slightly lower than the 84% of Hispanic consumers making at least $75,000 (the highest income level) who used banks.

144. *See* Jim Akin, *What Does It Mean to Be Credit Invisible?*, EXPERIAN (Oct. 20, 2021), https://www.experian.com/blogs/ask-experian/what-does-being-credit-invisible-mean/; *see also* KENNETH P. BREVOORT, PHILIPP GRIMM, & MICHELLE KAMBARA, CONSUMER FIN. PROT. BUREAU, DATA POINT: CREDIT INVISIBLES, 4 (2015), https://files.consumerfinance.gov/f/201505_cfpb_data-point-credit-invisibles.pdf.

145. Akin, *supra* note 144.

146. BREVOORT, GRIMM, & KAMBARA, *supra* note 144, at 6.

147. *Id.*

hoods found to be unscored or credit invisible, as well as 28% of Black consumers and 27% of Hispanic consumers.[148]

Consumers in this position face significant challenges in accessing credit, not unlike those with a demonstrably poor credit history.[149] However, credit invisibles and unscored consumers are still participating in the economy; they are just not participating in ways that lenders and most credit bureaus have chosen to recognize. For example, Pat may be able to demonstrate a long history of timely utility payments, but that's not a metric the consumer score typically incorporates.[150] VantageScore, a more recent entrant in the credit scoring industry, estimates that up to 35 million consumers become scoreable when credit history is examined on a longer timetable and when the model incorporates alternative data such as rent and utility payments.[151] Not only that, but approximately 10 million of those newly visible consumers are actually prime (highest echelon) or near-prime credit risks according to VantageScore's system.[152]

Even assuming the lender relies upon a universally available scoring metric, the lender may collect the data related to that metric in a biased manner (Bias I-B).

148. *Id.*

149. Some consumers worry that it is *worse* to have no, or minimal, credit history than to have a marred track record. It is unclear how widely this opinion is shared, but the concept has found enough of a toehold in conventional wisdom that a plethora of online articles counsel consumers with respect to the issue. *See No Credit vs. Bad Credit: Key Differences*, CAP. ONE (Jan. 15, 2020), https://www.capitalone.com/learn-grow/money-management/bad-credit-vs-no-credit/; Casey Bond, *Is No Credit Better than Bad Credit?*, U.S. NEWS & WORLD REP. (Nov. 11, 2019), https://creditcards.usnews.com/articles/is-no-credit-better-than-bad-credit; Michelle Black & Dia Adams, *Is No Credit Better Than Bad Credit?*, FORBES (Dec. 10, 2020, 9:00 AM), https://www.forbes.com/advisor/credit-cards/is-no-credit-better-than-bad-credit/; Lindsay Konsko & Bev O'Shea, *No Credit vs. Bad Credit: Which Is Worse?*, NERDWALLET (Aug. 17, 2021), https://www.nerdwallet.com/article/finance/no-credit-vs-bad-credit-difference.

150. BREVOORT, GRIMM, & KAMBARA, *supra* note 144, at 5.

151. 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/index.html. FICO scores examine revolving credit accounts over a six-month timetable compared to VantageScore's twenty-four-month window. *Id.*

152. *Id.*

No matter how exactly bias enters the stream at Quadrant I, it will influence the consumer score when it is processed in Quadrant II. Then the lender, informed by the score, either denies the consumers' application or sets the terms of the deal in Quadrant III. Bias, often intentional, may enter at this stage as well (Bias III-A), compounding the effect of the Quadrant I bias. Consumers with a low score are likely to be offered less favorable contract terms, but those who *also* share Pat's race and class demographic may be further downgraded from there, and, having few options, will be under pressure to accept.[153] Once Pat enters the contract, Pat will either pay or default. It is notable that this stage is the only one at which Pat, the individual consumer, has any control or input. However, because of the unfavorable terms imposed at Quadrant III, default is more likely.[154] It is simply more difficult to fulfill the terms of the deal. Whatever the outcome is, the lender will document it and it will become part of the available data for the next lender to whom Pat applies, beginning the cycle again at Quadrant I.

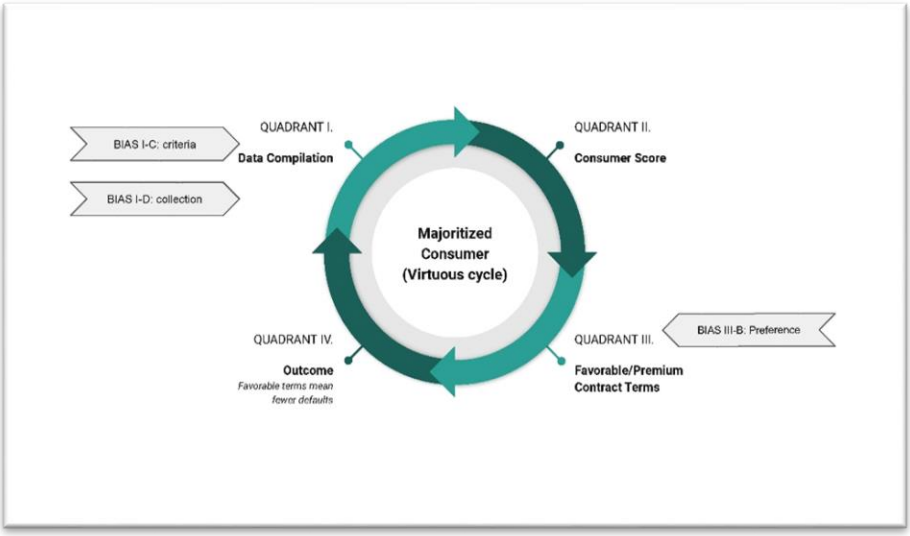


Table 3.

A second consumer, Chris, who is white and comparatively more affluent, may have a very different experience than Pat. Not only is Chris free from the race and class discrimination Pat faced throughout the above cycle, but along the way Chris enjoys a boost as a result of preferential bias.[155] In Quadrant I, the

153. *See* Daniel Kurt, *supra* note 51; Deborah Zalesne, Racial Inequality in Contracting: Teaching Race as a Core Value, 3 COLUM. J. RACE & L. 23, 30-34 (2013).

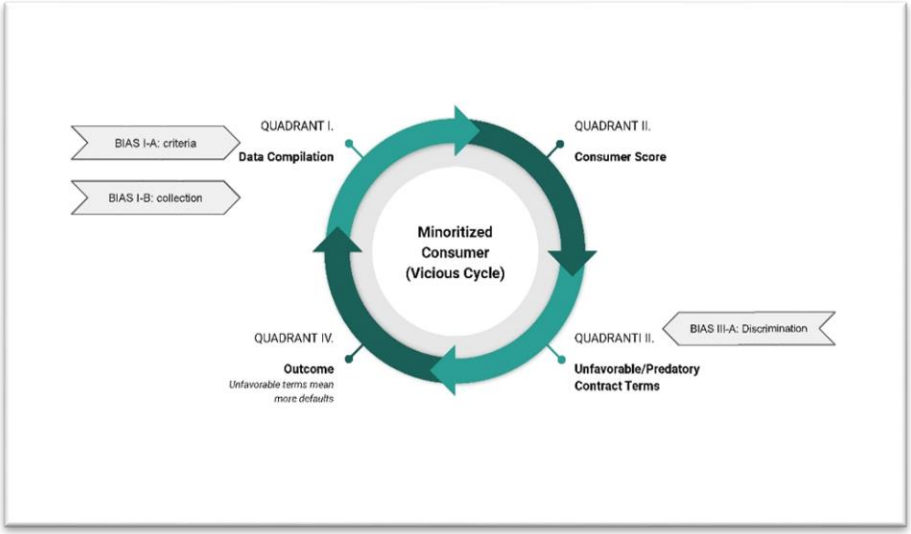
154. A more expensive loan will be harder to repay and thus less likely to be repaid.

155. *See generally* Freeman, *supra* note 53, at 1081-1117 (describing perks and other

lender's selection of scoring criteria is engineered, intentionally or inadvertently, to favor Chris. This applies to the lender's choice of criteria, the availability of supporting data (Bias I-C), and the manner in which the lender collects the data (Bias I-D). In Quadrant II, Chris' score is processed.

In Quadrant III, the lender presents Chris with its terms. Chris is more likely to be approved than Pat, due not only to the superior score but also possibly to the preferential bias that benefits this consumer (Bias III-B).[156] Additionally, Chris's terms are more likely to be favorable. The lender may offer discounts, lower interest rates, or deposits and fee waivers that it only makes available to top-shelf consumers whose business is sought-after by lenders.[157] With such a great deal secured, it is less likely that Chris will default in Quadrant IV. When the cycle repeats in Quadrant I, the lender will document Chris's excellent payment history as a guidepost for other lenders, who in turn will incorporate that data with the rest of the data they have chosen to consider—feeding an algorithm which continues to favor Chris.

Therefore, the two consumers have embarked on ongoing cycles, one vicious, one virtuous, that will continue to impact their economic viability for years to come. Moreover, because these cycles occur simultaneously and on a massive scale, the lender behaviors and choices described above contribute significantly to the widening societal gulf between the richer, whiter "haves" and the poorer, Browner/Blacker "have-nots."



favorable contract terms lenders commonly make available to affluent and white consumers in contrast to the way contracts are marketed to low-income and minoritized consumers).

156. *See supra* Section II.A.

157. DeMatteo, Gravier, & White, *supra* note 51.

Let us return to the table we considered above, and imagine the hypothetical consumers, Pat and Chris, are applying for auto financing or insurance from a company that bases its decision making on DRNsights.

In Pat's case, both aspects of Quadrant I bias, criteria and collection, are immediately evident. The criterion of where Pat's car (or previous car) has been spotted is a deeply flawed basis to determine creditworthiness. As we have seen, Pat is more likely to live in a neighborhood marked with the negative legacy of segregation and redlining and to have connections with similarly affected communities—all of which may downgrade Pat's rating in the analytics tool.[158] Moreover, the data collection itself replicates bias by employing repossessors who may selectively and disproportionately surveil Black, Brown, and low-income communities when collecting the ALPR data that form DRN's vast network.[159] In fact, to the extent that there may actually be more defaulted cars in

158. *See* Patrick Bayer, *The Enduring Legacy of our Separate and Unequal Geography*, NYU FURMAN CTR. (Mar. 2017), https://furmancenter.org/research/iri/essay/the-enduring-legacy-of-our-separate-and-unequal-geography; Emily Badger, *How Redlining's Racist Effects Lasted for Decades*, N.Y. TIMES (Aug. 24, 2017), https://www.nytimes.com/2017/08/24/upshot/how-redlinings-racist-effects-lasted-for-decades.html.

159. A human repossessor may discriminate by focusing on particular neighborhoods where, in their individual judgment, debtors are more likely to reside or visit. A repossessor could also go to hospitals, parking garages, or large events like concerts or political rallies, to efficiently collect large numbers of plates belonging to members of a target demographic. Even without such a deliberate attempt to discriminate, more densely populated urbanized areas, where people may be poorer, present a likely greater value proposition than less densely populated suburbanized areas, which offer the repossession agent less return on investment for their time and gas. Such a choice would still have a disparate impact not only on the poor but racial minorities:

> The geographic concentration of poverty differs sharply by race and ethnicity. Fully 70 percent of poor blacks and 63 percent of poor Hispanics live in high-poverty neighborhoods, compared with just 35 percent of poor whites and 40 percent of poor Asians. But the overrepresentation of various racial/ethnic groups in high-poverty tracts is not confined to the poor. Some 48 percent of all blacks and 41 percent of all Hispanics live in high-poverty neighborhoods, compared with just 16 percent of all whites and 21 percent of all Asians.

JOINT CTR. HOUS. STUD. HARV. UNIV., *supra* note 82; *see also* Kaveh Waddell, *How License-Plate Readers Have Helped Police and Lenders Target the Poor*, ATLANTIC (Apr. 22, 2016), https://www.theatlantic.com/technology/archive/2016/04/how-license-plate-readers-have-helped-police-and-lenders-target-the-poor/479436/?utm_cam (pointing out that repossessors "may have an incentive to focus their time and efforts on low-income neighborhoods"); Shawn Musgrave, *A Vast Hidden Surveillance Network Runs Across America, Powered by the Repo Industry*, BETABOSTON (Mar. 5, 2014), http://www.betaboston.com/news/2014/03/05/a-vast-hidden-surveillance-network-runs-across-america-powered-by-the-repo-industry (reporting that two Massachusetts companies admitted to expressly targeting low-income housing developments); Todd C. Frankel, *The Surprising Return of the Repo Man*, WASH. POST (May 15, 2018), https://www.washingtonpost.com/business/economy/the-surprising-return-of-the-repo-man/2018/05/15/26fcd30e-4d5a-11e8-af46-b1d6dc0d9bfe_story.html (reporting that one car repossessor freely admitted to targeting discount stores, calling the parking lot of the Dollar General "the place to be"). Additionally, DRN affirmatively makes recommendations

the overly surveilled communities, that circumstance is at least partially informed by Quadrant III bias (terms discrimination) imposed upon the consumers in past transactions, thus in turn steering repossessors' surveillance decisions.[160] The resulting overrepresentation of these low-income and minority consumers in the database skews the algorithmic results so the algorithm continues to reproduce these same biases. Moreover, this location-based downgrading tends to impact not only Pat's neighbors but anyone who has contact with their community. Anyone who volunteers, visits family, works in a supportive capacity (such as health aides, lawyers, or social workers), or has any other reason to be present in the downgraded neighborhood may be painted with the same discriminatory brush.[161]

Additionally, to the extent that a well-intentioned lender decides to use DRNsights in combination with one or more other consumer scoring tools, the results will still be poisoned by previous discriminatory transactions reflected in DRN's network (if not also in the other tools) which will infect the cycle at Quadrant I of this transaction.

Ultimately, the resulting harm is not just that Pat pays more or is more likely to be rejected—though that fact is unsettling on its own. In the context of car loans, Pat is also facing a hurdle to a critical economic tool, which is higher than that which richer and whiter consumers must navigate. As shown above, Pat's ability to own a car unlocks a pathway to better job opportunities, more health care choices, more choices when shopping for groceries, increased choices of housing, and more.[162] Without a car, Pat loses all of those benefits, and additionally faces countless hours lost on slow public transit (assuming it exists in their area and travels where they need to go) or waiting for rides. This cycle, on its own, has the power to shut Pat out of critical economic opportunities.

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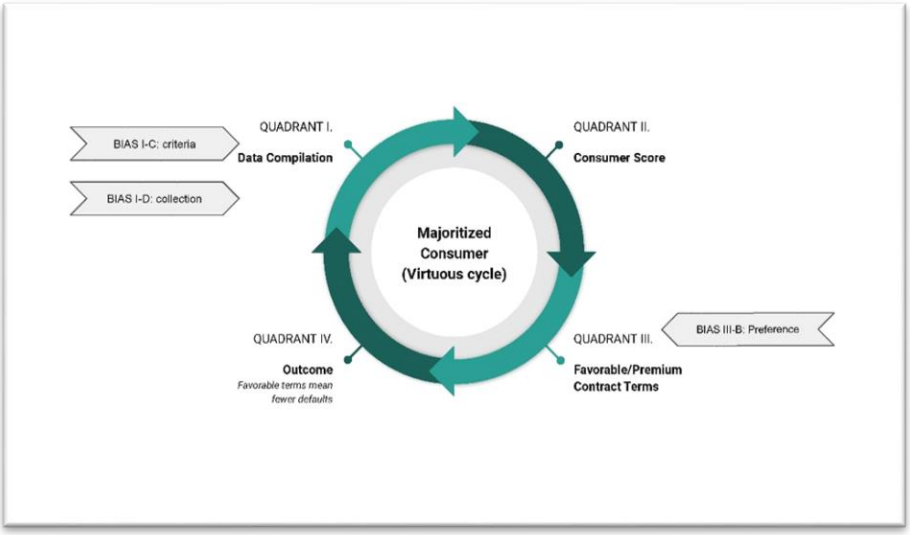
to repossessors as to where they should seek defaulted cars. *See* Musgrave, *supra* (finding that in marketing materials, DRN "suggests routes for repossession companies that focus on workplaces and commercial lots during the day and apartment complexes and residential areas at night.").

160. *See supra* Section II.A.

161. *See* Allen, *supra* note 44, at 238:

> Unfortunately, like the redlined maps of the 1930s, many of the data points that algorithms use to generate credit scores have a disproportionately adverse impact on low-income communities of color, and, in some instances, even on those who patronize establishments in those communities. For example, American Express came under scorn when customers complained that, even though they had successfully made credit payments, their scores were tarnished for shopping at establishments where other patrons are considered less "creditworthy."

162. *See* Nicholas J. Klein, *Subsidizing Car Ownership for Low-Income Individuals and Households*, J. PLANNING EDUC. & RSCH. 1, 5-7 (2020).



In Chris's example, the positive bias, or preference, is again evident. Here, because of repossessors' surveillance choices and because of the historical biases that inform them, Chris's demographic would be underrepresented in DRN-sights' data set—in contrast with Pat, whose demographic is overrepresented.[163] This would skew the results of the Quadrant I data compilation, and thus the consumer score generated in Quadrant II. However, this circumstance differs from the previous example of a consumer without a bank account suffering from the unavailability of data establishing their credit history. By contrast, lenders and algorithms would likely interpret Chris's absence from the data sample as a positive attribute, given how it would likely track with whiteness and a higher socioeconomic status. That could be one instance in which it is better to be "credit invisible" than otherwise.[164]

Again, in contrast with Pat, lenders would be more likely to offer Chris demographic premium contract terms in Quadrant III to woo their business, just as

163. *See* sources cited, *supra* note 159.

164. It may be worth wondering if this absence, or lack of absence, from data sets will create a cultural change among lenders in which less information being available for an individual consumer becomes seen as a positive attribute. It's most probable that that would only occur to the extent that the data set under consideration correlates with minoritized race and class statuses. It is also worth questioning whether, since people who are low-income or of color are less likely to start out with cars, their absence from the data set will be interpreted in the same way as the whiter, richer, car-owning ALPR-invisibles. Given fintech's mission to use many data points to render theoretically nuanced conclusions, it seems likely that a distinction would be made between consumers who are ALPR-invisible because they are carless, and car owners who are ALPR-invisible because repossessors don't visit their neighborhoods. If implemented, such a practice would only underscore and deepen the discriminatory cycle already at play.

the repossessors would be more likely to bypass Chris' neighborhood and stomping grounds in Quadrant I.[165] Thus, Chris is less likely than Pat to default in Quadrant IV, and that positive outcome is added to Chris's data as the cycle renews and builds upon itself.

B. Consumer protection laws fail to solve the problem

Surely the situation is not hopeless, one may suppose. Surely there are laws to control bias in consumer scoring. Indeed, lawmakers have made past attempts to right the power imbalance between consumers and lenders and to outlaw unfair and deceptive lending practices.[166] Those efforts produced quite a few laws aimed at creating an equitable marketplace, but the safety net they provide is a flimsy one. Consumer protection laws are a patchwork of federal and state laws.[167] At the federal level, the laws are enforced by several different agencies with unclear and porous divisions of labor between them.[168] The laws that would govern Pat and Chris in this example fall under the purview of no fewer than half a dozen federal agencies—in addition to possibly hundreds of state agencies.[169] This section will review three of those laws and explain why they fall short in practice. The statutes reviewed here are the Equal Credit Opportunity Act (ECOA, prohibiting discrimination in lending decisions), Fair Credit Reporting

165. Sources cited, *supra* note 159.

166. *See, e.g.*, 15 U.S.C. § 1691; 12 U.S.C. § 2901 note (report on Community Development Lending); Off. of the Comptroller of the Currency, Community Developments Fact Sheet: Community Reinvestment Act (2014); 12 U.S.C. § 2903(a)(1). "Unfair and deceptive lending practices" is frequently abbreviated as UDAPs. Some statutes refer to "unfair, deceptive, or *abusive* acts or practices" (UDAAPs). *See, e.g.*, *Unfair, Deceptive, or Abusive Acts Or Practices*, FED. DEPOSIT INS. CORP. (last visited Apr. 7, 2022), https://www.fdic.gov/resources/bankers/consumer-compliance/unfair-deceptive-abusive-acts-practices.

167. *Consumer Protection Laws*, LEGAL INFO. INST. CORNELL L. SCH. (June 2021), https://www.law.cornell.edu/wex/consumer_protection_laws.

168. *See infra* Section II.B.4.

169. Which federal enforcer has oversight over a given transaction often depends on what kind of business entity is involved, as will be further explained below. *See* Section II.B.4. Similarly, at the state level, attorneys general may spearhead enforcement of consumer protection laws, but states may exempt some lenders, or some transaction types, from state UDAP laws, or classify those lenders or transactions under a different regulatory scheme. *Consumer Protection 101*, NAT'L ASS'N OF ATTORNEYS GENERAL, https://www.naag.org/issues/consumer-protection/consumer-protection-101 (last visited May 6, 2022); *Consumer Protection in the States: A 50-State Evaluation of Unfair and Deceptive Practices Laws*, NAT'L CONSUMER LAW CENTER, https://www.nclc.org/issues/how-well-do-states-protect-consumers.html (last visited May 6, 2022); NAT'L ASS'N OF INSURANCE COMMISSIONERS, STATE INSURANCE REGULATION 2, 3, https://www.naic.org/documents/consumer_state_reg_brief.pdf (last visited May 6, 2022); *Regulatory Commissions*, NAT'L ASS'N OF REGULATORY UTILITY COMMISSIONERS, https://www.naruc.org/about-naruc/regulatory-commissions (last visited May 6, 2022).

Act (FCRA, increasing transparency in credit reporting), and Community Reinvestment Act (CRA, unwinding the legacy of redlining).[170] Having considered the relevant provisions of these statutes, the Article will next examine how the various federal enforcers operate within the resulting statutory regime and point out some of the problems they present.

1. Equal Credit Opportunity Act

The ECOA[171] seeks to "make . . . credit equally available to all creditworthy customers" and remove discrimination from lending decisions.[172] The statute prohibits lending discrimination against consumers

> "(1) on the basis of race, color, religion, national origin, sex or marital status, or age (provided the applicant has the capacity to contract); (2) because all or part of the applicant's income derives from any public assistance program; or (3) because the applicant has in good faith exercised any right under [the Consumer Credit Protection Act]."[173]

These restrictions apply "with respect to any aspect of a credit transaction."[174] Additionally, the ECOA seeks to increase transparency by requiring the lender to notify a consumer when it takes adverse action against them.[175]

Notably, the consumers who have low credit scores or low incomes may be the consumers with the fewest options available to them and may feel pressure to accept any terms they can get.[176] This is especially true given the vital nature of auto access as described above.

Here, the ECOA targets "creditors," and so would only apply to auto financers, rather than insurers.[177] Unique among the statutes analyzed here, the Act

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170. 15 U.S.C. §§ 1691-1691f, 1681-1681x; 12 U.S.C. §§ 2901-2908.

171. 15 U.S.C. §§ 1691-1691f.

172. 15 U.S.C. § 1691. Regulation B 12 CFR 202.5 extended the ECOA to cover credit scoring systems. Specifically, the regulation restricted the type of personal information lenders could collect to assess an individual consumer's creditworthiness. 12 C.F.R. § 202.5 (2021).

173. 15 U.S.C. § 1691.

174. 15 U.S.C. § 1691(a).

175. *See* 15 U.S.C. § 1691(d). "[A]dverse action means a denial or revocation of credit, a change in the terms of an existing credit arrangement, or a refusal to grant credit in substantially the amount or on substantially the terms requested. Such term does not include a refusal to extend additional credit under an existing credit arrangement where the applicant is delinquent or otherwise in default, or where such additional credit would exceed a previously established credit limit." 15 U.S.C. § 1691(d)(6).

176. *See supra* note 153.

177. *See* 15 U.S.C. § 1691. The term "creditor" means "any person who regularly extends, renews, or continues credit; any person who regularly arranges for the extension, renewal, or continuation of credit; or any assignee of an original creditor who participates in the decision to extend, renew, or continue credit." 15 U.S.C. § 1691a(e). The term "credit" means "the right granted by a creditor to a debtor to defer payment of debt or to incur debts and defer

prohibits discrimination against applicants who derive all or part of their income from public assistance.[178] Using ALPR to make lending decisions could potentially implicate this subsection if an applicant is rejected or downgraded because their license plate was frequently spotted near a public housing development. Enrollment in a public housing program could arguably be considered income: enrollees receive rental assistance, which subsidizes their income by reducing the amount of rent they have to pay out of pocket.[179] The likelihood that repossessors will disproportionately scout low-income areas theoretically allows creditors to single out those neighborhoods and label consumers as high credit risks—possibly triggering credit denials or interest-rate hikes based merely on their proximity to a community of people receiving public assistance.[180]

The ECOA evaluates violations under two theories of liability: disparate treatment and disparate impact.[181] Under a disparate treatment theory, a lender violates the law by intentionally treating consumers differently due to certain protected characteristics—such as race or sex.[182] For example, a lender who specifically refuses to lend to women, or who singles out minority consumers for increased fees, has violated the ECOA under a disparate treatment theory. This type of discrimination may be difficult to prove, because lenders are unlikely to broadcast that they are discriminating on these bases and empirical information about individual lenders' practices may be hard to come by.[183]

Under a disparate impact theory, a facially neutral lending practice can trigger liability if it disproportionately disadvantages protected consumer classes.[184] In that case, the lender could defend its policy by proving that its lending practice meets a legitimate business need that cannot reasonably be achieved by means that result in more evenhanded outcomes.[185] For example, if a lender were to

its payment or to purchase property or services and defer payment therefor." 15 U.S.C. § 1691a(d).

178. 15 U.S.C. § 1691(a)(2).

179. *See Comment for 1002.*2- *Definitions*, CONSUMER FIN. PROT. BUREAU, https://www.consumerfinance.gov/rules-policy/regulations/1002/interp-2 (last visited Feb. 27, 2022) ("The term [public assistance] includes (but is not limited to) Temporary Aid to Needy Families, food stamps, rent and mortgage supplement or assistance programs, social security and supplemental security income, and unemployment compensation"); *HUD's Public Housing Program*, U.S. DEP'T. OF HOUS. & URB. DEV., https://www.hud.gov/topics/rental_assistance/phprog (last visited Feb. 27, 2022).

180. *See* sources cited *supra* note 159.

181. *See* Matthew A. Bruckner, *The Promise and Perils of Algorithmic Lenders' Use of Big Data*, 93 CHI.-KENT L. REV. 3, 33 (2018).

182. *Id.*

183. *See infra* Section II.C.1 for a discussion about the lack of reporting in the financial areas upon which this Article focuses its attention.

184. *See* CONSUMER FIN. PROT. BUREAU, CFPB, SUPERVISION AND EXAMINATION MANUAL (Oct. 2012), https://www.cfpaguide.com/portalresource/Exam%20Manual%20v%202%20-%20ECOA.pdf.

185. *See id.*

refuse applicants who have had a name change in the past, or require a large deposit for applicants who live in multigenerational households, their conduct would likely violated the ECOA under a disparate impact theory. [186]Although these policies do not appear to target any particular class of consumers, in practice, they would disproportionately burden women and minorities. Women, transgender, and non-binary consumers are more likely to change their names during their lifetimes, and racially minoritized consumers are more likely to live in multigenerational households.[187]

Of all the federal lending regulations designed to combat discrimination, the ECOA provides the most robust protections for Pat. But the difficulty of proving a discrimination claim under the ECOA presents a high bar for the consumer.[188] Thus, the behavior of an intentionally discriminatory—or simply inattentive—lender is likely to continue undeterred. Additionally, while the ECOA specifically prohibits lenders from relying on applicants' sources of income it derives from public assistance programs, that is the only proxy it affirmatively singles out for prohibition based on its disparate impact.[189] The Act does not go so far as to expressly cover other proxies for protected or vulnerable classes.[190] Also, the ECOA puts the onus on the consumer to independently suspect discrimination: although lenders must give notice that they are taking adverse action, they need only provide specific reasons for the action upon the consumer's written request.[191] And consumers generally have no access to auto lending data that would help their case—like data showing their individual lender disproportionately denies car loans to racial minorities.[192] Even if they did have access to that kind of data, they might not have the time or resources to parse through it.

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186. *Id.*

187. D'Vera Cohn & Jeffrey S. Passel, *A Record 64 Million Americans Live in Multigenerational Households*, PEW RSCH. CTR. (Apr. 5, 2018), https://www.pewresearch.org/fact-tank/2018/04/05/a-record-64-million-americans-live-in-multigenerational-households/.

188. *See* Winnie Taylor, *Proving Racial Discrimination and Monitoring Fair Lending Compliance: The Missing Data Problem in Nonmortgage Credit*, 31 REV. BANKING & FIN. L., 2011-2012, at 199, 201.

189. The other protected classes relate to inherent personal characteristics, marital status, and the good-faith exercise of Consumer Credit Protection Act rights. *See generally* 15 U.S.C. § 1691; for specific reference to income see 15 U.S.C. § 1691(a)(2). The Consumer Financial Protection Bureau has acknowledged that public assistance income can serve as a proxy for statuses such as disability, which other anti-discrimination laws (such as the Fair Housing Act) may expressly protect, although the ECOA does not. *CFPB Bulletin 2014-03*, CONSUMER FINANCIAL PROTECTION BUREAU (Nov. 18, 2014), https://files.consumerfinance.gov/f/201411_cfpb_bulletin_disability-income.pdf.

190. For example, a high number of license plate scans at medical centers or senior communities could be a proxy for age, which is a protected class under the ECOA. However, the Act does not spell out any other examples of proxies. *See* 15 U.S.C. § 1691(a)(1).

191. *See* 15 U.S.C. § 1691(d); *Letter Denying Consumer Credit and Notice of Rights under Equal Credit Opportunity Act*, USLEGALFORMS.COM, https://www.uslegalforms.com/forms/us-01412bg/letter-denying-consumer-credit-and-notice-of (last visited Feb. 27, 2022) (providing a sample notice of adverse action).

192. Taylor, *supra* note 189, at 201.

2. Fair Credit Reporting Act

The FCRA[193] seeks to bolster public confidence in the banking system by increasing truth and fairness in credit reporting.[194] The Act does this by ensuring accuracy, consumer access, and due process.[195] It establishes reporting periods for many types of reportable information, excludes certain types of information from reporting entirely, and provides a method by which consumers may dispute information contained in their credit reports.[196] However, the onus is on the consumer to review their file and dispute their credit information.[197]

The statute covers data broker companies such as DRN, which serve as consumer reporting agencies.[198] But the statute's usefulness in the context of systemic lending discrimination is limited, because its focus is on accuracy. It allows individual consumers to dispute inaccurate credit information.[199] But generally speaking, it does not change the type of information being collected about a consumer and used in lending decisions.[200] For example, it does not allow the consumer to argue that information was not relevant or was unfairly used to deny them a loan; in most cases, if the information is accurate, consumers do not have the right to dispute it.[201]

Further complicating the FCRA's application is the lack of meaningful remedies for consumers against creditors who share inaccurate information with credit reporting agencies. While consumers have a private right of action against any FCRA violator, damages in many willful-violation cases may be capped at $1,000.[202] Additionally, a consumer cannot initiate litigation directly against a

193. 15 U.S.C. §§ 1681-1681x.

194. *See* 15 U.S.C. § 1681(a).

195. *See* 15 U.S.C. § 1681.

196. *See* 15 U.S.C. § 1681c, i.

197. *See Understanding the Fair Credit Reporting Act*, EXPERIAN, https://www.experian.com/blogs/ask-experian/credit-education/report-basics/fair-credit-reporting-act-fcra/ (last visited Feb. 27, 2022).

198. *See* 15 U.S.C. § 1681a(f) ("The term 'consumer reporting agency' means any person which, for monetary fees, dues, or on a cooperative nonprofit basis, regularly engages in whole or in part in the practice of assembling or evaluating consumer credit information or other information on consumers for the purpose of furnishing consumer reports to third parties, and which uses any means or facility of interstate commerce for the purpose of preparing or furnishing consumer reports.").

199. *See* 15 U.S.C. § 1681i.

200. *See generally* 15 U.S.C. § 1681-1681x. In some cases, the FCRA does restrict credit reporting agencies from furnishing consumer information—like certain medical information, old arrest records, information resulting from identity theft, and unverified information collected from a consumer's friends or neighbors. *See* 15 U.S.C. §§ 1681b(g)(1); § 1681c; § 1681c–2; and § 1681d(d)(4).

201. *See* 15 U.S.C. § 1681-1681x; *Is It Possible to Remove Accurate, Negative Information from my Credit Report?*, CONSUMER FINANCIAL PROTECTION BUREAU (Sept. 1, 2020).

202. 15 U.S.C. § 1681n. Although FCRA provides for the payment of reasonable attorneys' fees, which unlocks access to legal counsel, the amount of available damages may not

creditor who furnished inaccurate information to a credit reporting bureau—unless the creditor had reasonable cause to know that it was sharing false information with credit bureaus or it failed to investigate the errors the consumer raised.[203] Because consumer-to-furnisher disputes do not always trigger an automatic reinvestigation requirement, consumers who report inaccuracies directly to the creditor may have no recourse if the furnisher simply ignores their requests to set the record straight.[204] This is counterintuitive, as it seems reasonable that consumers should be able to take these matters up directly with their creditors, with whom they already likely have relationships. Not only that, but even if the consumer were to take the error up with the agency, it would be impossible to prove that a creditor did not reinvestigate.

C. Community Reinvestment Act

Congress passed the CRA in 1977 to combat the ongoing discriminatory practice of redlining.[205] The historical practice of redlining codified patterns of segregation by denying credit to consumers living in Black and Brown neighborhoods.[206] This practice was deeply ingrained in the credit and banking industries

provide sufficient motivation for consumers to endure the process of litigation, or for furnishers and bureaus to avoid violations. *Id*.

203. *See* 15 U.S.C. § 1681s-2(a)(8)(E) (requiring institutions that furnish credit information to credit reporting bureaus to investigate disputes from consumers regarding the accuracy of that information); 15 U.S.C. § 1681s-2(a)(1)(A)(specifying that "[a] person shall not furnish any information relating to a consumer to any consumer reporting agency if the person knows or has reasonable cause to believe that the information is inaccurate"); 15 U.S.C. § 1681n-1681o (specifying that any person who willfully or negligently "fails to comply with any requirement imposed under this subchapter with respect to any consumer is liable to that consumer.").

204. *See* 15 U.S.C. § 1681s-2(a)(8)(A). This provision is largely in place to undergird the FCRA's consumer protections against credit repair companies. These entities are for-profit businesses that claim to negotiate payment plans on behalf of the consumer. While some companies are legitimate, in many cases the company simply extracts large monthly payments from the consumers without providing any real benefit. *Credit Repair: How to Help Yourself*, FED. TRADE COMM'N (Nov. 2012), https://consumer.ftc.gov/articles/credit-repair-how-help-yourself. Thus, the FCRA treats disputes lodged by credit repair companies as presumptively frivolous. 15 U.S.C. § 1681s-2(a)(8)(G). The provision of s-2(a)(8) effectively prevents credit repair scammers from hiding behind the consumer, but in the process undermines the consumer's personal agency as well as support for consumers who have difficulty navigating the consumer-to-bureau dispute process alone. 15 U.S.C. § 1681s-2(a)(8)(B)(iv). A full analysis of how laws should be changed to prevent exploitation while also smoothing the path for legitimate credit repair services is beyond the scope of this Article.

205. 12 U.S.C. § 2901 note (Report on Community Development Lending); OFF. OF THE COMPTROLLER OF THE CURRENCY, COMMUNITY DEVELOPMENTS FACT SHEET: COMMUNITY REINVESTMENT ACT (2014).

206. *See* ERIC AVILA, THE FOLKLORE OF THE FREEWAY: RACE & REVOLT IN THE MODERNIST CITY, loc 795 (2014) (ebook) (describing how HOLC explicitly linked the share of Black residents to neighborhood "blight."); RICHARD ROTHSTEIN, THE COLOR OF LAW: A FORGOTTEN HISTORY OF HOW OUR GOVERNMENT SEGREGATED AMERICA, vii, 64-65 (Liveright Publ'g Corp. ed., 2017); LAWRENCE T. BROWN, THE BLACK BUTTERFLY: THE HARMFUL

and widely considered legitimate.[207] Redlining was even memorialized in official maps used by the Home Owners' Loan Corporation (HOLC).[208] This arm of the federal government was charged with assisting struggling homeowners and helping the country overcome the impacts of the Great Depression.[209] The name "redlining" refers to the color-coded maps produced by the HOLC, which bank lenders used when reviewing mortgage applications.[210] Neighborhoods where racial minorities lived, particularly Black communities, were coded red and thus "hazardous."[211] On those limited occasions when banks did extend mortgage loans to applicants living in such communities, it was strictly upon the most predatory terms.[212] Ultimately, this practice systematically prevented Black consumers from purchasing homes, making improvements to their existing homes, or relocating to integrate other neighborhoods without miring themselves in poverty or economic stagnation.

The CRA attempts to strengthen low- and moderate-income communities and communities of color by demanding that banks meet the credit needs of the local communities from which they draw deposits. The law requires federal supervisory agencies to periodically assess bank branches on the basis of "the institution's record of meeting the credit needs of its entire community, including low- and moderate-income neighborhoods, consistent with the safe and sound operation of such institution."[213] Institutions that do not meet a certain threshold

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POLITICS OF RACE AND SPACE IN AMERICA, 12-13, 48-49 (Johns Hopkins Univ. Press ed., 2021).

207. *See* Khristopher J. Brooks, *Redlining's Legacy: Maps Are Gone, but the Problem Hasn't Disappeared*, CBS NEWS (June 12, 2020, 8:25 AM), https://www.cbsnews.com/news/redlining-what-is-history-mike-bloomberg-comments/.

208. *See* Bruce Mitchell & Juan Franco, *HOLC "Redlining" Maps: The Persistent Structure of Segregation and Economic Inequality*, NAT'L CMTY. REINVESTMENT COAL. (Mar. 20, 2018), *https*://ncrc.org/holc/.

209. *See generally id.* at 3 (detailing the practices and impact of HOLC). HOLC was a government-sponsored corporation created in 1933 by the New Deal. *Id*.

210. *See* Digit. Scholarship Lab, *Introduction: Mapping Inequality: Redlining in New Deal America*, https://dsl.richmond.edu/panorama/redlining/#loc=5/39.1/-94.58&text=intro (last visited Feb. 15, 2022) (providing access to redlined HOLC maps). It is critical to note that the makers of these maps did not invent this fracturing and classification of communities. Rather, the HOLC maps reflected and further entrenched the existing state of segregation, which had already been in practice for many years. *See id.*

211. *See* Digit. Scholarship Lab, *supra* note 211; *see also* Mitchell & Franco, *supra* note 209.

212. Badger, *supra* note 158; *see, e.g.*, Coates, *supra* note 54; *see generally* Mitchell & Franco, *supra* note 209, at 7 (relating the HOLC's uneven lending practices, in part pointing out that "when conventional loans were made in HOLC red-coded 'Hazardous' areas, they had higher interest rates for borrowers.").

213. 12 U.S.C. § 2903(a)(1). The term "appropriate Federal financial supervisory agency" means— (A) the Comptroller of the Currency with respect to national banks and Federal savings associations (the deposits of which are insured by the Federal Deposit Insurance Corporation); (B) the Board of Governors of the Federal Reserve System with respect to

of assessment may not be allowed to merge or acquire other banks—along with other possible restrictions.[214]

However, these provisions were originally designed to apply to depository banks with brick-and-mortar locations.[215] Many fintech firms, on the other hand, host their operations only online.[216] Thus, the result of fintech could be, deliberately or otherwise, to sidestep some consumer protection measures in the CRA.[217] If more financial institutions run with this incentive to move into an exclusively online model, consumers could see a snowball effect in which dwindling numbers of financial institutions are beholden to the CRA.

D. Federal regulatory enforcers

As mentioned above, several different agencies have enforcement authority over these consumer laws, and their shared responsibilities can complicate enforcement. The Consumer Financial Protection Bureau, Department of Justice, and Federal Trade Commission share enforcement power over the ECOA.[218] The CFPB and Federal Trade Commission have purview over the FCRA.[219] The Federal Reserve Board, Federal Deposit Insurance Corporation, and Office of the

State chartered banks which are members of the Federal Reserve System, bank holding companies, and savings and loan holding companies; (C) the Federal Deposit Insurance Corporation with respect to State chartered banks and savings banks which are not members of the Federal Reserve System and the deposits of which are insured by the Corporation, and State savings associations (the deposits of which are insured by the Federal Deposit Insurance Corporation). 12 USC § 2902(1).

214. 12 U.S.C. §§ 2903(a), 2902(3).

215. Community Reinvestment Act Regulations, 85 Fed. Reg. 1204 (proposed Jan. 9, 2020) (to be codified at 12 C.F.R. pt. 25, 195). GREENLINING INSTITUTE, A FAIR FINANCIAL SYSTEM REGULATING FINTECH AND NONBANK LENDERS 10, 24 (2021). The provisions of the CRA continually make reference to physical geography, using terms such as "branches" and "neighborhoods." At its inception, the CRA could not possibly contemplate online banks, and its terms have never been broadened to include them. Bruce Mitchell & Josh Silver, *Making CRA Relevant for A Changing Financial Services Industry*, NAT'L COMMUNITY REINVESTMENT COALITION (Oct. 12, 2021), https://ncrc.org/making-cra-relevant-for-a-changing-financial-services-industry.

216. *See* Kristin Johnson et al., *supra* note 45, at 513.

217. *See, e.g.*, Letter from Robert S. Lavet, Gen. Couns., Soc. Fin., Inc., to Off. of the Comptroller of the Currency (Apr. 13, 2017), https://www.occ.treas.gov/topics/supervision-and-examination/responsible-innovation/comments/comment-social-finance.pdf; Matt Levin, *Banking Law Rooted in Civil Rights Era Gets a 21st Century Update*, MARKETPLACE (May 5, 2022), https://www.marketplace.org/2022/05/05/banking-law-rooted-in-civil-rights-era-gets-a-21st-century-update/.

218. 15 U.S.C. §§ 1691a(c), 1691c, 1691e(g). This authority is also shared with a host of federal regulators charged with monitoring compliance with this law: for example, the Office of the Comptroller of the Currency, Federal Reserve Board, Federal Deposit Insurance Corporation, and National Credit Union Administration. 15 U.S.C. § 1691c; 12 U.S.C. § 1813(q). Which agencies share responsibility depends on the type of financial institution at issue. *Id.*

219. 15 U.S.C. §§ 1681s(e)(1), 1681a(w), 1681s(a). This authority is also shared with a host of federal regulators charged with monitoring compliance with this law, depending on the

Comptroller of the Currency (OCC) share authority over the CRA.[220]

Unfortunately, the agencies have also been deeply susceptible to the vicissitudes of politics. Under the Obama administration, consumer agencies prioritized enforcement against unscrupulous auto lenders. In 2013, the CFPB issued guidance declaring that third-party auto financers who buy loans from car dealers may be vicariously liable when dealers charge minoritized consumers higher interest rates before selling the loan to the financer.[221] The guidance warned those indirect lenders that they, having more leverage than individual consumers, bear responsibility for policing the conduct of the dealers with whom they do business.[222] Other consumer agencies also struck out against bad actors. The Department of Justice and CFPB undertook a joint enforcement action against Ally Financial Inc. and Ally Bank for charging minority borrowers higher interest rates for their auto loans.[223] That action resulted in an $98 million settlement.[224] In another joint enforcement action by the two agencies, the American Honda Finance Corporation—a third-party lender—agreed to pay $24 million in order to settle charges that it allowed dealers to overcharge racial minorities in a discriminatory manner, in violation of the ECOA.[225] It also agreed to change its practices by taking such actions as limiting dealer discretion and monitoring dealers more closely.[226] A 2016 joint enforcement against Toyota Motor Credit Corporation netted an almost $22 million settlement of charges that the company had allowed dealers to discriminate in setting interest rates.[227] The CFPB also took action against Fifth Third Bank for discriminatory auto loan pricing.[228] This enforcement garnered an $18 million settlement.[229] Later, the CFPB took enforcement

type of financial institution at issue. 15 U.S.C. § 1681s(b)(1).

220. 12 U.S.C. §§ 2902, 2905.

221. CONSUMER FIN. PROT. BUREAU, CFPB BULL. 2013-02, INDIRECT AUTO LENDING AND COMPLIANCE WITH THE EQUAL CREDIT OPPORTUNITY ACT 1-5 (2013).

222. *Id*.

223. Ally, CFPB No. 2013-CFPB-0010 (Dec. 20, 2013), https://files.consumerfinance.gov/f/201312_cfpb_consent-order_ally.pdf; *CFPB and DOJ Order Ally to Pay $80 Million to Consumers Harmed by Discriminatory Auto Loan Pricing*, CONSUMER FIN. PROT. BUREAU (Dec. 20, 2013), https://www.consumerfinance.gov/about-us/newsroom/cfpb-and-doj-order-ally-to-pay-80-million-to-consumers-harmed-by-discriminatory-auto-loan-pricing/.

224. Sources cited, *supra* note 224.

225. Consent Ord. at 10, United States v. Am. Honda Fin. Corp., No. CV 15-05264 (C.D. Cal. July 16, 2015).

226. *Id*.

227. Consent Ord. at 10-11, *United States v. Toyota Motor Credit Corp.*, No. CV 16-725 (C.D. Cal. Feb. 2, 2016).

228. *In re* Fifth Third Bank, CFPB No. 2015-CFPB-0024 (Sept. 28, 2015).

229. Consent Ord. at 12, United States v. Fifth Third Bank, No. 1:15-CV-626 (S.D. Ohio Sept. 28, 2015). The Department of Justice's consent order required court approval; the CFPB's consent order was a public administrative settlement.

action against two American Express subsidiaries for discriminating against consumers in U.S. territories and those with Spanish language preferences.[230]

However, a shift in agency leadership soon brought this vigorous enforcement to a halt. In late 2017, Richard Cordray, the founding director of the CFPB, resigned after the recently-inaugurated President Trump joined the vigorous and ongoing Republican effort to undermine Cordray and remove him from office.[231] Trump soon installed longtime CFPB critic Mick Mulvaney as CFPB director.[232] Six months later, Congress passed a resolution removing the 2013 auto loan discrimination guidance—the first administrative guidance to be discarded based on the Government Accountability Office's freshly issued interpretation of the Congressional Review Act.[233] Moreover, Mick Mulvaney and Kathleen Kraninger, Mulvaney's successor, curtailed discrimination enforcement and reassured individual financial companies that they need not worry about enforcement action against certain new products or practices.[234] Ostensibly to encourage inno-

230. *In re* American Express Centurion Bank, CFPB No. 2017-CFPB-0016 (Aug. 23, 2017).

231. *See* Morning Edition, *Consumer Financial Protection Bureau Chief Responds to Republican Critics*, NPR (Apr. 6. 2017), https://www.npr.org/2017/04/06/522826544/consumer-financial-protection-bureau-chief-responds-to-republican-critics; Avie Schneider, *Richard Cordray Stepping Down as Head of U.S. Consumer Protection Agency*, NPR (Nov. 15, 2017), https://www.npr.org/sections/thetwo-way/2017/11/15/564349200/richard-cordray-stepping-down-as-head-of-u-s-consumer-protection-agency; Eyder Peralta, *Cooling Tensions, Senate Confirms Cordray,* NPR (Jul. 16, 2013), https://www.npr.org/sections/thetwo-way/2013/07/16/202644353/cooling-tensions-senate-votes-to-advance-cordray-nomination; Paul Kane & Ed O'Keefe, *Senate Reaches Tentative Deal on Filibuster Rules*, WASH. POST (Jul. 16, 2013), https://www.washingtonpost.com/politics/senate-poised-to-take-up-key-rule-changes/2013/07/16/167045da-ee1d-11e2-9008-61e94a7ea20d_story.html?hpid=z1.

232. Victoria Guida, *Trump Taps Mulvaney to Head CFPB, Sparking Confusion Over Agency's Leadership*, POLITICO (Nov. 24, 2017), https://www.politico.com/story/2017/11/24/richard-cordray-successor-cfpb-leandra-english-259612.

233. Joint Resolution of May 21, 2018, Pub. L. No: 115-172, 132 Stat. 1290; *Bureau of Consumer Financial Protection: Applicability of the Congressional Review Act to Bulletin on Indirect Auto Lending and Compliance with the Equal Credit Opportunity Act*, GOV'T ACCOUNTABILITY OFF. (Dec. 5, 2017), https://www.gao.gov/products/b-329129; *see also* Zachary Warmbrodt, *GOP Maneuver Could Roll Back Decades of Regulation*, Politico (Apr. 17, 2018, 10:16 AM), https://www.politico.com/story/2018/04/17/congressional-review-act-fallout-485426. This new interpretation by the Government Accountability Office relegated guidance—that had been in force for years, oreven decades—to the scrap heap of history by a simple majority of the houses of Congress. *Id.* A full examination of this strategy is outside the scope of this Article, but it is noteworthy that the very first regulation Congress subjected to this unprecedented procedure was a guidance designed to hold financial institutions accountable for auto loan discrimination. *Id.*

234. *See Enforcement Actions*, CONSUMER FIN. PROT. BUREAU, https://www.consumerfinance.gov/enforcement/actions/ (last visited Feb. 13, 2021) (showing that the CFPB took at least eleven enforcement actions targeting discrimination under Richard Cordray, while it took only one such action under Mick Mulvaney and Kathleen Kraninger); Press Release: *CFPB Law Enforcement Plummets Under Trump Administration*, CONSUMER FED'N OF

vation in lending methods, the agency began sending "no-action letters" to "innovative" financial companies, assuring them that the agency had no intention of taking enforcement action against them under the ECOA and other consumer protection statutes.[235] Interestingly, the Bureau's first no-action letter was granted to Upstart Network, Inc., an online loan broker experimenting with algorithmic underwriting models.[236] This offer of safe harbor followed on the heels of the Bureau's official request for more information about how fintech works.[237]

Enforcement of the CRA saw a similar reversal. Consumer advocates had long expressed concerns about lax enforcement of the Act, but generally, all signs indicated that the Act had a positive impact in low- and moderate-income communities.[238] However, in 2020, the OCC went so far as to propose new rules

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AMERICA (Mar. 11, 2019), https://consumerfed.org/press_release/16137 ("Under [the leadership of Obama-appointee Richard] Cordray, the CFPB announced 11 cases enforcing the Equal Credit Opportunity Act producing average consumer relief over $56 million per case. Under the Trump Administration's leadership, the CFPB has not announced or resolved a single case alleging unlawful discrimination and has provided no restitution to any consumers"). *See, e.g.*, Letter from Christopher M. D'Angelo, Assoc. Dir. for Supervision, Enf't & Fair Lending, Consumer Fin. Prot. Bureau, to Thomas P. Brown, Sec'y, Paul Hastings, LLP (Sept. 14, 2017), https://files.consumerfinance.gov/f/documents/201709_cfpb_upstart-no-action-letter.pdf; Letter from Paul Watkins, Assistant Dir., Office of Innovation, Consumer Fin. Prot. Bureau, to Bank Policy Inst., LLP (May 22, 2020), https://files.consumerfinance.gov/f/documents/cfpb_bpi_no-action-letter.pdf.

235. *CFPB Announces First No-Action Letter to Upstart Network*, CONSUMER FIN. PROT. BUREAU (Sept. 14, 2017), https://www.consumerfinance.gov/about-us/newsroom/cfpb-announces-first-no-action-letter-upstart-network; *see also* CONSUMER FIN. PROT. BUREAU, POLICY ON NO-ACTION LETTERS, INFORMATION COLLECTION, CFPB NO. CFPB-2014-0025 (Feb. 18, 2016). The agency grants no-action letters based upon an application process by which the applicant must describe the action it plans to take and the hypothesis it expects to prove.

236. *CFPB Announces First No-Action Letter to Upstart Network*, *supra* note 236; Eric Blattberg, *When Harvard Helps: Upstart Digs Through Your Ed Background Before Giving You a Loan*, VentureBeat (Apr. 24, 2014), https://venturebeat.com/2014/04/24/when-harvard-helps-upstart-digs-through-your-ed-background-before-giving-you-a-loan.

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

238. Ninety-eight percent of financial institutions pass with a satisfactory or outstanding score. Memorandum from the Majority Staff of the H. Comm. on Fin. Servs. to the Members of the H. Comm. on Fin. Servs. 4 (Apr. 4, 2019), https://www.congress.gov/116/meeting/house/109303/documents/HHRG-116-BA15-20190409-SD002.pdf. Yet complaints of unfair treatment and redlining behavior by banks remain prevalent. *See* Aaron Glantz & Emmanuel Martinez, *For People of Color, Banks are Shutting the Door to Homeownership*, CTR. FOR INVESTIGATIVE REPORTING (Feb. 15, 2018), https://revealnews.org/article/for-people-of-color-banks-are-shutting-the-door-to-homeownership/; *Over 100 Groups Call on Federal Reserve to Strengthen CRA*, NAT'L CMTY. REINVESTMENT COAL. (Feb. 16, 2021), https://ncrc.org/over-100-groups-call-on-federal-reserve-to-strengthen-cra (applying the lens of the COVID-19 pandemic to highlight ways to build upon the existing structure of the CRA to reinforce its consumer protections and raise the bar for institutions regulated under it). On the other hand, the CRA has led to positive outcomes. Lei Ding & Leonard Nakamura, *"Don't*

relaxing the statute's anti-redlining provisions for the banks and savings associations it supervises.[239] Consumer advocates promptly filed suit to enjoin the agency from making the regressive rules effective.[240] The next year, the OCC issued a final rule rescinding the 2020 rule.[241] It remains to be seen if the Biden administration will further expand enforcement of the CRA, but unless lawmakers can insulate these agencies from political seesawing, there may not be cause for sustained optimism.

C. What the laws are missing

For all the safeguards lawmakers erected to protect consumers and foster auto access, discriminatory outcomes persist because the laws are merely circling around two pervasive phenomena that continue to enable lending discrimination. First, gatekeepers such as lenders and fintech purveyors, are allowed to act in secret and dictate the terms upon which regulators or the public can access their

Know What You Got Till It's Gone"—The Community Reinvestment Act in a Changing Financial Landscape, (Fed. Rsrv. Bank Phila., Working Paper No. 20-08, 2020), https://www.philadelphiafed.org/-/media/frbp/assets/working-papers/2020/wp20-08.pdf (establishing that the CRA has a positive effect on mortgage lending in low-income communities); Lei Ding, Hyojung Lee, & Raphael W. Bostic, *Effects of the Community Reinvestment Act (CRA) on Small Business Lending*, FED. RSRV. BANK PHILA. 1-2 (Dec. 2018), https://www.philadelphiafed.org/-/media/frbp/assets/community-development/discussion-papers/discussion-paper-effects-of-the-cra-on-small-business-lending.pdf (establishing that the CRA has had a positive effect on small business lending).

239. *See* Community Reinvestment Act Regulations, 85 Fed. Reg. 1204 (proposed Jan. 9, 2020); *Joint Letter: Letter Opposing OCC/FDIC Proposed Changes to Weaken the Community Reinvestment Act*, AMERICANS FOR FINANCIAL REFORM (Apr. 8, 2020), https://ourfinancialsecurity.org/2020/04/joint-letter-letter-opposing-occ-cra-proposed-changes-to-weaken-the-community-reinvestment-act. The Federal Reserve also issued an Advance Notice of proposed Rulemaking. Advocates have deemed the proposed rule to be an insufficient, but likely positive development. Josh Silver, *NCRC Initial Analysis of Federal Reserve's ANPR on the Community Reinvestment Act: A Step Forward but Needs to Be More Rigorous*, NAT'L CMTY. REINVESTMENT COAL. (Oct. 16, 2020), https://ncrc.org/ncrc-initial-analysis-of-federal-reserves-anpr-on-the-community-reinvestment-act-a-step-forward-but-needs-to-be-more-rigorous/; *Over 100 Groups Call on Federal Reserve to Strengthen CRA*, *supra* note 239. So far, the Federal Deposit Insurance Corporation has not taken any independent action regarding its CRA enforcement.

240. Complaint for Declaratory & Injunctive Relief at 1, *Nat'l Cmty. Reinvestment Coal. v. Office of Comptroller of Currency*, No. 3:20-cv-04168 (N.D. Cal. July 25, 2020), https://democracyforward.org/wp-content/uploads/2020/06/CRA-Complaint-06.25.20.pdf. As of the time of this writing, the lawsuit had survived a motion to dismiss. Order Denying Motion to Dismiss at 1, *Nat'l Cmty. Reinvestment Coal. v. Office of Comptroller of Currency*, No. 4:20-cv-04186-KAW (N.D. Cal. Jan. 29, 2021), https://www.consumerfinancemonitor.com/wp-content/uploads/sites/14/2021/02/NCRC-et-al-v.-OCC-Ruling-1.29.211.pdf.

241. Community Reinvestment Act Regulations, 86 Fed. Reg. 71,328 (Dec. 15, 2021). The new rule still does not extend CRA coverage to fintechs or online banks.

formulas and lending data.[242] Second, actuarial fairness may simply be impossible.[243] Predictive algorithms replicate past choices, and location-based consumer scoring will only reinforce the segregationist policies that established the demographic character of communities nationwide for generations.[244] The following subsection will discuss these two phenomena.

1. Transparency

As mentioned above, credit scoring, insurance, and financing formulas are proprietary trade secrets. This is problematic for a number of reasons. First, there is no formal application process for trade secret protection, and the bar for claiming a trade secret in court is not especially high, giving lenders outsized control in deciding who is worthy of a loan.[245] Also, trade secret protection allows these powerful companies to sidestep regulation even as they hold the economic stability of disadvantaged consumers in the balance.[246] This combination of vast power and limited review or accountability will necessarily stymie any attempts at reform that do not tackle this transparency problem directly.

Trade secret protection is unique among categories of intellectual property.

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242. *See* Taylor Moore, *Trade Secrets and Algorithms as Barriers to Social Justice*, CTR. FOR DEMOCRACY & TECHNOLOGY, 7-9 (2017), https://cdt.org/insights/trade-secrets-and-algorithms-as-barriers-to-social-justice/#:~:text=The%20lack%20of%20social%20balancing,and%20other%20broader%20societal%20considerations (distinguishing trade secret protection from other forms of intellectual property rights by highlighting that it is an outlier to the underlying philosophy of intellectual property that justifies "protection for a work or invention in exchange for the public benefiting from an expanded corpus of knowledge.").

243. Blake, *supra* note 16, at 1492 (arguing that actuarial methods are inherently stigmatizing).

244. *See* ROTHSTEIN, *supra* note 207 at 177-93, 215-17 (summarizing the many interrelated public and private policies that contributed to the *de facto* residential segregation evident in the modern day).

245. Moore, *supra* note 243; Brian Farkas, *Trade Secret Basics FAQ*, NOLO, https://www.nolo.com/legal-encyclopedia/trade-secret-basics-faq.html#1743223 (last visited Apr. 12, 2022). *See* NAT'L CONFERENCE OF COMMISSIONERS ON UNIFORM STATE LAWS, DRAFT: UNIFORM TRADE SECRETS ACT, COMMENT TO SECTION 1 9-11 (1985) (explaining that the UTSA relaxed previous requirements in the Restatement of Torts that the information be used in the claimant's business—under the theory that information may still be commercially valuable even if the claimant has not yet had the opportunity to use it, or even if the information simply eliminates a process or method from implementation).

246. *Cf.* Jordyn Holman, *Silicon Valley Is Using Trade Secrets to Hide Its Race Problem*, BQ PRIME (Feb. 15, 2019, 2:58 AM), https://www.bloombergquint.com/business/silicon-valley-is-using-trade-secrets-to-hide-its-race-problem (several tech companies claimed trade secret protection to avoid making mandatory disclosures regarding the race and gender diversity of its employees and leadership); Marshall Zelinger, *Colorado Oil and Gas Companies Can Hide Some Chemicals Used in Fracking if They Claim 'Trade Secrets*,*'* 9 NEWS (Feb. 1, 2022), https://www.9news.com/article/news/local/next/colorado-oil-gas-companies-hide-chemicals-fracking-trade-secrets/73-85e67466-e7bf-4570-adbb-6b7c5627f1ca (reporting that an energy company claimed trade secret protection to avoid environmental scrutiny of the chemicals it used in fracking).

It is defined as "information," including a formula, method, or process that "derives independent economic value . . . from not being generally known to" the public and where the owner "has taken reasonable measures to keep such information secret."[247]

It confers upon the claimant a broad right to shield the protected information from the world indefinitely.[248] It cannot be subpoenaed or compelled in discovery unless the court takes fairly extraordinary protection measures.[249] Regulators and law enforcement may also protect confidential trade secrets from public disclosure via record requests.[250]

Though trade secret protection is remarkably broad, the process of obtaining it is astonishingly simple.[251] There is no formal application process to prospectively grant, review, deny, or remove trade secret protection: hallmarks of both trademark and patent protection.[252] As long as the trade secret is commercially valuable and non-public and the trade secret holder takes reasonable steps to maintain its secrecy, the right remains intact.[253] By contrast, applying for patent

247. 18 U.S.C. § 1839(3).

248. Moore, *supra* note 243, at 6.

249. R. Mark Halligan, *Identifying Trade Secrets in Litigation, But When?*, REUTERS (Dec. 21, 2021, 8:13 AM), https://www.reuters.com/legal/legalindustry/identifying-trade-secrets-litigation-when-2021-12-21/ ("The trade secret holder cannot be compelled to identify the alleged trade secrets until there is a confidential protective order in place . . . It is an abuse of discretion to compel disclosure of an alleged trade secret without granting a protective order, holding in camera hearings, sealing the record, or ordering any person in the litigation not to disclose the alleged trade secret without prior court approval.") In a criminal justice example, one Wisconsin defendant raised due process claims after a judge based his sentence on a risk score as calculated by COMPAS, an algorithmic tool intended to determine a defendant's risk of recidivism. The Wisconsin Supreme Court upheld the sentence over the defendant's argument that his sentence was lengthened based on a secret formula neither he nor the court were permitted to inspect. State v. Loomis, 881 N.W.2d 749, 756, 760-61, 772 (Wis. 2016), *cert. denied sub nom.* Loomis v. Wisconsin, 137 S.Ct. 2290 (2017); Frank Pasquale, *Secret Algorithms Threaten the Rule of Law*, MIT TECH. REV. (June 1, 2017), https://www.technologyreview.com/2017/06/01/151447/secret-algorithms-threaten-the-rule-of-law.

250. Christian L. Hawthorne, *Tips for Protecting Your Trade Secrets When Dealing with the Government*, AM. BAR ASS'N (Aug. 30, 2018), https://www.americanbar.org/groups/litigation/committees/business-torts-unfair-competition/practice/2018/tips-for-protecting-your-trade-secrets-when-dealing-with-the-government (explaining that the federal government and most states make provisions for the government to shield trade secrets from disclosure via public records requests); Varner & Sankin, *supra* note 104 ("When we asked Steve Manders, director of insurance product review at the Georgia Department of Insurance, why his state found Allstate's filing to be discriminatory he refused to be more specific, claiming he was legally obligated to protect that data from competitors and the public.").

251. *See* Moore, *supra* note 243, at 6.

252. *Id.* at 2; *How Long Does It Take to Register?*, U.S. PAT. & TRADEMARK OFF. (May 28, 2021, 10:23 AM ET), https://www.uspto.gov/trademarks/basics/how-long-does-it-take-register; Richard Stim, *Understanding U.S. Patent Application Process*, NOLO, https://www.nolo.com/legal-encyclopedia/understanding-patent-applications-29661.html (last visited Feb. 17, 2022).

253. BRIAN T. YEH, CONG. RSCH. SERV., R43714, PROTECTION OF TRADE SECRETS:

protection can take years and involves supplying a detailed description of the invention, summarizing all relevant prior inventions, and engaging in a lengthy back-and-forth with the patent examiner.[254] And although a defined characteristic of a trade secret is that its secrecy confers a commercial benefit to the rights holder, the trade secret claimant need not show that its "secret sauce" is better than anyone else's, or even unique.[255] Multiple parties could claim trade secret protection over the same information, provided that they discover the information independently.[256] Importantly, while abstract ideas like algorithms are not eligible for patent protection, they are eligible for trade secret protection.[257] And unlike a copyright or patent, a trade secret does not expire.[258]

The ability to claim such a broad legal right based largely on one's own say-so is bizarre and unsettling in a general sense. But when powerful companies invoke it to operate in the shadows as they dabble in the economic fortunes of individual consumers, it can be a destructive tool.[259] Every corner of the auto access landscape is populated with these "black boxes," and to the extent that society has an incomplete understanding of gatekeepers' methods, it is because of the trade secret protection they claim and the failure of lawmakers to mandate effective transparency. Much contemporary fintech and auto lending research is characterized by watchdogs attempting to reverse engineer decision-making processes, or performing circumstantial investigations of proxy data points to try to identify discriminatory decision-making.[260] We have guesses and estimations,

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OVERVIEW OF CURRENT LAW AND LEGISLATION 3 (2016).

254. Stim, *supra* note 253.

255. *Trade Secrets: What Is a Trade Secret?*, WORLD INTELL. PROP. ORG., https://www.wipo.int/tradesecrets/en (last visited Feb. 20, 2021). As long as the information was acquired independently, the holder of a trade secret "cannot stop others from using the same technical or commercial information." *Id*.

256. *Frequently Asked Questions: Trade Secrets,* WORLD INTELL. PROP. ORG., https://www.wipo.int/tradesecrets/en/tradesecrets_faqs.html (last visited Feb. 17, 2022).

257. Moore, *supra* note 243, at 6. Notably, like the legal regimes protecting copyrights or patents, trade secret laws and commentary frequently refer to trade secret "owners" rather than "creators." *Trade Secrets / Regulatory Data Protection*, U.S. PATENT & TRADEMARK OFFICE (Oct. 7, 2021, 1:45 PM ET), https://www.uspto.gov/ip-policy/trade-secret-policy; Halligan, *supra* note 250; *Copyright Ownership: Who Owns What?*, STANFORD LIBRARIES, https://fairuse.stanford.edu/overview/faqs/copyright-ownership (last visited Apr. 17, 2022); Fred Carbone, *Employee Inventors and Patent Ownership: Whose Rights Are They Anyway?*, ABA (Mar. 31, 2021), https://www.americanbar.org/groups/intellectual_property_law/publications/landslide/2020-21/march-april/employee-inventors-patent-ownership-whose-rights-are-they-anyway.

258. *Trade Secrets/Regulatory Data Protection*, *supra* note 258; *Frequently Asked Questions: Trade Secrets*, *supra* note 257; *How Long Does Copyright Protection Last?*, U.S. COPYRIGHT OFFICE, https://www.copyright.gov/help/faq/faq-duration.html (last visited Apr. 17, 2022).

259. *See, e.g.*, Varner & Sankin, *supra* note 103.

260. For example, the National Fair Housing Alliance sent "secret shoppers" of different races to car dealerships to determine if they would be treated differently (they were). RICE & SCHWARTZ, *supra* note 124, at 4, 5, 12. Similarly, some advocacy groups study insurance

but we cannot know exactly how credit reporting bureaus calculate consumer scores, because they do not have to tell us.[261] We do not know definitively how much access people of color and the poor have to cars, because the dealers, financers, and insurers do not have to tell us.[262] When the Center for Responsible Lending published reports critical of auto dealer practices, the industry stopped making its statistics public.[263] Thus, it is impossible to study markup trends and other abusive practices with complete accuracy.

We have accepted the lenders' framework unquestioningly and unnecessarily.[264] The result is a landscape in which profit-driven actors have broad discretion to extract income from communities that are over an economic barrel. They can do so without publicly disclosing—or, if the machine learning has progressed far enough, possibly without fully *knowing*—what data they are using to make their decisions, how they weigh it, or if there are any internal safeguards to prevent consumer abuse.[265] With respect to ALPR, it is largely unknown how DRNsights interprets a given car's presence at a particular concert, political event, gun show, place of worship, or medical center and how that presence correlates with likelihood of default.[266] To work toward dismantling consumer

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trends by obtaining multiple quotes from different insurance companies and observing whether and how rates change when they enter different consumer traits, like occupation, education, housing status, zip codes. *See, e.g.*, Press Release, Consumer Fed'n of Am. *Major Auto Insurers Charge Good Drivers 70% More in African American ZIP Codes than in White ZIPs*, CONSUMER FED'N OF AM. (Nov. 18, 2015), https://consumerfed.org/press_release/major-auto-insurers-charge-good-drivers-70-more-in-african-american-zip-codes-than-in-white-zips/; ROBYN DORSEY & MARCELINE WHITE, MD. CONSUMER RTS. COAL., TAKING THE LOW ROAD: HOW AUTO INSURERS DRIVE UP RATES FOR WOMEN 1-4 (2017), https://static1.squarespace.com/static/5b05bed59772ae16550f90de/t/5cd32d208c440400013df9ba/1557343521887/MCRC+Auto+Insurance+Gender+Discrimination+Research.pdf; Robert Bartlett, Adair Morse, Richard Stanton & Nancy Wallace, *Consumer-Lending Discrimination in the FinTech Era*, 143 J. FIN. ECON. 30, 31-32 (2022); Julia Angwin, Jeff Larson, Lauren Kirchner, & Surya Mattu, *Car Insurance Companies Charge Higher Rates in Some Minority Neighborhoods*, CONSUMER REPS. (Apr. 21, 2017), https://www.consumerreports.org/consumer-protection/car-insurance-companies-charge-higher-rates-in-some-minority-neighborhoods.

261. *Your Credit Score: How It All Adds Up*, PRIVACY RIGHTS CLEARINGHOUSE (Mar. 20, 2019), https://privacyrights.org/consumer-guides/your-credit-score-how-it-all-adds.

262. Indeed, the ECOA bars dealers and financers from collecting race and ethnicity data. Thus, even powerful federal agencies are reduced to relying on proxy variables to study these phenomena. JOHN W. VAN ALST, NAT'L CONSUMER L. CTR., TIME TO STOP RACING CARS: THE ROLE OF RACE AND ETHNICITY IN BUYING AND USING A CAR 4-5 (2019).

263. Christopher Kukla, *Facts are Facts: Auto Dealer Interest Rate Markups Cost Consumers*, CTR. FOR RESPONSIBLE LENDING (May 6, 2015), https://www.responsiblelending.org/research-publication/facts-are-facts-auto-dealer-interest-rate-markups-costcustomers.

264. *See* Natalie Ram, *Innovating Criminal Justice*, 112 NW. U.L. REV. 659, 660-65 (2018) (arguing that privately developed criminal justice technology is unnecessarily protected by trade secret law).

265. Even if a lender understands the algorithm as originally designed, over time, machine learning processes may render the algorithm unrecognizable. Kroll et. al., *supra* note 44, at 660.

266. See *Risk Scoring, DRNsights*, DRN, https://drndata.com/risk-scoring (last visited

abuses and disparities in good faith, we must first dismantle the black-box structural character of auto financing and insurance.

2. Actuarial fairness

The world of consumer scoring rests on a flawed premise: that it is appropriate, fair, or even possible for lenders to use actuarial principles to manage the risk of investment. Consumer scoring's lopsided outcomes—and its corrosive effect on access to vitally significant car ownership—can be traced back to the failure of this premise. Bias is not a glitch of this landscape, but rather a feature. Instead of alleviating the hardships bias imposes on disadvantaged consumers—and correcting the unearned benefit it bestows on those more advantaged—fintech only exacerbates the impact of bias. This is because predictive formulas—whether straightforward algorithms or sophisticated machine learning analytics—will usually function to replicate the past. Moreover, location-based analytics present a particular danger because of their tendency to repackage historical practices of segregation and redlining.[267]

a. Past bias, future harm

Researchers Solon Barocas and Andrew Selbst identify two essential concerns with algorithmically scoring individual persons: first, training data involving prior biased decisions will only train the scoring algorithm to replicate that bias; second, training data that does not accurately represent the population will skew the results.[268] Indeed, both concepts are at play in ALPR-based algorithmic lending, as shown in the hypothetical above.

Fintech cannot improve upon its predecessors and cure longstanding patterns

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Apr. 17, 2022) ("Our Risk Scoring service provides vehicle location insights to help you understand the collectibility of your portfolio before you buy or sell."); Rebecca Glenberg, *Virginia State Police Used License Plate Readers at Political Rallies, Built Huge Database*, ACLU (Oct. 8, 2013, 5:1 PM), https://www.aclu.org/blog/national-security/privacy-and-surveillance/virginia-state-police-used-license-plate-readers?redirect=blog/technology-and-liberty-national-security/virginia-state-police-used-license-plate-readers; Jay Stanley & Bennett Stein, *DEA Planned to Monitor Gun Show Attendees with License Plate Readers, New Emails Reveal*, ACLU (Jan. 27, 2015, 6:40 PM), https://www.aclu.org/blog/free-future/dea-planned-monitor-gun-show-attendees-license-plate-readers-new-emails-reveal?redirect=blog/technology-and-liberty-national-security/dea-planned-monitor-gun-show-attendees-license-plate-r; Adam Goldman & Matt Apuzzo, *NYPD Defends Tactics Over Mosque Spying; Records Reveal New Details on Muslim Surveillance*, HUFFPOST (Feb. 24, 2012, 9:43 AM), https://www.huffpost.com/entry/nypd-defends-tactics-over_n_1298997 (last updated Apr. 25, 2012). Although these sources focus on law enforcement, they still serve as examples of locations any ALPR user could choose to target for surveillance based on personal incentives and their own guesses or assumptions about what kind of people could be found there in sufficient quantity.

267. *See* Section II.C.2.a.ii.

268. Barocas & Selbst, *supra* note 43, at 681.

of lending discrimination by following in the footsteps of past lenders and adopting the same kinds of assessment criteria. "Training data" bears that name because it is the means by which software developers train machine learning algorithms to make decisions.[269] To present training data to artificial intelligence is to declare the data legitimate, to instruct the algorithm to "do more of this, please." It is unreasonable to train a decision-maker by showing it countless records of biased transactions and then expect it to innovate and unlearn what it was taught.[270]

Technochauvinistic logic makes it appear that data is capable of being objective and neutral.[271] However, individual humans—at least at the outset—decide what criteria to include in lending decisions, which data prove the criteria are met, what weight to give various data points, and how to interpret them. For example, in the case of ALPR, repossessors make choices about where to search for cars to confiscate.[272] Even when a machine learning system is employed to make lending decisions, a human had to design the system and supply it with training data.[273] Past scoring criteria—like past contract terms or interest rates—were repurposed from intentionally discriminatory acts, like auto dealers charging minoritized customers higher principal amounts and interest rates. When lenders continue to use these criteria, they perpetrate (intentionally or unintentionally) the original discrimination.

Then the algorithm proceeds with its work and most likely operates without

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269. *See The Essential Guide to Quality Training Data for Machine Learning*, CLOUDFACTORY, https://www.cloudfactory.com/training-data-guide (last visited Feb. 28, 2022).

270. For example, consider a training data set that is made up of past transactions where dealers routinely charged minoritized consumers more interest and majoritized consumers less. Such a data set would train an algorithm to expect this disparity as the rule, rather than an anomaly or undesirable act. If the algorithm is then asked to calculate what interest rate a consumer should receive, it will replicate what it has been taught. In the criminal justice context, the Correctional Offender Management Profiling for Alternative Sanctions (COMPAS) algorithm, developed for the purpose of predicting recidivism, has been widely critiqued as producing biased and inaccurate results. It analyzes a number of data points, many of which correlate with race. *See* Julia Angwin, Jeff Larson, Surya Mattu & Lauren Kirchner, *Machine Bias*, PROPUBLICA (May 23, 2016), https://www.propublica.org/article/machine-bias-risk-assessments-in-criminal-sentencing.

271. Meredith Broussard coined the term "technochauvinism" in her book *Artificial Unintelligence*. It refers to the tendency of people to believe that high-tech tools or processes are inherently more objective than their low-tech counterparts. MEREDITH BROUSSARD, ARTIFICIAL UNINTELLIGENCE: HOW COMPUTERS MISUNDERSTAND THE WORLD 7-8 (2018).

272. Musgrave, *supra* note 159 ("In marketing materials, the firm has indicated that it suggests routes for repossession companies that focus on workplaces and commercial lots during the day and apartment complexes and residential areas at night . . . Two repossession companies also told BetaBoston that they focus on low-income housing developments, since a significant number of residents are delinquent on their car payments.").

273. *The Essential Guide to Quality Training Data for Machine Learning*, *supra* note 270; Nick Heath, *What is AI? Here's Everything You Need to Know About Artificial Intelligence*, ZDNET (July 23, 2021), https://www.zdnet.com/article/what-is-ai-heres-everything-you-need-to-know-about-artificial-intelligence.

regulatory review.[274] Financers and insurers created these systems to protect their investments, so the systems' base agenda is to maximize profit and lock out consumers deemed to be unprofitable. When the purpose of the system is to block certain consumers from access to an important economic tool, the presumption among lawmakers should be that such a system is biased unless proven otherwise. Currently the presumption appears to be that the system is fair unless proven otherwise.

As algorithmic decision-making becomes ever more ubiquitous, computer scientists are working to advance machine learning technologies and eliminate algorithmic bias.[275] However, that enterprise is breathtakingly complex, and to accomplish it effectively will take time, attention, and intention. Because computer scientists have not shown that they can solve the problem and (until any solutions have been uniformly incorporated into algorithmic decision making) AI cannot be trusted with this kind of gatekeeping function.

ii. The new digital redlining

Criteria selection is a significant entry point for discrimination in consumer scoring. Though the potential exists for algorithms to make decisions free of human biases, certain data points—like past lending approvals and interest rates—will always reintroduce bias if they are included in the formula. The auto financing and insurance industries have been rife with predatory and racist abuses, and any scoring algorithm based on past auto-lending decisions would necessarily be infected with the nefarious perspectives of bad actors.[276] Because DRNsights

274. Allen, *supra* note 44, at 228.

275. The ImageNet project is an instructive example. ImageNet is an open-source library of images used as a training data set to train algorithms to recognize images; programs trained using ImageNet were found to make biased assumptions and label images with prejudiced and derogatory terms. Researchers have been able to begin extirpating bias from the ImageNet data set, but only by deliberately engineering the proportions of racial demographics represented and winnowing out terms that might carry positive or negative connotations. Will Knight, *AI Is Biased. Here's How Scientists Are Trying to Fix It*, WIRED (Dec. 19, 2019, 12:34 PM), https://www.wired.com/story/ai-biased-how-scientists-trying-fix. *See also* Will Douglas Heaven, *How to Make a Chatbot that Isn't Racist or Sexist*, MIT TECH. REV. (Oct. 23, 2020), https://www.technologyreview.com/2020/10/23/1011116/chatbot-gpt3-openai-facebook-google-safety-fix-racist-sexist-language-ai. However, as the data set becomes less comprehensive, it is also potentially less useful. Additionally, to achieve true equity, this process would need to be repeated with respect to every possible bias and include minoritized people of all kinds in those processes. This element is key as majoritized people may have blind spots with respect to loaded language. As computer science is an overwhelming homogenous field dominated by affluent or middle-class white men, this endeavor, however well-meaning, starts off at a significant disadvantage. *See also* Kristin N. Johnson, *Automating the Risk of Bias*, 87 GEO. WASH. L. REV. 1214, 1226-28 (2019) (examining the impact of the data science industry's "bro culture" on algorithm design and outputs).

276. *See, e.g.,* Davis, *supra* note 110 (discussing the vulnerability of subprime borrowers to predatory auto lending); Jeff Larson, Julia Angwin, Lauren Kirchner, & Surya Mattu, *How*

uses ALPR location data, two additional layers of bias are likely replicated in its scoring process. One is repossessors' biased choices about which neighborhoods to surveil more heavily.[277] The other is the discriminatory practices that shaped those neighborhoods—isolating the poorest, Brownest, and Blackest neighborhoods for surveillance.[278]

Just as the color-coded Home Owners' Loan Corporation maps reflected and codified the prior practice of redlining, the use of location analytics to determine credit-worthiness similarly reflects and codifies persisting segregation.[279] Although redlining was made illegal, its legacy persists today as many previously redlined communities retain the same demographic character.[280] These discriminatory practices, repeated for generations-upon-generations, have cemented the status of a consumer's residential location as a proxy for race.[281] In theory, ALPR data is more individualized than ZIP codes, which also tends to feed inequities when used to make lending decisions.[282] And some auto insurers offer consumers the option to install GPS telematics surveillance on their cars, for the most individualized location analysis of all.[283] But the proxy status of residential location has been so firmly established that it cannot be undone.

As shown above, there is great value to broadening the kinds of data lenders examine in consumer scoring decisions as a way to expand access to demographics that have historically been targets of bias, but there is no bias-free form of location data. Any conceivable type of location data—if considered as part of an important access decision—will inevitably reincorporate the same biases that made segregation and redlining the law of the land for so long.

We Examined Racial Discrimination in Auto Insurance Prices, PROPUBLICA (Apr. 5, 2017), https://www.propublica.org/article/minority-neighborhoods-higher-car-insurance-premiums-methodology.

277. Sources cited, *supra* note 159.

278. *See* ROTHSTEIN, *supra* note 207 at 177-93, 215-17 (providing an overview of the practices that segregated and isolated Black and Brown communities nationwide).

279. *See* Section II.B.3.

280. Badger, *supra* note 158.

281. *Id*.

282. *See generally* Fernandez, *supra* note 39 (arguing that use of single ZIP code and socioeconomic factors in setting auto insurance rates can lead to higher premiums for low-income households, more uninsured drivers in low-income communities, and possibly race discrimination).

283. Kristen Hall-Geisler, *How Do Those Car Insurance Tracking Devices Work?*, U.S. NEWS & WORLD REP. (Aug. 27, 2021), https://cars.usnews.com/cars-trucks/car-insurance/how-do-those-car-insurance-tracking-devices-work. A full examination of this technology, and the concerns it raises about the steady erosion of any remaining privacy and autonomy available to the poor (or even merely budget-conscious in this instance), is outside the scope of this Article. However, it is worth noting that the data generated in this context could be similarly repurposed for lender use, as the DRN repurposes the repossessor data in its network.

III. PROPOSALS

As described above, fintech is not a panacea that will democratize auto access. On the contrary, because fintech does not address the entry points for discrimination, those entry points remain open, erecting even higher barriers for already disadvantaged consumers seeking economic justice. This Section will provide alternative solutions which *do* target these entry points. These options include: strengthening existing consumer protection laws; removing irrelevant or derailing factors from consideration; closely examining data collection methods; ending trade secret protection for consumer scoring models; installing a data accountability agency; and demanding that lenders accept more risk in their business models.

A. Terms/BIAS III: Strengthen enforcement of existing laws

The existing statutory scheme under the ECOA does offer some protection against intentional discrimination, but that protection could be improved significantly. For example, lawmakers could broaden the Act to include protected classes such as disability. Disability is protected to the extent that an individual consumer receives Social Security Disability Insurance income (SSDI)—a federal benefit covered by the ECOA's prohibition on discriminating against applicants who receive public assistance.[284] While SSDI is reserved for people whose disability precludes them from working, about a third of people with disabilities and of working age are part of the labor force.[285] Those people may still suffer lending discrimination and should be protected. Additionally, the ECOA[286] should also be amended to include non-exhaustive lists of data points that serve as proxies for protected classes. Use of these proxies should be prohibited—or, at a minimum, should trigger some form of heightened scrutiny by the Act's enforcers. For example, the Act should define residential location as a discriminatory data point that has no place in lending decisions. Also, rather than placing the onus on the consumer to determine that discrimination took place, lenders should be required to (1) issue reports publicly disclosing their consumer statistics and (2) affirmatively demonstrate that their outcomes are equitable.[287] A designated agency could evaluate the reports periodically for signs of bias. Finally, the Act

284. *CFPB Provides Guidance to Help Lenders Avoid Discrimination Against Consumers Receiving Disability Income*, CONSUMER FIN. PROT. BUREAU (Nov. 18, 2014), https://www.consumerfinance.gov/about-us/newsroom/cfpb-provides-guidance-to-help-lenders-avoid-discrimination-against-consumers-receiving-disability-income.

285. *Disability Employment Statistics*, OFF. OF DISABILITY EMP. POL'Y, https://www.dol.gov/agencies/odep/research/statistics (last visited Feb. 20, 2021); *Disability Benefits | How You Qualify*, SSA.GOV, https://www.ssa.gov/benefits/disability/qualify.html (last visited Apr. 16, 2022).

286. *See generally* 15 U.S.C. §§ 1691-1691f.

287. *See* Section II.B.1.

should be further broadened to specifically include insurers.[288]

Lawmakers should amend the FCRA to increase civil penalties against creditors who send incorrect information to credit bureaus.[289] Additionally, Congress should amend the Community Reinvestment Act (CRA) to expressly incorporate online institutions, not just brick-and-mortar branch banks.[290] Existing enforcers should develop assessment methods to determine whether online banks and fintech entities are investing appropriately in minoritized communities. Industry commentators have suggested that the reinvestment criterion for a fintech company should "not be based on a branch footprint but rather a digital footprint defined as the location of the households or businesses they deal with via the internet."[291] This would involve setting a nationwide CRA assessment area for fintechs, as well as a secondary assessment area comprising "any Metropolitan Statistical Area generating 5% or more of a fintech's business; a proportional amount of . . . [a fintech company's] CRA obligations would be 'reinvested' back into that community."[292] Such a measure, if coupled with guidelines to ensure the focus of reinvestment was on low-income and minority neighborhoods within the defined area, would put fintechs on the same footing as traditional banks and bring sorely-needed investment back to under-resourced communities.

As stated, the existing laws do offer some protection. Whether or not lawmakers see fit to amend them as recommended, heightened enforcement would serve as a check on powerful lenders—at least to some extent. The convoluted enforcement structure of the consumer protection laws is not ideal, but it does allow for vigorous enforcement when there is a political will to act.[293]

In addition to federal enforcement, states may protect consumers from discriminatory auto access gatekeepers and from the violent oscillation of the national political stage.[294] State enforcers are also well-positioned (and well-incentivized) to respond directly to constituent concerns.[295] Indeed, the states have significant potential to serve as laboratories for innovation. However, the black-

288. *See* 15 U.S.C. §§ 1691-1691f. The ECOA applies specifically to creditors and credit. Credit is defined as "the right granted by a creditor to a debtor to defer payment of debt or to incur debts and defer its payment or to purchase property or services and defer payment therefor." 15 U.S.C. § 1691a(d).

289. *See generally* 15 U.S.C. §§ 1691-1691f. For information about the current civil liability scheme under the Equal Credit Opportunity Act, see 15 U.S.C. §§ 1681n and o.

290. *See generally* 12 U.S.C. §§ 2901-2908.

291. Kenneth H. Thomas, *Why Fintechs Should Be Held to CRA Standards*, AMERICAN BANKER (Aug. 24, 2018, 9:57 AM), https://www.americanbanker.com/opinion/why-fintechs-should-be-held-to-cra-standards.

292. *Id.*

293. *See supra* Section II.B.

294. *C.f.* Danielle Keats Citron, *The Privacy Policymaking of State Attorneys General*, 92 NOTRE DAME L. REV. 747, 758-85 (2016) (examining the enforcement powers and potential of state attorneys general through a privacy law lens).

295. *See* Citron, *supra* note 294, at 750, 786.

box nature of algorithmic consumer scoring in auto lending[296]—and the weak public scrutiny of ALPR's commercial uses—means that this issue is unknown to many consumers whose rights are affected. Moreover, the necessary limitations of an incremental, likely asymmetrical state-by-state approach cannot go unacknowledged.

B. Collection & criteria bias: Change the data included

1. BIAS I-A/C: Criteria

i. What's location got to do with it?

Another way to democratize consumer access to automobiles and eliminate I-A/C criteria bias is to remove irrelevant criteria from auto access decisions. For the reasons discussed above, actuarial fairness is not possible.[297] Thus, removing proxies from these decisions will unlock access for disadvantaged consumers, who may then use cars as a tool to bolster their economic stability.

This model is already garnering some support. Several states have enacted statutes requiring auto insurers to remove criteria such as gender from their rate-setting formulas and focus instead on more neutral criteria like driving histories.[298] Some federal initiatives to limit the criteria used in auto lending decisions have been introduced, but they died in committee.[299] Lawmakers nationwide should demand that auto financers and insurers use nondiscriminatory standards, placing criteria such as location firmly out of bounds for consideration. Location will always serve as a proxy for race due to the intertwined legacies of segregation and redlining and can never realistically inform any kind of consumer scoring that purports to be equitable.[300]

ii. Eliminate commercial ALPR use

Lawmakers might also prohibit any commercial use of ALPR technology. Given that profit-driven companies already possess massive data banks compris-

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296. *See supra* Section II.C.1.

297. *See supra* Section II.C.2.

298. Ann Carrns, *In California, Gender Can No Longer Be Considered in Setting Car Insurance Rates*, N.Y. TIMES (Jan. 18, 2019), https://www.nytimes.com/2019/01/18/your-money/car-insurance-gender-california.html.

299. H.R. 1756, 116th Cong. (2019); H.R. 3693, 116th Cong. (2019). This also lends support to the previous proposal to increase law reform at the state level. When it comes to removing irrelevant proxies from auto lending decisions, several states have enacted legislation, while the federal government has not been successful.

300. *See* Section II.B.3.

ing billions of license plate scans, and have already shown a willingness to explore secondary markets for ALPR-based analytics, it is unreasonable to expect that they will not conceive of more uses for ALPR.[301] Beyond residential location, the amount of detailed information license plate scans can reveal about someone raises grave concerns about its use by private corporations who are happy to sell that location data to repossession firms, insurance companies, mortgage companies, private eyes, and more.[302] It is unthinkable that this technology—and its data about which "health centers, immigration clinics, gun shops, union halls, protests, or centers of religious worship"[303] your car has been spotted near—will not find its way into housing, employment, health insurance assessments, and more.

As a case in point, ALPR recently became available to the general public via the smartphone application Rekor Go.[304] The app appeared to be targeted to business in order to, among other things, "help schools make student pick-up lines frictionless and more secure, facilitate parking supervision for homeowners' associations and help streamline event parking management."[305] That said, the app was available to all iOS and Android users.[306] Not only was Rekor Go a well-placed heir apparent to Nextdoor (notorious as a platform for neighborhood racial profiling)[307], but its user-generated data including "whitelists," "blacklists," and vehicle scans, seemed ripe to become the next source of Big Data mined from smartphones en masse.[308] Rekor Go no longer appears to be available on

301. Vasudha Talla, *Documents Reveal ICE Using Driver Location Data from Local Police for Deportations*, ACLU (Mar. 13, 2019, 11:00 AM), https://www.aclu.org/blog/immigrants-rights/ice-and-border-patrol-abuses/documents-reveal-ice-using-driver-location-data (noting that private businesses, like insurance companies and parking lots, have used ALPR technology to collect over five billion location data points); *How Our Auto Recovery Network Works*, *supra* note 25 (marketing DRN's network of ALPR data to auto lenders).

302. *See How Our Auto Recovery Network Works*, *supra* note 25; Joseph Cox, *This Company Built a Private Surveillance Network. We Tracked Someone with It*, VICE (Sept. 17, 2019, 7:45 AM), https://www.vice.com/en/article/ne879z/i-tracked-someone-with-license-plate-readers-drn; Marnie Eisenstadt, *Private Companies Know Where You've Been, Thanks to License Plate Cameras*, SYRACUSE.COM (Jan. 25, 2015, 5:00 AM), https://www.syracuse.com/news/2015/01/private_companies_know_where_youve_been_thanks_to_license_plate_cameras.html.

303. *Automated License Plate Readers (ALPRs)*, ELECTRONIC FRONTIER FOUND., https://www.eff.org/pages/automated-license-plate-readers-alpr (last visited Mar. 7, 2022).

304. Press Release, Rekor Systems, *Rekor Announces ALPR Application for Commercial Users; Puts Vehicle Recognition on Any Smart Phone* (Sept. 9, 2020, 7:30 AM), https://www.globenewswire.com/news-release/2020/09/09/2090793/0/en/Rekor-Announces-ALPR-Application-for-Commercial-Users-Puts-Vehicle-Recognition-on-Any-Smart-Phone.html.

305. *Id*.

306. *Id.*

307. Michael Harriot, *The Racist Nextdoor*, THE ROOT (June 28, 2019, 11:17 AM), https://www.theroot.com/the-racist-nextdoor-1835939264.

308. *See* REKOR SYSTEMS, *supra* note 305. For a discussion of widespread data mining via smartphone apps, see Kim Komando, *How to Stop Your Smartphone From Tracking Your Every Move, Sharing Data and Sending Ads*, USA TODAY (Feb. 14, 2019, 5:36 PM),

iTunes or Google Play, but its brief stint shows that purveyors of ALPR technology will embrace any way they can use it to turn a profit.

Much commentary has focused on the Fourth Amendment concerns this technology raises in the hands of law enforcement.[309] Moreover, law enforcement officers and government officials have been known to abuse their access to this data to stalk partners, inconvenience adversaries, and spy on unpopular or minority groups.[310] This is the case even where the data's availability has at least a colorable claim to being in the public interest. What is there to indicate that purely profit-motivated corporations would do better?

2. BIAS I-B/D: Collection

As shown in the example of ALPR, data collection methods have a direct and momentous impact on the quality of any data set.[311] In this case, repossessors' personal and self-serving choices about when and where to collect vehicle scans taint the DRNsights data set and contribute to solidifying the underclass status of the poor and people of color. Lawmakers should demand that before any system of consumer scoring or predictive analytics may be used in lending decisions, it is subject to a thorough and independent interrogation of the collection methods that populate its data set.

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https://www.usatoday.com/story/tech/columnist/komando/2019/02/14/your-smartphone-tracking-you-how-stop-sharing-data-ads/2839642002; Lori Andrews, *A New Privacy Paradigm in the Age of Apps*, 53 WAKE FOREST L. REV. 421, 442 (2018) (noting that one study of diabetes apps found that over 70% shared users' information with third-parties). For a broader discussion of the rise of Big Data, see generally EXEC. OFF. OF THE PRESIDENT, *Big Data: Seizing Opportunities, Preserving Values* (2014), https://www.eff.org/document/2014-presidents-big-data-and-privacy-working-group-report (examining how big data will transform our economy, our politics, and the lives of Americans).

309. *See generally* Stephanie Foster, *Should the Use of Automated License Plate Readers Constitute a Search After Carpenter v. United States?,* 97 WASH. U.L. REV. 221 (2019) (arguing that in light of the Carpenter decision, ALPR data should be deemed a search under the Fourth Amendment and thus should require a warrant to access); Carpenter v. United States, 138 S. Ct. 2206 (2018).

310. *See* Daily Mail Reporter, *Creepy Cop Saw Attractive Woman on the Road and 'Looked Up Her License Plate Number So He Could Stalk Her on Facebook,* DAILY MAIL (July 24, 2012, 11:14 PM), https://www.dailymail.co.uk/news/article-2178556/Officer-Jeffrey-Tyther-used-license-plate-database-stalk-woman-Facebook.html; Jay Stanley, *Christie Use of Tollbooth Data and Why Location Privacy Must Be Protected*, ACLU (Jan. 16, 2015, 11:26 AM), https://www.aclu.org/blog/free-future/christie-use-tollbooth-data-and-why-location-privacy-must-be-protected?redirect=blog/technology-and-liberty-national-security/christie-use-tollbooth-data-and-why-location-privacy-m; Paul Lewis, *CCTV Aimed at Muslim Areas in Birmingham to Be Dismantled*, GUARDIAN (Oct. 25, 2010, 4:45 PM), https://www.theguardian.com/uk/2010/oct/25/birmingham-cctv-muslim-areas-surveillance.

311. *See* Section II.A; *Why Is Data Quality Important?*, LOTAME (Apr. 30, 2019), https://www.lotame.com/why-is-data-quality-important/#quality; *Data Collection Methods and Why They Are Critical for Business*, INSYCLE, (Feb. 18, 2021), https://blog.insycle.com/data-collection-methods.

C. New oversight

1. Ban the black box

Consumer disparities persist in part because lenders are able to operate in black boxes.[312] To level the playing field, lawmakers should do away with trade secret protection for consumer scoring or rate-setting formulas. At minimum, they could create a limited class of trade secret protection which would protect purveyors of scoring models from corporate espionage, but which would require disclosure to regulators—who could then examine and test the models for discrimination.

2. Data accountability

Regulators should inspect and analyze scoring models to check for discrimination. Taking that concept a step further, a more complete solution would be to design an agency charged with holding all algorithmic and machine learning decision-makers accountable to equitable principles. Such algorithms would be subject to periodic audits to ensure that they are not disproportionately preventing economic advancement for disadvantaged consumers. This solution would enable enforcers to proactively catch problematic algorithms and make course corrections with widespread impact—rather than relying on individual consumers to raise complaints or causes of action. Establishing a dedicated corps of public-sector computer science experts would allow lawmakers to keep pace with technological advancements rather than remain beholden to the expertise of the private sector.

D. Lenders must simply accept more risk

Ultimately, the highest barrier to change is blind acceptance of the notion that profit-driven speculators are doing society a favor by investing in loans and insurance—and that they must be allowed to set the terms of the deal lest they withdraw their largesse. This entrenched norm must be shattered in order to make meaningful progress. At a certain point, lenders will simply have to accept more risk as part of the cost of doing business.

IV. CONCLUSION

High-tech surveillance tools track and log drivers' movements, in turn feeding the resulting data into predictive analytics tools. Auto financers and insurers use these tools to score applicants and set insurance and interest rates. Given the critical nature of car ownership as a lifeline to avoid poverty, this surveillance

312. *See* Section II.C.1.

practice entrenches existing racial and wealth disparities. Location data is collected by profit-incentivized repossession agents, who focus their data collection disproportionately on racial minorities and low-income communities. Including alternative data in consumer scoring has potential to broaden access to car ownership within these demographics, but ALPR data is corrosive. Its inclusion will only increase the barriers to car ownership. Consumer law addresses this data brokering ineffectively, because it does not acknowledge the cyclical nature of discrimination in consumer scoring, nor does it address the early entry points for discrimination in that cycle. Recognizing those entry points reveals more effective solutions to the problem of discrimination in auto lending. These solutions include: strengthening existing consumer protection laws; limiting auto lenders' consideration of irrelevant data and proxies for disadvantaged groups; banning auto lenders from considering location data; eliminating commercial ALPR use; removing or limiting trade secret protection for lenders and data brokers who use secretive algorithms to make lending decisions; creating a data accountability agency to oversee algorithmic and machine learning lending decisions; and insisting that lenders take on a greater share of risk. These solutions will allow lawmakers to make sincere progress at democratizing access to car ownership, fostering prosperity, and achieving economic justice.