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The Taking Economy: Uber, Information, and Power

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ESSAY

THE TAKING ECONOMY: UBER, INFORMATION, AND POWER

Ryan Calo* & Alex Rosenblat**

Sharing economy firms such as Uber and Airbnb facilitate trusted transactions between strangers on digital platforms. This creates economic and other value but raises concerns around racial bias, safety, and fairness to competitors and workers that legal scholarship has begun to address. Missing from the literature, however, is a fundamental critique of the sharing economy grounded in asymmetries of information and power. This Essay, coauthored by a law professor and a technology ethnographer who studies work, labor, and technology, furnishes such a critique and proposes a meaningful response through updates to consumer protection law.

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** Researcher and Technical Writer, Data & Society Research Institute. The authors would like to thank Christo Wilson, Yan Shvartzshnaider, and Michelle Miller at Coworker.org; Nayantara Mehta and Rebecca Smith at the National Employment Law Project; participants in the Berkeley Law Privacy Law Scholars Conference; participants in the Loyola Law School faculty workshop; participants in the University of Pennsylvania IP colloquium; and danah boyd, Stacy Abder, Shana Kimball, Janet Haven, Julia Ticona, Alexandra Mateescu, Caroline Jack, and Shannon McCormack for thoughtful insights, comments, and feedback. The Uber Policy Team also provided helpful comments, which we try to address throughout the paper. Madeline Lamo, the librarians at Gallagher Law Library, and Patrick Davidson provided excellent research and editing.

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Commercial firms have long used what they know about consumers to shape their behavior and maximize profits. Sitting between consumers and providers of services, however, sharing economy firms have a unique capacity to monitor and nudge all participants—including people whose livelihoods may depend on the platform. These firms reveal their monitoring activities only selectively. However, preliminary evidence suggests that sharing economy firms such as Uber may already be going too far, leveraging their access to information about users and their control over the user experience to mislead, coerce, or otherwise disadvantage sharing economy participants.

This Essay argues that consumer protection law, with its longtime emphasis on restraining asymmetries of information and power, is well positioned to address this underexamined aspect of the sharing economy. Yet, the regulatory response to date seems outdated and superficial. To be effective, legal interventions must (1) reflect a deeper understanding of the acts and practices of digital platforms and (2) limit the incentives for sharing economy firms to abuse their position.

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INTRODUCTION

Each time you hail a ride with Uber or book a room through Airbnb, you are participating in the so-called sharing economy. The sharing economy and its sister terms—“collaborative,” “platform,” or “gig” economy—refer to a set of techniques and practices that facilitate trusted transactions between strangers on a digital platform.¹ Instead of hailing taxis or booking hotel rooms, today’s consumers can download an app or visit a website to connect with individuals willing to provide access to their private cars or homes. The sharing economy, of course, did not emerge spontaneously. Antecedents include everything from Internet classifieds such as Craigslist to the carpools of the 1950s.² What distinguishes today’s services is the widespread availability of smartphones and other connected devices, as well as technologies like rating systems, that facilitate trust among strangers.

Sharing economy rhetoric tends to lump together small enterprises motivated by a common social bond, such as local food and housing cooperatives, with billion-dollar global businesses like Uber and Airbnb that readily integrate the language of sharing and connectivity into their branding.³ This conflation is a salient feature of what the sharing economy has come to represent—a disruptive force to established industries led by technology companies. We, however, draw a distinction between the variety of businesses that the rhetoric of the sharing economy evokes, like selling grandma’s pies on the corner, and the billion-dollar companies that operate for profit at a global scale. The latter have become a universal focus of the tensions wrought by platforms, technology, and business, and they are the focus of this Essay—though the larger themes of changing commerce that sharing economy proponents promote through an emphasis on sharing, such as reduced ownership of goods, are common to smaller operations.⁴

The upsides of this multibillion-dollar phenomenon are obvious. The sharing economy helps people leverage more of their personal resources and make better use of what Professor Yochai Benkler calls the “excess capacity” of many goods and services.⁵ When used only by their

1. Orly Lobel, *The Law of the Platform*, 101 *Minn. L. Rev.* 87, 89 (2016).

2. See *infra* section I.A.

3. Shehzad Nadeem, *On the Sharing Economy*, *Contexts*, Winter 2015, at 13, 13 (describing the sharing economy as a “floating signifier for a diverse range of activities”); see also Natasha Singer, *Twisting Words to Make ‘Sharing’ Apps Seem Selfless*, *N.Y. Times* (Aug. 8, 2015), http://www.nytimes.com/2015/08/09/technology/twisting-words-to-make-sharing-apps-seem-selfless.html?_r=0 (on file with the *Columbia Law Review*) (criticizing the term “sharing economy” and how it frames technology-enabled transactions as altruistic or community endeavors).

4. See Arun Sundararajan, *The Sharing Economy: The End of Employment and the Rise of Crowd-Based Capitalism* 15–16 (2016).

5. Yochai Benkler, *Sharing Nicely: On Shareable Goods and the Emergence of Sharing as a Modality of Economic Production*, 114 *Yale L.J.* 273, 297 (2004).

owners, goods like computers and cars will spend a lot of time idle.⁶ By making it easy and cheap to connect to others, we can “share” this excess capacity with the world. Assuming a degree of trust, we might even invite others to share our private spaces—our extra bedroom (Airbnb),⁷ our car (Uber or Lyft),⁸ or our dinner table (Feastly or EatWith).⁹ Sharing economy firms also create new ways to earn income, especially for those who cannot—or do not—wish to work a traditional shift or otherwise face impediments to entering the mainstream workforce.¹⁰ Additionally, sharing economy analogs can place competitive pressure on legacy services, presumably lowering consumer costs and increasing quality. Taxi companies, for instance, have responded to the convenience of Uber and Lyft by offering consumers the ability to hail cabs through apps instead of calling into a dispatch, such as Arro in New York City¹¹ or iTaxi in Miami.¹²

Concerns are also evident. Many argue that sharing economy firms do not compete on a level playing field. Uber and Airbnb, for example, offer the functional equivalent of taxi and hotel services but, by characterizing themselves as mere providers of a software app,¹³ avoid many of the safety, hygiene, and other regulatory requirements that apply to taxis and hotels. A number of class action lawsuits on behalf of Uber and Lyft drivers allege that ride-hailing services skirt labor protections by characterizing drivers as independent contractors entitled to fewer protections.¹⁴ Another lawsuit argues, conversely, that Uber drivers *are* independent contractors whom the platform requires to engage in a form of algorithmic price-fixing by setting the prices for each ride and preventing competition.¹⁵ Together these concerns amount to a claim of

6. *Id.* at 357.

7. See About Us, Airbnb, <http://www.airbnb.com/about/about-us> [<http://perma.cc/5747-TDJ6>] (last visited Oct. 4, 2017) [hereinafter Airbnb, About Us].

8. See, e.g., Our Trip History, Uber, <http://www.uber.com/our-story/> [<http://perma.cc/TEC4-HLZA>] (last visited Oct. 4, 2017).

9. See, e.g., About, Feastly, <http://eatfeastly.com/info/about> [<http://perma.cc/5NJM-FDGE>] (last visited July 26, 2017) (explaining chefs serve meals for profit in their own homes by connecting with interested diners through Feastly).

10. See *infra* section I.B.

11. Cecilia Rehn, In Response to Uber, NYC Cabs Testing New E-Hail App, Software Testing News (Aug. 28, 2015), <http://www.softwaretestingnews.co.uk/in-response-to-uber-nyc-cabs-testing-new-e-hail-app/> (on file with the *Columbia Law Review*).

12. E-Hail: Miami's Taxi Application, iTaxi, <http://www.itaximiami.com/> [<http://perma.cc/KH9M-32M6>] (last visited July 26, 2017).

13. Alex Rosenblat & Luke Stark, Algorithmic Labor and Information Asymmetries: A Case Study of Uber's Drivers, 10 *Int'l J. Comm.* 3758, 3762 (2016).

14. See, e.g., *O'Connor v. Uber Techs., Inc.*, 82 F. Supp. 3d 1133, 1133 (N.D. Cal. 2015); *Cotter v. Lyft, Inc.*, 60 F. Supp. 3d 1059, 1060–61 (N.D. Cal. 2014).

15. *Meyer v. Kalanick*, 200 F. Supp. 3d 408, 408 (S.D.N.Y. 2016).

regulatory arbitrage;¹⁶ sharing economy firms flourish by reproducing existing services without the same societal restrictions.¹⁷

Disability-rights advocates argue that the sharing economy's relative freedom from legal obligation entails fewer accommodations for disabilities such as wheelchair accessibility.¹⁸ Others allege discrimination based on race or country of origin: A recent study commissioned by the National Bureau of Economic Research finds "significant evidence of racial discrimination" in that people of color face longer waiting times when hailing an Uber or Lyft along controlled routes in Seattle and Boston.¹⁹ Another paper (coauthored by Rosenblat) suggests that the passenger-sourced rating system may facilitate employment discrimination against Uber drivers because it masks consumer bias, which can ultimately lead to lower pay, loss of employment, and other adverse employment outcomes for affected drivers.²⁰ Professor Nancy Leong and Aaron Belzer go so far as to question the sufficiency of public accommodation laws under the Civil Rights Acts to address various instances of aggregated bias on Airbnb and other sharing economy platforms.²¹

These and related concerns are important and real. But they threaten to overshadow a fundamental critique of the sharing economy that has seen little attention to date. Put simply, platforms like Airbnb, Lyft, and Uber possess deeply asymmetric information about and power over consumers and other participants in the sharing economy. And they are beginning to leverage that power in problematic ways. The sharing economy seems poised to do a great deal of *taking*—extracting more and

16. See Victor Fleischer, *Regulatory Arbitrage*, 89 *Tex. L. Rev.* 227, 229 (2010) (defining regulatory arbitrage as exploiting the gap between the economic substance of a transaction and its legal treatment).

17. See Julia Tomassetti, *Does Uber Redefine the Firm? The Postindustrial Corporation and Advanced Information Technology*, 34 *Hofstra Lab. & Emp. L.J.* 1, 34 (2016) (arguing the sharing economy reflects the growth of "postindustrial" corporations that maximize profit through regulatory arbitrage).

18. See Thomas P. Murphy, *Legal Rights of Individuals with Disabilities Chapter 8: Ensuring Equal Access to Public Accommodations* § 8.3.5 (2d ed. 2015) (calling the sharing economy an "emerging area of controversy" in disability law); see also, e.g., *Ramos v. Uber Techs., Inc.*, No. SA-14-CA-502-XR, 2015 WL 758087, at *1 (W.D. Tex. Feb. 20, 2015); *Salovitz v. Uber Techs., Inc.*, No. A-14-CV-823-LY, 2014 WL 5318031, at *1 (W.D. Tex. Oct. 16, 2014).

19. Yanbo Ge et al., *Racial and Gender Discrimination in Transportation Network Companies 1–2* (Nat'l Bureau of Econ. Research, Working Paper No. 22776, 2016), <http://www.nber.org/papers/w22776.pdf> (on file with the *Columbia Law Review*).

20. Alex Rosenblat et al., *Data & Soc'y, Discriminating Tastes: Customer Ratings as Vehicles for Bias* 7 (2016) [hereinafter Rosenblat et al., *Discriminating Tastes*], http://datasociety.net/pubs/ia/Discriminating_Tastes_Customer_Ratings_as_Vehicles_for_Bias.pdf [<http://perma.cc/W2MC-5SQS>]. Uber hopes to avoid antidiscrimination lawsuits by classifying its drivers as "independent contractors." See *infra* section I.C.2.

21. Nancy Leong & Aaron Belzer, *The New Public Accommodations: Race Discrimination in the Platform Economy*, 105 *Geo. L.J.* 1271, 1296–317 (2017).

more value from participants while continuing to enjoy the veneer of a disruptive, socially minded enterprise.

Today's companies relentlessly study consumer behavior and use what they discover to maximize their bottom line.²² This is true in the mainstream economy. Items cost \$9.99 because firms exploit a cognitive bias that causes consumers to perceive the price as closer to \$9.00 than to \$10.00.²³ Grocery stores place sugary cereal at eye level for a toddler hoping to increase the nag factor.²⁴ As recent work by one of us argues, *digital* transactions provide especially significant opportunities for firms to discover and exploit the limits of each consumer's ability to pursue her rational self-interest.²⁵ When a company can design an environment from scratch, track consumer behavior in that environment, and change the conditions throughout that environment based on what the firm observes, the possibilities to manipulate are legion. Companies can reach consumers at their most vulnerable, nudge them into overconsumption, and charge each consumer the most she may be willing to pay.²⁶

Sharing economy firms, by virtue of sitting between the consumers and providers of services under the scaffolding of a software app, can monitor and channel the behavior of all users. This is partly how they manage to deliver new value to consumers. But their position as all-knowing intermediaries also presents unique opportunities for market manipulation. The stakes are greater too: For many participants, the sharing economy represents a primary or important supplementary source of income.²⁷ Experimentation by the platform is not just annoying but affects their livelihood. Meanwhile, consumers may understand that they "pay" for free internet services such as Facebook with their data and yet assume that sharing economy firms are different because of the distinct experiences and rhetoric that surround these services.

Although difficult to verify without behind-the-scenes access, there is evidence that sharing economy firms are already taking advantage of their power over participants. One company in particular—the multibillion-dollar "unicorn" Uber—stands out, showcasing what an intermediary in the sharing economy could do should it be inclined to press its advantages aggressively.²⁸ The willingness of one highly visible firm to push

22. See *infra* section II.A.

23. See Jon D. Hanson & Douglas A. Kysar, Taking Behavioralism Seriously: The Problem of Market Manipulation, 74 N.Y.U. L. Rev. 630, 739–42 (1999) [*hereinafter* Hanson & Kysar, *The Problem*].

24. See Aviva Musicus, Aner Tal & Brian Wansink, Eyes in the Aisles: Why Is Cap'n Crunch Looking Down at My Child?, 47 *Env't & Behav.* 715, 716–19 (2015).

25. Ryan Calo, Digital Market Manipulation, 82 *Geo. Wash. L. Rev.* 995, 999 (2014) [*hereinafter* Calo, *Digital Market Manipulation*].

26. *Id.* at 1029–30, 1033.

27. See *infra* section I.B.

28. This Essay will draw on Rosenblat's ongoing qualitative research with drivers that work for Uber (and other ride-hail companies, like Lyft) as an illustrative case study. The

normative boundaries is important in several respects. First, it showcases the capacity and incentives of platforms of a certain kind to engage in market manipulation should they be, or become, inclined. Second, if left unchecked, such behaviors may socialize certain practices and encourage emulation or tolerance across and beyond the sharing economy.²⁹ While Uber's corporate practices may not be wholly unique, our unique lens into their operations, which originates in Rosenblat's research, provides us with a new way of seeing the frameworks in which they operate.

The evidence that Uber is abusing its position is mounting. Uber sometimes operates in a legal gray area such that drivers or the company risk citation by local authority for operating without a taxi license.³⁰ In March 2017, the *New York Times* revealed that Uber systematically targets regulatory authorities, like city officials and code inspectors, and law enforcement officers—identified by the phones they use, their location, and other factors through a tool called “Greyball”—and purposely makes it difficult for those officers to find Uber drivers and issue them

Uber driver experiences cited throughout this paper are drawn primarily from digital fieldwork in online forums in which many tens of thousands of drivers gather to compare notes on their work. This Essay also draws on the combination of Rosenblat's participant observations through trip requests, hails, and rides with over 400 drivers and interviews with select drivers between 2014 and 2017 who work with Uber, Lyft, other ride-hail platforms, and taxi companies, primarily across the United States and Canada. The fieldwork from which the authors draw for this Essay is primarily based on driver experiences between 2014 and 2016 but occasionally includes data from 2017 to account for very recent events or changes to the Uber app or its functions. In May 2017, Uber introduced a series of changes to its platform that addresses some, though not all, issues related to pay transparency. For example, the company has made the practice of upfront pricing, in which drivers are paid a lesser amount than passengers pay without alerting drivers to this discrepancy, more transparent. Throughout Rosenblat's ethnographic and digital fieldwork over a period of about three years, other practices and features of the Uber app have evolved, albeit inconsistently across the hundreds of cities in which Uber operates. The conditions of drivers' work are subject to frequent change, and major sharing economy platforms' business and technology practices should be evaluated as constantly evolving processes, not as historical artifacts. In the authors' view, past practices, as well as present and future changes to these practices, continue to provide us with a lens into the tensions and challenges produced by data-centric platforms and the complexities of algorithmic transparency and accountability in platform employment.

29. Cf. Hanson & Kysar, *The Problem*, supra note 23, at 726 (noting that “the hidden hand of market forces” requires all firms to manipulate consumers to remain competitive with the firms that do so).

30. See Alex Rosenblat, *How Uber's Alliance with Montréal Drivers Turns Labo[u]r's Tactics on Its Head*, Medium (Aug. 4, 2016), <http://medium.com/uber-screeds/how-ubers-alliance-with-montr%C3%A9al-drivers-turns-labo-u-r-s-tactics-on-its-head-af490b252dae> [http://perma.cc/PVH8-YBFJ] (detailing Uber's practices in Montréal, where Uber is illegal); Alex Rosenblat, *Is Your Uber/Lyft Driver in Stealth Mode?*, Medium (July 19, 2016), <http://medium.com/uber-screeds/is-your-uber-driver-in-hiding-484696894139> [http://perma.cc/9E7Y-Z93N] (describing how Uber and Lyft drivers use trade dress and ride-hail accessories, or their absence, to navigate contexts in which the legality of ride-hailing services is in question).

citations.³¹ The company went so far as to create a “fake version of the app, populated with ghost cars.”³²

These manipulations may be part of a broader pattern. Consider, for instance, claims that Uber is manipulating the perceptions of consumers on its popular ride-hailing app. Some consumers report opening the application on their phone and seeing plenty of cars driving around their pickup location, visualized with icons. But after the consumer clicks to request an Uber, these “phantom cars” disappear, and the consumer faces a wait.³³ Or consider the experiments Uber is running on what ride-hailers might be willing to pay. Apparently, in studying its consumers, the Uber data-science team discovered that people whose phone batteries are low are more willing to pay inflated or “surge” pricing—leading to concerns that the company is interested in what amounts to contextual or individualized price-gouging.³⁴

The opportunity and incentive to manipulate drivers is even more pronounced. While Uber drivers use the system, they may be offered a plethora of temporary contracts around price and other factors, and they are perennially forced to agree to new terms of service such as new commission structures, when they log in to work.³⁵ As contract scholars explore in other contexts, Uber stands to profit from the inability of the driver to keep up with both the dizzying complexity of such documents and their high rate of change.³⁶

Even when the terms are fairly clear, the mechanism of the interaction can be inscrutable. For example, drivers understand that Uber will

31. Mike Isaac, *How Uber Deceives the Authorities Worldwide*, N.Y. Times (Mar. 3, 2017), <http://www.nytimes.com/2017/03/03/technology/uber-greyball-program-evade-authorities.html> (on file with the *Columbia Law Review*) [hereinafter Isaac, *How Uber Deceives the Authorities Worldwide*].

32. *Id.*

33. Alex Rosenblat, *Uber’s Phantom Cabs*, Vice: Motherboard (July 27, 2015), http://motherboard.vice.com/en_us/article/ubers-phantom-cabs [<http://perma.cc/HKE6-VEQ8>] [hereinafter Rosenblat, *Phantom Cabs*]. Uber acknowledges that vehicle icons do not always represent the real position of Uber drivers but denies that this is a purposive tactic to manipulate users. *Id.* However, in reports by the *New York Times* from 2017 detailing the program known as Greyball, Uber admits that it deceived regulators about the real and accurate location and number of vehicles available in the Uber system by showing them cars that did not exist—phantom cars. See Isaac, *How Uber Deceives the Authorities Worldwide*, *supra* note 31.

34. Biz Carson, *You’re More Likely to Order a Pricey Uber Ride if Your Phone Is About to Die*, Bus. Insider (May 18, 2016), <http://nordic.businessinsider.com/people-with-low-phone-batteries-more-likely-to-accept-uber-surge-pricing-2016-5/> [<http://perma.cc/G2AN-DQ5Q>]. Uber denies using phone-battery information to set pricing at this time. *Id.*

35. See *infra* section II.B.2.

36. See Oren Bar-Gill, *Seduction by Contract: Law, Economics, and Psychology in Consumer Markets* 141–45 (2012) (describing the inability of consumers to manage increasing contractual complexity); see also David Horton, *The Shadow Terms: Contract Procedure and Unilateral Amendments*, 57 UCLA L. Rev. 605, 649–50 (2010) (arguing consumers cannot keep up with later changes to boilerplate or other contracts).

guarantee them an hourly rate if they accept a certain percentage of ride requests, along with meeting other conditions. On rare occasions, drivers will report that these ride requests flash so fast that the driver is unable to click on them in time to meet Uber's criteria.³⁷ Or, more commonly, a driver will wait for five minutes at a pickup location for a missing Uber rider so as to recuperate a cancellation fee, only to be told that Uber's internal measurement of time disagrees with that of the driver's app.³⁸ Some issues are subtler still: Uber presumably fuels its ambitious mapping and driverless-car programs with data it gets from monitoring drivers.³⁹ This may mean that Uber drivers are unwittingly training their own replacements.⁴⁰

While the sharing economy presents new factual challenges, we are not necessarily in uncharted legal territory. The law of consumer protection has long concerned itself with information and power asymmetries among market participants.⁴¹ Indeed, given the field's history and focus, it is notable that the burgeoning legal literature around the sharing economy has scarcely engaged with consumer protection law.⁴² A central aim of this Essay is to address this gap and put forward a positive vision of how consumer protection law should engage with the sharing economy.

This is not to say regulators have ignored the sharing economy, but the challenges regulators face when balancing out the interests of multiple stakeholders are many.⁴³ In a recent and lengthy report, the Federal Trade Commission (FTC)—a federal agency with responsibility for preserving the conditions of free and fair trade—heaped praise on sharing

37. See *infra* section II.B.2.

38. See *infra* section II.B.2. There may be technical reasons for these issues, but this does not necessarily absolve Uber of fault under existing law. See *infra* section III.A (discussing the Federal Trade Commission's unfairness authority under Section V of the Federal Trade Commission Act).

39. See Alex Rosenblat & Tim Hwang, *Data & Soc'y, The Wisdom of the Captured* 7 (2016) [hereinafter Rosenblat & Hwang, *Wisdom of the Captured*], http://datasociety.net/pubs/ia/Wisdom_of_Captured_09-16.pdf [<http://perma.cc/THY5-V92K>].

40. *Id.*

41. See *infra* section III.A.

42. For work addressing the sharing economy but mentioning consumer protection in passing or not at all, see e.g., Lobel, *supra* note 1; Stephen R. Miller, *First Principles for Regulating the Sharing Economy*, 53 *Harv. J. on Legis.* 147 (2016); Brishen Rogers, *The Social Costs of Uber*, 82 *U. Chi. L. Rev. Dialogue* 85 (2015), http://uchicoglawjournalms Shaytiubv.devcloud.acquia-sites.com/sites/lawreview.uchicago.edu/files/Rogers_Dialogue.pdf [<http://perma.cc/6LTC-VR6P>]; Symposium, *The Legal Landscape of the Sharing Economy*, 27 *J. Envtl. L. & Litig.* 1 (2012). The only work that specifically addresses consumer protection argues that existing regulations are outmoded and should not apply to the innovative new sharing economy. Christopher Koopman, Matthew Mitchell & Adam Thierer, *The Sharing Economy and Consumer Protection Regulation*, 8 *J. Bus. Entrepreneurship & L.* 529, 532 (2014).

43. Vanessa Katz, Note, *Regulating the Sharing Economy*, 30 *Berkeley Tech. L.J.* 1067, 1084–107 (2015) (reviewing “how regulators have approached the sharing economy . . . and the enforcement challenges that regulators face under any approach”).

economy companies for offering new affordances to consumers and disrupting existing markets through novel means of competition.⁴⁴ A few months later, the other shoe dropped: The FTC settled a complaint with Uber alleging that the company misrepresented, in recruitment advertisements, how much drivers (whom the Commission called “entrepreneurial consumers,” consistent with Uber’s own designation of drivers as “entrepreneurs”) could earn.⁴⁵ The Commission has since entered into a consent decree with Uber for its alleged failure to adequately safeguard user data, including against employees who do not require access.⁴⁶

Such interventions, however, while welcome, have evolved little over the previous half century and feel antiquated in an age of digital platforms. Apart from requiring basic information security, the FTC’s approach to Uber in 2017 is strikingly similar to its handling of the 1979 case involving the multilevel marketer Amway.⁴⁷ As with Uber, the FTC praised Amway for its innovative model of consumer-driven sales of home goods, a technique that permitted Amway to “interject[] a vigorous new competitive presence” into a market dominated by a few major distributors such as Procter & Gamble.⁴⁸ And as with Uber, the FTC restrained Amway from overestimating in published materials how much an Amway consumer-salesperson could make selling its goods.⁴⁹

But there are key differences between the Amway of 1979 and the Uber of today. Amway governed its network of distributors through written materials, the terms of which seldom changed. Its business model was different from its competitors’ but straightforward: Consumers bought goods from Amway, redistributed them in local neighborhoods, and recruited new consumers in exchange for a commission. This remains

44. See FTC, *The “Sharing” Economy: Issues Facing Platforms, Participants & Regulators* 14 (2016) [hereinafter *FTC Sharing Economy Report*], http://www.ftc.gov/system/files/documents/reports/sharing-economy-issues-facing-platforms-participants-regulators-federal-trade-commission-staff/p151200_ftc_staff_report_on_the_sharing_economy.pdf [<http://perma.cc/48QW-JJVQ>] (“Many Workshop participants described how entrepreneurial activity in the sharing economy generally enhances competition and consumer welfare by enabling the entry of new sources of supply.”); see also *id.* at 23–25 (describing the advantages of platform-based markets). The *FTC Sharing Economy Report* also raised a variety of regulatory challenges, especially for state and local policymakers. *Id.* at 14, 53–58.

45. *Complaint for Permanent Injunction and Other Equitable Relief* at 10–11, *FTC v. Uber Techs., Inc.*, No. 17-261 (N.D. Cal. Jan. 19, 2017) [hereinafter *Uber Techs. Complaint*], <http://www.ftc.gov/system/files/documents/cases/1523082ubercmpl.pdf> [<http://perma.cc/JG4Z-3PZF>].

46. *In re Uber Techs., Inc.*, FTC File No. 1523054 (F.T.C. Aug. 15, 2017) (Decision and Order), http://www.ftc.gov/system/files/documents/cases/1523054_uber_technologies_decision_and_order.pdf [<http://perma.cc/Y3QU-9FGU>].

47. *In re Amway Corp.*, 93 F.T.C. 618, 618 (1979) (Final Order, Opinion, Etc., in Regard to Alleged Violation of the Federal Trade Commission Act).

48. *Id.* at 710.

49. *Id.* at 729–32, 738. The Commission also placed limits on Uber’s car-leasing partnerships. *Uber Techs. Complaint*, *supra* note 45, at 9–10.

Amway's model thirty years later.⁵⁰ Uber is, by contrast, a multivalent digital platform with ambitions to revolutionize global logistics.⁵¹ It meticulously tracks participants in real time, constantly iterating on approach and design.⁵² In light of these new affordances, it defies imagination that the only problematic practice Uber engages in happens to be the same plainly visible sin of Amway: overestimating incomes in recruitment ads.

The thesis of this Essay, coauthored by a legal scholar and a technology ethnographer who studies ride-hailing and labor in the sharing economy, is that the advantages of information and power that platforms like Uber possess over participants merit a deeper response from consumer protection law.

Regulators face two key challenges in crafting this response. First, regulators must gain a deeper understanding of the acts and practices of digital platforms. This can be accomplished, we argue, by exercising existing authority to demand more granular information from firms about their practices and by incentivizing third parties, such as the research team that uncovered the Volkswagen emissions scandal, to demand and analyze such information.⁵³ Second, regulators must find ways to characterize and address problematic behavior. Regulators can accomplish this by drawing lines between acceptable and unacceptable (or harmful) conduct, as the law must often do, or else by attempting to better align the incentives of sharing economy firms with those of other participants.⁵⁴ Consumer protection law must be capable of restoring a sensible balance between sharing and taking.

Our Essay proceeds as follows. Part I offers a more nuanced conception of the sharing economy than presently exists in the legal literature. While there is no stable consensus definition of the sharing economy, this Part identifies a set of core claims, practices, antecedents, and technologies that underpin ride-hailing and other contemporary sharing services. Part I also canvasses in greater detail the benefits and costs of the sharing economy that commentators have identified to date.

Missing from the standard recitation of benefits and concerns is a fundamental critique of the sharing economy grounded in asymmetries of information and power. Part II advances such a critique. We draw from the theory of digital market manipulation and other work to argue for recognition of a greater range and complexity of dangers. Many of the

50. See *successwithamway201*, How Amway Works—Sales and Marketing Plan, YouTube (Nov. 17, 2012) [hereinafter *How Amway Works*], <http://www.youtube.com/watch?v=n8bCcSi2V4g> (on file with the *Columbia Law Review*).

51. See *infra* section II.B.

52. See *infra* section II.B.

53. See Gregory J. Thompson et al., *In-Use Emissions Testing of Light-Duty Diesel Vehicles in the United States 106–08* (2014), http://www.theicct.org/sites/default/files/publications/WVU_LDDV_in-use_ICCT_Report_Final_may2014.pdf [<http://perma.cc/YP7U-PUWA>]; see also *infra* Part III.

54. See *infra* Part III.

concerns we emphasize in Part II are necessarily speculative in nature, in part because sharing economy practices occur behind the digital scenes. We therefore ground the discussion in a case study of Uber, which we select for its unique visibility among sharing economy firms and its apparent willingness to push normative boundaries, and because one of us (Rosenblat) has studied Uber's drivers extensively in her ethnographic fieldwork. Our concerns, of course, apply beyond this single company and across the sharing economy of today and tomorrow. Others are likely to also engage in versions of the behaviors we catalogue, and many are in a powerful position to do so.

Part III advances the argument that consumer protection law—with its long emphasis on asymmetries of information and power—represents a critical but oddly missing lens through which to understand and address the full complexity of the sharing and taking economy. Part III concludes by suggesting ways consumer protection law can evolve to address the techniques used by sharing economy firms.

I. THE STORY OF THE SHARING ECONOMY

There is no consensus definition of the sharing economy.⁵⁵ We define the sharing economy loosely as a set of practices and techniques that leverage digital architectures to facilitate trusted transactions between strangers. But at base the sharing economy and its sister terminology, like “collaborative consumption,” the “peer-to-peer” economy, or the “gig economy,” represent a rhetorical device, a story that proponents tell in service of some business or political purpose such as attracting participants and funding or minimizing government intervention.⁵⁶ On this view, the sharing economy poses as a social movement even as it engages in what Professors Elizabeth Pollman and Jordan Barry term regulatory entrepreneurship (or, more pejoratively, regulatory arbitrage).⁵⁷ This Part begins by telling the story of the sharing economy from the vantage of its proponents and then describes the considerable concrete benefits and real dangers that sharing economy commentators have identified to date. This Part presages Part II, in which we introduce and contrast our own novel critique grounded in asymmetries of information and power.

55. FTC Sharing Economy Report, *supra* note 44, at 10–11 (noting the term “sharing economy” is “vague,” has “a range of meanings,” and “generates criticism”); Lobel, *supra* note 1, at 89 (highlighting no one term “completely captures the entire scope of the paradigmatic shift in the ways we produce, consume, work, finance, and learn”).

56. See Singer, *supra* note 3 (discussing why it is inappropriate to frame “technology-enabled transactions as if they were altruistic or community endeavors” when they serve some other marketing or regulatory purpose).

57. Regulatory entrepreneurship refers to pursuing “a line of business that has a legal issue at its core,” including “a significant uncertainty regarding how the law will apply to a main part of the business operations.” Elizabeth Pollman & Jordan M. Barry, *Regulatory Entrepreneurship*, 90 *S. Cal. L. Rev.* 383, 392 (2017).

A. Why “Sharing”?

The gist of the sharing economy narrative is that technology helps people collaborate economically at scale. Consider the classic carpool that was introduced and popularized in the 1950s and that persists today. Many people need to get from the suburbs to downtown. If everyone drives, there is traffic congestion, and no one can read the newspaper. Meanwhile, cars are designed to hold four or five people, and so that extra space and gas is wasted. Carpooling by neighbors, who generally know and trust each other, adds value by sharing the responsibility and resources needed to get to work. Broader carpooling might be even better but would introduce search and transaction costs. Worse yet, it could introduce the prospect of unreliable or undesirable drivers or riders. Sharing economy firms address these perceived problems of scaling by introducing apps and rating systems to find, connect, and assess people. Not only can you get downtown via Uber, but you can invite a stranger to dinner (Feastly), let your spare bedroom for the week (Airbnb), or even rent out your power tools (NeighborGoods). People trade or purchase resources from one another; the platform acts as an impartial intermediary to help them connect.

The sharing economy narrative emerges from a variety of sources, including our familiarity with online social networks and a general sense of economic urgency that flows from the wake of the Great Recession and the rise of precarious employment in the United States.⁵⁸ But its intellectual home is really the notion of “commons-based peer production” that Professor Benkler put forward as early as 2002.⁵⁹ Proponents initially envisioned that social values and notions of individual empowerment would flavor the missions of businesses under the sharing economy umbrella. This vision of the sharing economy gets its roots from advocacy groups interested in the structures and decentralized impact of peer-to-peer technologies, like the file-sharing service Napster or the virtual currency Bitcoin.⁶⁰ Prominent sharing economy advocate Peers.org

58. Arne L. Kalleberg, *Good Jobs, Bad Jobs: The Rise of Polarized and Precarious Employment Systems in the United States, 1970s to 2000s*, at 85 (2011).

59. Yochai Benkler, *Coase's Penguin, or, Linux and The Nature of the Firm*, 112 *Yale L.J.* 369, 375 (2002).

60. See Michael Gowan, *Requiem for Napster*, *PC World* (May 18, 2002), http://www.pcworld.idg.com.au/article/22380/requiem_napster (on file with the *Columbia Law Review*) (noting the first iteration of Napster enabled users to share music over the Internet in the form of MP3 files until the service shut down following the Ninth Circuit's application of copyright law to its peer-to-peer system in *A&M Records v. Napster, Inc.*, 239 F.3d 1004 (9th Cir. 2001)); *Frequently Asked Questions, Bitcoin*, <http://bitcoin.org/en/faq> [<http://perma.cc/3B4M-D3DD>] (last visited July 26, 2017) (describing Bitcoin as a digital currency network facilitating peer-to-peer payment without a central government or financial authority—“like cash for the Internet”).

functioned both as a public relations machine for sharing economy firms and later as an advocacy organization for workers.⁶¹

Today the promise of the sharing economy continues to be based, rhetorically, on ideas of social reciprocity. Advocates of the sharing economy characterize digital platforms as trusted economic communities that enable commerce, while simultaneously responding to the needs of local communities or even addressing historical inequities. For example, Airbnb claims to build a community wherever it creates a marketplace for hosts to auction off their spare bedrooms to visiting tourists,⁶² and Uber helps to provide alternative and more efficient transit access to underserved communities.⁶³ These platforms claim to leverage technology to connect people and create the infrastructure to support transactions with common social goals. The business practices of these platforms represent, to paraphrase author Tom Slee, a marriage of commerce and cause.⁶⁴

The sharing economy walks an interesting line: The model is spun as both novel and having many antecedents, which makes it feel simultaneously innovative and familiar. Business professor Arun Sundararajan argues that the sharing economy represents a series of familiar practices—borrowing and lending underused goods, lending a helping hand for services, or self-employment for side work—and reorganizes them digitally in monetizable ways.⁶⁵ For Professor Sundararajan, the rapid growth of the sharing economy is partly a function of this familiarity, which renders the model more palatable to consumers.⁶⁶ Just as Amazon is an extension of brick-and-mortar or catalogue retail, sharing economy firms draw from the phenomena of couch-surfing and carpooling.

Another building block of the sharing economy narrative is the increasing centrality of service-based consumption, such as using the music services Pandora or Spotify instead of purchasing songs.⁶⁷ The

61. See Sarah Kessler, Peers Says Its New Focus Is Helping Sharing Economy Workers, *Fast Company* (Nov. 12, 2014), <http://www.fastcompany.com/3038310/peers-says-its-new-focus-is-helping-sharing-economy-workers> [<http://perma.cc/E559-SZYF>] (explaining Peers is focused on helping the workers of “the sharing economy”).

62. Megan Barber, *Airbnb vs. The City, Curbed* (Nov. 10, 2016), <http://www.curbed.com/2016/11/10/13582982/airbnb-laws-us-cities> [<http://perma.cc/G482-E2QK>].

63. Gabrielle Gurley, *Underserved Communities Rely on Uber, but Challenges Remain*, *Am. Prospect* (Aug. 5, 2016), <http://prospect.org/article/underserved-communities-rely-uber-challenges-remain> [<http://perma.cc/W5Z2-66KV>].

64. Barber, *supra* note 62; see also Tom Slee, *What’s Mine Is Yours: Against the Sharing Economy* 9 (2015).

65. Sundararajan, *supra* note 4, at 5–6.

66. *Id.*

67. About, Pandora, <http://www.pandora.com/about> [<http://perma.cc/T8EK-HL2X>] (last visited July 26, 2017) (explaining users create free personalized radio stations online by inputting their preferred artists, songs, and genres); About, Spotify, <http://www.spotify.com/us/about-us/contact> [<http://perma.cc/3ZM3-HEF6>] (last visited

rhetoric of sharing contrasts with ideals of ownership and possession, and the sharing economy ideology takes aim at exclusive individual ownership of goods in particular, contending that idle, underutilized assets, like power drills, spare bedrooms, or spare time, contain value that can be “unlocked” efficiently for monetary (and even nonmonetary) benefits.⁶⁸

As sociologist Juliet Schor observes, socioeconomic factors, such as a general increase in the consumption habits of consumers, helped to evolve the secondary digital markets for the redistribution of used goods and, later, services.⁶⁹ By facilitating connectivity and trust between strangers, sharing economy businesses offer a more mature version of their most familiar antecedents, Craigslist and eBay, which both started in 1995 and initially provided a digital space for the recirculation of goods in the nascent growth and popularity of the Internet and Internet exchanges.⁷⁰

Sharing economy firms are diverse and yet carefully consistent in their terminology. They call themselves “platforms” or “technologies” and do not typically own the physical assets, such as homes, cars, or tools, used in the transactions they mediate, although they may offer resources that enable individuals to own or care for their assets, such as car leases or cleaning services.⁷¹ They also speak of promoting freedom, flexibility, and independence.⁷² This narrative of worker (and consumer) empowerment through networks similarly reinforces the identity of platforms as neutral arbiters of technological transactions, like a credit card processor, rather than traditional employers with social obligations toward their employees. Many workers in the sharing economy are classified as independent contractors, so their employers often communicate job expectations in the language of suggestions or recommendations.⁷³ This framing draws on sharing economy values that redefine workers as free, independent entrepreneurs who can work for multiple, competing employers, such as driving for both Uber and Lyft. The prospect that the sharing economy generates new, more flexible opportunities for income is particularly exciting in the face of societal anxiety about dwindling eco-

July 26, 2017) (discussing how users stream music, either for free with ads online or with a paid premium account that allows them to download music and listen offline).

68. See Leon Kaye, *Why Sharing Makes Sense in an Over-Consuming World*, *Guardian* (Jan. 12, 2012), <http://www.theguardian.com/sustainable-business/collaborative-consumption-sharing> [<http://perma.cc/9EU6-LWF8>]. For a meticulous and accessible discussion of the consequences of moving from a property- to consumption-based economic model, see Aaron Perzanowski & Jason Schultz, *The End of Ownership: Personal Property in the Digital Economy* 15–33 (2016).

69. Juliet B. Schor & Connor J. Fitzmaurice, *Collaborating and Connecting: The Emergence of the Sharing Economy* 6–9 (drft. ed. 2014) (on file with the *Columbia Law Review*).

70. *Id.* at 6–7.

71. See Lobel, *supra* note 1, at 94–101.

72. Rosenblat & Stark, *supra* note 13, at 3758.

73. *Id.* at 3761, 3775.

conomic opportunities for growth following the financial crisis of 2007. In a 2015 survey coauthored by Uber economist Jonathan Hall and economist Alan Krueger, eighty-five percent of surveyed drivers indicated that flexibility was a driving motivation for their work on the platform.⁷⁴ The promise of freedom and flexibility is perceived as a benefit of the sharing economy more broadly because it fits into a more utopian vision of workers who work by “uncoerced choice.”⁷⁵ Flexibility in the gig economy, as scholar Vili Lehdonvirta observed in 2017, hinges on how dependent one is on the gig work,⁷⁶ echoing Schor and affirmed again by Rosenblat’s research.⁷⁷

The story, then, is one of evolving technological and consumption habits that, along with techniques of trust facilitation such as rating mechanisms, empower new modalities of consumption and work just in time to cushion the economic fallout of the financial crisis. For a modest fee to offset the value they are adding, sharing economy firms act as neutral community marketplaces in which people can come together and purchase or sell excess capacity in the form of rides, tasks, rooms, and other resources. These new modalities are both familiar, in that they have recognizable antecedents, and powerfully disruptive of the less social or socially minded patterns of commerce.

And this story seems to be working—at least for some. The ongoing popularity of the sharing economy as a business trope can be partly credited to the remarkable financial success of its leading symbols in garnering venture capital funding in Silicon Valley, and in their global scale: Airbnb, which was founded as a start-up in 2008, is valued at \$30 billion⁷⁸ and has home or room listings in 65,000 cities (as of July 2017),⁷⁹

74. Jonathan V. Hall & Alan B. Krueger, *An Analysis of the Labor Market for Uber’s Driver-Partners in the United States* 11 (Princeton Univ. Indus. Relations Section, Working Paper No. 587, 2015), <http://dataspace.princeton.edu/jspui/bitstream/88435/dsp010z708z67d/5/587.pdf> (on file with the *Columbia Law Review*).

75. Lilly Irani, *Difference and Dependence Among Digital Workers: The Case of Amazon Mechanical Turk*, 114 *S. Atlantic Q.* 225, 227 (2015).

76. See Vili Lehdonvirta (@ViliLe), Twitter (July 1, 2017), <http://twitter.com/ViliLe/status/881111005081870337> [<http://perma.cc/8SGL-D69H>] (referring to Lehdonvirta’s scholarship, including Vili Lehdonvirta, *Work Alerts and Personal Bests: Managing Time in the Online Gig Economy*, Soc’y for the Advancement of Socio-Econ. (July 1, 2017), <http://sase.confex.com/sase/2017/meetingapp.cgi/Paper/7784> (on file with the *Columbia Law Review*)); see also Juliet B. Schor & William Attwood-Charles, *The “Sharing” Economy: Labor, Inequality, and Social Connection on For-Profit Platforms*, *Soc. Compass*, July 13, 2017, at 1, 7, <http://onlinelibrary.wiley.com/doi/10.1111/soc4.12493/full> (on file with the *Columbia Law Review*).

77. Alex Rosenblat, *What Motivates Gig Economy Workers*, *Harv. Bus. Rev.* (Nov. 17, 2016), <http://hbr.org/2016/11/what-motivates-gig-economy-workers> [<http://perma.cc/99FL-ZW6Y>] [hereinafter Rosenblat, *What Motivates*].

78. Sara Ashley O’Brien, *Airbnb’s Valuation Soars to \$30 Billion*, *CNN* (Aug. 8, 2016), <http://money.cnn.com/2016/08/08/technology/airbnb-30-billion-valuation/> [<http://perma.cc/7MCU-89U4>].

79. Airbnb, *About Us*, *supra* note 7.

and Uber, another start-up from 2009 that is valued at nearly \$70 billion,⁸⁰ has services in perhaps⁸¹ 633 cities worldwide.⁸²

80. See Mike Isaac, *Uber Founder Travis Kalanick Resigns as C.E.O.*, N.Y. Times (June 21, 2017), <http://www.nytimes.com/2017/06/21/technology/uber-ceo-travis-kalanick.html> (on file with the *Columbia Law Review*). But see Julie Verhage, *An Expert in Valuation Says Uber Is Only Worth \$28 Billion, Not \$62.5 Billion*, Bloomberg (Aug. 17, 2016), <http://www.bloomberg.com/news/articles/2016-08-17/an-expert-in-valuation-says-uber-may-have-already-peaked> [<http://perma.cc/XTP3-HVQF>].

81. Over time, discrepancies have arisen between the cities listed as operational on Uber's website and those on the messaging displays within its rider app, both of which generate some confusion about the status of Uber's operations. For example, on July 1, 2017, the list of cities on its website included both Vancouver and Halifax in Canada, where Uber does not actively operate; but on July 9, 2017, those two cities were gone from the Uber Cities list. Uber briefly had operations in Halifax, which debuted in 2014, but it has failed to get off the ground. Meghan McCabe, *Uber Fails to Take to Halifax Streets*, CBC News (Aug. 13, 2015), <http://www.cbc.ca/news/canada/nova-scotia/uber-fails-to-take-to-halifax-streets-1.3189233> (on file with the *Columbia Law Review*). As of July 2017, Uber still did not provide services there: When the passenger enters trip request information into the app, Uber gives an option only for UberBlack and returns the message "No Cars Available," although it does provide fare estimates through the passenger app. Ryan Calo & Alex Rosenblat, *Uber Data Set (2017)* (unpublished data set) (on file with the *Columbia Law Review*) [hereinafter Calo & Rosenblat, *Uber Data Set*], at SS1. These practices create the impression that Uber actually operates there, when it does not. By contrast, the Uber app declined a ride request from Halifax to Cape Breton, Nova Scotia, made on May 23, 2017, with a display message that read, "Unfortunately, Uber is currently unavailable in your area," which more accurately reflects the state of Uber's operations within Halifax. *Id.* If Uber had operations there, it may have offered a price estimate and generated a route for that potential trip, which spans a little over four hours and is approximately 468 kilometers, as it does when the trip originates from cities where it does operate, like Ottawa, to destinations, like Toronto, that involve a comparable trip distance of 450 kilometers and travel time of a little over four hours. Similarly, on July 18, 2017, in the town of St. Jérôme outside of Montreal, where Uber does operate, Uber displayed a message to the passenger seeking a ride that read, "Unfortunately, Uber is currently unavailable in your area." *Id.* The different communications Uber uses to signal the viability of its operations can make it difficult to keep an accurate log of its current operations. For example, in or around June 2016, Rosenblat met with drivers in Vancouver who are technically signed up to work for Uber in advance of Uber's arrival, which the province of British Columbia has announced is imminent, set for around December 2017. Rhianna Schmunk, *Uber Is Coming to B.C., Province Announces: Vancouver Taxi Association Says It Will Challenge Decision in Court*, CBC News (Mar. 7, 2017), <http://www.cbc.ca/news/canada/british-columbia/bc-taxi-1.4013315> (on file with the *Columbia Law Review*). However, Uber does not actually operate in Vancouver, neither legally nor on the black market. *Id.* As well, Uber's operations are not always stable: In the course of its growth, regions and cities where Uber has set up active operations have ousted it over concerns that it contravenes local or national laws. For example, in April 2017, Italy banned Uber from operating in the country after a Roman judge ruled in favor of major taxi associations in a lawsuit contending that Uber violated laws targeting unfair competition. Nick Statt, *Italy Issues a Nationwide Uber Ban, Verge* (Apr. 7, 2017), <http://www.theverge.com/2017/4/7/15226400/uber-italy-ban-court-ruling> [<http://perma.cc/5RQ4-ME7Z>]. The company has also departed voluntarily from cities where it encounters regulatory conflicts, such as Austin, Texas, in May 2016, yet at other times, its operations become newly legitimized in regions that once contested it. Alex Rosenblat, *Uber's Drive-By Politics*, Vice: Motherboard (May 27, 2016), http://motherboard.vice.com/en_us/article/gv5jaw/uber-lyft-austin-drive-by-politics [<http://perma.cc/J6VD-NDKC>] [hereinafter

There is no central source of information on the size of the sharing economy, although several reports make efforts to measure it by different metrics from a macroeconomic perspective. Studies by the Pew Research Center, the Brookings Institution, and the JPMorgan Chase Institute all report significant and growing participation.⁸³ Although frequently billed as a national or global phenomenon, the sharing economy is largely centered on urban populations. A Pew study in May 2016 found that seventy-three percent of Americans still had not heard of the phrase “sharing economy” and that only fifteen percent of Americans have used ride-hailing apps like Uber or Lyft, which the study found to be available primarily in and around metropolitan areas.⁸⁴

Meanwhile, sharing economy firms seem to confront fewer—or at least different—regulations than the taxi, hotel, restaurant, and other legacy firms with which they compete. As Professors Pollman and Barry explore, sharing economy firms like Uber and Airbnb have proven adept at exploiting gray areas (or simply flouting laws) while growing to a size and popularity that gives them the political clout to combat efforts to regulate them.⁸⁵ These authors refer to this strategy as “regulatory entrepreneurship”—defined as a business model that acknowledges how “changing the law is a material part of the company’s business plan and vision for success.”⁸⁶ Crucial to this success is a strong rhetorical strategy that positions the sharing economy as familiar enough for consumers to adopt and enjoy it, but novel and “disruptive” enough to merit new regulatory strategies and to generate scorn for policymakers who stand in the way of its innovations.

Rosenblat, *Uber’s Drive-By Politics*]. For example, Uber debuted in Alaska in 2014, but the state did not legalize the service until June 2017, when Governor Bill Walker signed Bill 132, a ridesharing law, into effect. Annie Zak, *Uber and Lyft Are Starting Operations in Alaska. Here’s Everything You Need to Know*, Alaska Dispatch News (June 15, 2017), <http://www.adn.com/business-economy/2017/06/15/uber-and-lyft-are-arriving-in-alaska-heres-what-you-need-to-know/> [<http://perma.cc/MS3B-4W6M>]. These and other factors contribute to a shifting city count.

82. Uber, <http://www.uber.com/> [<http://perma.cc/ZFK6-HXTJ>] (last visited July 26, 2017).

83. Diana Farrell & Fiona Greig, *JPMorgan Chase & Co. Inst., Paychecks, Paydays, and the Online Platform Economy* 21 (2016), <http://www.jpmorganchase.com/corporate/institute/document/jpmc-institute-volatility-2-report.pdf> [<http://perma.cc/7ZZ3-LM5W>]; Aaron Smith, *Pew Research Ctr., Shared, Collaborative and On Demand: The New Digital Economy* 3 (2016), http://www.pewinternet.org/files/2016/05/PI_2016.05.19_Sharing-Economy_FINAL.pdf [<http://perma.cc/68JH-RBF7>]; Ian Hathaway & Mark Muro, *Tracking the Gig Economy: New Numbers*, Brookings Inst. (Oct. 13, 2016), <http://www.brookings.edu/research/tracking-the-gig-economy-new-numbers/> [<http://perma.cc/6C9Y-K2GZ>]. Notably absent is the Department of Labor, although it has announced an intention to attempt to survey contingent work in 2017 in light of the sharing economy. See *The Future of Work: Diving into the Data*, U.S. Dep’t of Labor: Blog (June 17, 2016), <http://blog.dol.gov/2016/06/17/the-future-of-work-diving-into-the-data/> [<http://perma.cc/2NSL-QA84>].

84. See Smith, *supra* note 83, at 4–5.

85. Pollman & Barry, *supra* note 57, at 398–410.

86. *Id.* at 386.

B. *Sharing's Rewards*

The sharing economy is tied up in whimsical notions about a decentralized, social marketplace. But whether or not you credit this underlying narrative, any evenhanded assessment of the sharing economy must acknowledge a host of concrete benefits also emphasized by economists and regulators.⁸⁷ They include: maximizing the utility of personal assets; flexible schedules for workers; (some) income security; increasing the quality and quantity of goods and services available through greater competition; and local access to new infrastructure resources. We canvass them briefly below. Many of the very same techniques and technologies that permit sharing economy firms to deliver this new value are also what allow them to engage in problematic manipulation.

1. *Efficiency and Income Flexibility.* — The sharing economy promises to unlock various resources with excess capacity, such as a household's guestroom. The connectivity and trust mechanisms developed by platforms increase efficiency in the sense that underutilized resources can find a higher-value use.⁸⁸ Sharing economy firms also promote efficiency by lowering search costs and by permitting consumers more and better options.⁸⁹ Discussing transportation, Professor Brishen Rogers offers the prospect that city dwellers could dispense with car ownership entirely.⁹⁰ In addition to freeing up resources for individuals or families, fewer cars on the road holds positive implications for the environment and traffic congestion.⁹¹

Among the most valuable resources is an individual's time. A central benefit of the sharing (or "gig") economy is to provide more and more diverse opportunities to make money.⁹² Many cannot work even a part-time job due to the schedules and shifts that typify traditional employment.⁹³ Imagine a parent who drops her child off at public school and must pick her up again in the early afternoon. Some days this parent has errands to run, but others she is sitting at home. TaskRabbit, Amazon Mechanical Turk, and Lyft all offer this person a flexible means to sup-

87. See *infra* notes 88–112 and accompanying text.

88. Lobel, *supra* note 1, at 108 ("A key principle of the platform is putting idle capacity to work. The platform enables a more efficient use of private resources.")

89. Rogers, *supra* note 42, at 87 ("Uber's key innovation lies in having reduced the transaction costs that otherwise plague the sector . . .").

90. See *id.* at 90–91 (describing how consumers may buy fewer cars as ride-sharing services increase in availability and use).

91. See *id.*

92. The "gig" or "on demand" economy is used when emphasizing the labor transformations of the sharing economy. See Benjamin Means & Joseph A. Seiner, *Navigating the Uber Economy*, 49 U.C. Davis L. Rev. 1511, 1513 & n.1 (2016).

93. See Gillian B. White, *The Very Real Hardship of Unpredictable Work Schedules*, Atlantic (Apr. 15, 2015), <http://www.theatlantic.com/business/archive/2015/04/the-very-real-hardship-of-unpredictable-work-schedules/390498/> [<http://perma.cc/HNT5-EURJ>].

plement the family income or save for her child's college tuition—and all on her own schedule—driving between drop-off and pickup.⁹⁴

The sharing economy has a relatively low barrier to entry for job opportunities as well, which may be especially salient for marginalized populations excluded from the workplace by low education, a criminal record, or other factors.⁹⁵ Sharing economy workers can also switch jobs at will: They are generally classified as independent contractors who are free to work for multiple competing employers and are labeled partners or entrepreneurs by sharing economy advocates.⁹⁶ Although there is high turnover within the industry, some offer this as proof that temporary employment in the sharing economy benefits those who are in career transition or who face challenges related to their family, education, or health.⁹⁷ The sharing economy may thus reduce overall income volatility, particularly for those who live paycheck to paycheck in an economic climate in which real wages have declined since 2009 for most households, with the exception of the top fifth percentile.⁹⁸

The sharing economy facilitates more transactions with greater efficiency between users through technology, but it can also have economic impact on related industry actors and consumer populations. Broadly accessible services can prompt industry specialization for legacy businesses (for example, business travelers who want reliable experiences or families with kids who might prefer to stay in a hotel rather than in a stranger's home), which presents users with a greater variety of options, and the chauffeur industry can cater to specialized, niche, or luxury services for high-end consumers.

2. *Greater Competition.* — Many commentators, among them regulatory bodies, have praised the innovative means by which sharing econ-

94. See *Become a Driver*, Lyft, <http://www.lyft.com/drive-with-lyft> [<http://perma.cc/23Q3-HB6K>] (last visited July 26, 2017) (describing a ride-hailing service that, like Uber, allows drivers to work whenever they want to); see also *General Questions*, Amazon Mech. Turk, <http://www.mturk.com/mturk/help?helpPage=overview> [<http://perma.cc/4YGJ-R26L>] (last visited July 26, 2017) (connecting businesses and developers with workers interested in performing “human intelligence tasks” such as identifying objects in a photo or video or performing data deduplication); *How It Works*, TaskRabbit, <http://www.taskrabbit.com/how-it-works> [<http://perma.cc/6MLJ-43BP>] (last visited July 26, 2017) (connecting workers willing to complete popular chores with users willing to pay for those services).

95. See Tawanna R. Dillahunt & Amelia R. Malone, *The Promise of the Sharing Economy Among Disadvantaged Communities 1* (2015), <http://socialinnovations.us/assets/papers/pn0389-dillahuntv2.pdf> [<http://perma.cc/3LZK-MJEX>].

96. See Rosenblat & Stark, *supra* note 13, at 3761.

97. Hall & Krueger, *supra* note 74, at 11–12, 16.

98. Farrell & Greig, *supra* note 83, at 2. Note, however, that dynamic pricing and pay-premium incentives in lieu of more stable earning reliability, which some sharing economy firms deploy, may also contribute to income volatility. In Rosenblat's research, some drivers cite the risk of income volatility as a deterrent to working full time for Uber, and it is the most invested workers whom price changes most affect. See Rosenblat, *What Motivates*, *supra* note 77.

omy firms compete in legacy markets.⁹⁹ Although some worry that sharing economy firms compete unfairly with legacy firms by performing a functionally equivalent service under fewer constraints, it is Economics 101 that the introduction of new competitors into existing markets should have a positive effect on price and quality.¹⁰⁰ Some studies indicate that Airbnb has affected the hotel market in precisely this manner—by driving down the price of a hotel room.¹⁰¹ This economic effect is obscured by the scarcity of substantive studies;¹⁰² however, particularly visible are the changes to legacy firms as they adapt to shifting consumer expectations. Today, taxi services have apps that permit consumers to call for a car and pay for the service at the push of the button, just like they can on Uber and Lyft.¹⁰³ The sharing economy platforms may also popularize the use of transit and accommodations services without unseating existing businesses. For example, one study found that the rise of Uber changed the makeup of the labor market within the transportation services industry but that it also grew the pie overall, rather than cutting off thinner slices of it.¹⁰⁴

3. *Access to New Resources.* — The introduction of sharing economy firms can have other positive effects, especially in cities where sharing economy activity tends to concentrate. Supplementary income from part-time work in the sharing economy may enable people to pay their rent, cover daily living expenses, or pursue their passions or goals. For example,

99. See, e.g., FTC Sharing Economy Report, *supra* note 44, at 1 (“[Sharing economy firms] have brought substantial benefits to consumers and suppliers alike, while challenging incumbents who have traditionally served those sectors.”).

100. See, e.g., Jerry Hausman & Ephraim Leibtag, Consumer Benefits from Increased Competition in Shopping Outlets: Measuring the Effect of Wal-Mart 1 (Nat’l Bureau of Econ. Research, Working Paper No. 11809, 2005), <http://www.nber.org/papers/w11809.pdf> (on file with the *Columbia Law Review*) (“Consumers often benefit from increased competition in differentiated product settings.”).

101. See, e.g., Amy Plitt, NYC Hotel Rates May Be Dropping Thanks to Airbnb, *Curbed* (Apr. 19, 2016), <http://ny.curbed.com/2016/4/19/11458984/airbnb-new-york-hotel-rates-dropping> [<http://perma.cc/3G3S-A49K>]. There is also evidence that hotels have lost revenue in the wake of Airbnb. Georgios Zervas et al., *The Rise of the Sharing Economy: Estimating the Impact of Airbnb on the Hotel Industry* 3 (Bos. Univ. Sch. of Mgmt., Working Paper No. 2013-16, 2016), <http://ssrn.com/abstract=2366898> (on file with the *Columbia Law Review*) (finding a decline of eight to ten percent in revenue for hotels in Austin, Texas).

102. A search for literature on this topic reveals only a handful of studies related to the economic impact of Airbnb. For instance, at the time of this writing, a Google Scholar search for “Airbnb effect on hotels” yields six or fewer relevant results. See http://scholar.google.com/scholar?q=Airbnb+effect+on+hotels&btnG=&hl=en&as_sdt=1%2C48 [<http://perma.cc/23LV-A3PU>] (enter “Airbnb effect on hotels” in Google Scholar search bar) (lasted visited Aug. 16, 2017).

103. A popular example is Curb, which claims to service 50,000 cabs. *The Taxi App*, Curb, <http://gocurb.com/> [<http://perma.cc/LW82-DTZ8>] (last visited July 26, 2017).

104. Thor Berger et al., *Drivers of Disruption? Estimating the Uber Effect 2* (2017), http://www.oxfordmartin.ox.ac.uk/downloads/academic/Uber_Drivers_of_Disruption.pdf [<http://perma.cc/3TSS-2VDM>].

in cities like New York or San Francisco where Airbnb's business is under attack by hotels or unsympathetic regulators,¹⁰⁵ Airbnb takes the stance that the income people earn through its platform allows them to afford their rent. Indeed, the numbers are impressive: In San Francisco alone, Airbnb asserts that its platform has generated 430 jobs and \$56 million in local spending.¹⁰⁶ The company noted, too, that of total guest spending, hosts' households received \$12.7 million.¹⁰⁷

Research on the impact of the sharing economy in low-income communities demonstrates that it can increase access to resources and opportunities, facilitate networking opportunities (such as when Uber drivers or passengers make connections that lead to new job opportunities), or help fill gaps in public transportation.¹⁰⁸ For example, people who may not be able to get to work on time because they lack car ownership or access to robust public transit could stand to benefit from ride-hail technologies that provide them with better mobility.¹⁰⁹ Improving access to resources and shoring up access to transit in underserved areas can both bolster a belief in civic community¹¹⁰ and remedy existing inequities in public infrastructure and commercial services, such as longstanding patterns of discrimination against people of color by taxis.¹¹¹ Similarly, accommodations options available on platforms like Airbnb may reduce the cost to tourists or travelers who wish to visit a city if they can find a place to stay in someone's spare room more cheaply than in a hotel. Some cities, like Altamonte Springs, Florida, are even experimenting

105. Katie Benner, *Airbnb in Disputes with New York and San Francisco*, N.Y. Times (June 28, 2016), <http://www.nytimes.com/2016/06/29/technology/airbnb-sues-san-francisco-over-a-law-it-had-helped-pass.html?mcubz=3> (on file with the *Columbia Law Review*).

106. *Economic Impact, Airbnb*, <http://blog.airbnb.com/economic-impact-airbnb/> [<http://perma.cc/9467-ZW5R>] (last visited July 26, 2017).

107. *Id.*

108. See Dillahunt & Malone, *supra* note 95, at 1–2 (discussing the potential of the sharing economy to increase opportunities in disadvantaged communities).

109. Cf. Michael Kodransky & Gabriel Lewenstein, *Inst. for Transp. & Dev. Policy & Living Cities, Connecting Low-Income People with Shared Mobility* 11, 24 (2014), http://www.itdp.org/wp-content/uploads/2014/10/Shared-Mobility_Full-Report.pdf [<http://perma.cc/EPA5-GPQ6>] (discussing the potential for ride-share systems, generally, to close gaps in public transportation systems).

110. See Dillahunt & Malone, *supra* note 95, at 6.

111. *Hailing While Black*, Brilliant Corners Research & Strategies (July 9, 2015), <http://www.brilliant-corners.com/post/hailing-while-black> [<http://perma.cc/J95W-3MRW>] (summarizing a survey of Chicagoans); see also Moira McGregor et al., *On-Demand Taxi Driving: Labour Conditions, Surveillance, and Exclusion* 8 (2016), http://ipp.oii.ox.ac.uk/sites/ipp/files/documents/McGregor_Uber%2520paper%2520Sept%25201%2520PDF.pdf [<http://perma.cc/B4DQ-H6H4>].

with subsidizing ride-hail services like Uber and Lyft to meet the cities' transportation needs.¹¹²

C. *Sharing's Perils*

Neither clever rhetoric nor clear benefits have managed to entirely insulate sharing economy firms from criticism. The excitement around these new companies has come to be tempered by a series of concerns. Worries come from a variety of sources, which in turn shape the basis and character of their critique. Competitors to the sharing economy, for instance, maintain that Uber, Airbnb, and other firms are not competing fairly.¹¹³ Cities focus on the safety and mobility of urban residents. Drivers and other service providers question why they should miss out on the benefits associated with employment. Others raise concerns around privacy and discrimination.¹¹⁴ These concerns do not necessarily have a common nexus, except for the general absence of regulatory supervision. This section summarizes the literature and reporting critical of the sharing economy and catalogs the various downsides critics have advanced. The section acts as a prelude to the arguably deeper critique we advance in Part II.

1. *Regulatory Arbitrage*. — The first set of concerns centers on the claim that sharing economy firms are not competing fairly. In part through a strategy that embraces forgiveness over permission, these firms replicate legacy services such as transportation, lodging, cleaning, and even dining without the encumbrance of regulation. Critics perceive this as a problem for at least two reasons. First, it is very difficult for an existing service bound by regulations to compete with a firm that is not. And indeed, Uber and Airbnb have prompted outcries by taxis and hotels the nation over.¹¹⁵ Second, the regulations around legacy services

112. Uber and Altamonte Springs Launch Pilot Program to Improve Transportation Access, Uber: Blog (Mar. 21, 2016), <http://newsroom.uber.com/us-florida/altamonte-springs/> [<http://perma.cc/BR9G-JZV3>].

113. See Rogers, *supra* note 42, at 91 (citing criticism that Uber does not follow the taxi market's regulations or fare schedules); Eric Newcomer, *New York Hotels Go on Offensive Against Airbnb Rentals*, Bloomberg (Oct. 30, 2015), <http://www.bloomberg.com/news/articles/2015-10-30/new-york-hotel-group-goes-on-offensive-against-airbnb-rentals> (on file with the *Columbia Law Review*) (discussing a report by a New York hotel association calling Airbnb a “de facto hotel company with none of the regulation that every hotel has to comply with”); Adam Thomson, *Airbnb Hit by Unfair Competition Complaint from French Hotels*, Fin. Times (June 23, 2016), <http://www.ft.com/content/6ff2b192-3951-11e6-9a05-82a9b15a8ee7> [<http://perma.cc/RZY3-9KKF>] (reporting on an unfair competition complaint filed against Airbnb); Alice Walton, *Taxi Lobby's City Hall Spending Falls Short Against Uber, Lyft over LAX*, L.A. Times (Aug. 25, 2015), <http://www.latimes.com/local/lanow/la-me-taxi-uber-lobby-story.html> (on file with the *Columbia Law Review*) (reporting on a city vote allowing ride-hailing companies to compete with taxi drivers for passengers at Los Angeles Airport).

114. See *infra* notes 122–130 and accompanying text.

115. See, e.g., Walton, *supra* note 113.

exist for a reason: to protect visitors and city residents. The critique is that, because they skirt legal requirements through regulatory arbitrage, sharing economy firms are underinsured, less safe, less sanitary, and so on.¹¹⁶

Proponents of the sharing economy may counter that regulations are outdated and constitute barriers to entry. More particularly, proponents may argue that sharing economy firms have developed new mechanisms to ensure safety, quality, and other values. Chief among these is the ability to rate and comment on services, coupled with an enforcement mechanism when a provider falls below consumer expectations. But the question then becomes whether these systems are adequate to protect participants. Cities such as Austin, Texas, think not and have responded with ordinances reintroducing certain requirements, such as fingerprint-based background checks for Uber and Lyft drivers, and have instituted new regulations the city sees as better tailored to govern the realities of ride-hailing.¹¹⁷

Related to issues of regulatory arbitrage is the concern that, by characterizing *all* participants in the sharing economy as “consumers” of a technology, including providers of services (i.e., workers), sharing economy firms manage to avoid labor laws.¹¹⁸ This circumvention of labor law has generated a number of critiques and class action lawsuits. For example, several lawsuits in California allege that drivers for Uber and Lyft are “employees” and not “independent contractors” as these firms claim.¹¹⁹ In response, Uber has pivoted to characterizing drivers as

116. See, e.g. Adrienne LaFrance & Rose Eveleth, Are Taxis Safer than Uber?, *Atlantic* (Mar. 3, 2015), <http://www.theatlantic.com/technology/archive/2015/03/are-taxis-safer-than-uber/386207/> [<http://perma.cc/5FQR-T85H>]; Amanda MacMillan, 6 Health Risks of Staying in Someone Else’s Home, *Huffington Post* (Nov. 13, 2014), http://www.huffingtonpost.com/2014/11/13/health-risks-staying-over_n_6146974.html [<http://perma.cc/8K8S-DX3Q>].

117. Austin, Tex., Ordinance 20160217-001 (Feb. 17, 2016) (voted down May 7, 2016); see also Rosenblat, *Uber’s Drive-By Politics*, *supra* note 81. Uber disputes any characterizations of the company or interpretation of its actions that suggests it opposes government intervention, citing to public comments by an Uber Board member that the company favors regulation in some contexts—when the regulations would help Uber “to use resources and infrastructure more efficiently.” E-Mail from Uber Policy Team to Ryan Calo, Professor of Law, Univ. of Wash. Sch. of Law, and Alex Rosenblat, Researcher & Tech. Writer, Data & Soc’y Research Inst. (May 30, 2017) (on file with the *Columbia Law Review*) [hereinafter May 30 Uber E-Mail]. Our point is that Uber provides on-demand transportation just like a taxi service without abiding by the restrictions imposed on such services. Whether it seeks regulation favorable to its current business model is beside the point.

118. E.g., Miriam A. Cherry, *Beyond Misclassification: The Digital Transformation of Work*, 37 *Comp. Lab. L. & Pol’y J.* 577, 578 (2016).

119. E.g., *O’Connor v. Uber Techs., Inc.*, 82 F. Supp. 3d 1133, 1135 (N.D. Cal. 2015); *Cotter v. Lyft, Inc.*, 60 F. Supp. 3d 1067, 1069 (N.D. Cal. 2015).

“end users” or “consumers” of its software, akin to passengers.¹²⁰ The allegation of employment misclassification is not limited to California or even the United States; London drivers have also sued Uber alleging violations of the UK Employment Rights Act.¹²¹

2. *Discrimination.* — One of the more troubling existing critiques of the sharing economy is that sharing economy firms facilitate discrimination. As alluded to above, one benefit of the sharing economy is that vulnerable or marginalized populations might have greater access to services in their neighborhoods and greater opportunities to earn income.¹²² But investigations have also yielded evidence that both service providers and service consumers in the sharing economy face racial and other discrimination. A National Bureau of Economic Research study shows that African Americans wait longer for rides on ride-hailing services.¹²³ Another analysis by Rosenblat and various coauthors concluded that the Uber rating system can mask passenger-sourced discrimination, which may, for example, lead to lower ratings for drivers with protected-class characteristics and could result in lower pay or leave them more vulnerable to termination by the platform.¹²⁴ Other evidence suggests that African Americans have trouble finding accommodations on Airbnb due to discrimination by hosts.¹²⁵

The prospect that the sharing economy supports discrimination led Leong and Belzer to argue for an update of public accommodation laws.¹²⁶ They surveyed existing mechanisms for addressing race discrimination in the context of public accommodations, including the groundbreaking Civil Rights Act of 1964 and identified limitations in these mechanisms to regulate the sharing economy.¹²⁷ The authors recommended a variety of updates, including altering the standard for discriminatory intent and mandating greater transparency.¹²⁸

3. *Privacy.* — Finally, there have been allegations that sharing economy firms pose a threat to information privacy. Like other digital platforms, sharing economy firms have access to a tremendous volume and variety of information about the behaviors of consumers. Sharing economy firms likely collect more information than is needed to accomplish their core goals of reducing search costs and facilitating trust. Uber

120. See Transcript of Summary Judgment Proceedings at 16, *Uber Techs., Inc.*, 82 F. Supp. 3d 1133 (No. C 13-3826).

121. See *Y. Aslam v. Uber B.V.*, No. 2202550/2015 (Employment Tribs. Oct. 28, 2016).

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

123. Ge et al., *supra* note 19, at 18–19.

124. Rosenblat et al., *Discriminating Tastes*, *supra* note 20, at 6–9.

125. Benjamin Edelman et al., *Racial Discrimination in the Sharing Economy: Evidence from a Field Experiment*, *Am. Econ. J.: Applied Econ.*, Apr. 2017, at 1, 2 (on file with the *Columbia Law Review*).

126. Leong & Belzer, *supra* note 21, at 1317.

127. *Id.* at 1296–306.

128. *Id.* at 1319–20.

needs to know where riders are in order to connect them to drivers. But it bothers some that Uber continues to record a passenger's whereabouts *after* she has left the car.¹²⁹ Moreover, there is evidence that sharing economy firms, like other start-ups, may have inadequate internal safeguards around privacy. Many were alarmed, for instance, to learn that senior managers at Uber in 2014 enjoyed an unrestricted God's eye view of the system, which permitted a senior manager to track the arrival of a reporter who was interviewing him.¹³⁰

Concerns over information privacy, nonetheless, are not unique to sharing economy firms. The collection, processing, and use of personal information is part of a broader trend whereby digitally as well as physically based firms make a close study of consumers.¹³¹ And yet, as we explore in the next Part, there may be reasons to be particularly concerned with the information practices of sharing economy firms. Thus far, however, the people raising privacy concerns about Uber or

129. See Laura Roman, *Uber Now Tracks Passengers' Locations Even After They're Dropped Off*, NPR: All Tech Considered (Dec. 1, 2016), <http://www.npr.org/sections/alltechconsidered/2016/12/01/503985473/uber-now-tracks-passengers-locations-even-after-theyre-dropped-off> [<http://perma.cc/5UQ9-C5LD>]. The Uber app tracks user location either "always" or "never," rather than while the app is in use. Andrew J. Hawkins, *Uber Wants to Track Your Location Even When You're Not Using the App*, Verge (Nov. 30, 2016), <http://www.theverge.com/2016/11/30/13763714/uber-location-data-tracking-app-privacy-ios-android> [<http://perma.cc/9DL6-4LCZ>].

130. Rich McCormick, *Uber Allegedly Tracked Journalist with Internal Tool Called 'God View'*, Verge (Nov. 19, 2014), <http://www.theverge.com/2014/11/19/7245447/uber-allegedly-tracked-journalist-with-internal-tool-called-god-view> [<http://perma.cc/B5KC-86N8>]. The New York Attorney General's office entered into a settlement with Uber in January 2016 to enhance rider privacy. Press Release, N.Y. State Office of the Attorney Gen., A.G. Schneiderman Announces Settlement with Uber to Enhance Rider Privacy (Jan. 6, 2016), <http://ag.ny.gov/press-release/ag-schneiderman-announces-settlement-uber-enhance-rider-privacy> [<http://perma.cc/W438-G4F8>]. Uber provided comments directly to the authors on this matter by email correspondence on May 30, 2017. According to Uber, the aerial-view tool Uber has in place today does not include personally identifiable information of riders, and access to the tool is limited to individuals who work in operations and need to have a full picture of the movements of vehicles on the Uber platform. May 30 Uber E-Mail, *supra* note 117. Recent revelations point to a greater concern about the culture of privacy at Uber, however, which raises cultural concerns about Uber's data-collection practices. A top Uber executive, Eric Alexander, reportedly obtained the medical records of a rape victim in India, who was sexually assaulted by an Uber driver in 2014, to discredit her allegations. The very same reporter, Johana Bhuiyan, who was tracked by Uber's God View tool, coreported on this incident in 2017. See Kara Swisher & Johana Bhuiyan, *How Being 'Coin-Operated' at Uber Led to a Top Exec Obtaining the Medical Records of a Rape Victim in India*, Recode (June 11, 2017), <http://www.recode.net/2017/6/11/15758818/uber-travis-kalanick-eric-alexander-india-rape-medical-records> [<http://perma.cc/2NHE-WQ3X>].

131. See generally Julia Angwin, *Dragnet Nation: A Quest for Privacy, Security, and Freedom in a World of Relentless Surveillance* (2014) (discussing aggressive tactics used by companies to track users); Joseph Turow, *The Aisles Have Eyes: How Retailers Track Your Shopping, Strip Your Privacy, and Define Your Power* (2017) (same).

Airbnb do so on similar terms as those raising concerns with Facebook or Google.

II. TAKING IN THE SHARING ECONOMY

Part I offers a sense of the discourse around the sharing economy to date. Proponents weave the emerging set of practices and techniques into a story about social innovation. They emphasize the many benefits of the sharing economy to consumers, workers, and communities in general. And they position opponents as Luddites who are overinvested in the status quo.¹³²

Detractors, meanwhile, see this narrative as a kind of “share-washing” and point instead to the sharing economy’s downsides: the various businesses, groups, or individuals who stand to lose out or get hurt. These downsides, while real and concerning, share only a loose conceptual foundation. Uber’s poor internal privacy safeguards appear to have little to do with the question of whether drivers are employees or independent contractors. Notwithstanding talk of exceptionalism or disruption, little about their configuration ultimately prevents sharing economy firms from improving the way they treat workers, buying more insurance, or policing better against discrimination. Indeed, allegations of discrimination have already led to concrete changes to the way sharing economy firms operate.¹³³

The back and forth between innovation and exploitation threatens to overshadow a foundational critique regarding the ways sharing economy firms leverage their status as intermediary platforms. Drawing from each author’s work on information and power asymmetries, this Part argues that sharing economy firms, which observe in detail the activities of all participants under the scaffolding of an app, have both the means and the incentives to engage in complex techniques of self-dealing scarcely reflected in the legal academic literature. We first develop an account of digital market manipulation—referring to the emerging technologies and techniques that empower firms to discover and exploit the limits of consumers’ ability to pursue their self-interest. We then give

132. For a contemporary discussion of the Luddites’ objection to technology, see Calestous Juma, *Innovation and Its Enemies: Why People Resist New Technologies* 25–26, 204 (2016); cf. Frank Pasquale, *Two Narratives of Platform Capitalism*, 35 *Yale L. & Pol’y Rev.* 309, 311 (2016) (comparing disparate views of platform-based firms in a helpful table).

133. In response to allegations that Airbnb hosts rejected customers on the basis of race, Airbnb reduced the prominence of photos in the booking process, introduced the “calendar-blocking” policy that prevents a host from renting a property on given dates if she has already informed a potential guest that the space is unavailable for those dates, and promised to provide comparable accommodations for guests who experience discrimination in the booking process or during a visit. *Airbnb Apologizes for Racism Complaints*, *Outlines Changes*, *Chi. Trib.* (Sept. 8, 2016), <http://www.chicagotribune.com/business/ct-airbnb-apologizes-for-racism-20160908-story.html> [http://perma.cc/X4KR-9MJL].

preliminary evidence of digital market manipulation in the context of our case study, the popular ride-hailing service Uber.

A. *Digital Market Manipulation*

Knowledge itself is power. Under the right circumstances, having better or earlier information than others confers a tremendous advantage. This helps explain why contemporary commerce involves ever-more-detailed study of consumer habits.¹³⁴ The more a firm knows about consumers, the better it is able to meet their needs and monetize their attention. But even one of the most common business models of Internet firms—free content in exchange for ads tailored to one’s interest—is mutating. Increasingly, firms use what they know about consumers not only to match them to content they might prefer but also to nudge consumers to pay more, to work for less, and to behave in other ways that advantage the firm.¹³⁵

In a pair of influential articles, Professors Jon Hanson and Douglas Kysar develop the theory of market manipulation to describe the exploitation by firms of the cognitive biases of consumers.¹³⁶ Cognitive bias refers to the ways people depart from rational decisionmaking because of reliance on heuristics or other mental limitations.¹³⁷ Traditional economic models generally assume away irrational behavior, whereas behavioral economics recognizes the role of cognitive bias as individuals attempt to pursue their self-interest.¹³⁸ Hanson and Kysar’s particular contribution to the literature is to illustrate the ways companies purposely leverage consumer limitations in order to extract rent.¹³⁹ Everything costs \$9.99, they observe, because our brains see a greater distance from \$10 than 1 cent.¹⁴⁰ Indeed, firms are not only in a position to exploit consumer cognitive bias; they may find themselves displaced from the market by firms that are willing to do so if they do not.¹⁴¹

One of us (Calo) has contributed to this debate by updating Hanson and Kysar for the digital age.¹⁴² A theory of digital market manipulation

134. Calo, *Digital Market Manipulation*, supra note 25, at 1006 (exploring the relationship between consumer mediation and market manipulation).

135. *Id.*; see also infra notes 145–149 and accompanying text.

136. Hanson & Kysar, *The Problem*, supra note 23, at 635; Jon D. Hanson & Douglas A. Kysar, *Taking Behavioralism Seriously: Some Evidence of Market Manipulation*, 112 *Harv. L. Rev.* 1420, 1427–28 (1999) [hereinafter Hanson & Kysar, *Some Evidence*].

137. See Hanson & Kysar, *The Problem*, supra note 23, at 645–46.

138. See *id.* at 640.

139. Calo, *Digital Market Manipulation*, supra note 25, at 1001; see also Hanson & Kysar, *The Problem*, supra note 23, at 637.

140. Hanson & Kysar, *Some Evidence*, supra note 136, at 1441–42; see also Calo, *Digital Market Manipulation*, supra note 25, at 1022.

141. Hanson & Kysar, *Some Evidence*, supra note 136, at 1425.

142. See generally Calo, *Digital Market Manipulation*, supra note 25 (advancing an expanded theory of “market manipulation”).

layers in the roles of personal information and digital design. The contemporary consumer is a *mediated* consumer, meaning that her interactions occur through a platform that a company can closely monitor and that it took great pains to design and architect.¹⁴³ By tracking consumer habits in close detail, not only are firms in a position to exploit the general cognitive biases consumers share across a population, but they are also able to identify the specific and often highly idiosyncratic limitations of each consumer. Moreover, the ability to architect virtually every aspect of a digital interaction, such as a website or app, creates far greater opportunities for manipulation than the static selection of price, an offer of rebate, or the other analog approaches Hanson and Kysar explore.¹⁴⁴ Contrast the Hanson and Kysar example of \$9.99 pricing to the ability of firms to charge an individual more because they know she is intoxicated or depressed and therefore less able to exercise self-control.

A theory of digital market manipulation accounts for several new capacities of contemporary firms to identify and exploit cognitive biases. For instance, the ability to study consumer behaviors on a massive scale permits firms to discover many more instances of bias. Rather than draw from a set of known cognitive limitations, such as a propensity to stick with defaults, companies can now use pattern recognition to spot the many idiosyncratic ways consumers depart from rational decisionmaking within their digital ecosystem.¹⁴⁵ This furnishes firms with far more options for advantage taking. Moreover, whereas traditional marketers have been content to use what they know about consumers to match them with goods and services they might prefer, firms are increasingly using what they know to better persuade consumers—a practice known as persuasion profiling.¹⁴⁶

Data advantages are especially critical to sharing economy firms. A recent profile of Uber's founder, Travis Kalanick, affirmed the "existential" importance of data to that company.¹⁴⁷ In addition to its central objective of running a vehicle dispatch system, the company's ambitions include everything from revolutionizing logistics and providing a granular new mapping service to training cars to drive themselves—all goals heavily reliant on the collection and analysis of enormous volumes of data.¹⁴⁸

143. Id. at 1002.

144. Id. at 1003.

145. See id. at 1008.

146. Id. at 1016–17 (citing Maurits Kaptein & Dean Eckles, Heterogeneity in the Effects of Online Persuasion, 26 *J. Interactive Marketing* 176, 179–83 (2012)).

147. Miguel Helft, How Travis Kalanick Is Building the Ultimate Transportation Machine, *Forbes* (Dec. 14, 2016), <http://www.forbes.com/sites/miguelhelft/2016/12/14/how-travis-kalanick-is-building-the-ultimate-transportation-machine/#26af051856ab> [<http://perma.cc/UY6L-AJZ4>]. The authors thank information science Ph.D. candidate Meg Young for flagging this helpful article.

148. Id.

According to Forbes, the company ultimately “seeks to become the planet’s operating system for transportation.”¹⁴⁹

Sharing economy firms such as Airbnb, Lyft, and Uber sit between transactions among multiple parties, which places them in a position to study both the provider of the service and its consumer, individually and collectively. Moreover, the firms design each participant’s entire digital experience from scratch. They build and update the apps or website portals that service providers and service users access. They structure the business model and acceptable forms of transaction. And they write the terms of service and privacy policies that every participant clicks through in order to use each service. This combination of visibility and sociotechnical design confers upon sharing economy firms exquisite control of the interactions they facilitate.

The sharing economy accordingly represents fertile ground for digital market manipulation. However, there are dynamics at play in the sharing economy that differ qualitatively even from social networks or online commerce generally. First, peoples’ livelihoods are at stake. Many participants in the sharing economy derive irreplaceable income from the transactions these platforms facilitate.¹⁵⁰ Indeed, as we discuss in Part I, this is one of the sharing economy’s most significant benefits. But it also means that the systematic exploitation of bias in this context is especially fraught.

Second, while consumers are starting to understand the notion of paying for “free” services with data, they have no such mental model for sharing. There is an increasingly common saying in privacy circles: If you are not the customer, you’re the product.¹⁵¹ Consumers use Facebook or Google without paying money and so, arguably, they tacitly accept the value proposition that these companies will monetize their information and attention. This mental model, or representation of reality, may not translate to the sharing economy, which can appear on first blush to have a simpler business model: It connects consumers to providers for a fee. You *are* the customer, quite literally, so you do not necessarily think of yourself as a product, too.¹⁵²

Third, sharing economy firms can influence not only the perceptions and behaviors of consumers of goods and services but also those of

149. *Id.*

150. See *supra* section I.A.

151. E.g., Barton Gellman, Facebook: You’re Not the Customer, You’re the Product, *Time* (Oct. 15, 2010), <http://techland.time.com/2010/10/15/facebook-youre-not-the-customer-youre-the-product> [<http://perma.cc/2SWF-E3MR>]; see also Scott Goodson, If You’re Not Paying for It, You Become the Product, *Forbes* (Mar. 5, 2012), <http://www.forbes.com/sites/marketshare/2012/03/05/if-youre-not-paying-for-it-you-become-the-product/#6bd6ac495d6e> [<http://perma.cc/XQT4-3SUY>].

152. Of course, consumers in a sense “pay” Facebook and Google with their attention and data. But this does not necessarily register as consumption to the same degree as paying actual money in exchange for a ride.

the suppliers. Control of this “two-sided” marketplace creates additional channels for digital market manipulation, including interparticipant interaction.¹⁵³ For example, sharing economy firms interested in changing *host* behavior for reasons of profit margins could use their knowledge of and access to *guests* through the application to police the host behaviors indirectly by encouraging guests to down-rate activities that harm Airbnb profits.¹⁵⁴

Finally, sharing economy firms can and do leverage their access to consumers and other participants in order to influence important stakeholders such as potential regulators. As Professors Pollman and Barry explain, this strategy is at the very heart of regulatory entrepreneurship: Tell a good story, become indispensable to consumers, and then ask forgiveness instead of permission.¹⁵⁵ We would add that sharing economy firms, as digital platforms, are especially well positioned to identify, encourage, and coordinate participants willing to contact regulators on the firm’s behalf. Imagine, for example, the sudden emergence of a button on an app the consumer can press to call the specific legislator taking aim at the sharing economy firm.¹⁵⁶

In short, the sharing economy presents *at least* as many opportunities for digital market manipulation as any previous or contemporary market modality. Of course, it is one thing to illustrate that a firm *could* engage in manipulative techniques in theory, and quite another to show they do so in practice. Professors Hanson and Kysar accompanied their theoretical work with an article cataloguing the actual practices of firms that exploit consumer cognitive bias.¹⁵⁷ This was possible in part because analog market manipulation is detectable once a person is looking for it: The price or placement of an item or the terms of refund are evident. Digital market manipulation, being a product of behind-the-scenes processing of personal information, is less visible.

Nevertheless, drawing from a variety of sources including an ethnographic study of sharing economy participants, the next section illustrates

153. Thomas Eisenmann et al., *Strategies for Two-Sided Markets*, Harv. Bus. Rev., Oct. 2006, at 92, 94 (“In two-sided networks, cost and revenue are both to the left and the right, because the platform has a distinct group of users on each side.”).

154. Cf. Solon Barocas & Karen Levy, *What Customer Data Collection Could Mean for Workers*, Harv. Bus. Rev. (Aug. 31, 2016), <http://hbr.org/2016/08/the-unintended-consequence-of-customer-data-collection> (on file with the *Columbia Law Review*) (discussing how retail firms use data about consumers to enable stricter management of employees in traditional brick-and-mortar contexts).

155. Pollman & Barry, *supra* note 57, at 398–403.

156. See *id.* at 403–06 (discussing strategies several sharing economy firms use to mobilize users and other stakeholders for political power). For an excellent discussion of the potential of digital market manipulation techniques to influence politics, see Lisa Marshall Manheim, *The Nudging Ballot?: A Response to Professor Foley*, 89 N.Y.U. L. Rev. Online 65, 67–69 (2014), <http://www.nyulawreview.org/sites/default/files/pdf/nyulawreviewonline-89-65-manheim.pdf> [<http://perma.cc/D87R-6MX9>].

157. See Hansen & Kysar, *Some Evidence*, *supra* note 136.

several actual and potential instances of digital market manipulation by the popular ride-hailing platform Uber.

B. *Some Evidence of Digital Market Manipulation in the Sharing Economy*

It is one thing to claim that sharing economy firms have an *opportunity* or even an incentive to abuse their intermediary position. It is quite another to demonstrate that they are actively engaged in abusive practices. We do not have access to the decisions or processes that go on behind the digital scenes of a server or an app. Thus, evidencing the extent to which sharing economy firms are leveraging their asymmetric access to information and unilateral power over the design of interfaces and other architecture is difficult. Nevertheless, some of the acts and practices of sharing economy firms are observable enough to raise serious questions. By studying the observations of sharing economy participants, we can begin to piece together enough evidence of digital market manipulation to support a much deeper investigation.¹⁵⁸

For this purpose, we have selected Uber as a case study. The ride-hailing service has emerged as something of a poster child for the sharing economy. The largest of the sharing economy firms by valuation,¹⁵⁹ it has amassed so much cultural capital as to give rise to an epithet—the “Uberization” of X or “Uber for X” (for example, “Uber for Healthcare”) are used as branding material for companies looking to emulate Uber’s achievements.¹⁶⁰ One of us (Rosenblat) has conducted extensive fieldwork with Uber drivers, which has uncovered many of the issues represented in this section. We suspect, however, that a sustained analysis of virtually any large sharing economy firm—including Uber’s competitor Lyft or housing analogue Airbnb—would yield a similar set of concerns and questions.

This section first addresses possible manipulations of ride-hailers. Next it examines the even greater capacity of Uber to manipulate ride-providers. Finally, the section addresses systematic issues that could affect all participants.

1. *Taking from the Traditional Consumer.* — Consumers utilize Uber’s services by downloading a software application that Uber designs from scratch. The application opens to a map of the user’s present location.

158. One can analogize this examination of evidence of digital market manipulation with a criminal investigation that seeks to establish reasonable suspicion in support of a warrant for the purpose of determining whether there is probable cause for an arrest.

159. See Billion Dollar Startups, CNN Money (Aug. 24, 2016), <http://money.cnn.com/interactive/technology/billion-dollar-startups> [<http://perma.cc/MKE4-76QQ>]; see also *supra* notes 78, 80.

160. E.g., Stuart Karten, *The Uberization of Healthcare*, HIT Consultant (Feb. 17, 2015), <http://hitconsultant.net/2015/02/17/the-uberization-of-healthcare> [<http://perma.cc/M7HQ-FCHZ>]; Tod Perry, *New “Uber for Dogs” Gives You Dog Walkers on Demand*, GOOD (May 28, 2015), <http://www.good.is/articles/new-app-is-uber-for-dog-lovers> [<http://perma.cc/LBM9-ZWD2>].

Represented on the app are icons of vehicles alongside the wait time for the nearest available driver. A user may open her app and see many vehicles around her, suggesting that an Uber driver is close by should she decide to hail one. As research by author Rosenblat and Professor Luke Stark reveals, the representation of nearby Uber cars can be illusory.¹⁶¹ Clicking the button to request an Uber prompts a connection to the nearest driver, who may be much farther away. The consumer may then face a wait time as an actual Uber driver wends her way toward the pickup location. Those icons that appeared where cars were not present are familiar to some consumers as “phantom cars.”¹⁶²

Uber has offered a variety of responses to allegations of phantom cars, including that the cars achieve a “visual effect” akin to a screen-saver.¹⁶³ The idea is to suggest visually that Uber is searching for nearby partners, not that cars are literally present at the location of the icons. Upon multiple inquiries to Uber’s Customer Support Representatives, a particular driver eventually received the following explanation for this discrepancy via email:

The app is simply showing there are partners on the road at the time. This is not a representation of the exact numbers of drivers or their location. This is more of a visual effect letting people know that partners are searching for fares. I know this seems a [sic] misleading to you but it is meant as more of a visual effect more than an accurate location of drivers in the area. It would be better of you to think of this as a screen saver on a computer. Once a rider request[s] a trip there will be actual information about the partners [sic] location showing up in the app.¹⁶⁴

One problem with this response is that the visual vocabulary of Uber’s app is inconsistent. Upon hailing an Uber, a consumer sees an icon of her driver’s actual location in real time. Nothing in the interface distinguishes between the manufactured display of phantom cars and the actual representation of a hailed vehicle. In Professor Woodrow Hartzog’s parlance, Uber engages in “abusive design” by suggesting visually that cars are nearby when they are not, presumably to entice the consumer to commit to hailing Uber instead of Lyft or a taxi.¹⁶⁵ Further, the company

161. Rosenblat, *Phantom Cabs*, supra note 33.

162. *Id.*

163. *Id.*

164. *Id.*

165. See generally Woodrow Hartzog, *Privacy’s Blueprint* (forthcoming 2017) (on file with the *Columbia Law Review*) [hereinafter Harzog, *Privacy’s Blueprint*] (developing a concept of “abusive design”); see also Woodrow Hartzog, *Privacy’s Blueprint: Why Design Matters for Information Technologies*, Univ. of Southampton, http://www.southampton.ac.uk/assets/imported/transforms/content-block/UsefulDownloads_Download/87A836B3E60C4DED9030AB5E662850D9/Privacy%27s%20Blueprint,%20Woodrow%20Hartzog.pdf [<http://perma.cc/D8TJ-3K7T>] (last visited Aug. 17, 2017).

is using the consumer's location on a map to lend verisimilitude to the illusion.

In response to controversy that the presence of phantom cars generated, Uber initially denied their existence but has since offered additional explanation:

Latency is one reason [an accurate depiction of cars] is not always possible. Another reason is that the app only shows the nearest eight cars to avoid cluttering the screen. Also, to protect the safety of drivers, in some volatile situations, the app doesn't show the specific location of individual cars until the ride is requested.¹⁶⁶

Regardless, Uber's ability to blur the boundaries between an accurate representation of real-time supply (drivers) and a representation of general driver supply illustrates the potential for deception to emerge in user interactions with the platform.

A second set of examples involves the willingness of a user to pay surge prices. Uber determines a price according to a proprietary surge-pricing algorithm. When transportation demand is very high—such as during rush hour or a sporting event—Uber's algorithm changes the pricing in response.¹⁶⁷ Drivers like surge pricing because they make more money, although a common piece of advice among drivers is “don't chase the surge” because the system can be unreliable.¹⁶⁸ Presumably consumers do not like surge pricing to the extent they have to pay more.¹⁶⁹ Indeed, charging higher prices during periods of extreme demand has echoes of price gouging—the practice of charging much more for goods and services in the face of an emergency or shortage.¹⁷⁰

Uber's own data scientists have revealed that the firm makes a close study of exactly when consumers might be willing to pay more. For example, Uber researchers found that individuals are more willing to pay surge pricing when the batteries on their phones are low.¹⁷¹ This makes sense, of course, because the alternative is for the consumer to be stranded without access to a means of communication. Uber claims it does not currently leverage this information—we take the company at its

166. Alex Hern, *Uber Denies Misleading Passengers with “Phantom Cars” on App*, *Guardian* (July 30, 2015), <http://www.theguardian.com/technology/2015/jul/30/uber-denies-misleading-passengers-with-phantom-cars-on-app> [<http://perma.cc/J27K-QF9M>].

167. See Rosenblat & Stark, *supra* note 13, at 3766.

168. *Id.*

169. Consumers may simultaneously recognize that surge pricing may increase availability and hence reduce wait time. James Surowiecki, *In Praise of Efficient Price Gouging*, *MIT Tech. Rev.* (Aug. 19, 2014), <http://www.technologyreview.com/s/529961/in-praise-of-efficient-price-gouging/> [<http://perma.cc/7272-7WU9>].

170. *Id.*; see also Matt Zwolinski, *The Ethics of Price Gouging*, 18 *Bus. Ethics Q.* 347, 347 (2008).

171. See *supra* note 34.

word.¹⁷² But the very fact that Uber monitors battery life raises questions about the information to which Uber has access as well as the criteria the firm might find suitable for use in pricing.¹⁷³

Another example involves introducing artificial precision into surge pricing. Numerous studies and common sense tell us that consumers tend to condemn price gouging, or raising prices during times of very low supply and high demand, as unfair.¹⁷⁴ Many jurisdictions prohibit the practice as a matter of law.¹⁷⁵ At the heart of price gouging is the idea that a seller decides to exploit anomalous circumstances to charge people much more. Uber does set the base rates at which drivers are paid, and at which passengers pay, but in addition, it uses pricing algorithms to assess surge premiums, and it sometimes assesses a higher price for passengers to pay through “up-front pricing.” In this sense, Uber does not set prices the way that merchandise is listed at a physical store, but instead, it determines initial prices using algorithms that effectively experiment with what a consumer is willing to pay. Algorithmic pricing is also evident in other businesses, such as online retail outlets, which use customers’ information, such as their location comparable to other available retail options or their demographic, to target them with different prices for the same items.¹⁷⁶ The social science around algorithms has found that people tend to trust algorithms and “Big Data” as reflecting mathematical realities.¹⁷⁷ Travis Kalanick has reinforced this perception by stating, for instance, that “[we are] not setting the

172. In correspondence with the authors dated May 30, 2017, Uber, citing comments from Uber employee Keith Chen reiterates, “We have never—and will not—use battery life to determine prices, nor will we exploit such information to charge people more.” May 30 Uber E-Mail, *supra* note 117.

173. For a discussion, see Lukasz Olejnik et al., *Battery Status Not Included: Assessing Privacy in Web Standards 1–7* (2017), <http://randomwalker.info/publications/battery-status-case-study.pdf> [<http://perma.cc/2W74-EN33>].

174. Steven Suranovic, *Surge Pricing and Price Gouging: Public Misunderstanding as a Market Imperfection 3* (George Washington Univ. Elliot Sch. of Int’l Affairs, Inst. for Int’l Econ. Policy Working Paper No. IIEP-WP-2015-20, 2015), <http://www2.gwu.edu/~iiep/assets/docs/papers/2015WP/SuranovicIIEPWP2015-20.pdf> (on file with the *Columbia Law Review*).

175. Thirty-four states and the District of Columbia have anti-price gouging laws. For a complete list, see Michael Giberson, *List of State Anti-Price Gouging Laws, Knowledge Problem* (Nov. 3, 2012), <http://knowledgeproblem.com/2012/11/03/list-of-price-gouging-laws> [<http://perma.cc/6QU7-GDL2>].

176. Cf. Jennifer Valentino-DeVries et al., *Websites Vary Prices, Deals Based on Users’ Information*, *Wall St. J.* (Dec. 24, 2012), <http://www.wsj.com/articles/SB1000142412788732377204578189391813881534> (on file with the *Columbia Law Review*) (discussing the algorithmic pricing practices of Staples and other vendors, as well as high rates of customer dissatisfaction with the practice).

177. See danah boyd & Kate Crawford, *Critical Questions for Big Data*, 15 *Info. Comm. & Soc’y* 662, 667 (2012) (“[T]here remains a mistaken belief that . . . quantitative researchers are in the business of producing facts.”). See generally Cathy O’Neil, *Weapons of Math Destruction: How Big Data Increases Inequality and Threatens Democracy 1–13* (2016) (describing the perception of Big Data as fair and objective).

price. . . . We have algorithms to determine what that market is.”¹⁷⁸ But Uber’s data scientists found that users distrust algorithmic surge pricing that merely doubles their costs (x2.0) because they perceive this as a form of artificial price gouging. This suggests that Uber should introduce the appearance of more precision (e.g., x2.2).¹⁷⁹ Designing prices that people will perceive as algorithmic or mathematical instead of arbitrary is the digital equivalent of charging \$9.99.¹⁸⁰

Uber also appears to be charging different prices to similarly situated consumers—a practice known as dynamic price discrimination, which some consumers and commentators find alarming. Research by computer scientists Le Chen, Alan Mislove, and Christo Wilson measured the prices Uber’s Application Programming Interface returned for surge in various areas to various passengers and examined those prices against the prices passengers actually received.¹⁸¹ They found a discrepancy, with users in the same surge zone at the same time receiving different prices, which Uber explained as a bug in the system.¹⁸² A possible technical explanation for this discrepancy has to do with server infrastructure.¹⁸³ Achieving consistency of prices across a distributed network of services is challenging.¹⁸⁴

178. Tim Hwang & Madeleine Clare Elish, *The Mirage of the Marketplace*, Slate (July 27, 2015) (internal quotation marks omitted), http://www.slate.com/articles/technology/future_tense/2015/07/uber_s_algorithm_and_the_mirage_of_the_marketplace.html [<http://perma.cc/3LXD-RURQ>].

179. Melissa Dahl, *People Get Suspicious When the Uber Surge Price Is a Round Number*, N.Y. Mag. (May 17, 2016), <http://nymag.com/scienceofus/2016/05/people-get-suspicious-when-the-uber-surge-price-is-a-round-number.html> [<http://perma.cc/7RKX-CA4B>] (“[S]pecificity convinces people that they need to take [a noninteger surge price rate] more seriously than a round number . . .”).

180. Uber has also experimented with “up-front pricing” by displaying total cost to consumers, rather than the surge multiplier, essentially to disguise the price-gouging factor from the user interface. See Andrew J. Hawkins, *Uber Is Trying to Make You Forget that Surge Pricing Exists*, Verge (June 23, 2016), <http://www.theverge.com/2016/6/23/12017002/uber-surge-pricing-upfront-fare-app-update-announcement> [<http://perma.cc/4D4N-GGXT>].

181. See Le Chen, Alan Mislove & Christo Wilson, *Peeking Beneath the Hood of Uber 1* (2015), http://www.ftc.gov/system/files/documents/public_comments/2015/09/00011-97592.pdf [<http://perma.cc/N4PG-MUP2>].

182. *Id.* at 2.

183. For example, when a passenger opens the app, Uber’s technical system is supposed to figure out what area she is in and deterministically assign her to a specific server in a given area, like a grid, and everyone in that area is supposed to get that price. However, the system isn’t seamless—users in the same general area might access data through different remote servers. Instead of being tied to one server, surge prices come from requests that are moving across different servers. If server assignments are not seamlessly synchronized, users in the same geographic zone may receive different prices. See *id.* at 1–3 (discussing the process by which Uber pairs users with cars and fares).

184. See, e.g., *infra* note 229 and accompanying text (discussing the inconsistent use of cancellation fees across cities).

Uber may also be manipulating consumer access to various tiers of service. Uber offers a variety of services under its umbrella, with variations in price and quality of service. Anecdotally speaking, for some consumers, the cheaper service uberPool appears as a default, requiring the consumer to overcome default bias in search of another option.¹⁸⁵ For other consumers, perhaps those that Uber somehow understands to be better resourced or who potentially have a habit of preferring one tier of service to another, the more expensive uberX appears as a default. The displayed services may also be labeled by Uber in the Uber rider app as “popular,” indicating that they are highlighted based on aggregate consumer behavior and not based on individual habits; they may also be labeled under the umbrellas of “economy” or “premium” services.¹⁸⁶ In other instances, two different passengers standing in the same spot at the same time might receive different price quotes to the same destination. This, speculatively, indicates that Uber possibly targets users with prices based on their perceived willingness to pay more. There could, of course, be technical errors that produce discrepancies or extremely sensitive pricing algorithms that are responsive to momentary supply and demand and that might result in higher price quotes for sequential passengers in similarly situated positions.¹⁸⁷ Uber may even hide uberX entirely by showing no available drivers.¹⁸⁸ Ultimately we do not know,¹⁸⁹ and any

185. See Katherine Boehret, *Uber Needs to Stop Nudging Me into Carpooling*, *Verge* (May 28, 2016), <http://www.theverge.com/2016/5/28/11799584/uber-uberpool-carpool-uberx-app> [<http://perma.cc/T78X-NBJB>].

186. See Calo & Rosenblat, *Uber Data Set*, *supra* note 81, at SS2.

187. See, e.g., Derek Khanna (@DerekKhanna), Twitter (June 20, 2017), <http://twitter.com/DerekKhanna/status/877150225474965506> [<http://perma.cc/28DH-K3QC>]. In this example, two users were standing immediately next to each other: The address for User A was 1010 S Miami Ave., and the address for User B was 1001 S Miami Ave., but any difference in the physical proximity of the two slightly different addresses was negligible on the map and was likely the result of an inconsistency in how each user’s device-specific GPS assigned his or her location. Both were traveling to the same destination (Miami International Airport) and requested rides from Uber at the same time (9:19 PM) but received significantly different prices. For uberX, User A received a quote of \$12.31 with an arrival time of 9:40 PM, while User B received a quote of \$16.98 for the same trip, albeit with a later arrival time of 9:48 PM. In this instance, the price that Uber’s app generated evidently created different routes: one longer and one shorter. While this differing timing may explain the pricing discrepancy, it is worth noting that, regardless of whether Uber uses an algorithm or a GPS navigation service to generate differential pricing, the Uber app ultimately offered each user a different price for the exact same product though they were similarly situated. The app displayed uberPool quotes for both users as well. User A received a quote of \$7.49 while User B received a quote of \$10.19. However, uberPool routes may be calculated differently than those of uberX because they involve picking up other passengers along the way, which may produce some discrepancies in pricing.

188. The authors thank computer scientist Christo Wilson for an illuminating discussion on surge pricing discrepancies and server requests.

189. See Eric Newcomer, *Uber Starts Charging What It Thinks You’re Willing to Pay*, *Bloomberg* (May 19, 2017), <http://www.bloomberg.com/news/articles/2017-05-19/uber-s-future-may-rely-on-predicting-how-much-you-re-willing-to-pay> [<http://perma.cc/AA76-YF4A>]. Uber changed its pricing policy in 2017 to indicate that it implements “route-based

technical caveat may suffice to explain only some of the inconsistencies in Uber pricing.¹⁹⁰

2. *Taking from the Entrepreneurial Consumer.* — Sharing economy firms try to avoid characterizing themselves as traditional employers. Rather, they claim to provide a technology-based service to different categories of users. Contractually, Uber tends to refer to drivers as independent contractors, which helps limit its obligations under labor and tort law.¹⁹¹ Uber and other sharing economy firms characterize all participants as consumers: In the United Kingdom, for example, Uber actually uses the label “customer” in its terms of service when drivers download the app,¹⁹² and in a U.S. class action regarding employment classification, Uber took the position that drivers are consumers of its software, like passengers, for which they pay a “licensing fee” to Uber.¹⁹³ The construction of all participants as consumers is reinforced by the FTC’s verbiage in its complaint against Uber, in which it refers to drivers as “entrepreneurial consumers.”¹⁹⁴ At any rate, the opportunity to manipulate drivers is, if anything, considerably more expansive than the opportunity to manipulate ride-hailers.

All users of the platform rely on Uber to fulfill the expectations it scaffolds onto users about how its system works. When issues of deception or other types of problems emerge, such as phantom cars, it can be challenging to dissect which part of the problem is a business practice, a technical issue, or a sociotechnical misunderstanding. But discrepancies in the system will generally tend to be more impactful on drivers in that they can result in lost pay or even suspension from the service.

Drivers transact with the company and with riders in accordance with contractual terms written by Uber. This is hardly anomalous; one-sided or boilerplate contracts are commonplace in contemporary

pricing” through machine-learning techniques, based on aggregate passenger behavior, but it denies that individuals are targeted with differential pricing based on their personal willingness to pay. We note that this may be an area ripe for further investigation. See, e.g., Jordan Pearson, *Uber Is Using AI to Charge People as Much as Possible for a Ride*, *Vice: Motherboard* (May 19, 2017), http://motherboard.vice.com/en_us/article/ywmex5/uber-is-using-ai-to-charge-people-as-much-as-possible-for-a-ride [<http://perma.cc/AA76-YF4A>].

190. See Boehret, *supra* note 185 (describing how Uber’s confusing app workflow misleads users).

191. See Cherry, *supra* note 118, at 578.

192. Uber B.V., *Services Agreement* (Oct. 20, 2015), http://s3.amazonaws.com/uber-regulatory-documents/country/united_kingdom/Uber+BV+Driver+Terms++UK+Preview.pdf [<http://perma.cc/F3YM-TGSZ>]; see also Rosenblat & Stark, *supra* note 13, at 3761.

193. See Transcript of Summary Judgment Proceedings at 16, *O’Connor v. Uber Techs., Inc.*, 82 F. Supp. 3d 1133 (N.D. Cal. 2015) (No. C 13-3826); see also Rosenblat & Stark, *supra* note 13, at 3761–62.

194. *Complaint for Permanent Injunction and Other Equitable Relief* at 3, *FTC v. Uber Techs., Inc.*, No. 17-261 (N.D. Cal. Jan. 19, 2017), <http://www.ftc.gov/system/files/documents/cases/1523082ubercmplt.pdf> [<http://perma.cc/JG4Z-3PZF>].

markets.¹⁹⁵ But Uber's business model and the transactions it supports are particularly complex. They involve many different configurations and contingencies, such as short-term promotions and new contractual conditions. Drivers must perennially agree to new terms of service in order to log in to work—akin to signing a new employee manual every few days.¹⁹⁶

As Professor Oren Bar-Gill reports in his book *Seduction by Contract*, contracts are getting more complex over time as an empirical matter.¹⁹⁷ Bar-Gill argues that the increasingly dense contracts may represent a purposeful attempt to exploit human limitations in processing complexity.¹⁹⁸ And as Professor David Horton explores, constant unilateral changes to contracts result in “shadow terms” consumers are not aware of.¹⁹⁹ Worse still, Uber could roll out an aggressive term for a specific period of time and then erase it—a sort of fleeting unconscionability.²⁰⁰ Together, these forces leave drivers at a clear disadvantage. Drivers may not even have a record of the specific terms governing a particular period of time, let alone a clearly legible record of their transactions.

Another concrete way Uber presses its advantage over drivers is by hiding information about the marketplace. Uber imposes restrictions on the information available to drivers before they accept a trip, which prohibits them from making informed choices about the rides they agree to carry out: For example, Uber has a policy of blind ride acceptance, such that the driver does not know the destination of the passenger (and hence, the remunerative value of the trip) before she accepts it.²⁰¹ This practice is touted as a means to ensure system efficiency and prohibit destination-based discrimination.²⁰² If a driver accepts the trip and afterward declines it, her cancellation rating is affected, which can put her job in jeopardy.²⁰³ Drivers who do not meet the threshold requirements that Uber sets for their behaviors, such as a high ride-acceptance rate, a low ride-cancellation rate, and a high passenger rating, risk being “deactivated” (temporary suspension or permanent firing) by Uber from the platform.²⁰⁴

In other instances, Uber does not hide information entirely but relies on general impressions or predictions instead of making concrete

195. See generally Margaret Jane Radin, *Boilerplate: The Fine Print, Vanishing Rights, and the Rule of Law* (2012) (discussing the pervasiveness of boilerplate contracts and their implications on the rights and relationships of contracting parties).

196. See *supra* note 36 and accompanying text.

197. See Bar-Gill, *supra* note 36, at 18–21, 141–45.

198. See *id.*

199. Horton, *supra* note 36, at 606–10.

200. See U.C.C. § 2-302 (Am. Law Inst. & Unif. Law Comm'n 2014) (discussing unconscionable contracts or clauses).

201. Rosenblat & Stark, *supra* note 13, at 3762.

202. *Id.*

203. See *id.*

204. *Id.* at 3761–62, 3766.

numbers available. For example, while Uber originally showed drivers precise surge premiums in a given area in association with heat maps that display varying levels of surge through color schemes—yellow means demand is rising, orange means surge may appear soon, and red means it is surging—it changed the design of its app in October 2015 to show heat maps with those color schemes but without precise prices.²⁰⁵ In effect, the app encourages drivers to believe in surge and travel to receive surge rides, but it fails to provide a precise indicator or a guarantee of what that price is. Heat maps thus function as a behavioral engagement tool but can effectively operate as a bait-and-switch mechanism similar to the use of phantom cars to entice ride-hailers. These constraints on drivers' freedom to make fully informed and independent choices reflect the broad information and power asymmetries that characterize the relationship between Uber and its drivers and illustrate how the Uber platform narrows the choices that drivers are free to make.²⁰⁶

Uber's algorithmic dispatcher also effectively forces drivers to accept trips they might otherwise reject through a combination of design and policies, such as ride-acceptance quotas²⁰⁷ (even as it nudges passengers

205. For a discussion, see Patrick McQuown et al., *An Analysis of the Entrepreneurial Aspects of Uber's Driver-Partner Platform* 7–9 (2016), <http://www.brown.edu/academics/engineering/sites/brown.edu.academics.engineering/files/uploads/UberCaseBrownUniversityMcQuown.pdf> [<http://perma.cc/P776-KVBF>].

206. See Rosenblat & Stark, *supra* note 13, at 3758–59.

207. During Rosenblat's fieldwork, drivers faced deactivation for low ride-acceptance rates, and these deactivations could be permanent or temporary. However, Uber changed its policy in August 2016 so that drivers may instead face temporary deactivations and time-outs (such as for ten minutes). See, e.g., Harry Campbell, *How to Take Advantage of Uber's New Acceptance Rate Policy*, *Rideshare Guy* (Aug. 5, 2016), <http://therideshareguy.com/how-to-take-advantage-of-ubers-new-acceptance-rate-policy/> (on file with the *Columbia Law Review*). Uber, in its May 30, 2017 correspondence with us, additionally asserted that acceptance rates are no longer a requirement for promotions for drivers in many large U.S. cities. However, Rosenblat's source material demonstrates that, as recently as March 16, 2017, a driver in Cincinnati posted an Uber Quest rewards promotion to a driver forum showing that the drivers must maintain an eighty-five percent ride-acceptance rate or higher to satisfy the terms of the promotion. The criteria for a Quest promotion resemble a modified version of an hourly guarantee, and ride-acceptance rates are an important criterion. Calo & Rosenblat, *Uber Data Set*, *supra* note 81, at SS2. For example, the terms of the promotion in this instance are: The driver must complete sixteen trips between 12:00 PM and 10:00 PM and accept eighty-five percent of trip requests to earn an extra fifty dollars on top of her trip fares. *Id.* In addition to Rosenblat's sample source material, Uber driver Ezra Dubroff has a more detailed explanation of Quest rewards, including examples from April 2017 in Los Angeles. See Ezra Dubroff, *The Best Strategies and Hacks for Quest*, *Rideshare Guy* (Apr. 12, 2017), <http://therideshareguy.com/the-best-strategies-and-hacks-for-uber-quest/> (on file with the *Columbia Law Review*). In the example posted, the criteria for Quest include: twenty-five percent of requests completed; eighty percent of trips accepted; trips must begin in Los Angeles County; and trip types include uberX, uberPool, uberSC, Español, Assist, UberEats, and UberListen. As of July 10, 2017, Uber actively continues to use Quest as an incentive. In a big announcement of policy changes from June 20, 2017, labeled "180 Days of Change," Uber makes no mention of a change to the typical requirements it sets as criteria for earning Quest

to accept services that they might not prefer). This soft coercion manifests most acutely around the uberPool service. Many drivers dislike uberPool, a carpool service, because they must pick up multiple passengers at different points, endure the grief of passengers who dislike being delayed en route to their destination to accommodate other passengers, and suffer lower passenger evaluations as a result, for about the same pay as an uberX ride, in which they take one passenger or passenger group from A to B.²⁰⁸ Drivers have typically not been permitted by the company to opt out of uberPool, and their acceptance rates for routine and for premium or incentive offers, including guarantees, can be affected by their ride-acceptance ratings on uberPool, which is a point of concern for some drivers.²⁰⁹

A January 2017 driver survey by Harry Campbell, who runs a popular rideshare blog for Uber, Lyft, and other ride-hail drivers, found that “56.5% of drivers disagreed with the statement that they are satisfied with their uberPool experience.”²¹⁰ In order to decline “automatic” trip requests from uberPool, drivers can try to write in to Uber Customer Support Representatives. Driver reports in online forums indicate that some have had success, but others are not able to opt out.²¹¹ Uber’s practices further complicate the situation by providing different terms to drivers depending on when they started to drive for the service. For example, after uberBlack drivers protested against being forced to accept low-paid uberX trips, Uber rescinded its policy requiring drivers to accept those trips in 2014,²¹² only to reintroduce similar terms for new drivers in New

promotional pay, aside from including destination trips as part of promotions. See, e.g., 180 Days of Change Starts Today, Uber: Blog (June 20, 2017), <http://www.uber.com/blog/180-days/> [<http://perma.cc/JFA9-Y8DT>] [hereinafter Uber, 180 Days] (announcing that “Quest [e]arnings are [a]vailable for [i]nstant [p]ay”). Subsequent to Uber’s publication of its June 20, 2017 policy change announcements in 180 Days of Change, Rosenblat obtained additional source material from July 2017. This source material demonstrates that Uber offered a Quest reward to a driver in San Francisco for the period of Monday, July 3, 4:00 AM to Friday, July 7, 4:00 AM. Calo & Rosenblat, Uber Data Set, supra note 81, at SS3. The details of the offer are as follows: The driver must accept seventy-five percent of ride requests; trips must begin in the San Francisco Bay Area; and Black and SUV trips do not qualify. Id. The driver may earn an additional \$125 for completing thirty-five trips that match those criteria. Id. Additionally, rider cancellations and driver cancellations are excluded from the promotion. Id. A driver who posted the Quest reward received for San Francisco to a forum had a ninety-six percent acceptance rate and therefore was in good standing. Id.

208. See Matt McFarland, How Uber Punishes Drivers Who Refuse to Use UberPool, CNN Tech (July 28, 2016), <http://money.cnn.com/2016/07/28/technology/uber-uberpool-timeouts/> [<http://perma.cc/3354-3ZGY>].

209. Calo & Rosenblat, Uber Data Set, supra note 81, at SS4.

210. Harry Campbell, The Rideshare Guy 2017 Reader Survey 7 (2017), <http://therideshareguy.com/rsg-2017-survey-results-driver-earnings-satisfaction-and-demographics/> (on file with the *Columbia Law Review*).

211. Calo & Rosenblat, Uber Data Set, supra note 81, at SS5.

212. Alison Griswold, Uber Just Caved on a Big Policy Change After Its Drivers Threatened to Strike, Slate: Moneybox (Sept. 12, 2014), <http://www.slate.com/blogs/moneybox/>

York City a few years later.²¹³ It is worth noting that while Uber's general terms and policies, including those related to opt-outs and cancellation fees, usually apply to all Uber drivers, each market may create exceptions. Moreover, perennial modifications may be implemented over time, as is evident in Uber's rescinded and then reintroduced policy for uberBlack drivers to pick up uberX trips in New York.

Hourly guaranteed pay has been another source of concern. While Uber (and Lyft) sets base rates per mile and per minute at which drivers earn, it also offers a range of incentive pay—like surge pricing. The incentive pay offers drivers a premium to drive when and where demand is high and gives hourly guarantees²¹⁴ that provide drivers an hourly rate, such as \$22 or \$40 per hour for a given shift, if they meet specific criteria during the guarantee period(s).²¹⁵ Uber does not disclose the criteria by which select drivers are invited to participate in guarantees, which vary frequently, but drivers who do opt in report mixed experiences in claiming guaranteed pay.²¹⁶

Hourly ride guarantees typically come with some version of the following conditions that drivers must meet in order to be eligible for the guarantee: accept ninety percent of ride requests; complete two trips per hour; work between prescribed hours, such as 12:00 AM–3:00 AM; be online for fifty minutes of each hour; maintain a high average passenger-sourced rating, such as 4.7 out of five stars; and accept trips from within a circumscribed radius.²¹⁷

2014/09/12/uber_drivers_strike_they_protested_cheap_uberx_fares_uber_backed_down.html [http://perma.cc/52V2-SM4B].

213. Full Vehicle List, Uber, <http://driveubernyc.com/vehicles/full-list/> (last visited Feb. 11, 2017) (on file with the *Columbia Law Review*). Note that the terms listed at this hyperlink destination are subject to changes.

214. In an email by Uber to the authors dated May 30, 2017, Uber noted that hourly guarantees have been phased out. May 30 Uber E-Mail, *supra* note 117. However, hourly guarantees were in operation as recently as November 2016 in places like Texas. Calo & Rosenblat, Uber Data Set, *supra* note 81, at SS6.

215. Incidentally, Uber's deployment of multiple pay incentives to shape shift work for its managed labor force indicates that it operates an employment platform, rather than a neutral marketplace, or that surge pricing fails to accurately match supply with demand. See Rosenblat & Stark, *supra* note 13, at 3763.

216. Alex Rosenblat, How Can Wage Theft Emerge in App-Mediated Work?, Rideshare Guy (Aug. 10, 2016), <http://therideshareguy.com/how-can-wage-theft-emerge-in-app-mediated-work/> [http://perma.cc/2WYG-8NCL] [hereinafter Rosenblat, Wage Theft Emerge].

217. See Rosenblat & Stark, *supra* note 13, at 3764. It is worth noting that these types of behavioral engagement tools around pay premiums are not unique to Uber. For example, Airbnb offers hosts a "Superhost" badge to display on their listings, which indicates that they offer extraordinary hosting services, if they meet the following criteria: complete at least ten hostings in their listing per year; maintain a 90% response rate or higher; receive five-star ratings in 80% of their guest reviews; and keep low cancellation rates. See Superhost, Airbnb, <http://www.airbnb.com/superhost> [http://perma.cc/6E5B-WMDJ] (last visited Aug. 30, 2017).

Drivers in Rosenblat's ongoing research report that they occasionally get "phantom" or fleeting ride requests.²¹⁸ In a typical anecdote, a driver sees a ride request notification flash across her screen for a split second, rather than for the standard fifteen seconds—too quickly for her to assess its merits or even blindly accept it. Or, drivers report that they accept every ride request they see yet, upon receiving their pay stubs, discover they were not paid the guaranteed rate. When they inquire with Uber Support, they are told that they did not meet the ride-acceptance rate. For example, while a driver may perceive that she accepted 100% of ride requests, Uber Support may say she accepted only 78% of ride requests according to Uber's internal data.²¹⁹ Drivers have no way of monitoring app activities to provide an objective account and perceive they would be in violation of their terms of service were they to try to reverse-engineer the app in an effort to hold the system accountable for their pay.²²⁰

Some of these instances of missed ride requests may involve drivers who are distracted or otherwise miss a legitimate ride request. But reports of phantom flash requests signal either an underhanded business practice that is designed to minimize how many drivers actually receive the guaranteed pay or possibly technical issues that interfere with the mechanisms in place to ensure drivers are paid for their work. Network glitches might result in delays between the time a request from Uber is sent to the driver and the appearance of that request on the driver's screen. Or, the driver may accept the ride, but there may be a delay in how long it takes for that driver's intent to be conveyed to Uber. If the driver has a slow phone, or another data-intensive app is open and running, the Uber app may not take priority.²²¹ Drivers' phones may have varying signal strengths as they connect to the Uber and mobile phone networks, and there can be other sources of lag across the network. And drivers may have phones of varying quality and different data plans. Importantly, drivers are not well positioned to appreciate the many factors that could interfere with their expectations for the service they have licensed for Uber and upon which they depend for their income.

Hourly guarantees and ride request rates are not the only issues for which technical infrastructure may not support the social expectations of pricing for drivers on Uber's system. For example, drivers across online

218. Rosenblat, *Phantom Cabs*, supra note 33.

219. Rosenblat, *Wage Theft Emerge*, supra note 216.

220. See Uber, *Technology Services Agreement* § 5.2 (Dec. 11, 2015), http://s3.amazonaws.com/uber-regulatory-documents/country/united_states/RASIER%20Technology%20Services%20Agreement%20December%202010%202015.pdf [<http://perma.cc/ZYM7-YDDW>]; see also infra section III.C (arguing that consumer protection law should remove barriers to technical auditing).

221. We thank computer scientists Yan Shvartzsnaider and Christo Wilson for their contributions to the authors' understanding of the technical infrastructure and how it intersects with concerns around wage theft. We further note that this is a hypothetical line of inquiry, with high-level, unconfirmed, and untested assumptions based on a simplistic and generic model of any given distributed system.

forums and in interviews from Rosenblat's ongoing fieldwork report that they are not always paid for cancellation fees. Uber's policy in most cities²²² is that drivers receive a cancellation fee, such as \$5 or \$10, depending on their city and their tier of service.²²³ In a common scenario, the driver indicates she has arrived to pick up a passenger within the app, but the passenger takes longer than five minutes to get in the car. Drivers generally must be within the estimated time of arrival generated by the app, or within five minutes of it, and at the time they have arrived, they should be located within the passenger's geofence.²²⁴ After five minutes elapse, drivers can report to Uber that the passenger did not show up and claim the cancellation fee.²²⁵

Drivers have mixed experiences in actually being paid that cancellation fee. When they make further inquiries to Uber Support, they receive responses indicating that they did not, in fact, wait for five minutes, even if they assert that they waited six or seven.²²⁶ One dissatisfied driver requested time stamps for a specific trip to verify that he should merit the cancellation fee, to which Uber's representative replied: "We're unable to provide screenshots of our software, but I can tell you that it was 4 minutes and 59 seconds. I understand that this is frustrating we can't add the fee unless it's the full 5 minutes, as this is something that happens automatically in our system."²²⁷

222. There are two examples of exceptions in which the cancellation fee is \$0. Calo & Rosenblat, *Uber Data Set*, supra note 81, at SS7. Uber also pilots different cancellation windows and fees in different cities. See, e.g., Kia Kokalitcheva, *Uber Wants to Charge You for Jerking Around Your Driver*, *Fortune* (Apr. 28, 2016), <http://fortune.com/2016/04/28/uber-cancellation-wait-fees/> [<http://perma.cc/W64D-Q6F6>] (explaining that Uber has been "experimenting with shrinking the ride cancellation window from five minutes down to two minutes" in select cities, including "Dallas, New Jersey, New York, and Phoenix"). In addition, subsequent to the circulation of a draft copy of this Essay in March 2017, on June 20, 2017, Uber changed its general cancellation policy such that passengers are charged a cancellation fee after a two-minute wait period, and drivers are advised in this policy that "[they] will get the cancellation fee set by [their cities]" and "[f]ee amounts vary by vehicle class and city." See *Make the Most of Your Time*, Uber, <http://www.uber.com/info/180-days/paid-wait-time/> [<http://perma.cc/9UL9-NE62>] (last visited Aug. 6, 2017). In some markets, this new policy also notes that drivers are now paid a per-minute waiting fee if they stay beyond the two minutes. *Id.* For an explanation of 180 Days of Change, Uber's June 2017 announcement of broad policy changes, see Uber, *180 Days*, supra note 207.

223. Prior to a 2015 policy change in some markets, Uber also implemented a policy of not charging passengers a cancellation fee when it was their first time canceling. However, drivers had no way of knowing whether it was a passenger's first or second cancellation, and the cost of this policy was borne by drivers—for example, drivers were not paid a substitute fee if the passenger was not charged. In January 2015, Uber changed this policy to eliminate first-time cancellations for passengers. Calo & Rosenblat, *Uber Data Set*, supra note 81, at SS8; see also Rosenblat, *Wage Theft Emerge*, supra note 216.

224. Calo & Rosenblat, *Uber Data Set*, supra note 81, at SS9.

225. Rosenblat, *Wage Theft Emerge*, supra note 216.

226. Calo & Rosenblat, *Uber Data Set*, supra note 81, at SS10.

227. *Id.*

In a system in which payment or nonpayment of a fee hinges on seconds, the absence of a mutually accountable time notation is problematic. This problem is so prevalent that one enterprising driver developed a rideshare timer available to be purchased and downloaded for the cost of one cancellation fee (\$5), with the express goal of helping drivers claim their fees.²²⁸ Driver frustration with cancellation fees abounds in online driver forums. While some drivers undoubtedly do not wait the full five minutes, reports of unpaid cancellation fees are recurrent, and drivers have no way within the app to validate how much time has elapsed. The issue of unpaid cancellation fees indicates either that Uber is engaged in a nefarious business practice of shorting driver pay through the design of its timerless app or that something is awry with the technical infrastructure that accounts for driver pay.²²⁹

The implication is that Uber promises to pay if drivers wait for five minutes, but it withholds the information drivers need to ensure that the time they wait is accounted for, which is in turn necessary to receive payment. By contrast, for example, Uber's competitor Lyft keeps a timer in the app so that drivers can see when five minutes have elapsed. Even if Lyft experiences the same technical time discrepancies as Uber, the placement of an in-app timer aligns better with a general lay or driver understanding of time as an objective measure and mitigates the issue of

228. RSG035: Michael Tee on Launching the App Rideshare Timer, Rideshare Guy (Feb. 29, 2016), <http://therideshareguy.com/rsg035-michael-tee-on-launching-the-app-rideshare-timer/> (on file with the *Columbia Law Review*).

229. In response comments to a draft of this Essay, Uber disclaimed any intention to harm drivers by not having a timer feature. May 30 Uber E-Mail, *supra* note 117. In the same comments, dated May 30, 2017, Uber asserted that it has also introduced a timer feature to make clear how long drivers have to wait for passengers and when cancellation fees or other fees would be incurred. *Id.* This is not entirely accurate, however, according to Rosenblat's ethnography. As of May 31, 2017, the timer feature has been deployed inconsistently across the cities where Uber operates. The timer feature has been added in some cities, but the rollout is staggered, and the appearance of the timer feature is therefore inconsistent. In some rarer instances, drivers report inconsistent experiences with the timer feature itself, such that some in the same city may see it at different times, which may be attributed to drivers having different versions of the app, such as for iPhone or Android. Others report that the timer appeared and then disappeared from their app. At the time of Uber's comments, the timer feature was not universally available for Uber drivers in New York City, a primary Uber market. In mid-June 2017, for example, New York City Uber drivers expressed surprise through forum posts and comments at finally getting a timer, whereas others commented that they had seen it before. In May and June 2017, drivers sporadically posted in online forum groups and on Twitter about the novelty of the timer's appearance in certain places, such as in Fort Collins, Colorado, or Boston, where one driver excitedly reported its novel appearance on June 13, 2017. See Russ from Boston (@realdealruss), Twitter (June 13, 2017), <http://twitter.com/realdealruss/status/874828985611550720> [<http://perma.cc/MY9R-DLJG>]. However, the authors appreciate that Uber's feature additions are responsive to some of the business practices and technical issues articulated in this Essay and long raised as concerns by drivers, which Rosenblat has previously presented in written work and to the company itself in August 2016. See *supra* note 218 and accompanying text.

unfairness in the user experience of the app.²³⁰ Uber changed its policies in the United States in an announcement on June 20, 2017, on a number of features,²³¹ including cancellation fees, which are now available after two minutes have passed (although this policy could change again). Uber added a timer feature to the app in some cities, with promises to introduce it in additional cities soon, to remedy issues and confusion with unpaid cancellation fees.²³²

3. *The Wisdom of the Captured.* — The nature of the sharing economy, and the sharing economy firm, continues to evolve. A company such as Uber possesses far grander ambitions than simply connecting drivers and riders. Uber recently launched its own mapping service, for instance, and has invested significantly in driverless cars.²³³ Ultimately, the company hopes to revolutionize transportation logistics.²³⁴ In May 2016, Uber informed some drivers that it had added a “phone movement notification” to alert drivers when their phone may be unsecured by a mount, though not all drivers use a phone mount (e.g., some keep it in their laps or to the side).²³⁵ We speculate that one explanation for this feature, since it does not necessarily impact a driver’s ability to do her job, is that it can be used to better collect mapping data for Uber from the driver’s phone. In any event, it is clear that Uber’s motivations involve both profiting in the short run from virtual dispatch services and advancing its many other goals. Conflicts may arise between Uber’s systemic goals and the everyday interactions of other participants—a phenomenon Rosenblat and her coauthor Tim Hwang refer to as the “wisdom of the captured.”²³⁶

230. The symbolic value of a timer, which holds every actor to the same standard of accountability, is instructive for other data-centric systems. Technical systems are imperfect, and glitches are inevitable. But stakeholders can insist on a measure of accountability to promises. The absence of a visible timer creates or created a misalignment between driver expectation and the technical infrastructure of their employment, rendering them unable to hold Uber accountable for mistakes. We owe this insight to Sue and Tatters Glueck.

231. Uber, 180 Days, *supra* note 207.

232. See *supra* note 229 and accompanying text; see also Alison Griswold, In a Massive Change of Heart, Uber Is Adding a Tipping Option, Quartz (June 20, 2017), <http://qz.com/1010484/uber-adds-tipping-to-rides-and-ubereats-after-saying-for-years-that-tips-were-bad/> [<http://perma.cc/9LAY-RWXX>]. Additional source evidence, such as screenshots of this new timer and driver forum discussions of staggered rollouts of this timer, is also available. Calo & Rosenblat, Uber Data Set, *supra* note 81, at SS11.

233. Brian McClendon, Mapping Uber’s Future, Uber Newsroom (July 27, 2016), <http://newsroom.uber.com/mapping-ubers-future> [<http://perma.cc/5TZY-LS7R>]; Pittsburgh, Your Self-Driving Uber Is Arriving Now, Uber: Blog (Sept. 14, 2016), <http://www.uber.com/blog/pittsburgh/pittsburgh-self-driving-uber/> [<http://perma.cc/MF84-TAYD>].

234. See Helft, *supra* note 147 (“[Uber’s founder] is no longer interested in just getting you a ride: He’s positioning Uber to be at the center of mobility.”).

235. Calo & Rosenblat, Uber Data Set, *supra* note 81, at SS12.

236. Rosenblat & Hwang, *Wisdom of the Captured*, *supra* note 39, at 2.

Imagine if Uber drivers were obligated to use a particular mapping service to choose a route. While drivers currently have the choice to use Uber's in-app navigation tool, Google Maps, or Waze, they are held accountable to using the route generated by these services: Uber mediates complaints from passengers that a driver took an inefficient route by examining whether the driver deviated from the route suggested by her GPS.²³⁷ Now imagine the navigation software behind the mapping service is trying to improve performance by sending participants along an inefficient route to test road conditions and generate data on the roads less traveled—a technique known in technical literature as the “multi-arm bandit algorithm.”²³⁸ This may improve the product overall at the expense of the drivers, who waste travel time and risk conflicts with passengers.²³⁹

More generally, Uber drivers may one day face competitive pressure from Uber's own fleet of self-driving vehicles. Contemporary self-driving technology relies in large measure on machine learning, which in turn is trained on data from actual human driving.²⁴⁰ We cannot know for sure, but assuming Uber is training its own systems on the limitless driver data to which it has access, Uber participants may be unwittingly training their replacements.²⁴¹ As Rosenblat and Hwang note:

237. It is worth noting that Uber does not volunteer precisely how it measures “inefficient routes” against the route the driver took, but the general wisdom drivers have derived from their experiences is that they are expected to ask passengers if they have a preferred route. If, for example, the passenger later complains about an “inefficient route,” drivers risk being penalized, specifically by having their pay docked, for not taking the GPS-recommended route.

238. Rosenblat & Hwang, *Wisdom of the Captured*, supra note 39, at 4.

239. Drivers certainly use mapping services beyond Uber's domain, such as Waze. The systematic goals and practices of route recommendations provided by these alternative navigation services may still affect the performance and job of Uber's drivers because they are held accountable to the routes generated thus. In other words, Uber may position drivers to absorb these data-centric frictions without being responsible for generating the routes drivers select.

240. Rosenblat & Hwang, *Wisdom of the Captured*, supra note 39, at 7.

241. In its May 30, 2017 comments to our draft, Uber objected to the suggestion that self-driving cars will compete with Uber drivers. The authors are not privy to the internal deliberations of Uber but note that our suggestion is consistent with statements by Uber's cofounder. See May 30 Uber E-Mail, supra note 117. In 2014, Travis Kalanick made the following remarks on the subject: “When there's no other dude in the car, the cost of Uber becomes cheaper than owning a vehicle.” Josh Constine, *Uber Considers Steering Drivers to “Vocational Training” as Cars Go Autonomous*, Tech Crunch (Nov. 16, 2015), <http://techcrunch.com/2015/11/16/uber-vocational-training/> [<http://perma.cc/4345-9GQ6>]. Asked how he would address Uber's drivers who might worry they'll be made obsolete, Kalanick replied, “I would say to them this is the way the world is going,” and suggested that Uber may provide vocational training and education for drivers who are put out of work by self-driving cars. *Id.* In 2016, Kalanick modified his earlier view and suggested that a hybrid of driver-operated and self-driving cars is on the more immediate horizon, which would maintain the employability of drivers to some degree. See Alex Fitzpatrick, *Uber CEO Says Self-Driving Cars*

Uber's commitment to self-driving cars, enabled in part by the data gathered by their drivers, is arguably the clearest articulation yet that Uber will make choices that benefit the system over individual drivers. Self-driving cars would directly compete with and impact the human drivers of Uber's system, effectively automating them out of a job.²⁴²

III. THE (NEW) ROLE OF CONSUMER PROTECTION LAW

To summarize the discussion so far: The “sharing economy” is an umbrella term referring to not only a particular set of techniques and practices but also a rhetorical strategy aimed at attracting support and fending off restriction. Sharing economy firms, which have predecessors in Craigslist and elsewhere, leverage pervasive connectivity in order to facilitate trusted transactions between strangers on digital platforms. This creates economic and other value but also raises concerns, including those about racial bias, safety, and fairness to competitors and workers. We introduce a further complexity in that sharing economy firms can leverage their unparalleled access to information and control over user experience to the disadvantage of those very users. Connecting our concerns is the common theme of how access to information coupled with control of design permits sharing economy firms, such as the subject of our case study, to manipulate their users.

Information plays a role, of course, in many conversations around the promise and perils of the sharing economy. A recent report showed bias in Airbnb transactions by observing who was able to secure a booking or how users rated their experiences and then parsing this information demographically.²⁴³ Another report showed discriminatory bias against Uber and Lyft passengers with African American first names, who experienced longer wait times.²⁴⁴ What remains undertheorized, however, is the specific role of information asymmetry between platforms and users and the new capabilities that accompany it. The problem is not simply that Uber has access to detailed information about its ecosystem; the problem is that *only* Uber does. This access, coupled with its vantage as a digital intermediary, permits Uber to shape outcomes to its advantage.

Addressing the harms—actual and potential—that we raised in Part II requires grappling directly with the information asymmetry between sharing economy firms and other entities. Serious abuses may require the intervention of the criminal justice system. But speaking generally, consumer protection law, with its long emphasis on information and

Won't Kill Jobs, Time (Aug. 18, 2016), <http://time.com/4458385/uber-travis-kalanick-self-driving-cars-pittsburg/> [<http://perma.cc/Z6RC-BJQ2>].

242. Rosenblat & Hwang, *Wisdom of the Captured*, supra note 39, at 7.

243. Edelman et al., supra note 125, at 2–3.

244. Ge et al., supra note 19, at 2.

power asymmetry in the marketplace, is well suited to the task of addressing these asymmetries.

To address the sharing economy, however, consumer protection law will need to evolve beyond its present confines in two ways. First, regulators will need to develop a better understanding of the technology and business practices of sharing economy firms in order to uncover the entire range of offending practices. Second, regulators or courts will need to find a means by which to address those practices (assuming sunlight alone is not a sufficient antidote). This could involve drawing lines between permissible and impermissible practices or developing a set of criteria to determine that a given digital act or practice rises to the level of unfairness or deception. It could also manifest in an attempt to alter the incentives of firms to better align them with those of their consumers. Or it could necessitate a hybrid approach like making platforms “fiduciaries” of the users whose data they possess.²⁴⁵

The remainder of this Part proceeds as follows. The first section gives a brief background on consumer protection law, paying particular attention to the role of information asymmetry. The second section addresses the failure of consumer protection law to keep up with the realities of digital commerce. A final section describes how consumer protection law might be updated to address the particular challenges of the sharing economy.

A. *Consumer Protection: Origins and Purposes*

Consumer protection law covers a wide and varied area. As law and economics scholar Kenneth Dam puts it, “The only thing that seems to hold the subject together is our desire to protect someone whom we call *the consumer*.”²⁴⁶ A painstaking analysis could thereby encompass any statute, regulation, or court decision aimed at protecting consumers in any capacity or context. This could include everything from product liability suits, to product recalls by federal agencies, to fair lending rules, to municipal requirements that restaurants post the results of health inspections. Such a comprehensive canvassing of consumer protection law is beyond the scope of this Essay.²⁴⁷ For purposes of our discussion, we focus on the contemporary core of consumer protection law: policing the marketplace against anticompetitive, unfair, or deceptive practices.

Contemporary accounts trace the origins of consumer protection law to the Progressive Era response to the *laissez faire* business practices

245. See *infra* section III.C.

246. Kenneth W. Dam, *Consumer Protection: An Overview*, 39 *Antitrust L.J.* 917, 917 (1970).

247. For a comprehensive discussion of consumer protection law, see generally Dee Pridgen & Richard Alderman, *Consumer Protection and the Law* (1986).

of the nineteenth century.²⁴⁸ With the passage of the Sherman Antitrust Act in 1890 and the Federal Trade Commission and Clayton Acts in 1914 (following the Supreme Court's decision limiting antitrust enforcement in *Standard Oil v. United States*²⁴⁹), Congress sought to rein in the excesses of the various "trusts" or monopolies that had grown up in the preceding decades of unfettered industry.²⁵⁰ The concern was that large monopolies were engaging in predatory pricing and other unfair practices as well as exercising political power to harm new entrants, all to the detriment of American consumers.²⁵¹

Although the purpose of Congress's intervention was ultimately to protect consumers from the predation of powerful firms, the initial means it employed was to direct agencies and courts to protect American businesses from one another. That is, government intervened on behalf of businesses that had been shut out of the marketplace or otherwise hampered in their operations by the predatory practices of a monopolistic incumbent.²⁵² In the short run, such practices may appear to benefit the consumer because his or her purchases are being subsidized by the would-be monopolist. The anticipated, long-term result of policing unfair methods, however, is more robust competition, which in turn drives up the quality and variety of goods and services and drives down the prices consumers pay for them over time.²⁵³

Antitrust laws and other prohibitions on unfair competition help preserve consumers' range of choice in the market by preventing established businesses from excluding new entrants through the use of unfair techniques of competition—for example, by dropping prices so low that no one else can stay in business and then raising prices again in the absence of competitors.²⁵⁴ These ongoing efforts to stamp out unfair competition are directed at ensuring consumers have sufficient choices around goods and services in the marketplace.²⁵⁵ This set of problems is sometimes called "external" consumer protection because it involves activities and circumstances that exist outside of the mind of the individual consumer.²⁵⁶ Problems arise when one firm abuses its power over oth-

248. See Christopher Jay Hoofnagle, *Federal Trade Commission Privacy Law and Policy* 4–5 (2016); see also Mansel G. Blackford & K. Austin Kerr, *Business Enterprise in American History* 226–64 (3d ed. 1994).

249. 221 U.S. 1, 68 (1911).

250. See Hoofnagle, *supra* note 248, at 5.

251. *Id.* at 4–5, 7–8.

252. *Id.* at 5, 9–11.

253. See *id.* at 5–6.

254. Neil W. Averitt & Robert H. Lande, *Consumer Sovereignty: A Unified Theory of Antitrust and Consumer Protection Law*, 65 *Antitrust L.J.* 713, 713 (1997).

255. *Id.*

256. *Id.* at 714.

ers and thereby limits the range of goods and services available to the consumer.²⁵⁷

To help consumers navigate the free market, Congress conferred upon the FTC the additional authority to police against “unfair or deceptive acts or practices in or affecting commerce.”²⁵⁸ Under this authority, issued in 1938, the FTC immediately began to prohibit firms from introducing fraudulent or misleading information into the marketplace.²⁵⁹ For example, the FTC might pursue a large home-and-beauty company for faking a demonstration of the efficacy of its razor by pretending it can shave sandpaper.²⁶⁰ Enforcement against deception, bolstered by a wide variety of federal and state requirements that companies affirmatively disclose certain categories of information, continues to be a major area of activity at the FTC.²⁶¹ Within a few decades, however, the FTC had also built up its enforcement against “unfair” practices—such as aggressive door-to-door sales or unconscionable contract terms—not involving outright deception but nevertheless perceived to take advantage of consumers.²⁶² This set of problems is sometimes called “internal” consumer protection because it involves the internal mental state and affordances of the consumer herself.²⁶³ Problems arise when firms abuse their asymmetry of information or power over consumers, resulting in gain to the former and harm to the latter.

In the 1960s, faced with rampant consumerism that strained the agency’s capacity to address unfair or deceptive practices across the entire nation, the FTC also encouraged the states to promulgate their own consumer protection laws.²⁶⁴ Most states did.²⁶⁵ These “little-FTC acts” often contained a private cause of action, permitting not only regulators but also aggrieved individuals to pursue claims of deception and unfairness.²⁶⁶ These acts supplemented existing common law fraud remedies, which were available to consumers but limited by the requirement that the plaintiff show an intent, not just a tendency, to mislead.²⁶⁷

This era also saw the ascendance of many laws and regulations aimed at improving the baseline safety or efficacy of a range of products,

257. See *id.*

258. Federal Trade Commission Act, 15 U.S.C. § 45(a)(1) (2012).

259. Hoofnagle, *supra* note 248, at 37–38.

260. *Id.* at 43.

261. *Id.* at 50.

262. Marshall A. Leaffer & Michael H. Lipson, Consumer Actions Against Unfair or Deceptive Acts or Practices: The Private Uses of Federal Trade Commission Jurisprudence, 48 *Geo. Wash. L. Rev.* 521, 528 (1980).

263. Averritt & Lande, *supra* note 254, at 714.

264. See Danielle Keats Citron, The Privacy Policymaking of State Attorneys General, 92 *Notre Dame L. Rev.* 747, 754 (2016).

265. See *id.* at 796.

266. See *id.* at 808 n.402.

267. Hoofnagle, *supra* note 248, at 120–21 (discussing the history of fraud).

requirements that firms inform or warn consumers about their products and services, and the maturation of product liability in tort law.²⁶⁸ Together, these developments, which have waxed and waned over time with public perceptions of the limits of government power, have come to represent what we think of as consumer protection law today.

One way to think about the interrelation between the role of consumer protection law in policing against unfair competition among firms (e.g., through antitrust laws) and its role in policing against unfair and deceptive practices aimed at consumers (e.g., through truth-in-lending laws) is to consider what is needed to produce a theoretical “sovereign consumer.”²⁶⁹ A sovereign consumer has both real choices in the marketplace and a meaningful ability to exercise them. Unfair competition laws involve careful calibration of the system as a whole to enable sufficient market participants. The more (and more diverse) the market participants, the greater the range of consumer choices in goods and services, including with respect to quality and price.

Unfair and deceptive practices laws instead aim to help consumers who possess market choices to navigate those choices in practice.²⁷⁰ Prohibitions on deceptive practices, such as misleading claims about a product’s efficacy or price, help ensure that the consumer has access to good information as she makes decisions on what products and services to consume. Prohibitions on unfair practices, such as coercing the consumer into making a purchase, help ensure the consumer is free to act on the information she receives. Thus, an example of a deceptive practice would be to claim that information posted to a social network is private when in fact it becomes public,²⁷¹ and an example of an unfair practice would be a service person dismantling a consumer’s stove and refusing to reassemble it until the consumer agrees to purchase new parts.²⁷²

Despite some consensus around the idea that consumer protection law exists to preserve consumer sovereignty in these ways, fundamental disagreement remains about the exact societal interests at stake. The influential Chicago School is grounded in economics and sees preserving allocative and productive efficiency as being at the heart of what lawmakers and courts intend by policing both antitrust and unfairness and

268. See Blackford & Kerr, *supra* note 248, at 331–32.

269. See Averitt & Lande, *supra* note 254, at 713 (referring to the “sovereign consumer” as the “overarching unity” of consumer protection law).

270. *Id.* at 713–14.

271. E.g., Facebook, Inc., FTC File No. 0923184, C-4365, at 3–4 (F.T.C. July 27, 2012) (Decision and Order), <http://www.ftc.gov/sites/default/files/documents/cases/2012/08/120810facebookdo.pdf> [<http://perma.cc/9GGN-DKBD>].

272. E.g., *Holland Furnace Co. v. FTC*, 295 F.2d 302, 305 (7th Cir. 1961).

deception.²⁷³ Others convincingly challenge the efficiency rationale, conceptualizing consumer protection as a kind of prohibition on unhealthy and immoral levels of consumer exploitation. Professor Robert Lande, for example, looks to the legislative records of each of the pieces of federal legislation we mention above—the Sherman, Clayton, and FTC Acts—and concludes that “Congress was concerned principally with preventing ‘unfair’ transfers of wealth from consumers to firms with market power.”²⁷⁴ At the relevant times, Congress was concerned with the capability of powerful firms to set prices and engage in practices that would annex any economic windfall from commerce to industry and minimize the windfall flowing to consumers. Lawmakers saw this wholesale appropriation of social surplus from commerce as immoral (that is, “unfair”).²⁷⁵

Whatever consumer protection law’s normative beginnings, regulators tend to be reluctant to bring actions solely on the basis of public interest. Indeed, in the late ’70s, Congress responded to perceived overreaching by the FTC by delaying its funding.²⁷⁶ The Commission eventually issued a statement better clarifying the contours of its own power.²⁷⁷ Today, federal regulators such as the FTC look for materially misleading statements or evidence of a significant harm that the consumer cannot reasonably avoid and that has no countervailing benefit to competition.²⁷⁸ State actions at common law are more adventurous but still not fairly characterized as policing morality.²⁷⁹

Several aspects of consumer protection law are clear however one conceives its origins and purposes. First, the law assumes the marketplace will function improperly and to the detriment of consumers absent government intervention of some sort. Second, determining what acts or practices are permissible requires the regulator or court to look at both the real-world options consumers have in the marketplace and the prospect that consumers will be able to exercise meaningful choices regarding goods and services in practice. Detecting and addressing harmful asymmetries of information and power among firms, and between firms and consumers, is thus at the heart of consumer protection law.

Throughout the remainder of this Part we will emphasize the interaction between the sharing economy and the Federal Trade Commission. The FTC, with its general mission of market and consumer protection, is

273. See Robert H. Lande, *Wealth Transfer as the Original and Primary Concern of Antitrust: The Efficiency Interpretation Challenged*, 34 *Hastings L.J.* 65, 68 (1982) (summarizing the views of Robert Bork and Richard Posner).

274. *Id.*

275. *Id.* at 71.

276. Hoofnagle, *supra* note 248, at 59–60.

277. See Daniel J. Solove & Woodrow Hartzog, *The FTC and the New Common Law of Privacy*, 114 *Colum. L. Rev.* 583, 599 (2014).

278. *Id.*

279. See, e.g., Citron, *supra* note 264, at 754.

the most likely and well-positioned agency to address sharing economy ills. And the FTC has already engaged with the sharing economy in highly visible ways. Many of the insights of this section also apply with equal force to other agencies at the federal or local level. As Professor Danielle Citron shows, state attorneys general are taking a more and more active role policing privacy through state statutory authority that closely mirrors that of the FTC.²⁸⁰

B. *Consumer Protection in 2017: From Amway to Uber*

Consumer protection law is surprisingly absent from sharing economy discourse, which tends to focus on other important considerations such as labor laws, racial bias, access to services, and safety.²⁸¹ These issues intersect with consumer protection, of course. The regulations that states and municipalities would extend to ride-hailing or room-hosting, which already attach to taxis and hotels, exist in part to protect consumers from harm.²⁸² The difference is one of emphasis: The discourse around consumer protection law specifically looks to information and power asymmetry to determine whether, in context, a particular business practice interferes with individuals or the market in harmful ways.

Today the role of information in consumer protection is even more critical than in the past. Firms in every industry are awash in data, relying on the collection and increasingly sophisticated processing of intelligence about consumers.²⁸³ Information has itself become the subject of consumer protection under the rubric of privacy. The FTC has emerged in recent years as a species of consumer privacy watchdog, investigating companies, including Uber, for invasive privacy practices or poor data security as unfair or deceptive acts and practices under Section V of the FTC Act.²⁸⁴

In a sense, the FTC's assertiveness in the area of privacy is strange for an agency devoted to the promotion of free trade. Economic orthodoxy suggests that markets generally benefit from the free flow of information

280. See *id.* at 748–51. In many ways, state AGs have greater freedom to interpret the often broad language of so-called “Little-FTC Acts,” and, indeed, state enforcement of privacy norms precede that of the FTC. *Id.* at 750, 754.

281. See *supra* section I.C. (discussing the sharing economy's perils).

282. See, e.g., *Ehret v. Uber Techs., Inc.*, 68 F. Supp. 3d 1121, 1132 (N.D. Cal. 2014) (finding that standing for Consumer Legal Remedies Act and Unfair Competition Law consumer protection claims against Uber requires a showing of harm); *City of New York v. Smart Apartments, LLC*, 959 N.Y.S. 2d 890, 892–93 (Sup. Ct. 2013) (noting that protecting consumers from deception and from unsafe living conditions are both encompassed in the goals of New York City Consumer Protection Law (N.Y.C., N.Y., Admin. Code ch. 5, § 20-700 (2017))).

283. See Joseph Turow, *The Daily You: How the New Advertising Industry Is Defining Your Identity* 4 (2011).

284. See Solove & Hartzog, *supra* note 277, at 585–86. (“FTC privacy jurisprudence has become the broadest and most influential regulating force on information privacy in the United States . . .”).

between consumers and firms, leading many economists to criticize privacy as an artificial restraint on trade.²⁸⁵ One way to explain the agency's interest in privacy, however, is to understand it as a way to help preserve basic symmetries of information between firms and consumers.²⁸⁶ As discussed in Part II, firms with access to detailed data about consumers have the ability and the incentive to leverage this information to the consumer's detriment. Overindulgence in such activity, at a minimum, undermines the market by promoting resentment and distrust.²⁸⁷

Given its emphasis on information symmetry, consumer protection law seems well positioned to help unpack and address the sorts of data-driven problems that may arise when a platform possesses and leverages asymmetries of information and power. But so far consumer protection law has yet to catch up to a commercial world fueled by data.

To be clear: Consumer protection authorities have hardly ignored the sharing economy. In June 2015, the FTC convened a daylong workshop entitled "The 'Sharing' Economy: Issues Facing Platforms, Participants, and Regulators" and solicited comments from the public.²⁸⁸ The FTC summarized the workshop and public comments in a November 2016 staff report.²⁸⁹ The lengthy report describes at a high level of generality what makes for a successful sharing economy platform and engages in sustained discussion of the competition issues that sharing economy platforms may generate. In general, the report is hopeful that sharing economy firms will *increase* competition overall through a "gale of creative destruction."²⁹⁰

The report flags other potential issues that threaten to compromise the sharing economy ecosystem—including low information about the quality of goods and services—and identifies reputation systems and other mechanisms by which sharing economy firms address these issues.²⁹¹ The report raises a range of concerns around safety, sanitation, and privacy but stops short of suggesting intervention.²⁹² Indeed, the report specifically assesses the pros and cons of regulatory intervention in

285. Ryan Calo, *Privacy and Markets: A Love Story*, 91 *Notre Dame L. Rev.* 649, 683 (2016).

286. *Id.* at 690.

287. *Id.* at 671.

288. Press Release, FTC, The "Sharing" Economy: Issues Facing Platforms, Participants, and Regulators (June 9, 2015), <http://www.ftc.gov/news-events/events-calendar/2015/06/sharing-economy-issues-facing-platforms-participants-regulators> [<http://perma.cc/3DH8-TABF>].

289. FTC Sharing Economy Report, *supra* note 44.

290. *Id.* at 19 (internal quotation marks omitted) (quoting Joseph Schumpeter, *Capitalism, Socialism, and Democracy* 84 (3d ed. 1950)).

291. *Id.* at 5.

292. *Id.*

the sharing economy, with many experts and FTC staff concluding that regulation would be premature.²⁹³

Overall, the FTC's 2015 workshop and 2016 report are best characterized as cautiously supportive of the sharing economy. A few months later, however, the FTC made it clear that its commitment to enforcing Section V's prohibition on unfair or deceptive practices applies in full force to sharing economy firms. The agency announced a \$20 million settlement with Uber over allegations that the company misled drivers—whom the Commission called “enterprising consumers”—about how much they could earn.²⁹⁴ The complaint alleges that Uber disseminated advertisements that overestimated the likely hours and yearly income of drivers.²⁹⁵ Moreover, according to the FTC, Uber induced participation in a Vehicles Solution Program that helps drivers lease or purchase a car, again by overestimating the likely returns on investment and making public claims for which the company had insufficient support.²⁹⁶

The FTC relied on deception again when, in August of 2017, the Commission alleged that Uber failed to use best practices in safeguarding user data, notwithstanding Uber's public representations to the contrary on its website and terms of service.²⁹⁷ The FTC and Uber entered into a consent decree whereby Uber agreed to improve its internal and external safeguards.²⁹⁸ The consent decree makes no attempt to change Uber's business practices except as they relate to protecting access to consumer information.²⁹⁹

What the FTC's complaints show is that sharing economy firms, like everyone else, are subject to federal prohibitions on deceiving consumers, broadly defined. No less than a hardware store or vitamin supplement company, Uber cannot make a material claim in its marketing materials for which it lacks evidence. But is Uber—with its carefully man-

293. *Id.* On the one hand, some consumers may enjoy lesser protection absent the establishment of sharing-economy-specific regulations. On the other, the sharing economy is still evolving, and to regulate it now would be to curtail its innovative potential.

294. Press Release, FTC, Uber Agrees to Pay \$20 Million to Settle FTC Charges that It Recruited Drivers with Exaggerated Earnings Claims (Jan. 19, 2017), <http://www.ftc.gov/news-events/press-releases/2017/01/uber-agrees-pay-20-million-settle-ftc-charges-it-recruited> [<http://perma.cc/6NVF-VHGU>]; see also Uber Techs. Complaint, *supra* note 45, at 3 (defining “drivers”).

295. Uber Techs. Complaint, *supra* note 45, at 5–8.

296. *Id.* at 8–10.

297. Complaint at 2–3, In the Matter of Uber Techs., Inc., FTC File No. 1523054 (F.T.C. Aug. 15, 2017) [hereinafter Uber Techs. FTC Complaint], http://www.ftc.gov/system/files/documents/cases/1523054_uber_technologies_complaint.pdf. [<http://perma.cc/FET4-NQTL>].

298. In re Uber Techs., Inc., FTC File No. 1523054 (Aug. 15, 2017) (Decision and Order), http://www.ftc.gov/system/files/documents/cases/1523054_uber_technologies_decision_and_order.pdf [<http://perma.cc/Y3QU-9FGU>].

299. See *id.*

aged, complex data ecosystem—really like a chain of hardware stores? We submit it is not.

There has been a sea change in the affordances and techniques of modern business and consumer protection law has yet to catch up. One way to see this is to compare the 2017 Uber complaint with the Commission's 1979 investigation of Amway. Back in the spotlight with the installation of Amway heiress Betsy DeVos as Secretary of Education, Amway is a multilevel marketing company originally founded in 1949 that facilitates peer-to-peer sales of home and beauty products.³⁰⁰ The model involves entrepreneurial consumers (to borrow the FTC's term for Uber drivers) who purchase goods from Amway and resell them in their own neighborhoods.³⁰¹ In addition to small profits from the sale of goods, Amway sellers receive bonuses or commissions for signing up new sellers.

Following the receipt of complaints, the FTC initiated an investigation of Amway. Initially, FTC staff took a highly skeptical position, and their detailed analysis of defense counsel's charges lent credence to the characterization of Amway as a "pyramid distribution scheme" with the "potential for massive deception."³⁰² But ultimately the Commission arrived at a place of cautious optimism. The Commission praised Amway's "highly unusual distribution system" for its capacity to bypass "near insurmountable" barriers to competition with established firms such as Procter & Gamble and "interject[] a vigorous new competitive presence into this highly concentrated market."³⁰³

Having backed away from claims that Amway was a pyramid scheme, and having praised the company for its competitive disruption and empowerment of entrepreneurial consumers, the FTC nevertheless identified certain unlawful practices. Specifically, the Commission ordered Amway to cease "misrepresenting in any manner the past, present, or future profits, earnings, or sales from such participation," even by implication.³⁰⁴ The Commission also admonished Amway for attempting to fix the prices at which distributors offered Amway products for sale through the printed materials it disseminated.³⁰⁵

The FTC takes a strikingly similar strategy in 2017 toward a very different company. Just as the Commission praised Amway for competitive innovation, the agency's staff report praises sharing economy firms for their "disruptive innovation."³⁰⁶ And just as the FTC went on to

300. Amway Corp., 93 F.T.C. 618, 632 (1979) (Final Order, Opinion, Etc., in Regard to Alleged Violation of the Federal Trade Commission Act).

301. See *How Amway Works*, supra note 50.

302. See *id.* at 715 (discussing the allegations levied against Amway).

303. *Id.* at 710–11.

304. *Id.* at 738.

305. *Id.* at 736.

306. See *FTC Sharing Economy Report*, supra note 44, at 1, 10.

rebuke and limit Amway for its published claims over earnings potential, the Commission also rebuked and limited Uber for its own claims around earnings—the only difference being that Amway published in the local paper and Uber published on popular websites.³⁰⁷ The combined effect of these interventions is, first, to establish the value-add of a market disrupter by emphasizing its positive competitive effects and the opportunities it creates for consumers. A second effect is to clarify that ordinary rules apply to the disrupter by placing modest limitations on the market disrupter such as a prohibition on deception in written advertisements. Meanwhile, the consumer observes that a federal watchdog both reviewed the sharing economy firm's record and acted upon it.

Amway and Uber are not without their parallels. We tend to agree with the Commission in both instances that a novel strategy to disseminate goods and services can have positive effects on the overall market in terms of price and quality. Both companies faced skepticism fueled by incumbent competitors, and both faced similar challenges such as high rates of turnover.³⁰⁸

But whereas Amway was and remains a multilevel marketer of household goods, Uber's ambitions extend well beyond ride-sharing into mapping, logistics, and untold other domains. Amway polices its ecosystem with contracts and a "Code of Ethics and Rules of Conduct" available for everyone to examine,³⁰⁹ while Uber and other sharing economy firms leverage dynamic digital platforms consisting of thousands of users who serve as ceaseless flows of information about participants. Much happens beneath the surface. Interestingly, whereas the FTC was able to show specific measures by which Amway controlled prices within its distribution ecosystem through specific contractual terms, no such discussion appears in the FTC's complaint against Uber, which constantly changes its terms and displays them only on the drivers' apps.

Uber can and likely does leverage its access to information and control of the interface to its advantage.³¹⁰ The company manipulates what ride-hailers and providers see and limits or channels all participants'

307. As mentioned, the FTC also brought a complaint against Uber maintaining that the company inadequately safeguarded user data against inappropriate access. See *Uber Techs. FTC Complaint*, *supra* note 297, at 2–3. This complaint and subsequent consent decree attracted criticism for their failure to address the underlying asymmetries of information and power. E.g., Klint Finley, *Uber Settles with FTC Again, This Time over 2014 Privacy Breach*, WIRE (Aug. 15, 2017), <http://www.wired.com/story/uber-settles-with-ftc-again-this-time-over-2014-privacy-breach/> [<http://perma.cc/543D-DFHQ>]. One commentator cited an early draft of this Essay in support of his remarks. *Id.*

308. *Amway Corp.*, 93 F.T.C. 618, 628, 636 (1979) (Final Order, Opinion, Etc., in *Regard to Alleged Violation of the Federal Trade Commission Act*) (discussing personnel turnover).

309. *Id.* at 635; see also *Rules of Conduct, Amway*, <http://www.amway.com/support/ordering-product-support/rules-of-conduct> [<http://perma.cc/D4CZ-GXS7>] (last visited Aug. 3, 2017).

310. See *supra* Part II.

behaviors toward Uber's ends. Assuming the phenomena participants report cannot be explained by cancellations or technical issues, at least some of these acts or practices implicate consumer protection law. For example, if it turns out Uber is limiting the number of drivers who receive hourly pay guarantees by flashing phantom requests on purpose, this would be *at best* a misleading act or practice.³¹¹ Even if problems with the system, such as latency, explain the flash requests, these phantom requests might still rise to the level of an unfair practice—that is, a material harm to (entrepreneurial) consumers that they cannot reasonably avoid. A thorough vetting by a twenty-first-century agency—particularly a pioneer in bringing technological savvy to government—would involve investigating these practices as or more deeply than written ads.³¹²

C. *Updating Consumer Protection Law*

What challenges face a contemporary consumer protection authority interested in addressing the full range of activities of the sharing economy? We assume for purposes of our argument that regulators are unlikely to intervene absent articulable harm to consumers. This assumption is not necessarily obvious. While the FTC's unfairness standard requires a showing of harm, the agency is empowered to address deception even absent such a showing.³¹³ State attorneys general have similar leeway in bringing enforcement actions under state law.³¹⁴ And, as discussed above, there is evidence in the legislative record of a moral dimension to consumer protection law that concerns itself with unjust enrichment of firms at the expense of consumers.³¹⁵ For purposes of argument, we adopt the more conservative view that justifying intervention into business practices requires pointing to harm to consumers and thereby sets a higher bar than strictly necessary.

Assuming harm is the proper lodestar for consumer protection law, we envision essentially two tasks for the regulator. The first is detecting harms that are not manifest from observable public statements. This

311. At worst it would be fraud. In its comments to the authors on May 30, 2017, without denying that phantom requests occur, Uber asserted that the company does not purposefully attempt to disqualify drivers from promotional pay through phantom requests. Uber instead suggests, "The explanation for observing a short ride request is likely either rider cancellation or a technical or connectivity issue," a possibility the authors expressly acknowledge above. May 30 Uber E-Mail, *supra* note 117.

312. Agency investigations are conducted in confidence, and it is not uncommon for the FTC to bring multiple allegations against the same firm, particularly a tech giant. Thus, we do not mean to suggest that an agency could not at some later time reveal its findings around Uber or any other firm's app-based practices.

313. See Solove & Hartzog, *supra* note 277, at 628, 638 (emphasizing the requirement of "substantial injury to consumers" under the unfairness standard while noting that the only requirements under a deception theory are "(1) an act . . . , (2) the likelihood of a reasonable consumer's deception, and (3) materiality").

314. See Citron, *supra* note 264, at 754 n.28.

315. See *supra* notes 283–287 and accompanying text.

represents a nontrivial task roughly akin to the problem of discovering lines of software code that instruct a vehicle to cheat on an emissions test. The second is addressing those harms in a way that does not foreclose legitimate experimentation by platforms. Companies often have perfectly acceptable reasons for observing consumers, for treating consumers differently, and even for nudging consumer behavior toward profitable ends. Having gained a complete picture of digital techniques and practices, regulators like the FTC still have to determine what rises to the level of unfair or deceptive. We address each challenge in turn.

1. *Detecting Harm.* — Uber is positioned to do so much more than overestimate earnings or returns to potential drivers in advertisements. The company observes and structures millions of transactions under the scaffolding of its app and uses what it observes to channel participant behavior toward a variety of ends.³¹⁶ It seems implausible that Uber would engage in textbook deception in public advertisements, which everyone can see, but never manipulate circumstances beneath the surface. And, as Part II shows, we have already encountered indications that Uber may be engaging in questionable behaviors.

Some of these practices are obvious. For example, a consumer can complain to regulators that while it first appeared there were drivers nearby, once she initiated the request those drivers disappeared and she had to wait. Others require more work to uncover. The FTC had ready access to Amway's paper contracts in the 1970s. In theory a regulator could also discover just how often Uber changes its contracts with drivers and whether any versions of those contracts are too complex to follow or contain objectionable terms. But this would require a great deal of diligence and the cooperation of drivers or the company. Then there are practices about which we can only speculate. We have no way of knowing whether the fleeting ride requests or lost cancellation fees that drivers report, and which result in lower income, are the product of user error, poor design, or intent. Still other practices may be entirely invisible, such as Uber's practice of evading police in jurisdictions where drivers or the company might be issued a citation.

Regulators have at least two significant means by which to explore what sharing economy firms are doing behind the digital scenes. The first is direct investigation. The FTC can and does invite industry to workshops, like its sharing economy workshop, to talk about what they do.³¹⁷ Industry participants control their own message in these contexts. But the agency is also empowered by statute to do its own digging. Not only may the FTC subpoena witnesses and compel the production of documentary evidence in the course of an investigation,³¹⁸ but it can also

316. See *supra* section II.B.

317. See, e.g., FTC Sharing Economy Report, *supra* note 44.

318. 15 U.S.C. §§ 46, 49, 57b-1 (2012).

require the filing of annual or special reports or answers to specific questions.³¹⁹

Law professor Rory Van Loo briefly discusses this underutilized regulatory affordance in the context of retail.³²⁰ Building in part on digital market manipulation, Professor Van Loo argues that the retail industry has become increasingly adept at gathering and leveraging consumer information in problematic ways.³²¹ He recommends regulatory oversight on par with financial regulation when agencies become much more familiar with business practices.³²² Van Loo cites specifically to the FTC's underutilized investigatory powers in the course of his discussion.³²³

Getting data from sharing economy firms won't be easy. Reading the headlines around the well-publicized feud between ride-hailing services and Austin, Texas, over municipal regulatory requirements, it would appear that the city was exclusively concerned with how well Uber and Lyft drivers were vetted for felonies and how many wheelchair-accessible cars needed to be on the road at any given time.³²⁴ These are important issues, which the ride-hailing services were ready to concede to some extent: The model legislation the companies spent millions promoting to Austin voters, ultimately unsuccessfully, had provisions for better vetting and for ensuring accessibility.³²⁵ Uber and Lyft's proposal rejected the fingerprint-based vetting system the city preferred—which the press covered in detail.³²⁶ But there was an equally big gap in the provisions around accessing Uber's and Lyft's data. Austin wanted the services to report regularly on a range of specific questions or see their licenses to operate revoked.³²⁷ The companies' proposed bill was more limited,

319. *Id.* § 46(b). This is called a “6(b) order” because it arises from Section 6 of the Federal Trade Commission Act.

320. Rory Van Loo, *Helping Buyers Beware: The Need for Supervision of Big Retail*, 163 *U. Pa. L. Rev.* 1311, 1315 (2015).

321. *Id.* at 1320–22.

322. *Id.* at 1382.

323. *Id.* at 1379 (“Like financial regulators, the FTC has the power to collect information directly from firms Yet, unlike financial regulators, the FTC does not exercise these powers.”).

324. See, e.g., Associated Press, *Uber and Lyft Return to Austin After Texas Law Kills the City's Fingerprint Rule*, *L.A. Times* (May 29, 2017), <http://www.latimes.com/business/technology/la-fi-tn-uber-austin-20170529-story.html> [<http://perma.cc/22EF-NUG7>]; Alex Samuels & Todd Wiseman, *Texas Speak Up On Uber, Lyft Regulation Argument, Gov't Tech.* (June 26, 2017), <http://www.govtech.com/policy/Texas-Speak-Up-On-Uber-Lyft-Regulation-Argument.html> [<http://perma.cc/DJ6N-S9Z3>].

325. Austin, Tex., Ordinance 20160217-001 (Feb. 17, 2016) (voted down May 7, 2016) (requiring driver background checks and a variety of measures, like community outreach and accommodation for service animals, to increase usability for disabled passengers).

326. E.g., Kia Kokalitcheva, *Inside Uber and Lyft's Texas Showdown over Fingerprints*, *Fortune* (Jan. 29, 2016), <http://fortune.com/2016/01/29/austin-fingerprint-ride-hailing/> [<http://perma.cc/ZV42-CTEC>].

327. Austin, Tex., Code § 13-2-516 (2017).

providing for independent audit of some driver records and the filing of quarterly reports.³²⁸

The second means by which to explore sharing economy acts and practices is to incentivize third-party researchers to investigate firms. In 2015, the car giant Volkswagen famously conceded that its vehicles were built to perform differently in road conditions than on mandatory emissions tests.³²⁹ The Volkswagen code instructing the car to perform more efficiently during emissions testing was discovered when an international nonprofit commissioned research into how cars might perform more poorly than expected in real-world conditions.³³⁰ In testing several Volkswagen diesel models, a team at West Virginia University found an apparently intentional discrepancy.³³¹ Similarly, testing by then–Stanford Ph.D. candidate Jonathan Mayer discovered Google’s alleged circumvention of the Safari browser’s cookie-blocking feature, leading to a multimillion-dollar fine against the company.³³² The practice of academics discovering impropriety is not unique to the digital world—it was finance professor David Yermack who first uncovered the scandal around improper backdating of stock options in 1997.³³³ But regulators can, and sometimes already do, call upon or fund independent researchers specifically to analyze digital practices and attempt to uncover unfair or deceptive practices.³³⁴

To the extent regulators pursue the second strategy, there are several ancillary challenges. The first involves removing perceived and actual

328. Austin, Tex., Ordinance 20160217-001. There can be privacy issues with oversharing driver and rider information with regulators. See G.S. Hans, Ctr. for Democracy & Tech., Data in the On-Demand Economy: Privacy and Security in Government Data Mandates 1 (2015), <http://cdt.org/files/2015/12/2016-02-23-On-Demand-Economy-Paper-updated2.pdf> [<http://perma.cc/AQF4-LQP7>] (“[Sharing economy] regulations need to be carefully drafted to collect only necessary consumer information for delineated purposes, and must prescribe security standards and retention limits for the data.”).

329. Jack Ewing & Jad Mouawad, Directors Say Volkswagen Delayed Informing Them of Trickery, N.Y. Times (Oct. 23, 2015), <http://www.nytimes.com/2015/10/24/business/international/directors-say-volkswagen-delayed-informing-them-of-trickery.html> (on file with the *Columbia Law Review*).

330. *Id.*

331. Thompson et al., *supra* note 53, at 106–08.

332. See *In re Google Inc. Cookie Placement Consumer Privacy Litig.*, 806 F.3d 125, 132 (3d Cir. 2015); *In re Google, Inc.*, 152 F.T.C 435, 450–59 (2011) (Decision and Order).

333. Jodell R. Nowicki, Note, Stock Options Backdating: The Scandal, the Misconceptions & the Legal Consequences, 23 St. John’s J. Legal Comment. 251, 257 (2008). We owe this example to Elizabeth Pollman.

334. The FTC uses technologists as expert witnesses. E.g., Expert Report of Jennifer King, Fed. Trade Comm’n v. Amazon.com, Inc., No. 2:14-cv-01038-JCC (W.D. Wash. Oct. 16, 2015), 2015 WL 11252957. Other entities fund external researchers to conduct technical reports. E.g., Güneş Acar et al., Belgian Privacy Comm’n, Facebook Tracking Through Social Plug-Ins (2015), http://securehomes.esat.kuleuven.be/~gacar/fb_tracking/fb_plugins.pdf (on file with the *Columbia Law Review*). The authors thank Christopher Hoofnagle for these examples.

barriers to research. Researchers who investigate sharing economy firms may need to reverse engineer platforms, scrape data, impersonate consumers, and perform other activities aimed at exploring firm practices. In so doing, they risk legal pushback—valid or not.³³⁵ For example, a firm might argue that a researcher violated the terms of service and therefore exceeded authorized authority for purposes of the Computer Fraud and Abuse Act.³³⁶ Or the firm may advance the questionable argument that reverse engineering its algorithm constitutes a trade secret problem or runs afoul of the anticircumvention provision of the Digital Millennium Copyright Act.³³⁷ Regulators should support and publicize clear-cut exceptions to such rules and others to empower researchers to uncover potential sources of harm.³³⁸

The second challenge involves validating external findings. The FTC likely cannot proceed on the assertions of researchers alone and may need to find ways to corroborate the researchers' findings—including by running its own tests. Knowing what questions to pose to the researchers and assessing the information that the agency gathers require a measure of technical expertise. Fortunately, the FTC and other authorities—such as the Federal Communications Commission and state attorneys general—have been in the process of building up their technical capacities for some time.³³⁹ This affordance, coupled with the underutilized investigatory powers of the FTC, positions some regulators to gain access to the information that they need to police the digital marketplace and protect consumers.

335. Uber specifically prohibits reverse engineering of its app in the terms of service. Terms, Uber, <http://www.uber.com/legal/terms/us/> [<http://perma.cc/6CCG-DJXY>] (last visited Sept. 14, 2017).

336. 18 U.S.C. § 1030 (2012); cf. *United States v. Drew*, 259 F.R.D. 449, 464 (C.D. Cal. 2009) (discussing a Computer Fraud and Abuse Act charge against a defendant who impersonated another individual in violation of the terms of service).

337. See 17 U.S.C. § 1201 (2012); see also, e.g., First Amended Complaint & Demand for Jury Trial at 21–23, *Facebook, Inc. v. Power Ventures, Inc.*, 844 F.3d 1058 (9th Cir. 2009) (No. 08-5780), 2009 WL 3561632. Facebook's First Amended Complaint further alleged that Power Ventures' use of reverse engineering to employ Facebook messaging to send unsolicited commercial messages falsely attributed to "The Facebook Team" and other activities making Power Ventures' activities appear to be sponsored or endorsed by Facebook constituted a violation of California and federal trademark laws and the Digital Millennium Copyright Act. *Id.* at 12–15, 21–23.

338. The scope of this point includes more than the sharing economy, including, for instance, the detection of bias in decisionmaking powered by artificial intelligence. E.g., Peter Stone et al., *One Hundred Year Study of Artificial Intelligence, Artificial Intelligence and Life in 2030*, at 37 (2016), http://ai100.stanford.edu/sites/default/files/ai100report10032016fnl_singles.pdf [<http://perma.cc/2R3V-AP55>] (“[D]evelopers of [AI decisionmakers] should be careful to avoid building in bias . . .”).

339. See, e.g., Office of Technology Research and Investigation, FTC, <http://www.ftc.gov/about-ftc/bureaus-offices/bureau-consumer-protection/office-technology-research-investigation> [<http://perma.cc/B59R-4GFB>] (last visited July 27, 2017). But see Hoofnagle, *supra* note 248, at 25 (“The FTC has always been a technology commission.”).

Finally, the potential harms we explore in Part II do not pertain only to traditional consumer harms that entail deception or coercion of a person purchasing a good or service. As far back as the Amway action, the FTC recognized that salespeople were consumers in some contexts, and, indeed, the Uber complaint refers to drivers specifically as “entrepreneurial consumers.”³⁴⁰ In addition to increasing the scope of consumer protection law, regulators should be vigilant against new means of disadvantaging those who participate in the sharing economy. For example, participants in the sharing economy may be unwittingly training their robotic replacements.³⁴¹ Further, A/B testing or feature integration in a context in which people are using the platform for their livelihood has different effects and ramifications than in other contexts. Knowingly sending a driver on a longer route in an effort to fill in a blank spot in the relevant mapping software has costs in terms of both the driver’s time and her reputation.³⁴² Indeed, to the extent drivers are failing to gain traction in the context of employment class action lawsuits, they may increasingly turn to consumer protection law to vindicate some of the same interests.³⁴³

2. *Addressing Harms.* — Presumably a deeper understanding of sharing economy practices would yield additional examples of problematic behavior, beyond false advertising as to potential earnings. Some of these could be as straightforwardly problematic as Volkswagen cheating on emissions tests. But delving into sharing economy techniques and practices would also yield plenty of innocuous behavior and many close calls. It would not be feasible or wise of regulators to intervene every time that a design decision inconveniences a ride-hailer or provider, let alone when it shows one price or product to one participant and a different price or product to another participant. The threat to innovation could be significant, which is why some authorities and theorists gravitate toward a harm standard for intervention in the first place.³⁴⁴

340. Uber Techs. Complaint, *supra* note 45, at 3 (labeling drivers as “entrepreneurial consumers who are transportation providers”).

341. See, e.g., Rosenblat & Hwang, *Wisdom of the Captured*, *supra* note 39, at 7 (“Perhaps even more telling is . . . Uber’s commitment to self-driving cars, enabled in part by the data gathered by their drivers Self-driving cars would directly compete with and impact the human drivers of Uber’s system, effectively automating them out of a job.”).

342. *Id.* at 4–5 (“When the platform makes a low-confidence recommendation in order to acquire more information (exploration), there is a *trade-off* that produces a social welfare benefit for the users as a whole, but has ethical implications for the deception of the individual.”).

343. For example, California law provides a private cause of action under five definitions of “unfair competition,” including “an unfair . . . business act or practice.” See Cal. Bus. & Prof. Code § 17200 (2017).

344. E.g., James C. Cooper & Joshua D. Wright, *The Missing Role of Economics in FTC Privacy Policy*, in *Cambridge Handbook of Consumer Privacy* (Jules Polonetsky, Evan Selinger & Omer Tene eds.) (forthcoming 2017) (manuscript at 3) (on file with the *Columbia Law Review*). Joshua Wright and James Cooper are both law professors who

Thus, not only would contemporary regulators need to become more adept at discovering potential harms, but they would also need to develop effective and defensible means of addressing those harms. Again, there exist at least two kinds of approaches to address this problem: (1) changing incentives to lessen the likelihood of exploitation and (2) finding a way to distinguish the acceptable channeling of user behavior from the illegitimate one. The first approach, *incentives*, acknowledges that the range of potential abusive behavior is enormous and that it would be very difficult to draw lines between harmful, neutral, and beneficial practices. This approach recommends making structural changes to business models in an attempt to better align the incentives of firms and consumers. Thus, for example, it would recommend requiring Facebook to offer a paid option in exchange for commitments not to mine the user's personal information for other purposes.³⁴⁵ Or it would recommend establishing internal mechanisms to guard against abuse, such as a review board for consumer research.³⁴⁶ The idea is to find structural ways to help mitigate and minimize the circumstances under which the firm will be tempted to leverage its information and design advantages against consumers.

A second approach, *line-drawing*, bites the bullet and seeks to differentiate between legally tolerable and intolerable activities. In defense of this approach, it should be said that the law is replete with line-drawing. Courts must already assess when influence is "undue," what sorts of expectations are "reasonable," and so on.³⁴⁷ In consumer protection law, agencies and courts already have to determine what sorts of representations rise to the level of a material deception. The law can analyze, for example, whether conveying the impression that a ride is nearby by displaying phantom cars in the user's vicinity constitutes deception or a form of visual puffery.³⁴⁸

Given the invisibility of decisionmaking processes to the consumer, many acts or practices may not involve deception per se. Rather, they involve using information about a consumer against her or introducing

worked at the FTC as Commissioner and Acting Director of Policy Planning, respectively. For a discussion of consumer harm in terms of time and its disproportionate effect on low-income consumers, see Van Loo, *supra* note 320, at 1355–59.

345. Calo, *Digital Market Manipulation*, *supra* note 25, at 1047–48.

346. Ryan Calo, *Consumer Subject Review Boards: A Thought Experiment*, 66 *Stan. L. Rev. Online* 97, 102 (2013), <http://stanfordlawreview.org/wp-content/uploads/sites/3/2016/08/Calo.pdf> [<http://perma.cc/R5UK-94GE>]. Facebook has adopted this approach. See Molly Jackman & Lauri Kanerva, *Evolving the IRB: Building Robust Review for Industry Research*, 72 *Wash. & Lee L. Rev. Online* 442, 448 (2016), <http://scholarlycommons.law.wlu.edu/cgi/viewcontent.cgi?article=1042&context=wlulr-online> [<http://perma.cc/46WU-757N>].

347. Calo, *Digital Market Manipulation*, *supra* note 25, at 1024.

348. Hartzog, *Privacy's Blueprint*, *supra* note 165 (developing a concept of "abusive design"); David A. Hoffman, *The Best Puffery Article Ever*, 91 *Iowa L. Rev.* 1395, 1400 (2006) (defining puffery).

other material or structural disadvantages. An agency would have to determine whether individual practices rise to the level of unfairness, defined as substantial and unavoidable consumer harm. A standard proposed in various contexts is to look to vulnerability.³⁴⁹ Thus, we might ask whether a hypothetical practice of charging people more for rides if their battery is low constitutes a form of individualized price gouging.³⁵⁰ But not all unfair conduct can be said to target vulnerability. For example, the prospect that a firm display ride requests too fast for a driver to accept in order to manage membership in an hourly guarantee incentive program, and the obfuscation of time in order to reduce the likelihood a driver will collect a cancellation fee, would both seem to rise to the level of unfairness even against otherwise autonomous consumers.

A closely related approach might be to leverage privacy-centric concepts such as secondary use or access.³⁵¹ Under established, if not always enforced, privacy principles, firms are supposed to check with consumers before using their data in ways that go beyond the purpose for which they were provided.³⁵² There are several problems with this approach. First, a consumer can be surprised (or delighted) without the practice necessarily rising to the level of actionable harm. And second, firms already make broad and vague disclosures in privacy policies and terms of service covering a very wide range of potential uses.³⁵³ Some also argue that restrictions on how already collected information is used represent a restraint on free speech.³⁵⁴ Under established principles of fair information practice, consumers are supposed to be able to access information concerning them.³⁵⁵ Sharing economy firms could share detailed analytics with participants to permit them to better understand the decisions being made about them and to police against abusive practices.

Finally, we want to mention a hybrid approach between incentives and line-drawing: *fiduciaries*. Several scholars have recently emphasized the role of firms as custodians of data.³⁵⁶ The idea is that consumers

349. E.g., Calo, *Digital Market Manipulation*, supra note 25, at 1031–34.

350. See *id.* (noting that “under very specific conditions—say, when confronted with scarcity by a trusted source after a long day at work . . . [an otherwise rational consumer] may prove vulnerable for a short window”).

351. See FTC, *Privacy Online: Fair Information Practices in the Electronic Marketplace: A Report to Congress* 36–37 (2000) [hereinafter *FTC Privacy Online Report*], <http://www.ftc.gov/sites/default/files/documents/reports/privacy-online-fair-information-practices-electronic-marketplace-federal-trade-commission-report/privacy2000.pdf> [http://perma.cc/U3RM-V7C5] (discussing the fair information practice principles).

352. *Id.*

353. Ryan Calo, *Against Notice Skepticism in Privacy (and Elsewhere)*, 87 *Notre Dame L. Rev.* 1027, 1050–55 (2012).

354. Jane Bambauer, *Is Data Speech?*, 66 *Stan. L. Rev.* 57, 71–77 (2014).

355. See *FTC Privacy Online Report*, supra note 351, at 29–32.

356. Jack M. Balkin, *Information Fiduciaries and the First Amendment*, 49 *U.C. Davis L. Rev.* 1183, 1205–09 (2016); James Grimmelman, *Speech Engines*, 98 *Minn. L. Rev.* 868, 904–05 (2014); see also Neil Richards & Woodrow Hartzog, *Taking Trust Seriously in*

entrust information to intermediaries, and this generates a fiduciary relationship, including a set of specific obligations.³⁵⁷ This approach has several advantages. First, it imports a relatively mature area of law—an area that, like consumer protection law in general, is premised upon information and power asymmetries. The area of law constructs specific obligations such as loyalty, the contours of which are relatively well defined.³⁵⁸ Second, the approach shares with incentive-based methods an avoidance of interfering with granular design decisions and gets around the standard First Amendment objections.³⁵⁹

Note that these solutions may emanate from different legal sources. The FTC is limited in its authority today to policing unfair and deceptive practices under Section V and to enforcing other specific laws as delegated by Congress. Additional authority, in the form of federal or state statutes, may be necessary to alter sharing economy business models or to impose fiduciary obligations on platforms. Moreover, none of these approaches dispenses with the requirement that contemporary regulators monitor for consumer harms. The incentives approach requires validation: Has the intervention sufficiently aligned the interests of the firm with those of the consumer to lead to tolerable levels of advantage taking? The line-drawing approach has to sort harmful from tolerable conduct. And the fiduciary approach requires a means by which to ensure fiduciary obligations are being met.

CONCLUSION

At one level, we should embrace the sharing economy as a novel form of technology-enabled commerce. Sharing does, in fact, possess many of the virtues its proponents suggest. But we must also be vigilant, lest the rhetoric of sharing and the allure of disruption limit the critique of the sharing economy to the handful of problems scholars and others have already identified. There exists within the sharing economy a deeper concern, grounded in the asymmetries of information. In *taking*. Sharing economy firms have the ability to monitor and channel the

Privacy Law, 19 Stan. Tech. L. Rev. 431, 457–58 (2016) [hereinafter Richards & Hartzog, Taking Trust Seriously in Privacy Law] (arguing for a duty of loyalty for digital intermediaries); Neil Richards & Woodrow Hartzog, Privacy's Trust Gap: A Review, 126 Yale L.J. 1180, 1217 (2017) (reviewing Finn Brunton & Helen Nissenbaum, *Obfuscation: A User's Guide for Privacy and Protest* (2015)) (same).

357. See Daniel J. Solove, *The Digital Person: Technology and Privacy in the Information Age* 103 (2004) (discussing potential fiduciary obligations of information intermediaries); see also Balkin, *supra* note 356, at 1205–09; Lilian Edwards, *Reconstructing Computer Privacy Protection On-line: A Modest Proposal*, 18 Int'l Rev. L. Computers & Tech. 313, 330 (2004).

358. Richards & Hartzog, *Taking Trust Seriously in Privacy Law*, *supra* note 356, at 468–71.

359. Balkin, *supra* note 356, at 1209–20.

behavior of all participants and may be using this capacity to everyone's detriment but their own.

Consumer protection law has been oddly silent in debates about the sharing economy. Very few sharing economy papers address themselves to consumer protection. The FTC's complaints against Uber could have been filed against any contemporary company, or against an innovator from thirty years ago. Consumer protection law, with its longtime emphasis on asymmetries of information and power, may still be our best means by which to domesticate the deepest problems of the sharing economy. But consumer protection law should evolve to address the new affordances of intermediaries like Uber and other digital platforms. There are a variety of potential configurations, but the contemporary regulator must first understand and then find a way to address the prospect of abuse. This is no easy set of tasks, but it is a crucial one.