

Regulation 2.0: The Marriage of New Governance and *Lex Informatica*

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ABSTRACT

Throughout history, disruptive technologies have transformed industry and signaled the destruction or creation of regulatory structures. When crafting regulations, governments often utilize Regulation 1.0 approaches, characterized by top-down design standards that dictate exactly how the regulated must act in order to prevent market failures. Regulation 1.0 increases barriers to entry and decreases the room for business experimentation. Regulation 2.0, by contrast, is a theoretical approach for regulating companies that rely on platform-mediated networks. It marries New Governance theory and the concept of lex informatica. This marriage allows for the collaborative creation of performance standards that are then enforced through mediating technologies. Regulation 2.0 is ideal for regulating the sharing economy in particular, as it is powered by technology-driven feedback loops. The shift from Regulation 1.0 to Regulation 2.0 will help regulators meaningfully collaborate with stakeholders and complete the heavy lifting required to effectively turn code into law and efficiently achieve the desired ends of regulation.

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Genuine novelty knows no rules. We cannot reduce to routine what we do not yet know. Yet of course we cannot resist trying.

-Steven W. Usselman (discussing the regulation of railroads)¹

I. INTRODUCTION

Throughout history, disruptive technologies have transformed industry and marked the destruction and creation of regulatory structures. From the railroad to the Internet to the sequencing of the human genome, regulators have had to experiment and stumble their way to protect the public from the potentially negative consequences of innovation. Regulatory response to innovation today is no different. Society must devise ways to effectively regulate new technologies such as drones, driverless cars, and tech-driven marketplaces collectively known as the sharing economy.²

Regulation is necessary because, according to the public interest theory of regulation, markets are fragile.³ Market failure can produce inefficient, inequitable, and harmful results. When market failures occur, consumers demand regulation as a corrective measure. For example, cities in the United States have been regulating taxicabs with safety and insurance standards since the 1920s.⁴ These regulations came in response to the early days of unsafe cars and poor compensation for victims of accidents.⁵ When the invisible hand fails to protect the public, governments may choose to regulate to police the behavior of individuals and businesses.

1. STEVEN W. USSELMAN, *REGULATING RAILROAD INNOVATION: BUSINESS, TECHNOLOGY, AND POLITICS IN AMERICA, 1840-1920*, at 1 (2002).

2. Rachel Botsman, *The Sharing Economy Lacks a Shared Definition*, FASTCOMPANY (Nov. 21, 2013), <http://www.fastcoexist.com/3022028/the-sharing-economy-lacks-a-shared-definition#8> [https://perma.cc/D8UC-P7R6]. The “sharing economy” goes by many names such as “collaborative consumption,” “the peer-to-peer economy,” “the 1099 economy,” etc. *Id.* This Article uses the term “sharing economy” to refer to the peer-to-peer networks facilitated by platforms that allow people to profit from their excess capacity.

3. Richard A. Posner, *Theories of Economic Regulation*, 5 BELL J. ECON. & MGMT. SCI. 335, 335–36 (1974).

4. See Paul Stephen Dempsey, *Taxi Industry Regulation, Deregulation & Reregulation: The Paradox of Market Failure*, 24 TRANSP. L.J. 73, 75 (1996).

5. See *id.* at 76–77.

Market failures in the 21st Century's technology-driven environment are increasingly difficult to detect and correct. Gone are the days of discrete and physical industries, like the taxi industry, that can be tamed with licenses and inspections. Now, many technology companies use platform-mediated networks.⁶ These are networks with a "triangular pattern of relationships in which two parties to a transaction—network users—each access a common platform that facilitates their transaction."⁷ Companies that use platform-mediated networks include EBay, Google, Facebook, American Express, Cisco, UPS, Uber, and Airbnb. These companies, called "platforms" for the purposes of this Article, are dramatically lowering the barriers to participation for users on both the supply and demand side of transactions. This calls into question key assumptions about how firms are organized and how they can be regulated.

Platforms use the Internet, complex algorithms, and big data to transform and enhance our lives in previously inconceivable ways. So while technology and regulation have always run at different speeds, in today's age, the gap between the two is getting wider.⁸ Regulatory agencies struggle to be nimble enough to keep up with the pace of changing consumer markets. Unfortunately, they often default to outmoded and ineffective approaches characterized by the old top-down forms of regulation that utilize rigid design standards.⁹ This type of regulation, "Regulation 1.0," stifles innovation by increasing barriers to entry and decreasing room for businesses to experiment. By contrast, Regulation 2.0, as defined in this Article, utilizes New Governance theory principles to develop regulating technologies based on the input of multiple stakeholders.

New Governance is an umbrella term to refer to an approach in legal scholarship that encourages experimental and flexible regulatory systems.¹⁰ It developed as a theory in response to frustrations about the cost and effectiveness of government programs, changes in technology, economic forces, globalization, and a need to make

6. Thomas R. Eisenmann, Module Note, *Platform-Mediated Networks: Definition and Core Concepts*, HARV. BUS. REV., rev. Oct. 2007, at 1.

7. *Id.* at 20.

8. Larry Downes, *Managing the Big Bang: The Regulator's Dilemma*, 34 DEMOCRACY J. 14, 18 (2014).

9. STEPHEN G. BREYER, REGULATION AND ITS REFORM 105 (1982). Design standards specify exactly how a regulated entity should act in order to address market failures. *Id.*

10. See Cristie L. Ford, *New Governance, Compliance, and Principles-Based Securities Regulation*, 45 AM. BUS. L.J. 1, 6–11 (2008). Other terms for New Governance concepts include "democratic experimentalism," 'reflexive law,' 'responsive regulation,' and 'network governance.'" *Id.* at n. 105; see *infra* Part II.A.

regulatory systems more innovation-friendly.¹¹ New Governance is the antithesis to the New Deal's expert-centered, command-and-control regulatory scheme. New Governance appreciates the complex nature of problems facing modern economies and acknowledges the fact that these problems "have become too complex for government to handle on its own, because disagreements exist about the proper ends of public action, and because government increasingly lacks the authority to enforce its will on other crucial actors without giving them a meaningful seat at the table."¹² New Governance design principles focus on privileging performance standards over design standards, pulling industry into the process for making decisions, and relying on audited self-regulation.¹³

Lex informatica, on the other hand, relates to the idea that technological capabilities and system design choices can regulate participant behavior to protect consumers.¹⁴ That is, regulation built into the technical architecture of user-interfaces can both prevent certain user actions (e.g. access to private information) and instantaneously punish behavior (e.g. kicking users off sharing economy platforms for fraudulent behavior). The resulting offspring of

11. David M. Trubek & Louise G. Trubek, *New Governance & Legal Regulation: Complementarity, Rivalry, and Transformation*, 13 COLUM. J. EUR. L. 539, 542–43 (2007) (describing the emergence of New Governance and how its "development may be attributed to very basic changes in economy, polity and society, as well as to more technical innovations in public administration"); Orly Lobel, *The Renew Deal: The Fall of Regulation and the Rise of Governance in Contemporary Legal Thought*, 89 MINN. L. REV. 342, 352 (2004) [hereinafter Lobel, *The Renew Deal*] (claiming new governance "aims to tie developments in technology, globalization, communications, economic organization, and privatization, as well as the collapse of states and ideologies, the unification of regimes like the European Union, and the rise of nonstate and stateless actors in both peace and war together with developments in legal and democratic theory, including the decline of unified theories and the dissatisfaction with oppositional and fragmented schools"); Lester M. Salamon, *The New Governance and the Tools of Public Action: An Introduction*, 28 FORDHAM URB. L.J. 1611, 1612 (2001) (describing how New Governance theory emerged because of popular frustrations with government and "a new-found faith in liberal economic theories").

12. Salamon, *supra* note 11, at 1623.

13. Ford, *supra* note 10 (describing the relationship "between principles-based securities regulation and New Governance theory"); IAN AYRES & JOHN BRAITHWAITE, *RESPONSIVE REGULATION: TRANSCENDING THE DEREGULATION DEBATE* 54–56 (1992) (discussing a regulatory structure that uses private interest groups to monitor behavior); Bradley C. Karkkainen, "New Governance" in *Legal Thought and in the World: Some Splitting as Antidote to Overzealous Lumping*, 89 MINN. L. REV. 471, 478 (2004) (discussing the role of experimentation and negotiation in New Governance approaches); Jody Freeman, *Collaborative Governance in the Administrative State*, 45 UCLA L. REV. 1, 21–22 (1997) (describing "collaborative governance" in administrative rulemaking as, among other things, a process characterized by: participation by stakeholders in all stages of the decision-making process; accountability transcending traditional public and private roles; and a flexible and engaged regulator that facilitates negotiations among stakeholders and provides appropriate incentives).

14. See *infra* Part II.C.

New Governance and *lex informatica* is Regulation 2.0.¹⁵ Regulation 2.0, in theory, incorporates New Governance design principles and technology to efficiently police behavior via performance standards.

The purpose of this Article is to demonstrate how the combination of New Governance theory and *lex informatica* can address problems related to emerging and disruptive platforms, particularly those related to the sharing economy. Part I of this Article discusses why we attempt to regulate market failure. It then identifies the concept of Regulation 1.0, which is characterized by command-and-control regulation that utilizes design standards—most commonly in the form of licensing requirements. Part I concludes by demonstrating how Regulation 1.0 stifles innovation. As an alternative to Regulation 1.0, Part II blends principles of New Governance and *lex informatica* to develop a theoretical framework for Regulation 2.0. In particular, it incorporates technology-driven feedback loops that allow for the instantaneous monitoring and regulation of behavior. Finally, Part III concludes by applying the Regulation 2.0 model to the sharing economy.

II. MARKET FAILURES AND REGULATION 1.0

The volume and scope of regulation¹⁶ has swollen since 1887, when the federal government of the United States established the first modern regulatory agency, the Interstate Commerce Commission (ICC), to regulate railroads.¹⁷ Regulation is now omnipresent in our lives: from our houses, whose construction is subject to a robust set of building codes, to our cars, which are made, sold, driven, and maintained under a multitude of government rules. The justifications for regulation are based on the alleged inability of the marketplace to deal with structural problems known as market failures.¹⁸ However, in practice, regulation can fail to live up to the desired goals of those who seek it. For example, well-intended consumer protection regulations can stifle innovation by creating regulatory capture and increasing compliance burdens. This is particularly true when regulators utilize

15. Nick Grossman, *The Regulation 2.0 Challenge*, SLOW HUNCH (Dec. 4, 2013), <http://www.nickgrossman.is/2013/12/04/the-regulation-2-0-challenge/> [https://perma.cc/XM4R-W6LP] (discussing the concept and the related term “Regulation 2.0,” perhaps, for the first time).

16. *Regulation*, WEBSTER’S II RIVERSIDE UNIVERSITY DICTIONARY (2005) (defining “regulation” as “[a] principle, rule, or law designed for controlling or governing behavior”).

17. Interstate Commerce Act of 1887, ch. 104, 24 Stat. 379.

18. See BREYER, *supra* note 9, at 15–35; ALFRED E. KAHN, *THE ECONOMICS OF REGULATION: PRINCIPLES AND INSTITUTIONS* 65–70, 172–250 (1971).

Regulation 1.0 or top-down regulations that rely on design standards that are enforced via inspection and punishment.¹⁹

A. *Why We Regulate*

The public interest theory of regulation suggests that markets are generally efficient, meaning that markets put scarce resources to their highest and best use via signals about the value of goods and services.²⁰ Captured in the price system, signals direct market players to match supply and demand.²¹ However, intervention is necessary when markets fail to create ideal market conditions.²² More specifically, “market failure” occurs when the price system fails to stop “undesirable” activities, where the desirability of an activity is assessed in relation to what is Pareto optimal.²³ Common market failures include monopolies, uncompensated negative externalities, and asymmetrical information.

1. Monopolies

Various types of monopolies exist. The first is a sanctioned monopoly where one firm owns valuable intellectual property, such as patents, copyrights, and trade secrets, which legally entitles it to prohibit others from benefiting from the property as a reward for innovation or creativity. The second type is unsanctioned and arises as a result of anticompetitive action, such as collusion, where one seller or

19. This gross simplification of New Deal-like regulations is designed for explanatory purposes. Regulation has been subject to academic debate and discourse for centuries, it is thus complex and difficult to precisely characterize or define. This Article only means to describe Regulation 1.0 so as to contrast it with Regulation 2.0. This Article fully realizes the shift from Regulation 1.0 to 2.0 has been a slow evolution, with an infinite number of Regulation 1 + 0.x’s along the way.

20. See SUSAN DUDLEY & JERRY BRITO, *REGULATION: A PRIMER* 12 (2d ed. 2012). There are many criticisms of the public interest theory, particularly from the Chicago School of Law and Economics. Andrei Shleifer, *Understanding Regulation*, 11 EUR. FIN. MGMT. 439, 440 (2005). The criticisms and additional theories of regulation are beyond the scope of this Article, including the contract theory associated with Coase and the capture theory associated with Stigler. See generally Ronald Coase, *The Problem of Social Cost*, 3 J.L. & ECON. 1 (1960); George Stigler, *The Theory of Economic Regulation*, 2 BELL J. ECON. & MGMT. SCI. 3 (1971).

21. *Invisible Hand*, INVESTOPEDIA.COM, <http://www.investopedia.com/terms/i/invisiblehand.asp> [<https://perma.cc/K5K3-5D67>].

22. See A.C. PIGOU, *THE ECONOMICS OF WELFARE* 63–64 (reprt. 2005) (1920).

23. Pareto optimality occurs when it is impossible to undertake an action that will not make someone better off without making someone else worse off. Barbara Ann White, *Economic Efficiency and the Parameters of Fairness: A Marriage of Marketplace Morals and the Ethic of Care*, 15 CORNELL J.L. & PUB. POL’Y 1, 28 (2005) (defining Pareto optimality).

group of sellers produces for an entire market or industry.²⁴ Without a sufficient substitute for consumers, competition is deficient and thus the market fails.²⁵ The effects of an anticompetitive monopoly are reduced output, higher prices, and unjust income transfer from consumers to producers.²⁶ In response to these monopolies, regulators use antitrust laws to ensure that the business environment promotes competition.

The third type of monopoly is a natural monopoly, which occurs when one firm dominates a market because there are extremely high fixed costs to get started. Railways are a typical example of a natural monopoly because the costs of laying track and building a network prohibit or deter new competitors. In these situations, antitrust law is undesirable, as restoration of competition in a natural monopoly would cause the inefficient duplication of efforts. Therefore, regulators choose alternative approaches, such as regulating prices, quality, and output.²⁷

2. Uncompensated Negative Externalities

A great deal of regulation is justified on the grounds that the “unregulated price of a good does not reflect” the negative externalities or spillovers, which make up the “true cost to society of producing that good.”²⁸ A classic example of uncompensated negative externalities involves pollution.²⁹ If carbon emissions from factories are not internalized, industry thrives at the expense of communities by lowering the quality of life for inhabitants, increasing healthcare cost, and reducing production opportunities, such as tourism.³⁰ Since the indirect costs in a negative externality situation are not borne by the producer, regulation is necessary in the form of taxation and quantity restrictions. Taxation attempts to force producers to internalize the effects of their activities and quantity restrictions dictate how much of a negative externality can be produced (e.g. how much carbon can be produced by a firm).³¹

24. CLIFFORD WINSTON, GOVERNMENT FAILURE VERSUS MARKET FAILURE: MICROECONOMICS POLICY RESEARCH AND GOVERNMENT PERFORMANCE 17 (2006).

25. ROBERT BALDWIN ET AL., UNDERSTANDING REGULATION: THEORY, STRATEGY, AND PRACTICE 16 (2d ed. 2012).

26. BALDWIN ET AL., *supra* note 25, at 16. See Alan J. Meese, *Reframing the (False?) Choice Between Purchaser Welfare and Total Welfare*, 81 FORDHAM L. REV. 2197, 2198 (2013).

27. BALDWIN ET AL., *supra* note 25, at 16.

28. BREYER, *supra* note 9, at 23.

29. BALDWIN ET AL., *supra* note 25, at 18.

30. Thomas Helbling, *Externalities: Prices Do Not Capture All Costs*, INT’L MONETARY FUND, <http://www.imf.org/external/pubs/ft/fandd/basics/external.htm> [https://perma.cc/Q93N-YQEU] (last updated Mar. 28, 2012).

31. *Id.*; BALDWIN ET AL., *supra* note 25, at 18.

3. Asymmetrical Information

“For a competitive market to function well, buyers must have sufficient information to evaluate competing products or services.”³² However, the market may fail to produce adequate information for a number of reasons: (1) information may cost money to produce, (2) incentives to produce the information may be low, and (3) there may be incentives to falsify information.³³

Inadequate information can cause adverse selection, which is the process by which businesses exploit the information gap between them and consumers.³⁴ To deal with the consequences of adverse selection, regulators employ a variety of tactics: “these tactics range from consumer empowerment (demand-side measures), which enhances the quality or type of information about products and ensure that consumer contracts are fair, to focusing on modifying firm behavior (supply-side measures), mandating product standards or encouraging the development of codes of conduct.”³⁵ For example, Congress responded to the Great Depression, a market failure brought on in part by exaggerated claims about the profit potential of securities, with the Securities Act.³⁶ The Securities Act is designed to focus not on the merits of investments but the disclosure of information about investments.³⁷ The 1933 Congress believed that full and truthful disclosure would allow individuals to make informed investment decisions. As Justice Brandeis put it, “[S]unlight is the best disinfectant.”³⁸

Information asymmetry can also cause moral hazard, which occurs when one trading partner takes more risks because the other

32. BREYER, *supra* note 9, at 72 (citing Friedrich Hayek, *The Use of Knowledge in Society*, 35 AM. ECON. REV. 519, 519 (1945)).

33. BALDWIN ET AL., *supra* note 25, at 18.

34. Molly Cohen & Arun Sundararajan, *Self-Regulation and Innovation in the Peer-to-Peer Sharing Economy*, 82 U. CHI. L. REV. DIALOGUE 116, 120 (2015).

35. ORGANISATION FOR ECONOMIC CO-OPERATION AND DEVELOPMENT, CONSUMER POLICY TOOLKIT 4 (2010), <http://www.oecd.org/sti/consumer/45098058.pdf> [<https://perma.cc/9CBS-7QKR>].

36. See Milton H. Cohen, “*Truth in Securities*” Revisited, 79 HARV. L. REV. 1340, 1340–41 (1966). See generally FERDINAND PECORA, WALL STREET UNDER OATH (1939) (discussing the impact of the 1933 Act); William O. Douglas & George E. Bates, *The Federal Securities Act of 1933*, 43 YALE L.J. 171 (1933) (providing an overview of the 1933 Act as originally enacted).

37. Elisabeth Keller & Gregory A. Gehlmann, *Introductory Comment: A Historical Introduction to the Securities Act of 1933 and the Securities Exchange Act of 1934*, 49 OHIO ST. L.J. 329, 344 (1988).

38. Thomas Lee Hazen, *Crowdfunding or Fraudfunding? Social Networks and the Securities Laws-Why the Specially Tailored Exemption Must Be Conditioned on Meaningful Disclosure*, 90 N.C. L. REV. 1735, 1741 (2012) (explaining how the 1933 Congress believed that full and truthful disclosure would allow individuals to make informed decisions).

trading partner bears the cost of those risks.³⁹ For example, firms receiving tax breaks and insurance payouts may take cybersecurity concerns less seriously because they do not experience the full cost of those risks.⁴⁰ To prevent the moral hazard problem, regulators try to shift risk back to the person or entity with the power to mitigate the risk.

The above-mentioned market failures highlight how market forces alone are unable to achieve desired societal outcomes. Simply put, “regulation is necessary because social and private costs and benefits, and hence incentives, are misaligned,” which can lead to long and short-term problems for consumers.⁴¹

B. Regulation 1.0: Design by Default

Before the New Deal, economic regulation was limited. There was a preference given to freedom of contract and individual property rights.⁴² However, after the Great Depression, bodies of substantive law were created to address the market failures discussed above. The New Deal crystallized the modern era of regulation, which “reflected the judgment that social subsystems are incapable of self-adjustment and need to be ordered by a centralized authority.”⁴³ Much of the modern era regulations were produced under a command-and-control model that “sought to set market rates, limit entry into industries, and create standards for the production of goods and services.”⁴⁴ These characteristics embody the idea of Regulation 1.0 and its three main components: top-down regulation crafting, design standards, and ex-post enforcement.

39. PAUL KRUGMAN, *THE RETURN OF DEPRESSION ECONOMICS AND THE CRISIS OF 2008*, at 63 (2009).

40. Liam M.D. Bailey, *Mitigating Moral Hazard in Cyber-Risk Insurance*, 3 J.L. & CYBER WARFARE 1, 6 (2014).

41. DAVID MOSS & JOHN CISTERMINO, *NEW PERSPECTIVES ON REGULATION 13* (2009). For simplicity, this Article does not explore the various alternative rationales for regulation, such as distributional justice, rights protection, and citizenship. Governments, indeed, regulate on a host of matters to further social policies unrelated to market concerns, such as the prevention of discrimination.

42. Lobel, *The Renew Deal*, *supra* note 11, at 362.

43. *See id.* at 363.

44. *See id.* at 379 (citing Peter H. Schuck, *The Politics of Regulation*, in *THE LIMITS OF LAW: ESSAYS ON DEMOCRATIC GOVERNANCE* 117, 121 (2000)).

Top-down regulation crafting relies on a few “well-educated, specially trained, and publically appointed professionals.”⁴⁵ It is a slow and deliberative process of fact-finding and theorizing about the “best” way to regulate behavior. It does not involve dynamic participation among stakeholders nor account for conflict and compromise. The Occupational Safety and Health Act,⁴⁶ which established the Occupational Safety and Health Administration (OSHA) within the Labor Department, is a classic example of top-down regulation.⁴⁷ OSHA was granted broad power to regulate workplace safety across all industries, and it promulgated rules that established standards for issues like exposure to toxins. The Agency enforced these standards via quasi-random inspections and prosecution for violations, and its practices epitomized the dissatisfaction with the top-down regulatory model.⁴⁸

Design standards specify how a regulated entity should behave to prevent market failure.⁴⁹ Companies must figure out how to comply with design standards before engaging in a regulated activity. They then must get the appropriate stamp of approval or license from government. For instance, every taxi in New York City must undergo a 200-point inspection three times a year, and in order to become licensed, drivers must be at least nineteen years old, pass a criminal background check, go to taxi school, show proficiency in English, and prove a working knowledge of New York City streets.⁵⁰ These design standards serve gatekeeping functions that increase the costs and time for bringing innovative products and services to market.

To create design standards, policymakers first see a market failure, such as asymmetric information.⁵¹ They then use a preliminary, cost-benefit analysis “to select the specific part of the general problem” that they should attack “in order to obtain the greatest improvement at the lowest cost.”⁵² Policymakers obtain information and create a standard “that would reduce the targeted

45. *Id.* at 371.

46. Act of Dec. 29, 1970, Pub. L. No. 91-596, 84 Stat. 1590 (codified as amended at 29 U.S.C. §§ 651-678 (2012)).

47. *See* Lobel, *The Renew Deal*, *supra* note 11, at 336.

48. *See id.*

49. *See* BREYER, *supra* note 9, at 105; PAYPAL & EBAY INC, 21ST CENTURY REGULATION: PUTTING INNOVATION AT THE HEART OF PAYMENTS REGULATION 16, <http://www.ebaymainstreet.com/sites/default/files/PayPal-Payment-Regulations-Booklet-US.pdf> [<https://perma.cc/9XQL-5V47>].

50. *Why Are NYC Taxis Regulated?*, CNBC (July 18, 2014), <http://www.cnbc.com/id/101848822> [<https://perma.cc/5S4Q-WCNQ>].

51. BREYER, *supra* note 9, at 98.

52. *Id.*

adverse effects to an economically reasonable level in the least expensive way available.”⁵³ Next, they enforce the standards, “developing means to ensure compliance.”⁵⁴ Finally, they “monitor enforcement, evaluate the standard’s effectiveness, and revise it in light of [their] findings.”⁵⁵

Justice Breyer in his book *Regulation and its Reform* describes several problems that “plague even the most competent administrators” in the standard-setting process.⁵⁶ The most notable of these problems relates to the information gathering needed to write sensible standards. Often regulators gather information from industry, government staff, independent consultants or academics, and consumers. However, each method suffers from serious problems, such as self-interest, lack of technical ability, expense, and anti-industry bias. As a result, regulators often make decisions on inadequate information, leading to top-down design standards that are imperfect.

The third component of Regulation 1.0 relates to enforcement. Standards may be enforced through ex-post “criminal sanctions, withdrawal of a license, civil fines, or adverse publicity.”⁵⁷ This type of enforcement, however, is costly because it requires constant inspection and review. As Daniel Farber describes, negative slippage—the difference between regulatory requirements and enforcement—is ubiquitous in these situations and results from weak enforcement and noncompliance.⁵⁸

Regulation 1.0 has been used to address the market failures for decades—from anticompetitive monopolies, which are prohibited by the Sherman Act, to the labeling requirements for consumer products.⁵⁹ Regulation 1.0 dictates exactly how industry must behave. If industry fails to live up to particular standards, and gets caught, a punishment will be imposed. Regulation 1.0 is far from perfect at addressing market failures and, as the section below describes, it can have negative effects on innovation.

53. *Id.*

54. *Id.*

55. *Id.*

56. *Id.* at 109–18.

57. *Id.* at 96

58. Daniel A. Farber, *Taking Slippage Seriously: Noncompliance and Creative Compliance in Environmental Law*, 23 HARV. ENVTL. L. REV. 297, 299 (1999); see also obel, *The Renew Deal*, *supra* note 11, at 371.

59. 15 U.S.C. § 1 (2012). The Sherman Act prohibits “[e]very contract, combination in the form of trust or otherwise, or conspiracy, in restraint of trade or commerce.” *Id.*

C. The Innovation Stifling Effects of Regulation 1.0

Regulation 1.0 can create various types of “government failure,” which can repress innovation.⁶⁰ Innovation is a concept that can be defined differently based on context, but generally it relates to developing new solutions for existing problems and bringing those solutions to market.⁶¹ Innovation is a “complex and evolving process that requires state intervention but which also can be easily stifled if regulations are not permeable to change.”⁶² Regulation 1.0 impedes innovation in three ways: (1) regulatory delay, (2) regulatory capture, and (3) compliance burdens.⁶³

1. Regulatory Delay

Regulatory delay relates to the time between a request for regulatory approval for a product or service and its administrative approval or enactment of the associated regulation.⁶⁴ The incentives to invest in innovative ideas may decrease if firms do not know when and if their businesses might be regulated.⁶⁵ For example, the regulatory delay in the pharmaceutical industry comes from Food and Drug Administration approval, thereby increasing the costs of bringing a new drug to market.⁶⁶ Regulatory delay in the telecommunications industry comes from the Federal Communications Commission and state regulators. Voice messaging services, by way of example, were delayed over ten years because of regulatory barriers and hurdles. A study estimates that this delay cost consumers \$100 billion.⁶⁷

60. Government failure occurs when government intervention threatens to cause or causes a more inefficient allocation of goods and resources than an unregulated market would produce. MOSS & CISTERNINO, *supra* note 41, at 7 (stating that the term “government failure” has been used since the early 1960s to describe the phenomenon of unintended consequences related to regulation).

61. See Jan Fagerberg, *Innovation: A Guide to the Literature*, in THE OXFORD HANDBOOK OF INNOVATION 1 (Jan Fagerberg & David C. Mowery eds., 2007).

62. Sofia Ranchordas, *Innovation Experimentalism in the Age of the Sharing Economy*, 19 LEWIS & CLARK L. REV. 871, 876–77 (2015).

63. For an excellent discussion of the relationship between innovation and the sharing economy, see generally Sofia Ranchordas, *Does Sharing Mean Caring? Regulating Innovation in the Sharing Economy*, 16 MINN. J.L. SCI. & TECH. 413 (2015).

64. See James E. Prieger, *Regulatory Delay and the Timing of Product Innovation*, 25 INT’L J. INDUS. ORG. 219, 220 (2007); Ranchordas, *supra* note 63, at 446.

65. *Id.*

66. Prieger, *supra* note 64, at 220.

67. JERRY HAUSMAN, VALUING THE EFFECT OF REGULATION ON NEW SERVICES IN TELECOMMUNICATIONS 3 (1997), https://www.brookings.edu/wp-content/uploads/1997/01/1997_bpeamicro_hausman.pdf [<https://perma.cc/V6CT-9L7Z>].

2. Regulatory Capture

Regulatory capture relates to the political corruption that causes regulated industries to spend time and resources to influence regulators.⁶⁸ Typically under the guise of consumer protection, established industry participants create barriers to entry for new firms by lobbying for regulations limiting entry into the marketplace.⁶⁹ These tactics take many forms, such as licensing requirements and restrictions on quality.⁷⁰ This is particularly true within the sharing economy, whose biggest competitors spend enormous amounts of resources to advocate for tighter regulation. However, this is inefficient because regulation designed to regulate quality and price is useful to the regulated firms, but not necessarily useful for society as a whole. In regulatory capture situations, less dynamic competition discourages entrepreneurs from discovering new ways of doing business and pulls energy away from other productive and perhaps innovative activities in existing firms.⁷¹

3. Compliance Burdens

The third way regulation can stifle innovation is by placing compliance burdens on firms. Compliance burdens can cause firms to “divert time and money from innovative activities [toward] compliance efforts.”⁷² For example, financial reporting regulations may cause firms to move resources from R&D to their internal auditing departments.⁷³ These burdens can also make it economically infeasible for innovative firms that rely on crowds to enter or create new markets. For example, the United States has tried to regulate equity-based crowdfunding through its securities laws. In 2012 it passed the Jumpstart Our Business Startups Act (the “JOBS Act”).⁷⁴ Before the JOBS Act, equity interests, as opposed to token rewards, were likely securities under the

68. LIAM WREN-LEWIS, REGULATORY CAPTURE: RISKS AND SOLUTIONS 2 (2010), <https://ecopub2.files.wordpress.com/2010/01/liam-on-capture.pdf> [<https://perma.cc/9CA2-LSZZ>].

69. *Id.* at 8.

70. CHRISTOPHER KOOPMAN, MATTHEW MITCHELL, & ADAM THIERER, THE SHARING ECONOMY AND CONSUMER PROTECTION REGULATION: THE CASE FOR POLICY CHANGE 3–5 (2014), <http://mercatus.org/sites/default/files/Koopman-Sharing-Economy.pdf> [<https://perma.cc/4CXP-A5FJ>].

71. LUKE A. STEWART, THE IMPACT OF REGULATION ON INNOVATION IN THE UNITED STATES: A CROSS-INDUSTRY LITERATURE REVIEW 2 (2010), <http://www.itif.org/files/2011-impact-regulation-innovation.pdf> [<https://perma.cc/LW4Q-ZEBZ>].

72. *Id.*

73. *Id.*

74. Jumpstart Our Business Startups Act, Pub. L. No. 112–106, 126 Stat. 306 (2012) (to be codified in scattered sections of 12 U.S.C. and 15 U.S.C.).

Securities Act of 1933 and subsequent legislation, adding many additional (and often extremely costly) reporting burdens on entrepreneurs. Therefore, both the equity-based crowdfunding platforms and the start-ups that could potentially benefit from this new form of fundraising were precluded from using this new approach.

Regulatory delay, capture, and burdens all impact the ability of entrepreneurs and established firms to innovate. Regulation 1.0 is more likely to cause these government failures than Regulation 2.0 because decisions about regulation are being made slowly on top-down bases with the input of very few participants. If industry is consulted at all, the loudest voices are likely to come from incumbents instead of innovative newcomers. Furthermore, to comply with design standards, innovators have to get approval from government first or ask for forgiveness later.

III. THE SHIFT FROM REGULATION 1.0 TO REGULATION 2.0

Regulation 1.0 often does not achieve its “public interest” aims. And with technology and interconnectedness, commercial activity has reached a new level of complexity that makes it impossible “to write rules that cover the particulars of current circumstances in any sphere of activity.”⁷⁵ Government policy needs to be quick, flexible, and revisable, and with platform companies in particular, government policy needs to move towards Regulation 2.0, which relies on New Governance principles to design new technology-driven systems to govern behavior.

A. *The Pillars of New Governance*

New Governance,⁷⁶ known by many different names, is the movement that attempts to “harness the power of new technologies, market innovation, and civic engagement” to allow stakeholders to develop new ways to govern.⁷⁷ It contrasts the traditional command-

75. Michael C. Dorf & Charles F. Sabel, *Drug Treatment Courts and Experimentalist Government*, 53 VAND. L. REV. 831, 837 (2000) (arguing that drug courts are experimental and need not face a strict trade off between efficacy and accountability); Lobel, *The Renew Deal*, *supra* note 11, at 264.

76. R.A.W. Rhodes, *The New Governance: Governing Without Government*, 44 POL. STUD. 652 (1996) (introducing the term “new governance”).

77. Lobel, *The Renew Deal*, *supra* note 11, at 264. Orly Lobel argued that New Governance is an amalgamation of several scholarly theories including: “reflexive law,” “soft law,” “collaborative governance,” “democratic experimentalism,” “responsive regulation,” “outsourcing regulation,” “reconstitutive law,” “post-regulatory law,” “revitalizing regulation,” “regulatory pluralism,” “decentering regulation,” “meta-regulation,” “contractarian law,” “communicative governance,” and “negotiated governance.” *Id.* at 349–50.

and-control regulation that has characterized Regulation 1.0 and moves toward a “more participatory and collaborative model, in which government, industry, and society share responsibility for achieving policy goals.”⁷⁸ New Governance scholars are “engaged in developing a broad menu of legal reform strategies that involve private industry and nongovernmental actors in a variety of ways while maintaining the necessary role of the state to aid weaker groups in order to promote overall welfare and equity.”⁷⁹ In particular, New Governance “offers a vision of law and policy that draws on the comparative strengths of both private and public stakeholders.”⁸⁰ The leading regulatory design features of New Governance are discussed below. These factors include privileging (1) performance standards over design standards, (2) private actors in the standard setting process, and (3) audited self-regulation.

1. Privileging Performance Standards over Design Standards

Performance standards detail a desired outcome but leave how to achieve that outcome to the regulated entity, such as a standard that states that a certain industry must reduce carbon emissions by 50 percent by the year 2050.⁸¹ Performance-based regulation promotes flexibility and creativity among those who are closest to particular problems.⁸² In addition, performance standards directly address market failures and are better able to “account for changes in the practices of regulated entities and empower innovation in compliance methods.”⁸³ For example, the Nuclear Regulatory Commission (NRC) and the Department of Transportation’s Office of Pipeline Safety “initiated risk-informed, performance-based approaches to achieving their safety regulatory goals.”⁸⁴

78. See *id.* at 344.

79. Orly Lobel, *The Paradox of Extralegal Activism: Critical Legal Consciousness and Transformative Politics*, 120 HARV. L. REV. 937, 983 (2007) [hereinafter Lobel, *The Paradox*].

80. Orly Lobel, *New Governance as Regulatory Governance*, in THE OXFORD HANDBOOK OF GOVERNANCE 65 (David Levi-Four ed., 2012) [hereinafter Lobel, *New Governance*].

81. See, e.g., FED. AVIATION ADMIN., PERFORMANCE BASED REGULATIONS GUIDE (1998); BREYER, *supra* note 9, at 105; W. KIP VISCUSI, RISK BY CHOICE: REGULATING HEALTH AND SAFETY IN THE WORKPLACE 128–29 (1983); Cary Coglianese et al., *Performance-Based Regulation: Prospects in Health, Safety, and Environmental Protection*, 55 ADMIN. L. REV. 705, 711 (2003).

82. Lobel, *The Renew Deal*, *supra* note 11, at 391–92.

83. PAYPAL & EBAY INC, *supra* note 49, at 17.

84. Coglianese et al., *supra* note 81, at 707.

Historically, performance standards, while theoretically preferable, have been difficult to enforce because regulators lack the to measure and monitor the standards.⁸⁵ However, the rapid development of technology is diminishing these enforcement barriers.

2. Privileging Private Actors in the Standard Setting Process

Unlike the top-down, command-and-control characteristics of Regulation 1.0, both regulators and a broad, decentralized stakeholder group design performance standards. These stakeholders strengthen the regulation process by capitalizing on their local knowledge and expertise. As Cristie L. Ford describes in the context of securities regulation:

[The] regulatory structure [of New Governance] spans the so-called public/private divide, pulls industry experience into regulatory decision-making, and establishes robust ongoing communication mechanisms (rather than an information-hoarding, adversarial relationship) between industry and regulator. The regulator establishes broad policy guidelines and regulatory goals for industry action. It cooperates with industry where possible in determining means to achieve those goals. However, on the basis that industry generally has access to superior contextual information, it refrains from describing the specific content of those principles, including the precise means by which industry ought to achieve the articulated regulatory goals.⁸⁶

New governance is committed to collaboration. Industry and individuals are not viewed as objects of regulation; rather participants are viewed as “norm-generating subjects” meaning they are “involved in the process of developing the norms of behavior” in a given space.⁸⁷ A good example of this is President Obama’s Executive Order 13563, that requires agencies to provide searchable, online access to proposed rules and allow for comment from the public at early stages of rule development.⁸⁸ The Obama Administration hoped this would increase “significantly the opportunities for public participation in the rulemaking process.”⁸⁹

85. See BREYER, *supra* note 9, at 105–06.

86. Ford, *supra* note 9, at 28. Ford utilizes the term “principles-based regulation” in her article. *Id.* It is essentially the same concept as performance-based regulation. See *id.*

87. Lobel, *The Renew Deal*, *supra* note 11, at 297.

88. Exec. Order No. 13,563 § 6(b), 3 C.F.R. 215, 217 (2012), *reprinted in* 5 U.S.C. § 601 app. at 101–02 (2012).

89. THE OBAMA ADMINISTRATION’S COMMITMENT TO OPEN GOVERNMENT: A STATUS REPORT 30 (2011), https://www.whitehouse.gov/sites/default/files/opengov_report.pdf [<https://perma.cc/S5KN-BYN2>].

3. Privileging Audited Self-Regulation

While ultimate enforcement of performance standards remains with the regulator, New Governance incorporates aspects of self-regulation in order to promote compliance.⁹⁰ The notion of self-regulation is not new. “Throughout history, industry has developed its own standards, rules, and enforcement practices through a variety of organizations to lower costs, avoid and resolve conflicts, and ultimately to create consumer confidence.”⁹¹

E-commerce increased interest in the concept of self-regulation.⁹² The development of the Internet fundamentally changed the way consumers buy and sell goods.⁹³ The marketplace no longer consists solely of brick and mortar stores; now consumers can make purchases online from complete strangers far away. This new way of purchasing goods provoked much debate about the “respective roles of government, industry, and users in the Internet economy.”⁹⁴

In July 1997, President Bill Clinton and Vice President Al Gore presented their Framework for Global Electronic Commerce, which stressed that the private sector should lead in this new space and the government should not unduly restrict it.⁹⁵ The United States business community interpreted the framework as “a clear government pledge to stay out of e-commerce regulation,” as long as the private sector could address regulators’ concerns.⁹⁶ The industry did, for the most part, deal with regulators’ concerns and the government selectively stepped in where necessary after careful evaluation.⁹⁷ Self-regulation was a viable

90. See Lobel, *New Governance*, *supra* note 80, at 71 (explaining when the government uses New Governance models “in place of extensive elaboration of prohibitive standards and high rates of inspection, [it] facilitates self-regulation and programs of collaborative, semi-voluntary compliance”).

91. Denis Henry, *Electronic Commerce: Is Industry Self-Regulation a Viable Model?*, INTERNET L. & POL’Y F., http://www.ilpf.org/events/jurisdiction2/presentations/henry_pr/ [<https://perma.cc/KE5A-CH9T>] (last visited Nov. 8, 2016). See also Neil Gunningham & Joseph Rees, *Industry Self-Regulation: An Institutional Perspective*, 19 L. & POL’Y 363, 364–65 (1997).

92. Henry, *supra* note 91; Larry E. Ribstein & Bruce H. Kobayashi, *State Regulation of Electronic Commerce*, 51 EMORY L.J. 1, 66 (2002).

93. PACO UNDERHILL, *WHY WE BUY: THE SCIENCE OF SHOPPING—UPDATED AND REVISED FOR THE INTERNET, THE GLOBAL CONSUMER, AND BEYOND* 227–53 (2009).

94. Henry, *supra* note 91, at 4.

95. See WILLIAM J. CLINTON & ALBERT GORE, *A FRAMEWORK FOR GLOBAL ELECTRONIC COMMERCE* (1997), <https://clinton4.nara.gov/WH/New/Commerce/> [<https://perma.cc/JS8S-CQ9K>].

96. DAVID BACH, *THE NEW ECONOMY: TRANSATLANTIC POLICY COMPARISON: INDUSTRY SELF-REGULATION IN THE E-CONOMY* 4 (2001), <http://www.brie.berkeley.edu/publications/GMFDB.pdf> [<https://perma.cc/PDR3-KZ69>].

97. *Id.* at 5.

In the U.S., government’s principal role is to act as latent rule-maker of last

means of regulating the e-commerce because of the Internet's a-territorial nature, issues of technical expertise and access, and the decentralized structure of Internet activities.⁹⁸

While the state remains a significant player in New Governance, it is an “orchestrator rather than a top-down commander.”⁹⁹ New Governance theory privileges self-regulation because it allows relevant standard-setting bodies to develop and monitor various performance standards. However, this self-regulation is not left unchecked; it is audited. Appropriate public or private bodies must be equipped with the knowledge and tools to evaluate whether performance standards have been met. Thus, even if regulators do not have the insider expertise to single handedly develop standards, they must possess or outsource the technical know-how to ensure that that standard-setting bodies have handled their “charge in an effective and reliable manner.”¹⁰⁰

B. Lex Informatica and Its Potential

First defined by Joel Reidenberg, *lex informatica* uses technological architectures to regulate the flow of information and require or prohibit certain actions on technology platforms.¹⁰¹ Larry

resort. It thereby provides the business community with incentives to get the job done, and to get it done right. The government does not generally delegate regulatory authority formally to the private sector Instead, it simply refrains from formal regulation and signals its willingness to let the private sector demonstrate that government intervention is not necessary. Yet a lack of specific legislation does not necessarily imply a regulatory void. Common law provides entrepreneurial judges a considerable amount of leeway. Constant fear of costly litigation is therefore an additional mechanism that keeps self-regulating businesses in check. Similarly, lack of formal delegation does not mean that business-developed market rules do not have bite, that they do not obtain legal standing. Firms that violate self-stated business terms to the detriment of consumers, for example, can be held liable by the Federal Trade Commission (FTC) under broad statutes banning deceptive business practice.

Id.

98. JEANNE PIA MIFSUD BONNICI, SELF-REGULATION IN CYBERSPACE 202 (Aernout H.J. Schmidt & Philip E. van Tongeren eds., 2008).

99. Kenneth W. Abbott & Duncan Snidal, *Strengthening International Regulation Through Transmittal New Governance: Overcoming the Orchestration Deficit*, 42 VAND. J. TRANSNAT'L L. 501, 521 (2009) (describing how the New Governance model applies to international regulation).

100. See Philip J. Weiser, *Internet Governance, Standard Setting, and Self-Regulation*, 28 N. KY. L. REV. 822, 842 (2001) (describing how the FCC adopted in its approval of the AOL/Time Warner merger a form of audited self regulation).

101. Joel Reidenberg, *Governing Networks in Cyberspace*, 45 EMORY L.J. 911, 929–30 (1996) [hereinafter Reidenberg, *Governing Networks*].

Lessig and Reidenberg both developed ideas about how technical standards could be manipulated to control behavior within a system.¹⁰² Therefore, technical standards could effectively become a type law.¹⁰³ This type of law could, at times, go further than traditional forms of law, particularly when the user has no choice but to follow the rules imposed by the technology.¹⁰⁴ *Lex informatica* is ideal for regulations built on performance standards and other New Governance principles for several reasons: 1) it can prohibit undesirable activities through system design choices; 2) it can influence participant self-monitoring behavior through feedback loops; 3) it allows for iterative learning, which can help parties more quickly achieve regulatory goals; and 4) it makes auditing of platform activity more feasible.

System design choices can be a first line of defense for preventing undesirable behavior on platform-mediated networks. In the absence of hacking or other improper forms of manipulation, platforms can protect participants' private data by restricting access to information. For example, a user could be "locked out" of accessing particular data about other users on a system like cell phone numbers or home addresses. Platforms can also design sequences that ensure prompt payment and prevent fraud by requiring funds to be digitally held by the platform until both parties perform their various promises. Platforms can also easily modify their user interfaces to ensure that appropriate taxes are collected in a transaction.

Lex informatica can effectively implement New Governance models by providing near perfect information about activity on platform-mediated networks. This information is provided in part by dynamic feedback loops based on metrics and participant reviews.¹⁰⁵ For instance, e-commerce companies use *lex informatica* to self-regulate and address the traditional market failure that leads to fraud: asymmetrical information. They do so by using a complex series of algorithms, mechanisms, and feedback loops to regulate participant behavior.

102. LAWRENCE LESSIG, CODE AND OTHER LAWS OF CYBERSPACE 6 (1999); Joel Reidenberg, *Lex Informatica: The Formulation of Information Policy Rules Through Technology*, 76 TEX. L. REV. 553, 556 (1998) [hereinafter Reidenberg, *Lex Informatica*].

103. Dan L. Burk & Julie E. Cohen, *Fair Use Infrastructure for Rights Management Systems*, 15 HARV. J.L. & TECH. 41, 50 (2001).

104. BONNICI, *supra* note 98, at 202.

105. John C. Moorhouse, *Consumer Protection Regulation and Information on the Internet*, in THE HALF-LIFE OF POLICY RATIONALES: HOW NEW TECHNOLOGY AFFECTS OLD POLICY ISSUES 139–40 (Fred E. Foldvary & Daniel B. Klein eds., 2003) (“[T]o the extent that consumer protection regulation is based on the claim that consumers lack adequate information, the case for government intervention is weakened by the Internet’s powerful and unprecedented ability to provide timely and pointed consumer information.”).

eBay is a successful online platform where individuals create accounts to enable the buying and selling of items through set prices or an online auction process. eBay creator, Pierre Omidyar, saw the vast potential of the Internet and the need for a virtual secondhand market. In the beginning, however, eBay was in legal hot water as state legislatures tried to classify eBay as an “auction house” and regulate it as such (mostly with licenses and fees).¹⁰⁶ Similar to traditional businesses who compete with the sharing economy, traditional auction houses thought eBay was at an unfair advantage because it did not have to play by the same rules. Furthermore, regulators had good reasons to believe that regulation was necessary. In 2000, the Federal Trade Commission (FTC) received more than 25,000 complaints related to fraud in web-based auctions, an increase from fewer than 1,000 complaints in 1997.¹⁰⁷

Mr. Omidyar and his team knew that fraud had to be prevented and that trust had to be systematically “built in” to the site. Therefore, they created a mechanism for community members to trust the system via the communication of peer-reviews from both buyers and sellers.¹⁰⁸ In so doing, eBay created a new system that regulated participant behavior. This system served as a “trust proxy” because people could rely on a crowd-sourced, centralized system of feedback to protect their interests.¹⁰⁹

With accurate feedback systems, there is less of a need to perform the gatekeeping functions required under a Regulation 1.0 scheme. Instead, regulators and platforms can use feedback to encourage participants to self-monitor (i.e., “you better be good because you will be reviewed”) and appropriately punish bad behavior if it does occur. This approach controls and manages behavior with technology

106. Katie Hafner, *How eBay Makes Regulations Disappear*, N.Y. TIMES (June 4, 2006), http://www.nytimes.com/2006/06/04/business/yourmoney/04ebay.html?pagewanted=all&_r=0 [<https://perma.cc/FQA8-QBTK>].

107. *Internet Fraud, Hearing Before the H. Energy & Commerce Subcomm. on Commerce, Trade, & Consumer Prot.*, 107th Cong. (2001) (statement of Eileen Harrington, Assoc. Dir. of the Div. of Mktg. Practices in the Fed. Trade Comm’n’s Bureau of Consumer Prot.), <https://www.ftc.gov/public-statements/2001/05/prepared-statement-federal-trade-commission-internet-fraud> [<https://perma.cc/C8ZQ-DWSG>]; see also Press Release, Fed. Trade Comm’n, Internet Auction Fraud Targeted by Law Enforcement (Apr. 30, 2003), <https://www.ftc.gov/news-events/press-releases/2003/04/internet-auction-fraud-targeted-law-enforcers> [<https://perma.cc/CSX4-24VX>] (explaining how in 2002, the US National Fraud Information Center reported that the number of complaints involving online auction transactions doubled).

108. Anjanette Raymond & Abbey Stemler, *Trusting Strangers: Dispute Resolution in the Crowd*, 16 CARDOZO J. CONFLICT RES. (forthcoming).

109. Jason Tanz, *How Airbnb and Lyft Finally Got Americans to Trust Each Other*, WIRED (Apr. 23, 2014), <http://www.wired.com/2014/04/trust-in-the-share-economy/> [perma.cc/63UV-DUB7].

instead of using Regulation 1.0's licensing, disclosure, and inspection techniques.

By embracing technologies that monitor, report, and regulate, regulators and platforms also have the ability to identify violations that would likely remain undiscovered, which can lead to better and more informed decision-making through iterative learning.¹¹⁰ For example, the Environmental Protection Agency developed a Next Generation Compliance program that embraces "innovative enforcement strategies," which encourage "evidence-based experimentation to find out which strategies work to improve compliance and which do not."¹¹¹ Using technology to uncover meaningful relationships about cause and effect will help systems learn and become better able to prevent harm. If, for example, eBay discovers that buyers who quickly deactivate their accounts after large purchases do not pay, eBay can prevent deactivation and send up a warning flag to sellers to stop shipment.

Feedback loops and detailed monitoring also improve the ability of regulators to audit the self-regulatory techniques of platforms. As suggested by Robert Glicksman and David Markell, "[to] the extent that new monitoring and reporting technology is more reliable, less capable of being manipulated, and more easily replicated because of reductions in cost, greater mobility and other factors, it may operate to increase the accuracy, reliability, and credibility of self-reporting."¹¹² If regulators and stakeholders can agree to particular metrics that correspond with performance standards, based on the widespread collection of data by platforms, regulators can easily evaluate performance and avoid negative slippage.

C. *The Marriage of New Governance and Lex Informatica*

Regulation 2.0 draws upon the strengths of private and public stakeholders and utilizes technology to enforce performance standards. PayPal, an online payment system company that has struggled with

110. Robert L. Glicksman & David L. Markell, *Dynamic Governance in Theory and Application, Part I* (Fla. State Univ. Coll. of Law, Pub. Law Research Paper No. 791; George Wash. Univ. Law Sch. Pub. Law Research Paper No. 2016-15; George Wash. Univ. Legal Studies Research Paper No. 2016-15, 2016), <http://ssrn.com/abstract=2734304> [<https://perma.cc/H2GL-FXB5>] (arguing "[n]ew technologies that facilitate monitoring of or reporting on the effects of regulated activities may facilitate regulators' ability to turn a dynamic regulatory environment to their advantage by providing access to previously unavailable information relevant to compliance").

111. CYNTHIA GILES, NEXT GENERATION COMPLIANCE 26 (2013), <https://www.epa.gov/sites/production/files/2014-09/documents/giles-next-gen-article-forum-eli-sept-oct-2013.pdf> [<https://perma.cc/EVD8-9YKX>].

112. Glicksman & Markell, *supra* note 110.

regulators for years, provides an excellent example of how Regulation 2.0 could work.¹¹³

There are several regulatory requirements that apply to electronic payments from the Bank Secrecy Act,¹¹⁴ which requires firms to collect information about users to combat money laundering, to Section 5 of the Federal Trade Commission Act, which prohibits “unfair or deceptive acts or practices in or affecting commerce.”¹¹⁵ PayPal has made it a priority to simplify and improve the regulation of payment systems. It has proposed a model, with three basic components, of “smart” regulation that utilizes “dynamic” performance standards.¹¹⁶

Iteration: PayPal argues that the command-and-control model of regulation is untenable. Instead, it advocates for trial-and-error techniques and tools that can uncover best practices. These techniques and tools should embrace big data, which are “high volume, high velocity, and[] high variety information assets that require new forms of processing to enable enhanced decision-making, insight discovery, and process optimization.”¹¹⁷

Data Analytics: Technology and big data underpin PayPal’s performance standards. Data analytics is used to measure and analyze performance standards, which create a system where the “regulated entities are subject to real-time measurement and algorithm that adapt to better achieve regulatory goals.”¹¹⁸

Collaboration: Performance standards require “intervention agents,” which include computer algorithms, crowds, and recognized experts. These agents can help “overcome regulators’ lack of technical knowledge, a problem that plagued traditional performance standards.”¹¹⁹

PayPal applied its dynamic performance standards to “know your customer” regulations, which hope to prevent money laundering and terrorist financing. Generally, these laws require two things: (1) collection basic identification data and (2) verification of accuracy of the

113. See generally PAYPAL & EBAY INC, *supra* note 49.

114. 31 U.S.C. §§ 5311–5330 (2012).

115. 15 U.S.C. § 45(a) (2012).

116. PAYPAL & EBAY INC, *supra* note 49, at 16 (where PayPal calls these standards “dynamic performance standards”).

117. *Id.* at 18, 21.

118. *Id.* at 17.

119. *Id.* at 22.

data provided. PayPal argued that collecting basic information does not achieve the regulatory objectives of avoiding money laundering and terrorist financing.¹²⁰ Instead, PayPal proposed a regulation that would determine a “performance data point that all of today’s payment service providers could produce” that is “closely tied to the goals of protecting consumers and reducing financial crime.”¹²¹

The approach to regulation that PayPal wants to take looks more like how businesses approach problems: “[T]hey are focused on performance rather than design; they are constantly searching for new data points and improved algorithms that better address risk, confirm identity, reduce fraud, and protect consumers.”¹²² PayPal’s performance standards exemplify Regulation 2.0, as it allows for industry to influence performance standards and it utilizes *lex informatica*, via algorithms and real-time measurements, to self-regulate.

Government has been making the shift to New Governance principals for decades, but by embracing the use of technological architectures, big data, and common sense, Regulation 2.0 can help society better achieve the goals of regulation. Particularly in the case of platform-mediated technologies that disrupt traditional industries and challenge the ways companies provide human needs, such as transportation, hospitality, and food.

IV. REGULATION 2.0 AND THE SHARING ECONOMY

Sharing economy companies use technology to connect people who have private excess capacity to those who want to purchase it. Rather than calling a cab, a passenger can digitally hail a driver with an empty back seat via Uber; rather than hiring a moving company, customers can get help moving via TaskRabbit; rather than going to a restaurant, customers can have a meal prepared for them in someone’s home via Eatwith.

TIME Magazine listed the sharing economy as one of the ten ideas that will change the world,¹²³ and Forbes estimates that the revenue flowing through the sharing economy surpassed \$3.5 billion in 2013 and will grow twenty-five percent per year.¹²⁴ At that rate, peer-

120. *Id.* at 24–25.

121. *Id.*

122. *Id.* at 26.

123. Bryan Walsh, *Today’s Smart Choice: Don’t Own. Share*, *TIME*, Mar. 17, 2011, http://content.time.com/time/specials/packages/article/0,28804,2059521_2059717_2059710,00.html [https://perma.cc/4DFU-RUTA].

124. Tomio Geron, *Airbnb and the Unstoppable Rise of the Sharing Economy*, *FORBES* (Jan. 23, 2013, 7:00 AM), <http://www.forbes.com/sites/tomiogeron/2013/01/23/airbnb-and-the-unstoppable-rise-of-the-share-economy/#5b40d54d6790> [https://perma.cc/M3XW-HDAX].

to-peer sharing has moved beyond a fringe movement and into a disruptive economic force. Look only to Airbnb, which at six years old has a valuation of \$13 billion,¹²⁵ much higher than the Hyatt hotel chain (\$10 billion),¹²⁶ or Uber, which at four years old has a valuation of \$40 billion, greater than Hertz,¹²⁷ Avis,¹²⁸ and Enterprise¹²⁹ combined.¹³⁰

Currently, cities and towns across the United States are taking one of three general approaches to regulating the sharing economy.¹³¹ The first approach involves banning platforms outright. Cities throughout the United States have frequently used bans for ride-sharing platforms, such as Uber and Lyft, and house sharing platforms, such as Airbnb.¹³² The second approach involves authorities imposing regulatory structures designed for non-sharing economy businesses. These structures are often ill-fitted for the specifics of the sharing

125. Ankit Ajmera, *Airbnb Valued at \$13 Billion as It Discusses Employee Stock Sale*: WSJ, REUTERS (Oct. 23, 2014, 9:23 PM), <http://www.reuters.com/article/us-airbnb-financing-idUSKCN0ID03420141024> [<https://perma.cc/47GZ-T56T>].

126. *Hyatt Hotels Current Valuation*, MACROAXIS, <http://www.macroaxis.com/invest/ratio/H—Current-Valuation> [<https://perma.cc/DV4J-EXRS>] (last visited Nov. 24, 2014).

127. *Hertz Global Holdings*, YAHOO! FINANCE, <https://finance.yahoo.com/q/ks?s=HTZ+Key+Statistics> [<https://perma.cc/7T35-T48J>] (last visited May 25, 2015).

128. *Avis Budget Group Inc.*, YAHOO! FINANCE, <https://finance.yahoo.com/quote/CAR/?p=CAR> [<https://perma.cc/XP3W-NV2S>] (last visited May 25, 2015).

129. Mark Clothier, *Billionaire's Son Eases Grip to Take Enterprise Global*, BLOOMBERG MKTS. (Mar. 12, 2013, 3:27 PM), <http://www.bloomberg.com/news/articles/2013-03-12/billionaire-s-son-eases-grip-to-take-enterprise-global> [<https://perma.cc/7V5A-2R74>]; *America's Largest Private Companies*, FORBES, <http://www.forbes.com/companies/enterprise-holdings/> (last visited May 20, 2015).

130. Note these valuations have been hotly contested. See Neil Irwin, *Can Uber Live up to Its \$40 Billion Valuation?*, N.Y. TIMES (June 13, 2014), http://www.nytimes.com/2014/06/14/upshot/ubers-real-challenge-leveraging-the-network-effect.html?_r=1&abt=0002&abg=0 [<https://perma.cc/4NF2-XTB6>]; Sarah Cannon & Lawrence H. Summers, *How Uber and the Sharing Economy Can Win over Regulators*, HARV. BUS. REV. (Oct. 13, 2014), <https://hbr.org/2014/10/how-uber-and-the-sharing-economy-can-win-over-regulators> [<https://perma.cc/9YHL-KF53>]; Maxwell Wessel, *Making Sense of Uber's \$40 Billion Valuation*, HARV. BUS. REV. (Dec. 10, 2014), <https://hbr.org/2014/12/making-sense-of-ubers-40-billion-valuation> [<https://perma.cc/HHL3-F859>].

131. See Abbey Stemler, *Betwixt and Between: Regulating the Sharing Economy*, 43 FORDHAM URB. L.J. 33 (forthcoming 2016).

132. Laurie Kulikowski, *Uber Banned in 5 U.S. Cities That Want Your Taxi Business*, MAINSTREET (Sept. 3, 2014), <https://www.mainstreet.com/article/uber-banned-in-5-us-cities-that-want-your-taxi-business> [<https://perma.cc/3ELZ-PWKM>] (citing, for example, Little Rock, AK, Las Vegas, NV, Portland, OR, Richmond, VA, Cambridge, MA, have banned Uber); Michael DeMocker, *New Orleans Confronts Unlicensed Short Term Rentals: To Legalize or Keep Ban?*, TIMES PICAYUNE (June 3, 2014, 8:29 PM), http://www.nola.com/business/index.ssf/2014/06/new-orleans_ [<https://perma.cc/QA2R-XG3S>] (explaining that in New Orleans and many other cities, it is illegal to provide unlicensed short-term rentals).

economy and, as a result, regulators enforce those regulations sporadically—turning a blind eye in some instances and enforcing rules in others.¹³³ Some areas, however, utilize a third approach: working with platforms to reach common ground. For example, working with ride-sharing companies, the California Public Utility Commission developed ride-sharing specific regulations.¹³⁴

There are significant problems with each approach. The first approach—the outright ban of the platforms—cuts off the potential economic and environmental benefits of the sharing economy. The second—imposing ill-fitting regulations or turning a blind eye—is not sustainable, puts consumers at risk, and gives supply-side users¹³⁵ an unfair advantage over traditional industries. As Airbnb founder Nathan Blecharczyk, states: “We’re not advocating that there shouldn’t be rules. We’re just saying that things have evolved and it’s worth taking a fresh look from the ground up.”¹³⁶ The third—novel approach—is often reactionary and piecemeal, because these new regulations are not grounded in a clear conceptual understanding of what the sharing economy is.

The sharing economy must be viewed as a new form of market, driven by technology.¹³⁷ This new market does not rely on traditional capitalistic assumptions about entrepreneurship and wealth creation, which involve entrepreneurs organizing firms, exploiting privately held information, and leveraging business and personal assets to develop new products or services.¹³⁸ By contrast, the sharing economy allows supply-side users to make the most out of their existing assets by outsourcing key business functions to intermediaries.¹³⁹

133. See, e.g., Ron Lieber, *A \$2,400 Fine for an Airbnb Host*, N.Y. TIMES: BUCKS (May 21, 2013, 2:22 PM), http://bucks.blogs.nytimes.com/2013/05/21/a-2400-fine-for-an-airbnb-host/?_r=0 [<https://perma.cc/26C5-7YXC>].

134. Press Release, California Public Utility Commission, CPUC Establishes Rules for Transportation Network Companies (Sept. 19, 2013), <http://docs.cpuc.ca.gov/PublishedDocs/Published/G000/M077/K132/77132276.PDF> [<https://perma.cc/WE82-6WVA>] (in California, ride-sharing companies are now called “transportation network companies,” and they must comply with twenty-eight insurance and safety requirements in order to operate).

135. “Supply-side users” refers to the individuals selling their excess capacity as opposed to the consumers who purchase that excess capacity.

136. *Regulate This!*, FREAKONOMICS (Sept. 4, 2014), <http://freakonomics.com/2014/09/04/regulate-this-a-new-freakonomics-radio-podcast/> [<https://perma.cc/TUN2-PFRV>].

137. See Rashmi Dyal-Chand, *Regulating Sharing: The Sharing Economy as an Alternative Capitalist System*, 90 TUL. L. REV. 241 (2015).

138. See MARK CASSON, *THE ENTREPRENEUR: AN ECONOMIC THEORY* 20, 39 (2d ed. 2003) (1982).

139. See Dyal-Chand, *supra* note 137, at 258.

Regulators must properly conceptualize the sharing economy as something new and different and understand why it should be encouraged. Otherwise, regulators will continue to adopt inconsistent and ineffective regulations or conclude that such sharing practices amount to unfair play and should be stopped. With a clear understanding of the uniqueness of the sharing economy, Regulation 2.0 can be utilized and regulatory goals can be achieved. Furthermore, if regulatory goals are achieved, cries of unfair competition among competitors of the sharing economy will be without merit.

A. Disruptive Sharing

Humans have always shared, but new sharing markets enabled by technology and the free flow of information present a new form of market that is difficult to conceptualize.¹⁴⁰ The sharing economy is a disruptive force that allows for the sharing of underutilized assets, from spaces to skills to things, for monetary gain on a scale that would not be achievable without modern technology.¹⁴¹ This system facilitates localized production, cooperation, and the proliferation of microbusinesses,¹⁴² which allows consumer needs to be met by a large cross-section of society.¹⁴³ This ease of access is made possible by platform companies, which broker the transactions.¹⁴⁴

B. Notable Sectors of the Sharing Economy

Sharing economy platforms span a wide range of sectors because there are innumerable situations they can act as a broker between buyers and sellers. The sharing economy has, however, affected three

140. *Id.*

141. Botsman, *supra* note 2. Note that Botsman includes nonmonetary gain in her definition of the sharing economy. This Article does not.

142. Cal. Ass'n for Micro Enter. Opportunity, *What is Micro Enterprise?*, MICROBIZ.ORG, <http://www.microbiz.org/about-micro-business/what-is-micro-enterprise/> [https://perma.cc/4ZP6-TG5H] (last visited Nov. 16, 2016). As discussed in greater detail in the sections below, many people are involved in the sharing economy at a micro level, offering whatever excess capacity they personally have. They operate as microbusinesses, which are the very smallest of businesses with little overhead and capital. The owners of microbusinesses act as managers and are responsible for all aspects of the business not outsourced to platforms. Because margins are so thin for these microbusinesses and resources are limited, they must not be overly burdened with regulations.

143. Benita Matofska, *What Is the Sharing Economy?*, PEOPLE WHO SHARE (Sept. 1, 2016), <http://www.thepeoplewhoshare.com/blog/what-is-the-sharing-economy> [https://perma.cc/F74M-MXAG].

144. This Article does not include peer-to-peer goods-marketplaces, such as eBay, in its definition of the sharing economy because those sites generally do not deal in the sale or rental of personal excess capacity.

industries in particular (1) transportation, (2) accommodation, and (3) services.

Transportation. Car sharing can be divided into two categories. One is peer-to-peer car sharing in which people receive money in exchange for letting people borrow their cars and the other is taxi-like services where people receive money to give people rides in their cars. Car sharing schemes compete with traditional car rental companies and taxi-like companies, unsurprisingly, compete with the taxi industry because they allow consumers to digitally hail cars.¹⁴⁵

Accommodation. Several platforms allow travelers to rent spare bedrooms and entire homes, instead of staying at hotels and bed and breakfasts. The most high-profile platform in this space is Airbnb; however, others such as Vacation Rentals By Owner (VRBO) work on a similar basis. As of Spring 2015, over 25 million people have used Airbnb to rent over a million homes as an alternative to traditional accommodations.¹⁴⁶ The scale of home-sharing poses many issues for regulators including safety, liability, zoning, and tax issues.

Services. People sell personal services directly to consumers via the sharing economy. For example, TaskRabbit allows people to outsource errands and Handy allows people to outsource home projects. These services have seen much less attention in the regulatory debates surrounding the sharing economy, likely because these companies have been much less successful than Airbnb or Uber.¹⁴⁷ If a great services platform with excellent leadership were to form, it is likely that this sector would draw more criticism.

While the descriptions above might suggest that the sharing economy is a diverse set of commercial initiatives, in reality Airbnb, Uber, Lyft, Prosper, and Lending Club are the rare, unicorn companies, that make up the sharing economy.¹⁴⁸ These technology firms are backed by large amounts of venture capital. Regulators must be aware of the oligopolistic nature of the sharing economy, especially when crafting and enforcing regulations within it.

145. Defendant Uber Techs., Inc.'s Notice of Removal, *McCandliss v. Uber Techs., Inc.*, No. 1:14-cv-03275, 2014 WL 5154296 (N.D. Ga., Oct. 10, 2014) (No. 1-3). Taxi and limousine argued that Uber was "operating a *de facto* taxicab business" without the required licenses. *See id.*

146. *About Us*, AIRBNB, <https://www.airbnb.com/about/about-us> [<https://perma.cc/9UGH-ALHN>] (last visited May 20, 2015).

147. Joshua Brustein, *Trouble at TaskRabbit Is Bad News for the Sharing Economy*, BLOOMBERG (July 10, 2013), <http://www.bloomberg.com/bw/articles/2013-07-09/trouble-at-taskrabbit-is-bad-news-for-the-sharing-economy> [<https://perma.cc/U8LP-V65T>].

148. Tom Slee, *WHAT'S YOURS IS MINE*, 24 (2016). A unicorn means a company valued at over a billion dollars.

C. A New Market

For the sharing economy to be properly understood and regulated, a clear and defensible theoretical perspective on the sharing economy must be developed.¹⁴⁹ Northeastern University's Rashmi Dyal-Chand draws on Yochai Benkler's research on not-for-profit sharing (think, car pools and distributed computing) to set a theoretical backdrop for regulating the sharing economy.¹⁵⁰ Benkler was the first to compare the not-for-profit sharing economy to the "mainstream of economic theory,"¹⁵¹ as represented by an integration of Ronald Coase's theory of the firm¹⁵² and Harold Demsetz's explanation of property rights.¹⁵³

Dyal-Chand explains that Benkler asserts that in mainstream markets, individuals organize themselves into firms to lower the costs of doing business, and they invest in private ownership of property to most efficiently achieve economic gain.¹⁵⁴ As Coase and Demsetz argue, the costs of doing business in this manner are lower than the costs of, for example, contracting out tasks to specialists in the market.¹⁵⁵ By contrast, in the not-for-profit sharing economy, "individuals organize access to and use of some of their assets in a manner" similar to a commons arrangement, "rather than appropriating and guarding information and other assets for each firm's or individual's private use."¹⁵⁶ This arrangement is a "puzzle" to Benkler and he solves it by arguing that the not-for-profit sharing economy is an alternative to mainstream markets.¹⁵⁷

149. Dyal-Chand, *supra* note 137, at 271.

150. See generally Yochai Benkler, *Coase's Penguin, or, Linux and The Nature of the Firm*, 112 YALE L.J. 369 (2002) [hereinafter Benkler, *Coase's Penguin*]; Yochai Benkler, *Sharing Nicely: On Shareable Goods and the Emergence of Sharing as a Modality of Economic Production*, 114 YALE L.J. 273 (2004) [hereinafter Benkler, *Sharing Nicely*].

151. Benkler, *Coase's Penguin*, *supra* note 150, at 401.

152. See Ronald H. Coase, *The Nature of the Firm*, in 4 ECONOMICA 386 (1937). Coase argued that people organize themselves into firms to avoid the transaction costs of using the market: for example, search costs, bargaining costs, and policing and enforcement costs. See *id.*

153. See generally Harold Demsetz, *The Theory of the Firm Revisited*, 4 J.L. ECON. & ORG. 141 (1988). Demsetz explains why property rights emerge with a simple rationale: property rights systems emerge if the social costs of property rights in a specific resource are lower than the costs of such a system. See *id.*

154. Dyal-Chand, *supra* note 137, at 267.

155. *Id.*

156. *Id.*; Benkler, *Coase's Penguin*, *supra* note 150, at 423–43.

157. Dyal-Chand, *supra* note 137, at 267–68. In two articles, Benkler traces the development peer production "as a legitimate alternative form of economic production." *Id.*; Benkler, *Sharing Nicely*, *supra* note 150. In all of his examples, such as open source software, Benkler does not focus on sharing for a profit, but rather he "draws a sharp distinction between 'social sharing' and 'markets,' even secondary markets such as eBay." Dyal-Chand, *supra* note 137,

Dyal-Chand expands Benkler's work and applies it to for-profit sharing arguing that for-profit sharing is also outside of mainstream understandings of markets in that platforms enable the sharing of information and key business operations.¹⁵⁸ Stated simply, supply-side users provide both information about and access to assets and services in order to make a profit. In contrast, platforms distill information and create systems to facilitate transactions, also for a profit. It is the sharing of these "two sets of resources outside of a firm structure" that makes the for-profit sharing economy "unique."¹⁵⁹

After discussing how assets and information are shared in the sharing economy, Dyal-Chand argues that this structure is similar to a coordinated market economy, which is something frequently seen in countries such as Germany.¹⁶⁰ Coordinated markets operate on "strategic interaction,"¹⁶¹ "a mode of interaction in which businesses engage in relatively more informal contracting" and sharing of what "might be described in the United States as private or 'insider' information, often about sources of financing, technology, and business governance."¹⁶² Traditional markets are marked by competitive, "arms-length market transactions that make use of information that is privately acquired and used by individual businesses."¹⁶³ Coordinated market economies, by contrast, involve the coordination among businesses, which is made possible by institutional intermediaries such as trade associations and unions.¹⁶⁴

Dyal-Chand's comparison of the sharing economy to coordinated markets, while forced in parts,¹⁶⁵ is extremely helpful in that it further

at 268; Benkler, *Sharing Nicely*, *supra* note 150, at 306–21. As a result, Benkler's main inquiries focus only on "how such a form of not-for-profit sharing could function as a stable mode of economic production." Dyal-Chand, *supra* note 137, at 268.

158. Dyal-Chand, *supra* note 137, at 268.

159. *Id.* at 269.

160. PETER HALL & DAVID SOSKICE, VARIETIES OF CAPITALISM: THE INSTITUTIONAL FOUNDATIONS OF COMPARATIVE ADVANTAGE 9 (2001). A coordinated market economy is a form of capitalism described in the varieties of capitalism theory first proposed by Peter Hall and David Soskice. *See id.*

161. *Id.*

162. Dyal-Chand, *supra* note 137, at 273. Coordinated market economies are a type of capitalism identified by Peter Hall and David Soskice in their theory on varieties of capitalism. *See id.* Coordinated markets are distinguished from liberal market economies. *Id.*

163. *Id.*

164. *Id.* Institutional intermediaries accomplish three general functions: (1) they enable the sharing of critical business resources (e.g., information on demand, technology, and standardized contracts), (2) they monitor participant behavior, and (3) they sanction participants for misbehavior. *Id.* In the sharing economy, platforms perform these same functions.

165. There are some characteristics of coordinated market economies that do not directly align with the sharing economy. For example, in coordinated markets, often democratically controlled groups like unions and trade associations are the intermediaries. In the case of the

identifies a distinct feature of sharing markets, namely platforms. Combined with Benkler's idea of outsourcing key business functions and the horizontal distribution of assets, we can begin to see how the sharing economy involves market behavior that is distinct. The subsections below discuss the role of platforms and identify other characteristics of the sharing economy that distinguish it from traditional markets.

1. Platforms

Platforms connect buyers and sellers of goods and services. They “are peer-to-peer in that they are decentralized on both sides of the platform, in contrast to single-sided platforms,” which follow Coasian norms and offer their own products or services to potential buyers (for example, Amazon.com).¹⁶⁶ For example, Airbnb as a platform connects hosts and guests.¹⁶⁷ Car services such as Uber and Lyft connect drivers and passengers via a mobile platform.¹⁶⁸

Like the trade associations and unions in a coordinated market economy, platforms greatly reduce the transaction costs of doing business.¹⁶⁹ They standardize the terms of trade, provide a wealth of information about the markets via sophisticated websites and facilitate payments. On Airbnb, hosts outsourced to Airbnb the tasks of advertising, maintaining insurance, and facilitating payments.¹⁷⁰ Without the platform, supply-side users would have to perform each of these tasks on their own.¹⁷¹ For many people involved in these networks, the costs of performing such tasks on their own would be unacceptably cost-prohibitive.¹⁷² Platforms also monitor and sanction participant behavior. For example, Airbnb and Uber use technology

sharing economy, there are just single corporate entities dictating the terms of the interactions between participants.

166. Press Release, Fed. Trade Comm'n, The “Sharing” Economy: Issues Facing Platforms, Participants, and Regulators: A Federal Trade Commission Workshop (2015), <https://www.ftc.gov/system/files/attachments/press-releases/ftc-examine-competition-consumer-protection-economic-issues-raised-sharing-economy-june-workshop/150416economyworkshop.pdf> [<https://perma.cc/WU97-A6LY>].

167. *About Us*, *supra* note 146.

168. *The Uber App*, UBER, <https://www.uber.com/about> [<https://perma.cc/2MWX-JTUH>] (last visited Feb. 10, 2015).

169. Daniel E. Rauch & David Schleicher, *Like Uber, but for Local Government Policy: The Future of Local Regulation of the “Shared Economy”* (N.Y. Univ. Marion Inst. of Urban Mgmt., Working Paper No. 21, 2015).

170. *How to Host*, AIRBNB, https://www.airbnb.gy/wishlists/airbnb_picks [<https://perma.cc/2SZ3-4VUL>] (last visited June 10, 2015).

171. Dyal-Chand, *supra* note 137, at 258.

172. *Id.*

and feedback systems to monitor and kick off users that pose a threat to consumer well-being or satisfaction.

2. Microbusinesses

Viewing platforms as coordinating intermediaries rather than Coasian firms also enables regulators to look at supply-side users of the sharing economy as microbusinesses with their personal assets rather than employees.¹⁷³ This distinction helps focus on new approaches to regulating platforms—as opposed to treating them as traditional firms with armies of employees. All of the platforms view supply-side users as independent contractors in an attempt to reduce burdens related to labor and employment laws, such as unemployment insurance, workers' compensation, or taxes and to absolve themselves of all liability for harm caused by peer-to-peer interactions.¹⁷⁴ However, because various tests for distinguishing employees from independent contractors are often factors tests, it is sometimes unclear exactly where supply-side users fall. Platforms attempt to make all supply-side users independent contractors via contracts and division of responsibility.

Pursuant to the common law “right-to-control” test, an agent is an employee, as opposed to an independent contractor, if the principal has the right to control how the agent completes his or her work.¹⁷⁵ If a principal simply dictates objectives, it is more likely that an agent is an independent contractor.¹⁷⁶ Applying this test to Airbnb, it is easy to argue that hosts and not platforms control. Airbnb does not dictate how a host must describe his or her property, how much to charge, or who to select as guests.¹⁷⁷ It is therefore easy to argue that Airbnb treats hosts as independent contractors who control the means and manner of their work.

The broader Restatement (Second) of Agency test used by some courts to define the line between employees and independent contractors leads to similar conclusions.¹⁷⁸ Of the ten factors for

173. *Id.* at 241.

174. *See* Stemler, *supra* note 131.

175. *Viado v. Domino's Pizza, LLC*, 217 P.3d 199, 202 (Or. Ct. App. 2009). Several factors are used to determine the extent of the right to control, such as: (1) the independent nature of the person's business, (2) the person's obligation to furnish necessary tools, supplies, and material to perform the job, (3) the right to control progress of the work, except as to final results, (4) the time for which the person is employed, and (5) the method of payment, whether by time or by the job. *See id.*; *see also* *Poynor v. BMW of N. Am., LLC*, 441 S.W.3d 315, 319 (Tex. App. 2013).

176. *Dyal-Chand*, *supra* note 137, at 299.

177. *Id.*; *How to Host*, *supra* note 170.

178. The Restatement (Second) of Agency uses ten factors for determining whether an agent is an independent contractor or an employee: (1) the extent of control which, by the agreement, the master may exercise over the details of the work; (2) whether or not the one

consideration, such factors as control, whether the agent is engaged in a distinct occupation or business (the platform is a technology company the other is akin to an innkeeper), the place of work, the length of time agent is employed, the method of payment (by task instead of by time), and belief of the parties all suggest an independent contractor relationship.¹⁷⁹

For taxi-like services such as Uber the analysis is much less clear.¹⁸⁰ Uber remains steadfast in its claim that drivers hold independent contractor status. On the sign-up page for potential drivers to join Uber, the wording is unmistakable: “Drive with Uber and earn great money as an independent contractor. Get paid weekly just for helping our community of riders get rides around town. Be your own boss and get paid in fares for driving on your own schedule.”¹⁸¹

Uber spokesman Taylor Bennett further clarified Uber’s position on driver classification when he stated: “They’re independent contractors. We don’t hire drivers. We’re a technology company. We provide the app that they use, that connects passengers with drivers. They have the flexibility of being their own boss.”¹⁸² Uber drivers are indeed entirely flexible as to when they choose to work so long as they give at least one ride every 180 days or every thirty days, depending on the specific Uber program they drive for.¹⁸³ In addition, Uber drivers do not need to accept every request and they can control how they get from point A to point B for the rides they do accept.¹⁸⁴ However, Uber does instruct drivers on how to interact with passengers, the prices charged, including when the surge pricing system¹⁸⁵ kicks in, the terms

employed is engaged in a distinct occupation or business; (3) the kind of occupation, with reference to whether, in the locality, the work is usually done under the direction of the employer or by a specialist without supervision; (4) the skill required in the particular occupation; (5) whether the employer or the workman supplies the instrumentalities, tools, and the place of work for the person doing the work; (6) the length of time for which the person is employed; (7) the method of payment, whether by the time or by the job; (8) whether or not the work is a part of the regular business of the employer; (9) whether or not the parties believe they are creating the relation of master and servant; and (10) whether the principal is or is not in business. RESTATEMENT (SECOND) OF AGENCY § 220 (Am. Law Inst. 1958).

179. *Cnty. for Creative Non-Violence v. Reid*, 490 U.S. 730, 751–52 (1989).

180. See Robert Sprague, *Worker (Mis)Classification in the Sharing Economy: Square Pegs Trying to Fit in Round Holes*, 31 ABA J. LAB. & EMP. L. 53 (2015).

181. *Drive*, UBER, <https://get.uber.com/drive/> [<https://perma.cc/Q5UA-EMVU>] (last visited June 4, 2015).

182. Dick Hogan, *Uber Ride Service Would Bring Controversy*, NEWS-PRESS.COM (Sept. 10, 2014, 10:53 PM), <http://www.news-press.com/story/money/2014/09/10/uber-ride-service-bring-controversy/15421511/> [<https://perma.cc/B6BC-3PSM>].

183. *O’Connor v. Uber Techs., Inc.*, 82 F. Supp. 3d 1133, 1151 (N.D. Cal. 2015).

184. *Id.* at 1149.

185. *Improve Ratings*, UBER, <https://help.uber.com/h/f0934623-5fbc-4628-8dd0-565d5e451882> [<https://perma.cc/9WQY-Y2U9>] (last visited Nov. 2, 2016) (describing how to

and forms of payment, and the type and look of their vehicles. It also has a feedback system by which passengers rate drivers and if a driver rating falls below a particular level she can be kicked off the system.¹⁸⁶ Uber manages many more aspects of the interaction between drivers and passengers than Airbnb does between hosts and guests, and many of the factors in the analysis of Uber point more toward employee status.¹⁸⁷

However, instead of classifying Uber drivers and other supply-side users in the sharing economy as either employees or independent contractors, regulators could create a new classification.¹⁸⁸ This new classification has been identified as “dependent contractors,” or for this Article “microbusinesses”—workers who fall between clear-cut

interact with customers to receive a five star rating, including “keep conversation polite, professional, and respectful” and “help with luggage and bags when it’s safe to do so”); *What is Surge Pricing?*, UBER, <https://help.uber.com/h/34212e8b-d69a-4d8a-a923-095d3075b487> [<https://perma.cc/NF57-3PG5>] (last visited Nov. 2, 2016); Annie Lowrey, *Is Uber’s Surge-Pricing an Example of High-Tech Gouging?*, N.Y. TIMES MAG. (Jan. 10 2014), <http://www.nytimes.com/2014/01/12/magazine/is-ubers-surge-pricing-an-example-of-high-tech-gouging.html> [<https://perma.cc/G9U7-GRCB>].

186. Dyal-Chand, *supra* note 137, at 302; *Understanding Ratings*, UBER, <https://help.uber.com/h/99928811-f3a0-4fd6-9fce-a3436b5238d0> [<https://perma.cc/9WQY-Y2U9>] (last visited Nov. 2, 2016).

187. Dyal-Chand, *supra* note 137, at 302. In two recent cases in San Francisco, Uber and Lyft lost motions for summary judgments contending that drivers should be considered employees. Both courts concluded that more information was necessary to conclude whether or not drivers were independent contractors or employees. Alison Griswold, *Are Uber Drivers Employees? The Trial That Could Devastate the “Sharing Economy,”* SLATE: MONEYBOX (Mar. 12, 2015, 12:54 PM), http://www.slate.com/blogs/moneybox/2015/03/12/uber_lyft_employment_cases_juries_could_decide_the_legal_fate_of_the_sharing.html [<https://perma.cc/ZUC3-XDHJ>].

In addition, the California Labor Commission recently classified Uber drivers as employees. *See Berwick v. Uber Techs., Inc.*, No. CGC-15-546378, at *9 (Ca. Dep’t Lab. June 3, 2016) (appeal of Labor Commissioner award). The agency stated: “Defendants hold themselves out as nothing more than a neutral technological platform, designed simply to enable drivers and passengers to transact the business of transportation.” *Id.* “The reality, however, is that Defendants are involved in every aspect of the operation.” *Id.* The labor commission noted that Uber vets drivers, controls the tools of drivers, sets prices, controls driver behavior via the rating system, and has “all necessary control over the operation as a whole.” *Id.* at 8. This case was not the first time that Uber’s drivers were classified as employees. The Florida Department of Economic Opportunity found that a former Uber driver was eligible for unemployment compensation. Lisa Milam-Perez, *Uber Drivers Are Not Employees, Florida Unemployment Agency Finds*, WOLTERS KLUWER: EMPLOYMENT LAW DAILY.COM, <http://www.employmentlawdaily.com/index.php/news/uber-drivers-are-not-employees-florida-unemployment-agency-finds/> [<https://perma.cc/PM26-BLG6>] (last visited Nov. 2, 2016).

188. Some scholars argue that using a twentieth-century test to classify workers in the twenty-first century economy is inappropriate. Sprague, *supra* note 180, at 21, 23; *cf.* *Cotter v. Lyft, Inc.*, 60 F. Supp. 3d 1067, 1081–82 (N.D. Cal. 2015) (“The test the California courts have developed over the 20th Century for classifying workers isn’t very helpful in addressing this 21st Century problem.”).

employees and traditional independent contractors.¹⁸⁹ This new classification would enable regulators to think differently about how to fill regulatory gaps. They might, for example, find it more useful to focus on regulating platforms because they are dependent on the supply-side users. In addition, if they recognize sharing networks as distinct from their traditional Coasian counterparts, they might fashion rules that would allow for them both.

3. Excess Capacity

Another distinguishing feature of the sharing economy is its utilization of excess capacity.¹⁹⁰ Manufacturers use the term “excess capacity” to refer to “an underutilized asset that is not being fully exploited to create value, be it an idle assembly line or a factory running only one shift when it could potentially be running two or three.”¹⁹¹ In the sharing economy, people have excess capacity in areas such as their things, space, and time, and it is this excess capacity that supply-side users are monetizing for their benefit. Microbusinesses are, for the most part, not acquiring new assets to leverage or sell.

This excess capacity feature of the sharing economy has no natural limit. As more users of sharing economy platforms realize the profit potential of renting out rooms and cars, they are putting new assets online and forming companies that resemble traditional companies. If users are hiring employees, purchasing space and assets, and using sharing economy platforms to sell them, they are acting more like traditional firms and should potentially be treated as such. If platforms want a new regulatory framework to apply to them, they must carefully filter out traditional firms from microbusinesses. In

189. Harry Williams Arthurs, *The Dependent Contractor: A Study of the Legal Problems of Countervailing Power*, 16 U. TORONTO L.J. 89, 89–117 (1965) (first to use the term “dependent contractor”). Other countries, including Canada and Germany, already have labor laws covering this type of employment. Lauren Weber, *What if There Were a New Type of Worker? Dependent Contractor*, WALL ST. J. (Jan. 28, 2015), <http://www.wsj.com/articles/what-if-there-were-a-new-type-of-worker-dependent-contractor-1422405831> [<https://perma.cc/DQ4A-J6P7>].

190. The definition of the sharing economy should only include people utilizing their excess capacity. Currently “superusers” exploit sharing economy platforms to effectively operate traditional businesses. For example, a report by New York State attorney general, Eric T. Schneiderman, found that almost half of Airbnb’s \$1.45 million revenue from New York City in 2010 came from hosts who had at least three listings on the site. These superusers should not be considered part of the sharing economy because they are creating new capacity rather than efficiently using excess capacity and they are unfairly competing with the non-sharing industry economy players. See ERIC T. SCHNEIDERMAN, AIRBNB IN THE CITY (2014), <http://www.ag.ny.gov/pdfs/Airbnb%20report.pdf> [<https://perma.cc/XTL7-9T8F>].

191. *The Rise of the Sharing Economy*, TRIPLEPUNDIT.COM 1, 20, http://www.triplepundit.com/uploads/The_Rise_of_the_Sharing_Economy.pdf [<https://perma.cc/MR8K-SC87>] (last visited Nov. 2, 2016).

effect, to distinguish a site like Airbnb from an online travel agent, participation must be limited to microbusinesses with individual excess capacity. Limiting participant use is possible with technology, but sharing economy companies do not have the incentive to do so.

4. High-Powered Information Exchange

Technology is essential for high-powered information exchange in sharing economy markets. Specifically, technologies such as high-speed Internet, the Global Positioning System, smart phones, and social media makes sharing excess capacity cheap and easy.¹⁹² Before the advent of many of the technologies that connect our world, it was difficult, if not impossible, to access information about excess capacity at the individual level. Now, technology gives people access to crowd-sourced information in real-time. For example, before an app was created that would immediately tell you everyone in your vicinity who is willing to give you a ride the airport, you had to call a friend or your local taxi company, schedule a pickup, and hope the driver arrived on time. Pre-sharing economy, it was not that people did not have excess capacity—we always had empty spare bedrooms and back seats—it was that there was no way to connect the people who needed something with the people who had it.

The characteristics of the sharing economy demonstrate how the behaviors in the sharing economy are qualitatively different than behavior of traditional Coasian firms. While it is possible to find many businesses that are similar to sharing economy platforms (Craigslist, Tupperware, FedEx, etc.), none incorporate all four dimensions—platforms, microbusinesses, excess capacity, and technology.

D. Market Failures in the Sharing Economy

The sharing economy offers several advantages: jobs, more efficient and sustainable allocation of resources, lower prices, stronger communities, and greater access to services.¹⁹³ Though the benefits of

192. Andrew Batey, *Mobile + Sharing Economy + Internet of Things = the Coming Economic Boom*, ENTREPRENEUR (Sept. 22, 2014), <http://www.entrepreneur.com/article/237646> [<https://perma.cc/7S3L-58BX>].

193. The sharing economy creates jobs by utilizing existing capacity of individuals and their real and personal property. In June 2013, the U.S. Conference of Mayors stated that in the sharing economy, “companies have proved to be engines of innovation and job creation, driving economic development in the hearts of American cities, where joblessness is still most pervasive.” U.S. CONFERENCE OF MAYORS, 81ST ANNUAL MEETING: IN SUPPORT OF POLICIES FOR SHAREABLE CITIES, (2013), http://www.usmayors.org/resolutions/81st_conference/metro18.asp [<https://perma.cc/Y8LR-RZNF>]. Participating in the sharing economy also enables people to be more entrepreneurial and pursue nontraditional forms of work. For example, in Portland, Oregon

the sharing economy might justify “special treatment,” this new structure must still serve the desired ends of regulations, even if we must pursue different means to achieve them. Several market failures associated with the sharing economy cannot be fully addressed with

“45 percent of Airbnb hosts are self-employed, freelancers, or part-time workers, [and] 12 percent of hosts have used Airbnb income to support themselves while launching a new business.” *The Airbnb Community’s Economic Impact in Portland*, AIRBNB, <http://publicpolicy.airbnb.com/airbnb-communitys-economic-impact-portland/> [<https://perma.cc/J8M3-G4ZK>] (last visited Nov. 24, 2014).

The barriers to entry in the sharing economy are also low. “Sharing leverages a wide variety of resources and makes it easier to start small businesses,” with the outsourcing of tasks and “innovations like shared workspaces, shared commercial kitchens, community-financed start-ups, community-owned commercial centers, and spaces for ‘pop-up’ businesses.” Boyd Cohen & Jan Keitzmann, *Policies for Shareable Cities: A Sharing Economy Policy Primer for Urban Leaders*, SHAREABLE AND THE SEC (Sept. 9, 2013), <https://dl.dropboxusercontent.com/u/39811237/Policies%20for%20shareable%20Cities.pdf> [<https://perma.cc/26MW-VRSK>]. Anyone with a car or free time can participate in the sharing economy. The opportunities for individuals to create their own microbusinesses to supplement or fully provide income is virtually unlimited. *Id.*

As for the environment, the sharing economy “blends the world of profitability and sustainability.” Sara Gutterman, *‘Sharing Economy’ Will Save Our Economy and the Environment*, ENVTL. LEADER (July 17, 2014), <http://www.environmentalleader.com/2014/07/17/sharing-economy-will-save-our-economy-and-the-environment/#ixzz3K77vHFCl> [<https://perma.cc/5NNP-27SH>]. It minimizes manufacturing and distribution costs and reduces the need for capital-intensive infrastructure because products are shared locally. *Id.*; John Boitnott, *How the Sharing Economy Is Booming Without Hurting the Environment*, ENTREPRENEUR (Nov. 11, 2014), <https://www.entrepreneur.com/article/238958> [<https://perma.cc/3QZ2-B5VY>]. The sharing economy encourages people to reuse or recycle goods rather than buy new ones. For example, you can swap an old book for a different book on a swapping site. See JANELLE ORSI, PRACTICING LAW IN THE SHARING ECONOMY: HELPING PEOPLE BUILD COOPERATIVES, SOCIAL ENTERPRISE, AND LOCAL SUSTAINABLE ECONOMIES 423 (2012) (explaining the types of sharing practices that have developed in the sharing economy, like barter networks or used item swaps). Furthermore, the sharing economy discourages waste by tapping into under-utilized assets. For example, Uber reduces the number of cars we need to have on our roads or parking lots.

An additional benefit of the sharing economy is that it offers a solution to the peak load problems that have been plaguing cities for decades. Consider a city hosting the Super Bowl. It could much more easily accommodate an onslaught of out-of-towners if individuals were allowed to rent out their spare bedrooms, instead of building a new set of hotels that would oversupply the market much of the year.

Due in large part to the free flow of information and the increase in supply, sharing economy can sell goods and services at lower prices. Dyal-Chand, *supra* note 137, at 256. A recent survey of US adults familiar with the sharing economy found that 86 percent agree it makes life more affordable. *Sharing Economy*, PRICEWATERHOUSECOOPERS, 9 http://www.pwc.com/en_US/us/technology/publications/assets/pwc-consumer-intelligence-series-the-sharing-economy.pdf [<https://perma.cc/D6TX-7DZS>] (last visited June 15, 2015); *see also* Neil Irwin, *How Cheap Can a Car Ride Get?*, N.Y. TIMES, July 13, 2014, at 3(L); Christopher Koopman, Matthew Mitchell & Adam Thierer, *The Sharing Economy and Consumer Protection Regulation: The Case for Policy Change*, MERCATUS RESEARCH *3–5 (Dec. 2014), <http://mercatus.org/sites/default/files/Koopman-Sharing-Economy.pdf> [<https://perma.cc/4CXP-A5FJ>].

current standards.¹⁹⁴ They include asymmetric information, negative externalities, and anticompetitive behavior.

1. Asymmetric Information

The first form of market failure in the sharing economy occurs in the realm of consumer safety. The sharing economy puts consumers in inherently vulnerable positions—getting into someone’s car, inviting someone into your home, etc. A number of incidents over the past several years highlight potential safety threats to consumers in the sharing economy.¹⁹⁵ For example, the apartment of an Airbnb host was ransacked after a guest stayed—many things were stolen and it appeared that the guest copied the host’s birth certificate and social security number.¹⁹⁶ Furthermore, a Lyft driver stalked a female passenger.¹⁹⁷ Though sharing economy platforms certainly want to reduce the number of these incidents, they wash their hands of responsibility for them. As discussed below, platforms are thus criticized for profiting from collaboration without accepting all of the negative externalities.¹⁹⁸

In response to safety and other concerns, regulators have either banned sharing economy companies or required them to get the same licenses as incumbent firms.¹⁹⁹ Notably, in early 2014, the Virginia

194. Most notably, this Article does not discuss the many concerns of communities in which sharing economies operate. Most of these concerns relate to negative externalities of sharing economy platforms, such as increase in local rents, noise, traffic congestion, etc.

195. See Katie Finley, *Trust in the Sharing Economy: An Exploratory Study*, https://www2.warwick.ac.uk/fac/arts/theatre_s/cp/research/publications/madiss/ccps_a4_ma_gmc_kf_3.pdf. In the ride-sharing arena, the consumer protection website www.whosdrivingyou.com keeps a comprehensive list of safety incidents. *Complete List of Incidents Involving Uber and Lyft, WHO’S DRIVING YOU?*, <http://www.whosdrivingyou.org/rideshare-incidents.html> [<https://perma.cc/84Q5-CFDK>] (last visited June 25, 2015).

196. Michael Arrington, *The Moment of Truth for Airbnb as User’s Home Is Utterly Trashed*, TECHCRUNCH (July 27, 2011) <http://techcrunch.com/2011/07/27/the-moment-of-truth-for-airbnb-as-users-home-is-utterly-trashed/> [<https://perma.cc/5TJR-DQXZ>].

197. Sam Biddle, *When Your Smartphone Chauffeur Becomes A Stalker*, GAWKER: VALLEYWAG (July 16, 2013, 12:17 PM), <http://valleywag.gawker.com/when-your-smartphone-chauffeur-becomes-a-stalker-801080008/> [<https://perma.cc/6CTK-YSG4>].

198. Juliet Schor, *Debating the Sharing Economy*, GREAT TRANSITION INITIATIVE (Oct. 2014) <http://greattransition.org/publication/debating-the-sharing-economy> [<https://perma.cc/PZC3-NFUC>].

199. Dyal-Chand, *supra* note 137, at 260; Lori Aratani, *Competition from UberX, Lyft Has D.C. Taxis Crying Foul*, WASH. POST (May 11, 2014), https://www.washingtonpost.com/local/trafficandcommuting/competition-from-uberx-lyft-has-dc-taxis-crying-foul/2014/05/11/5920c866-d60a-11e3-8a78-8fe50322a72c_story.html [<https://perma.cc/VSA3-Z4PH>]; Paul Nussbaum, *PUC Approves UberX for State, Not Philadelphia*, PHILA. INQUIRER (Nov. 14, 2014), http://www.philly.com/philly/business/transportation/20141114_PUC_approves_Uber_for_state__

Department of Motor Vehicles issued cease and desist letters to both Uber and Lyft, ordering them to stop operating their services in that state.²⁰⁰ Bans and permits are somewhat effective ways of protecting consumers from harm, but they have the serious potential to devastate sharing economy markets.

Because the sharing economy often involves the exchange of personal information, including credit card data, people interested in committing fraud lurk throughout the sharing economy. For example, a car-sharing service called HiGear had to shut down in 2012 when a criminal ring was discovered to be using stolen identities and credit card numbers to steal four cars.²⁰¹ Fake Airbnb listings are also a problem. Criminals use photos and details from the web to create fake vacation rental listings. When a user tries to book the host encourages them to follow a link and provide their credit card details. When the guest does, the host disappears.²⁰²

While platforms deter fraud based on peer-reviews and the fact that the payments are typically only transferred to the microbusiness after a transaction is complete. However, there is no regulatory check on whether these systems are effective and remedies for individuals hurt by sharing economy fraud are typically limited to traditional common law tort claims.

Largescale collection of user data helps sharing economy firms provide useful services at low costs. However, as the sharing economy becomes more embedded in “how people work, travel, and shop, the ‘digital exhaust’ from those actions creates associations and patterns that may be mined for insight, efficiencies, or more nefarious purposes.”²⁰³

not_Philadelphia.html [https://perma.cc/HV5U-HHND]; Andy Vuong, *Likely Ride-Sharing Nod Would Be a First*, DENV. POST, Apr. 30, 2014, at A10; Uber Ordered to Stop Operating in South Carolina, USA TODAY (Jan. 16, 2015), <http://www.usatoday.com/story/news/nation/2015/01/15/uber-ordered-to-stop-operating-in-south-carolina/21836235/> [https://perma.cc/9PA5-JW6T]; Katherine Driessen, *Ride-Share Operators Gain Access to Houston Airports; City Becomes Third in U.S. to Adopt Rules for App-Based Services*, HOUS. CHRONICLE (Nov. 13, 2014), <http://www.houstonchronicle.com/news/transportation/article/Ride-share-operators-gain-prized-access-to-5889267.phpat> [https://perma.cc/F6WX-3YGJ].

200. Rachel Weiner, *Virginia Tries to Put Brakes on Ride-Sharing Services*, WASH. POST, (June 26, 2014), https://www.washingtonpost.com/local/crime/2014/06/26/65d83a3e-fc85-11e3-b1f4-8e77c632c07b_story.html [https://perma.cc/EY8B-TQ45].

201. Sarah Perez, *Luxury Car-Sharing Service HiGear Shuts Down Due to Theft*, TECHCRUNCH (Jan. 1, 2012), <http://techcrunch.com/2012/01/01/luxury-car-sharing-service-higear-shuts-down-due-to-theft/> [https://perma.cc/E29F-XAZJ].

202. *Id.*

203. Alex Howard, *The Sharing Economy: Will Self-Regulation by Startups Suffice to Protect Consumers?* TECHREPUBLIC (Dec. 15, 2014), <http://www.techrepublic.com/article/the->

Currently, there are no specific privacy laws related to sharing economy platforms.²⁰⁴ Therefore, contract law plays a key role and, typically, platforms dictate the privacy terms because consumers have no individual bargaining power.²⁰⁵ Uber's privacy policy allows for it to track users' geo-location (even when the app is off) for a virtually unlimited amount of purposes, including "internal business purposes."²⁰⁶ "The privacy policy, however, does not define what these purposes are. So far, the company has reportedly used it for tracking [thirty] of its most 'notable users' to display an activity map at a launch party. It is reported that these users did not know their location coordinates were being used in such a way."²⁰⁷ The Washington Post also reported that an Uber job applicant was able to access the company's internal analytics and find the location of a politician in DC.²⁰⁸

The improper use of data in the sharing economy is a real concern and the only significant legal limitation on platforms with regard to privacy comes from Section 5 of the Federal Trade Commission Act.²⁰⁹ Recently, a complaint was filed with the FTC under Section 5 against Uber.²¹⁰ The complaint wants the FTC to stop Uber

sharing-economy-will-self-regulation-by-startups-suffice-to-protect-consumers/
[https://perma.cc/9BEG-2QQB].

204. See Stemler, *supra* note 131.

205. See, e.g., *User Privacy Statement*, UBER (July 15, 2015), <https://www.uber.com/legal/privacy/users/en/> [https://perma.cc/UF56-W5SC]. "The app model is also a data vacuum, gathering detailed information about users and drivers that that the company controls. Much of the data collection is excessive. For example, [. . .] the Uber privacy policy also reveals that the company collects the IP addresses, manufacturers, and operating systems of users' phones. Uber collects information about the mobile web browsers used by its customers, exchanges data with advertisers, and tracks users across the Internet." Julia Horwitz & Marc Rotenberg, *Privacy Rules for Uber*, HUFFINGTON POST, Dec. 12, 2014, (updated Feb. 11, 2015) http://www.huffingtonpost.com/julia-horwitz/privacy-rules-for-uber_b_6304824.html [https://perma.cc/36SV-9H65].

206. *User Privacy Statement*, *supra* note 205; Sabreena Khalid, *Privacy Concerns in the Sharing Economy*, HARV. J.L. & TECH: JOLT DIGEST (Dec. 17, 2014), <http://jolt.law.harvard.edu/digest/telecommunications/privacy-concerns-in-the-sharing-economy-the-case-of-uber> [https://perma.cc/HT52-4WJM].

207. *Id.*

208. Craig Timberg, *Is Uber's Rider Database a Sitting Duck for Hackers?*, WASH. POST, Dec. 1, 2014, <https://www.washingtonpost.com/news/the-switch/wp/2014/12/01/is-ubers-rider-database-a-sitting-duck-for-hackers/> [https://perma.cc/AEM3-D7BM].

209. 15 U.S.C. § 45(a) (2012). "To justify a finding of unfairness the injury must satisfy three tests. It must be substantial; it must not be outweighed by any countervailing benefits to consumers or competition that the practice produces; and it must be an injury that consumers themselves could not reasonably have avoided." *Federal Trade Commission Policy Statement of Unfairness*, 104 F.T.C. 949, 1070 (1984).

210. Complaint at 23, In re Uber Techs., Inc., FTC (2014), <https://cbsnewyork.files.wordpress.com/2015/06/complaint.pdf> [https://perma.cc/7HAV-KL3B].

from collecting unnecessary location data under claims of “unfairness.”²¹¹ However, this complaint is the first of its kind, and it is unclear whether or not the FTC will take it seriously.

2. Negative Externalities

Similar to the contracts of adhesion entered into by consumers in the sharing economy, the microbusinesses participating in the sharing economy have limited bargaining power vis-à-vis the platforms. Most platforms in the sharing economy do not offer benefits or protections for microbusinesses because they view microentrepreneurs as independent contractors. Therefore, microbusinesses receive no paid sick or vacation days, retirement benefits, or health insurance. As a result, must either pay for benefits or forgo them. Although the Affordable Care Act does provide new avenues for independent contractors to access and afford health insurance, independent contractors will likely still pay more than traditional employees pay for healthcare subsidized by their employers.²¹² As for protections, there are no protections for microbusinesses with regard to discrimination, on-the-job injuries, minimum wage, or collective bargaining.²¹³ These issues are currently being litigated in court as many microbusinesses are trying to claim “employee” protections.

3. Anticompetitive Behavior

Incumbent firms often argue that sharing economy firms have an unfair advantage because they get to avoid the costs of complying with regulations and capture market share via lower prices.²¹⁴ In addition, some argue that the sharing economy platforms are price fixing by telling the individual businesses within the sharing economy

211. *Id.* at 22. A trade practice is unfair if it “causes or is likely to cause substantial injury to consumers which is not reasonably avoidable by consumers themselves and not outweighed by countervailing benefits to consumers or to competition.” 15 U.S.C. § 45(n); *see, e.g.*, Fed. Trade Comm’n v. Seismic Entm’t Prods., Inc., 2004 U.S. Dist. LEXIS 227788 (D.N.H. Oct. 21, 2004), http://www.internetlibrary.com/cases/lib_case358.cfm [<https://perma.cc/V25G-6WPF>].

212. Patient Protection and Affordable Care Act of 2010, Pub. L. No. 111-148, 124 Stat. 119, amended by Health Care and Education Reconciliation Act of 2010, Pub. L. No. 111-152, 124 Stat. 1029 (codified as amended in scattered sections of 42 U.S.C.).

213. *Sharing Economy Is Turning More and More Workers into “Independent Contractors,”* EMERY REDDY (Apr. 6, 2015), <https://www.emeryreddy.com/2015/04/sharing-economy-turning-workers-independent-contractors/> [<https://perma.cc/389S-UZJF>].

214. Dyal-Chand, *supra* note 137, at 261; Lori Aratani, *Downtown D.C. Traffic Gridlocked as Taxi Drivers Protest Ride-Sharing Services*, WASH. POST, June 26, 2014, at B5; *Boom and Backlash: The Sharing Economy*, ECONOMIST (US), Apr. 26, 2014, at 61.

what price they can charge.²¹⁵ The regulatory response to these claims has involved changing state and local law to apply to platforms.²¹⁶ The sharing economy's "disruptive innovation"²¹⁷ has shaken existing industries to their core²¹⁸ and has, in the words of Nathan Cortez, created a "regulatory disruption."²¹⁹

E. Regulating the Sharing Economy with Regulation 2.0

Regulation 2.0 allows for sharing economy stakeholders to develop performance standards and enforce them via *lex informatica*, which can instantaneously guide and punish user behavior via code. Regulation 2.0 for the sharing economy requires a three-step process. Step one identifies sharing economy companies and key stakeholders within those sharing markets. Step two involves the collaborative development of performance standards. Step three requires effective auditing and enforcement of those performance standards.

1. Identifying Sharing Economy Companies and Market Stakeholders

Much of the regulation in the sharing markets will apply specifically to platforms, which act as coordinating intermediaries. The platforms will not be hard to identify as they will be the ones facilitating transactions, performing key business functions such as market analysis, advertising, streamline contracts, and monitoring and sanctioning behavior of businesses within the network. These platforms should not be considered employers. Instead, regulators would be well advised to develop specific regulations to provide basic employment benefits to microentrepreneurs. Additional stakeholders within the sharing economy include government regulators (federal,

215. Jill Priluck, *When Bots Collude*, NEW YORKER, Apr. 25, 2015) <http://www.newyorker.com/business/currency/when-bots-collude> [<https://perma.cc/A2JT-RCM3>].

216. Dyal-Chand, *supra* note 137, at 262. Andy Gavil & Chris Grengs, *Getting Around Town in the Sharing Economy*, FTC BLOG (Apr. 21, 2014, 3:15 PM), <https://www.ftc.gov/news-events/blogs/competition-matters/2014/04/getting-around-town-share-economy> [<https://perma.cc/LUY3-YDTU>].

217. See Joseph L. Bower & Clayton M. Christensen, *Disruptive Technologies: Catching the Wave*, HARV. BUS. REV., Jan.–Feb. 1995, at 43, 45; see also CLAYTON M. CHRISTENSEN, *THE INNOVATOR'S DILEMMA: WHEN NEW TECHNOLOGIES CAUSE GREAT FIRMS TO FAIL* (1997). Bower and Christensen did not use the term "disruptive innovation" initially, but Christensen's book that came after the initial article was published did. Classic examples of disruptive innovations include cars, computers, and mobile phones. Nathan Cortez, *Regulating Disruptive Innovation*, 29 BERKELEY TECH. L.J. 175, 177 (2014).

218. Morgan Brown, *Uber—What's Fueling Uber's Growth Engine?*, GROWTHHACKERS, <https://growthhackers.com/growth-studies/uber> [<https://perma.cc/9N9E-UVYP>] (last visited Nov. 24, 2014).

219. Cortez, *supra* note 218, at 177.

state, and local), consumers, traditional industry participants, and microentrepreneurs.

2. Collaborative Development of Performance Standards

Regulation 2.0 performance standards need to be developed in a collaborative manner, with various stakeholders taking a seat at the table. Once seated, the group can begin to think about the various market failures within the sharing economy (asymmetric information, negative externalities, and anticompetitive behavior) and how to fix them. The beautiful thing about performance standards is that they can be simple, quick, and flexible. Participants can devise simple and challenging standards such as: “complete consumer protection from unauthorized data hacks by 2020;” “one-hundred percent of user feedback must be authentic (i.e. platforms must prevent bot and confederate reviews);” and “one-hundred percent of services, spaces, and assets offered must be provided by legitimate and safe users.” It would then be up to the platforms and other relevant participants to innovate and determine how to achieve those goals. If achievement of a certain performance standard proves unduly burdensome or unnecessary, the group can discuss and revise the standards. However, achieving challenging performance standards should be more feasible than ever with the help of *lex informatica*—regulators can collaboratively set expectations and have the expertise of industry figure out how to meet them.

While this approach might appear to be idealistic, compare it to design standards that are much more complicated to develop and that dictate exactly what a regulated entity must do in order to comply. If stakeholders have disagreements about what the various performance standards should be, the final authority will always rest with the regulators, who can learn from the consistent feedback and monitoring made possible by the incorporation of *lex informatica*. Furthermore, if agreed upon performance standards can be met by platforms, incumbent industries will have no legitimate reason to be dissatisfied, and will need to embrace the more effective ways of doing business in order to stay relevant.

3. Auditing and Enforcing Performance Standards

Self-regulation was a viable means of regulating the e-commerce for several reasons: the Internet’s a-territorial nature, issues of technical expertise and access, and the decentralized structure of

Internet activities.²²⁰ The sharing economy shares many of these same characteristics. The platforms, while they facilitate on-the-ground transactions, are certainly ubiquitous and a-territorial. The platforms also have the technical expertise and access to sharing systems that governments do not. And the relationship between platforms, microbusinesses, and consumers is certainly decentralized. Thus, self-regulatory approaches might also work well for the sharing economy, if appropriate performance standards are set.

Other scholars agree. In fact, most proposals by scholars rely on some form of self-regulation made possible by reputation systems.²²¹ For example NYU Stern Professor Arun Sundararajan argues that the creation of trust in the sharing economy through reputation systems, technology, and corporate branding can solve (or at least begin to solve) market failures.²²² More optimistically, a team of researchers at the Mercatus Center argues that reputation systems effectively solve the problem of asymmetrical information and obviate the need for traditional regulations.²²³ However, regulators must take an active role in auditing self-regulatory approaches and enforcing performance

220. BONNICI, *supra* note 98, at 202.

221. See generally Andrew T. Bond, *An App for That: Local Governments and the Rise of the Sharing Economy*, 90 NOTRE DAME L. REV. 77, 94 (2015); Raymond H. Brescia, *Regulating the Sharing Economy: New and Old Insights into an Oversight Regime for the Peer-to-Peer Economy*, 95 NEB. L. REV. 87, 133–43 (2016) (describing an approach to regulate the sharing economy that relies on self-regulation, disciplinary machinery, judicial oversight, and insurance); Bryant Cannon & Hanna Chung, *A Framework for Designing Co-Regulation Models Well-Adapted to Technology-Facilitated Sharing Economies*, 31 SANTA CLARA HIGH TECH. L.J. 23, 27 (2015) (arguing that co-regulatory approaches, in which government and industry work together, are necessary for regulating the sharing economy); Cohen & Sundararajan, *supra* note 34, at 117 (arguing how self-regulation via reputation mechanisms can support sharing economy regulation and correct for information asymmetries); Dyal-Chand, *supra* note 137, at 259 (proposing a co-regulatory approach based on the unique characteristics of sharing economy platforms, which relies on monitoring of relational contracting within sharing networks for self-regulation); Benjamin G. Edelman & Damien Geradin, *Efficiencies and Regulatory Shortcuts: How Should We Regulate Companies Like Airbnb and Uber?*, STANFORD TECH. L.R. (forthcoming 2016) (arguing that a flexible regulatory framework that embraces the “efficiencies” of the sharing economy—including the reputational feedback mechanisms—is necessary); Ranchordas, *supra* note 63, at 466 (describing how regulators must develop innovation friendly policies for the sharing economy, and regulate the new economy in new ways taking into account the unique characteristics of the sharing economy, including reputation systems); Adam Thierer, Christopher Koopman, Anne Hobson & Chris Kuiper, *How the Internet, the Sharing Economy, and Reputational Feedback Mechanisms Solve the “Lemons Problem”*, RESEARCHGATE 4 (May 2015), https://www.researchgate.net/publication/277286905_How_the_Internet_the_Sharing_Economy_and_Reputational_Feedback_Mechanisms_Solve_the_Lemons_Problem [<https://perma.cc/Y4ZC-82HN>] (arguing that the sharing economy through feedback mechanisms can solve the problem of asymmetrical information).

222. ARUN SUNDARARAJAN, *THE SHARING ECONOMY: THE END OF EMPLOYMENT AND THE RISE OF CROWD-BASED CAPITALISM* 144–58 (MIT Press ed. 2016).

223. Thierer, Koopman, Hobson & Kuiper, *supra* note 221, at 46–47.

standards. They need to understand the *lex informatica* that governs these systems and be ready to question consumer-unfriendly business practices by platforms. For example, reputation systems are only as good as the information fed into them. Feedback loop failure can occur thereby distorting the risk calculation for participants and perhaps compromising the system as a whole.²²⁴

Data analytics can be used to measure and analyze compliance. Both regulators and platforms must develop the capability to accurately assess the data. For example, Uber relies on big data and technology to match driver and passenger locations, control payments, and evaluate driver behavior. Uber can measure the quality of service to ensure safety and fair pricing, which were the goals at the center of taxi regulations. Regulators, however, must have access to this data or various performance measures to assess whether Uber is truly protecting consumer safety and privacy.

Regulators also have to be aware that self-regulatory approaches are often looked on with skepticism because they can be viewed as a face-saving tool for industry since they largely permit the wolf to guard the sheep.²²⁵ Therefore, regulators should be ready for likely pushback from sharing economy corollaries. Furthermore, regulators should be aware of sharing economy companies creating new barriers to entry for competitors.²²⁶ This viewpoint is likely to be particularly true in the sharing economy as major players, such as Uber and Airbnb, are highly competitive and tend to dominate the market. Regulators will need to develop ways to face these challenges by continuing to collaborate with all stakeholders.

V. CONCLUSION

The gap between innovation and law will always exist. Regulators will always have to new business practices that do not adequately fit within their existing regulatory frameworks. These new innovations will likely create the same market failures as preceding innovations: asymmetric information, negative externalities, and anticompetitive behavior. In the face of platform-driven regulatory disruption and market failure, regulators should utilize Regulation 2.0 to collaborate with stakeholders to develop effective technology-driven performance standards that are appropriately audited and enforced by

224. Abbey Stemler, *Feedback Loop Failure: Implications for the Self-Regulation of the Sharing Economy*, 18 MINN. J.L. SCI. & TECH. (forthcoming 2017).

225. BONNICI, *supra* note 98, at 57.

226. MANCUR OLSON, *THE LOGIC OF COLLECTIVE ACTION: PUBLIC GOODS AND THE THEORY OF GROUPS* 95–97 (1965).

regulators. By embracing such standards, companies will be able to instantaneously monitor, prohibit, and punish behavior that puts consumers at risk and violates existing regulations. This approach is friendly to innovation and is transparent and flexible in a way that Regulation 1.0 cannot be. Mediated through technology, Regulation 2.0 holds great potential to help regulators meaningfully collaborate with stakeholders and complete the heavy lifting required to effectively turn code into law and efficiently achieve the desired ends of regulation.