

# REPUTATION FAILURE: THE LIMITS OF MARKET DISCIPLINE IN CONSUMER MARKETS

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*Many believe that consumer-sourced reputational information about products should increasingly replace top-down regulation. Instead of protecting consumers through coercive laws, reputational information gleaned from the wisdom of the crowd would guide consumer decision-making. There is now a growing pressure to deregulate in diverse fields such as contracts, products liability, consumer protection, and occupational licensing.*

*This Article presents a common failure mode of systems of reputation: "Reputation Failure." By spotlighting the public-good nature of reviews, rankings, and even gossip, this Article shows the mismatch between the private incentives consumers have to create reputational information and its social value. As a result of this divergence, reputational information is beset by participation, selection, and social desirability biases that systematically distort it. This Article argues that these distortions are inherent to most systems of reputation and that they make reputation far less reliable than traditionally understood.*

*The limits of reputation highlight the centrality of the law to the future of the marketplace. Proper legal institutions can deal not only with the symptoms of reputation failure—consumer mistakes—but improve the flow and quality of reputational information, thus correcting reputation failures before they arise. This Article offers a general framework and*

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\* Assistant Professor of Law, University of Alabama School of Law. For useful comments and conversations, I thank Oren Bar-Gill, Lisa Bernstein, Alfred Brophy, Shahar Dillbary, Janet Freilich, Brian Galle, John Goldberg, Michael Heller, Richard Hynes, Louis Kaplow, Daniel Klarmen, Ronald Krotoszynski, Irina Manta, Murat Mungan, Nicholas Marquiss, Michael Pardo, Gregg Polsky, Barak Richman, Ken Rosen, Roy Shapira, Steve Shavell, Henry Smith, Andrew Tuch, Fred Vars, and Rory Van Loo. I am also thankful to participants at the American, Midwestern, and European Law & Economics Conferences, Contracts Conference XIII, and workshop participants at the Universities of Alabama, Bar-Ilan, and Chicago. The editors of the *Wake Forest Law Review* provided many thoughtful suggestions. For excellent research assistance, I thank Hamilton Millwee, Victoria Moffa, Kenton McGilliard, and Brenton Smith.

*explores a number of strategies. A more robust system of reputation can preserve consumer autonomy without sacrificing consumer welfare.*

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#### I. INTRODUCTION

How much trust should we place in consumer-sourced reputational information? This Article develops the argument that systems of reputational information are subject to a number of distortions that limit the reliability of reputational information. As a result, trusting these systems to replace the law should be done with

great caution. The source of these distortions and the role of the law in addressing them are the key themes developed here.

Some of the most important debates in contract law involve a basic dilemma: to what extent can markets be trusted to regulate themselves?<sup>1</sup> One reason why regulation may be needed is asymmetric information—if sellers know more, they can exploit buyers and promise high but deliver low. A mitigating factor, which counsels against less regulation, is reputation. Reputation information, once the province of small-knit communities, allows parties to develop trust based on self-interest.<sup>2</sup> If the seller cheats, her reputation will suffer, costing her opportunities to deal with other buyers. In the last two decades, reputational information has permeated almost all aspects of consumer markets, online and offline. Through the use of rankings, reviews, and stars, reputation facilitates transactions between complete strangers.

The explosion of reputational information has instilled a sense of optimism among many that the end of asymmetric information is nigh.<sup>3</sup> Why regulate markets, the argument goes, if consumers can easily know in advance which seller is honest, which product is best, and which service provider is most reliable? The increased trust in

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1. The debate on law versus markets assisted by reputation is longstanding. For example, Milton Friedman argued that “consumers do not have to be hemmed in by rules and regulation . . . because they are protected by the market itself.” *Milton Friedman’s Free to Choose: Who Protects the Consumers?* (PBS television broadcast Jan. 11, 1980), [https://www.freetochoosenetwork.org/programs/free\\_to\\_choose/index\\_80.php?id=the\\_power\\_of\\_the\\_market](https://www.freetochoosenetwork.org/programs/free_to_choose/index_80.php?id=the_power_of_the_market); see also ADAM SMITH, LECTURES ON JURISPRUDENCE 327 (R.L. Meek et al. eds., 1978) (“When a person makes perhaps 20 contracts in a day, he cannot gain so much by endeavoring to impose on his neighbors, as the very appearance of a cheat would make him lose.”); Lior Jacob Strahilevitz, *Less Regulation, More Reputation*, in *THE REPUTATION SOCIETY* 71 (Hassan Massum & Mark Tovey eds., 2012) (arguing that a world with strong reputational information has “diminished need for regulatory oversight and legal remedies”); Rory Van Loo, *Helping Buyers Beware: The Need for Supervision of Big Retail*, 163 U. PA. L. REV. 1311, 1347 (2015) (“One common argument in consumer protection is that reputational concerns will stamp out many bad practices, thus making some regulations unnecessary.”). On these notions, see *infra* Subpart II.A.

2. See e.g., Lisa Bernstein, *Contract Governance in Small-World Networks: The Case of the Maghrabi Traders*, 113 NW. L. REV. 1009, 1009 (2019) (tracing reputational flows in complex trade networks); Lisa Bernstein, *Opting Out of the Legal System: Extralegal Contractual Relations in the Diamond Industry*, 21 J. LEGAL STUD. 115, 152 (1992) [hereinafter Bernstein, *Opting Out*] (analyzing the behavior of Jewish Orthodox diamond traders in New York); Barak D. Richman, *An Autopsy of Cooperation: Diamond Dealers and the Limits of Trust-Based Exchange*, 9 J. LEGAL ANALYSIS 247, 247–50 (2017) (exploring how market perturbations lead to the decline of trust-based institutions). Recent trends also include the scoring of consumers themselves, see Yonathan A. Arbel & Roy Shapira, *Theory of the Nudnik: The Future of Consumer Activism and What We Can Do to Stop It*, VAND. L. REV. (forthcoming 2020).

3. Alex Tabarrok & Tyler Cowen, *The End of Asymmetric Information*, CATO UNBOUND (Apr. 6, 2015), <https://www.cato-unbound.org/2015/04/06/alex-tabarrok-tyler-cowen/end-asymmetric-information>.

reputation has galvanized support for deregulatory policies from conservatives and liberals alike.<sup>4</sup> Various scholars have made calls to abolish consumer protections in contracts, torts, and occupational licensing.<sup>5</sup> The Trump Administration has effectively defanged the Consumer Financial Protection Bureau and otherwise stalled many regulatory interventions in markets.<sup>6</sup>

This trust in reputation-based market ordering overlooks a key feature of reputation: it is a public good.<sup>7</sup> Through gossip, word-of-

4. See ARUN SUNDARARAJAN, *THE SHARING ECONOMY: THE END OF EMPLOYMENT AND THE RISE OF CROWD-BASED CAPITALISM* 138 (2016) (“Eventually, peer-to-peer platforms may provide a basis upon which society can develop more rational, ethical, and participatory models of regulation.”); Benjamin G. Edelman & Damien Geradin, *Efficiencies and Regulatory Shortcuts: How Should We Regulate Companies Like Airbnb and Uber?*, 19 *STAN. TECH. L. REV.* 293, 300 (2016) (“By all indications, reputation systems are serving the intended purpose.”); Christopher Koopman et al., *The Sharing Economy and Consumer Protection Regulation: The Case for Policy Change*, 8 *J. BUS. ENTREPRENEURSHIP & L.* 529, 530 (2015); Adam Thierer et al., *How the Internet, the Sharing Economy, and Reputational Feedback Mechanisms Solve the “Lemons Problem,”* 70 *U. MIAMI L. REV.* 830, 830–31 (2016). *But see* Sofia Ranchordás, *Does Sharing Mean Caring? Regulating Innovation in the Sharing Economy*, 16 *MINN. J.L. SCI. & TECH.* 413, 414 (2015) (critiquing aspects of the sharing economy); Abbey Stemler, *Feedback Loop Failure: Implications for the Self-Regulation of the Sharing Economy*, 18 *MINN. J.L. SCI. & TECH.* 673, 673 (2017) (highlighting the issues posed to the sharing economy by flawed reputational mechanisms and offering regulatory solutions); Chris Nosko & Steven Tadelis, *The Limits of Reputation in Platform Markets: An Empirical Analysis and Field Experiment* 1 (Nat’l Bureau of Econ. Research, Working Paper No. 20830, 2015) (considering dynamic biases resulting from buyers who leave the marketplace without producing reviews).

5. See e.g., Oren Bar-Gill, *The Behavioral Economics of Consumer Contracts*, 92 *MINN. L. REV.* 749, 756 (2008); Albert H. Choi & Kathryn E. Spier, *Should Consumers be Permitted to Waive Products Liability? Product Safety, Private Contracts, and Adverse Selection*, 30 *J.L. ECON. ORG.* 734, 755 (2014); Richard A. Epstein, *Behavioral Economics: Human Errors and Market Corrections*, 73 *U. CHI. L. REV.* 111, 120 (2006); A. Mitchell Polinsky & Steven Shavell, *The Uneasy Case for Product Liability*, 123 *HARV. L. REV.* 1437, 1449 (2010); Alan Schwartz & Robert E. Scott, *Contract Theory and the Limits of Contract Law*, 113 *YALE L.J.* 541, 557 (2003) (“[s]tate enforcement of . . . agreements is unnecessary when the agreements . . . can be enforced with reputational sanctions.”); Stephen D. Sugarman, *Doing Away with Tort Law*, 73 *CALIF. L. REV.* 555, 564 (1985); see also THOMAS SZASZ, *OUR RIGHT TO DRUGS: THE CASE FOR A FREE MARKET* (1992) (arguing for deregulation of access to drugs); Walter Gellhorn, *The Abuse of Occupational Licensing*, 44 *U. CHI. L. REV.* 6, 6 (1976).

6. See, e.g., Renae Merle & Tracy Jan, *Trump is Systematically Backing Off Consumer Protections, to the Delight of Corporations*, *WASH. POST* (Mar. 6, 2018), [https://www.washingtonpost.com/business/economy/a-year-of-rolling-back-consumer-protections/2018/03/05/e11713ca-0d05-11e8-95a5-c396801049ef\\_story.html?noredirect=on](https://www.washingtonpost.com/business/economy/a-year-of-rolling-back-consumer-protections/2018/03/05/e11713ca-0d05-11e8-95a5-c396801049ef_story.html?noredirect=on); *Tracking Deregulation in the Trump Era*, *BROOKINGS* (Sept. 23, 2019), <https://www.brookings.edu/interactives/tracking-deregulation-in-the-trump-era/> (tracking ninety-six areas where there are deregulatory attempts).

7. Technically, reputation is a public good because it is neither excludable nor is its consumption rivalrous. See Tyler Cowen, *Public Goods*, in *CONCISE*

mouth, online reviews, and product ranking, consumers create a body of reputational information covering innumerable products and services—from restaurants and keychains to doctors and car mechanics.<sup>8</sup> This information is then used by future consumers to guide their own decision-making, but the original creators of this information are rarely, if ever, compensated for their efforts.<sup>9</sup> That is, while the costs of creating reputational information are private, the benefits are public. Observing the divergence of private and public costs presents a deep puzzle for all systems of reputation: Who chooses to participate in the creation and dissemination of reputational information, why, and to what effect?

In spotlighting this puzzle and exploring its consequences, this Article identifies a common failure mode of reputational information, called “*reputation failure*.” Prospective consumers use reputational information to learn about the experiences of a representative sample of similarly situated consumers. This kind of “poll” could inform the consumer about the expected quality of service, the frequency of errors, and the honesty of the seller. However, this poll is subject to three confounding factors: *sluggishness*, *regression to the extreme*, and *an integrity bias*. Reputational information is *sluggish*, i.e., slow to develop, because sharing consumers are not sufficiently incented to share their experiences. The motivations to share are not only weak, but they are also asymmetric; psychologically, individuals are more inclined to share information when they had a very positive or negative experience. Thus, reputational information tends to “*regress to the extremes*,” or develop over time in a way that overly emphasizes extreme experiences at the expense of middling ones. And even those experiences that are shared are not always authentic: social and financial motivations to share lead some individuals to misstate their experiences in ways that put themselves in a better light or otherwise favor them. This leads to an *integrity bias*.

In the presence of reputation failure, dishonest sellers can thrive, not just in the short term but also over longer spans of time. Reputation failure thus suggests the limits of market discipline through reputational information.<sup>10</sup>

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ENCYCLOPEDIA OF ECONOMICS (Lauren F. Landsburg et al. eds., 2008); Agnar Sandmo, *Public Goods and Pigouvian Taxes*, in PALGRAVE ENCYCLOPEDIA OF ECONOMICS 10,975 (2018).

8. Daniel B. Klein, *Knowledge, Reputation, and Trust, by Voluntary Means*, in REPUTATION: STUDIES IN THE VOLUNTARY ELICITATION OF GOOD CONDUCT 1, 3 (Daniel B. Klein ed., 1997) (“[T]he ‘invisible eye’ often functions by virtue of very audible tongues.”).

9. *Id.* at 1; see also Eric Goldman, *The Regulation of Reputational Information*, in THE NEXT DIGITAL DECADE: ESSAYS ON THE FUTURE OF THE INTERNET 293, 301 (Berin Szoka & Adam Marcus eds., 2010) (noting the “inadequate production incentives” of reputational information).

10. See Yannis Bakos et al., *Does Anyone Read the Fine Print? Consumer Attention to Standard-Form Contracts*, 43 J. LEGAL STUD. 1, 2 (2014) (“Defenders

These concerns with reputation failure are consistent with some important trends in the empirical data.<sup>11</sup> Amazon is a case in point; despite the cornucopia of products listed there, reviews follow an unusual distribution.<sup>12</sup> One might expect that among so many products, some reviews would be exciting and others disappointing, but that the majority would be middling. Evidence from millions of products contradicts this expectation; reviews concentrate in the extremes and are scarce in the middle.<sup>13</sup> Additional evidence suggests that the properties of the products themselves do *not* drive this unusual distribution. For example, there is little agreement—quite often, disagreement—between the rating of the same products by professionals and consumers.<sup>14</sup> There is also little agreement among consumers on different platforms regarding the *same* products.<sup>15</sup> And when consumers are asked to rate products in lab settings, their reviews show a remarkably different distribution.<sup>16</sup> Despite reputation failures, consumers reportedly rely on reputational information. In a recent survey, 82 percent of American adults said they sometimes or always read reviews before making new purchases, and more than two-thirds of those who routinely use reviews described them as “generally accurate.”<sup>17</sup> Similarly, a survey of online users found that, on average, users rated the credibility of the last review they read as a 4.2 out of five, or roughly 84 percent, on average.<sup>18</sup>

Not all reputation failures are severe but ignoring the risk of failure is a serious omission. In some cases, sophisticated consumers might be able to mitigate part of the distortionary effect of reputation failure by interpreting reputational information using a combination

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of freedom of contract have generally rejected intervention by relying on reputational constraints.”)

11. See *infra* Subpart III.B for a more general discussion of the evidence.

12. See *infra* note 171.

13. At least, one would expect a unimodal distribution, but this is contradicted in the data. See *infra* Subpart III.B.

14. Bart de Langhe et al., *Navigating by the Stars: Investigating the Actual and Perceived Validity of Online User Ratings*, 42 J. CONSUMER RES. 817, 821 (2016) (studying correlations between online reviews and scores provided by the magazine *Consumer Reports* and finding that “[t]he average correlation is 0.18, and 34% of correlations are negative”).

15. See Georgios Zervas et al., *A First Look at Online Reputation on Airbnb, Where Every Stay is Above Average 10* (Jan. 28, 2015) (unpublished manuscript), [https://papers.ssrn.com/sol3/papers2.cfm?abstract\\_id=2554500](https://papers.ssrn.com/sol3/papers2.cfm?abstract_id=2554500) (finding that the ranking on Airbnb only explains 17 percent of the correlation ( $R^2$ ) between cross-listed properties on TripAdvisor).

16. See *infra* Subpart II.B.2.

17. Aaron Smith, *Online Reviews*, PEW RESEARCH CTR. (Dec. 19, 2016), <http://www.pewinternet.org/2016/12/19/online-reviews/> (explaining that even among the general population, 51 percent of US adults described reviews as generally giving an accurate picture).

18. Cindy Man-Yee Cheung et al., *Is This Review Believable?*, 13 J. ASS’N. INFO. SYS. 618, 624 (2012).

of heuristics, statistical analysis, multisource analysis, and experience.<sup>19</sup> However, it is important to recognize that the power of these methods is limited; there is only so much signal that can be extracted from a biased and noisy sample.<sup>20</sup> To illustrate this claim, I employ a method known as a Monte-Carlo simulation, which illustrates the limits of such heuristics.<sup>21</sup>

Like other forms of market failure, the existence of reputation failure has various legal implications. Most directly, reputation failures call for greater scrutiny of consumer transactions and stricter regulation of product safety and quality. Such regulation can come in the form of mandatory warranties, broader disclosure obligations, good-faith requirements, product liability duties, etc.<sup>22</sup>

Legal interventions, however, need not be limited to the *consequences* of reputation failure. The law can also improve the quality of reputation itself, thus avoiding the failure of reputation in the first place. To this end, I propose here a new framework of synthesizing legal institutions and markets, called Reputation-by-Regulation. Policymakers can significantly improve consumer welfare while preserving consumer autonomy by focusing on designing rules that improve and increase the flow of reliable reputational information to the market. Building channels through which reputational information can effectively flow to the market can solve reputation failure and allow consumers to choose freely and effectively for themselves. To guide future policymaking, this Article illustrates Reputation-by-Regulation through five concrete types of effective legal interventions.

The analysis in this Article should also inform economic analysis more generally. It is very common, even in leading economic models, to assume that reputation is an inherent feature of the market.<sup>23</sup> Sellers sell, buyers buy, and reliable reputational information miraculously emerges.<sup>24</sup> These studies could benefit from explicit

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19. See, e.g., *id.* at 627–28.

20. The problem combines low-response rate, self-selection bias, middle-censoring, and middle-truncation. For a statistical analysis of some of these issues, see S. Rao Jammalamadaka & Srikanth K. Iyer, *Approximate Self Consistency for Middle-Censored Data*, 124 J. STAT. PLAN. & INFERENCE 75, 76–85 (2004).

21. For examples in law, see Dan M. Kahan et al., *Whose Eyes Are You Going to Believe? Scott v. Harris and the Perils of Cognitive Illiberalism*, 122 HARV. L. REV. 837, 870–76 (2009).

22. See Ranchordás, *supra* note 4, at 459–61 (discussing regulations imposed and suggested within the sharing economy); see also Stemler, *supra* note 4, at 703–11 (offering additional regulatory solutions).

23. See Simon Board & Moritz Meyer-Ter-Vehn, *Reputation for Quality*, 81 ECONOMETRICA 2381, 2384–86 (2013) (discussing the treatment of reputation in various economic models).

24. See, e.g., David S. Ardia, *Reputation in a Networked World: Revisiting the Social Foundations of Defamation Law*, 45 HARV. C.R.-C.L. L. REV. 261, 267–68 (2010) (“Reputation is an emergent property of social interactions.”). In

recognition of the “microfoundations” of reputation—the incentives that lead individuals to share their experiences with others, and their consequences for the reliability of reputational information.<sup>25</sup>

This Article unfolds in five parts. Part II explores the role of reputation in our thinking about the proper scope of intervention in consumer markets. It highlights how central is the idea that reputation is reliable. Part III develops the “microfoundations” of reputation. It surveys the motivations to produce reputational information and explains how these lead to *systemic* bias. Finally, Part IV explores the legal-market interface and the use of the law to improve reputational information flows.

## II. LAW VS. MARKETS AND ASYMMETRIC INFORMATION

This Part surveys debates on regulation, deregulation, and the role of reputation. It shows how critical reputation is to these debates and yet how very little attention is given to the reliability of reputational information. As this Article will show, imperfections and failures in reputational information undermine the validity and persuasiveness of many market self-ordering arguments.

### A. *Law vs. Markets*

Most commercial transactions involve asymmetric information between sellers and buyers. Buying a refrigerator or a car, hiring a contractor, and seeking a financial advisor are all quotidian transactions that involve what economists call “experience” goods—i.e., goods where the consumer can only observe quality after consumption or usage.<sup>26</sup> The concern with such transactions is that

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the recent edition of the Palgrave Dictionary of Economics, there are early signs of recognition of these problems: “[T]he literature on this area [of reputation in large groups] is in its infancy; very little can be said with much certainty now.” Martin W. Cripps, *Reputation*, in *THE NEW PALGRAVE DICTIONARY OF ECONOMICS* 11,569 (2018); *see also infra* Subpart II.B.

25. *See, e.g.*, Roy Shapira, *Reputation Through Litigation: How the Legal System Shapes Behavior by Producing Information*, 91 WASH. L. REV. 1193, 1203 (2016) (describing the perception of reputation in the scholarship as the product of a simple process). This reductive view uncritically assumes, with only a few exceptions, that reputation information is reliable. For prominent examples in economics, *see, e.g.*, Heski Bar-Isaac & Steven Tadelis, *Seller Reputation*, 4 FOUND. & TRENDS IN MICROECONOMICS 273, 282 (2008) (reviewing the literature); Board & Meyer-Ter-Vehn, *supra* note 23, at 2386–87. A leading paper in evolutionary psychology argues that reputation is an evolutionary solution to the tragedy of the commons with respect to public goods, not acknowledging that the creation of reputation itself suffers from the same problem. *See* Manfred Milinsky et al., *Reputation Helps Solve the ‘Tragedy of the Commons’*, 415 NATURE 424, 424 (2002); *see also* Martin A. Nowack & Karl Sigmund, *Evolution of Indirect Reciprocity*, 437 NATURE 1291, 1291 (2005) (noting the evolutionary roots of reputation).

26. *See* Gary T. Ford et al., *An Empirical Test of the Search, Experience and Credence Attributes Framework*, in 15 ADVANCES IN CONSUMER RESEARCH 239,

they invite opportunistic behavior, as sellers might take advantage of the information asymmetry by promising high but delivering low.<sup>27</sup> This possibility, left unchecked, would lead to misallocation of resources, abuse of buyers, and increased buyer trepidation, stalling economic activity overall.<sup>28</sup>

The conventional response to such problems is direct regulation. To give but a few examples, the law sets ex ante minimum quality regulations;<sup>29</sup> mandates price controls;<sup>30</sup> imposes good-faith duties;<sup>31</sup> compels mandatory disclosure;<sup>32</sup> creates implied warranties of merchantability and fitness;<sup>33</sup> requires licensing, training, and testing;<sup>34</sup> enforces truth-in-advertising requirements;<sup>35</sup> and imposes tort and criminal liability for violations of any of these standards.<sup>36</sup> All of these measures are meant to curb abuse of asymmetric information and to facilitate trust in the market. With regulation,

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241 (Micheal J. Houston ed., 1988). A subtle issue is that while individual preferences are idiosyncratic, they are still predictive. A consumer contemplating the purchase of a microwave may be different in any number of ways from past consumers, yet, learning that other consumers disliked the microwave would still inform the consumer's private decision.

27. Timothy J. Muris, *Opportunistic Behavior and the Law of Contracts*, 65 MINN. L. REV. 521, 522–26 (1981) (discussing the role of opportunistic behavior in contract law). Muris seems to consider reputation as a better solution but suggests that it is unhelpful when sellers can conceal their past misbehavior. *Id.* at 526–27; see KATALIN JUDIT CSERES, *COMPETITION LAW AND CONSUMER PROTECTION* 155–56 (2005) (explaining the need for consumer protection and the various private law tools meant to achieve it); Henry Smith, *Equity as Second-Order Law: The Problem of Opportunism* (Harvard Pub. L. Working Paper No. 15-13, 2015) (arguing that equity's primary goal in private law is to control the problem of opportunism).

28. George A. Akerlof, *The Market for "Lemons": Quality Uncertainty and the Market Mechanism*, 84 Q.J. ECON. 488, 488 (1970).

29. See, e.g., 7 C.F.R. § 996.13 (2018) (requiring that peanuts considered "Segregation 1" shall not have more than 2.49 percent damaged kernels).

30. See, e.g., ALA. CODE § 8-8-1 (1975) (setting a cap of 8 percent on the price of credit).

31. U.C.C. § 1-201(b)(20) (AM. LAW INST. & UNIF. LAW COMM'N, amended 2011); RESTATEMENT (SECOND) OF CONTRACTS § 205 (AM. LAW INST. 1981).

32. See, e.g., *Moehling v. W. E. O'Neil Constr. Co.*, 170 N.E.2d 100, 107 (Ill. 1960) (finding a fiduciary duty of disclosure of material facts in a real estate transaction between an agent and its principal). See generally Anthony T. Kronman, *Mistake, Disclosure, Information, and the Law of Contracts*, 7 J. LEGAL STUD. 1 (1978) (exploring optimal disclosure rules).

33. See, e.g., Choi & Spier, *supra* note 5, at 735 (explaining that courts are "generally hostile toward[s]" attempts to opt-out of product liability).

34. See, e.g., MISS. CODE ANN. § 73-9-29 (1972) (requiring practicing dentists to attend a board-certified educational program and pass an exam before receiving a license to practice in the state).

35. See, e.g., U.S. FOOD & DRUG ADMIN., *INGREDIENTS DECLARED AS EVAPORATED CANE JUICE: GUIDANCE FOR INDUSTRY* (2016) (providing that a sweetener cannot be described as "evaporated cane juice" because it may mislead consumers to believe that it is juice rather than sugar).

36. See, e.g., 815 ILL. COMP. STAT. ANN. 505/2, 7 (West 2016) (imposing criminal and civil liability for consumer fraud).

consumers can trust—to an extent—that a car seat, for example, will be sufficiently safe even if the producer is unknown or that an unfamiliar merchant will not engage in unfair business practices.

Free-market advocates contest the need for such laws, which necessarily limit freedom of contract, and instead argue that law is “only one of many social institutions and practices amid which markets function.”<sup>37</sup> One such institution, arguably the most central one, is reputation.<sup>38</sup> Part of Adam Smith’s genius was the insight that reputation facilitates trust in markets, even if actors are self-interested; as Smith explained, the baker will soon realize that selling low-quality bread will diminish his reputation and thus future profits, making dishonesty an unprofitable business strategy.<sup>39</sup> Drawing on this insight, influential scholars such as Milton Friedman, Richard Posner, and Richard Epstein have called to deregulate markets and rely instead on internal market discipline.<sup>40</sup>

These debates are longstanding and tend to track traditional political stances on the government, top-down regulation, and the free market.<sup>41</sup> Recently, however, a sea change has swept many progressives and left-leaning thinkers towards the deregulatory camp.<sup>42</sup> The rise of the sharing economy and information technology has inspired widespread belief in the impending death of asymmetric information.<sup>43</sup> In the past, private ordering through reputation was understood to be the domain of small-knit communities, such as Orthodox Jewish diamond traders or cattle ranchers in small counties, as these small communities could effectively exchange

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37. Lewis A. Kornhauser, *Reliance, Reputation, and Breach of Contract*, 26 J.L. & ECON. 691, 702 (1983); see also OLIVER E. WILLIAMSON, *THE ECONOMIC INSTITUTIONS OF CAPITALISM: FIRMS, MARKETS, RELATIONAL CONTRACTING* 163–68 (1985).

38. See FRIEDRICH A. HAYEK, *LAW, LEGISLATION AND LIBERTY, VOLUME 1: RULES AND ORDER* 46–48 (1973); Barak D. Richman, *Firms, Courts, and Reputation Mechanisms: Towards a Positive Theory of Private Ordering*, 104 COLUM. L. REV. 2328, 2333–34 (2004) (dating the literature on private ordering to the early 1990s).

39. See SMITH, *supra* note 1; see also ALBERT HIRSCHMAN, *RIVAL VIEWS OF MARKET SOCIETY* 106–07 (1992).

40. See Lucian A. Bebchuk & Richard A. Posner, *One-Sided Contracts in Competitive Consumer Markets*, 104 MICH. L. REV. 827, 827–28 (2006); Epstein, *supra* note 5, at 131; *Milton Friedman’s Free to Choose: Who Protects the Consumers?*, *supra* note 1.

41. Venerable traditions in political theory—Godwinian utopia and Smithian natural liberty—believe reputation can effectively constrain self-interested behavior. Klein, *supra* note 8, at 2–3. As economist Benjamin Klein observed, “[i]f one puts small confidence in the efficacy and integrity of external authority—in particular, governmental institutions—then the hope for self-policing gains in relevance.” *Id.* at 2.

42. See, e.g., Christian Britschgi, *Progressives and Libertarians Team Up to Deregulate Airports*, REASON (July 19, 2019), <https://reason.com/2019/07/19/progressives-and-libertarians-team-up-to-deregulate-airports/printer/>.

43. See Tabarrok & Cowen, *supra* note 3.

gossip and other word-of-mouth reputational information.<sup>44</sup> The rise of information technology now promises gossip at scale. Drug users, involuntary regulatory entrepreneurs as they are, utilize message boards to spread reputational information on which cocaine dealer uses cheap fillers.<sup>45</sup> Less daring consumers use popular reputation platforms such as Amazon and Uber to guide their decisions on everyday purchases.<sup>46</sup> The meteoric rise of these platforms enthused many about a future where regulatory interventions are moot, as consumers do the work organically for their peers<sup>47</sup> without coercive

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44. See ROBERT C. ELLICKSON, *ORDER WITHOUT LAW: HOW NEIGHBORS SETTLE DISPUTES* vii (1991); Bernstein, *Opting Out*, *supra* note 2, at 115, 130, 139–40 (analyzing the behavior of Jewish Orthodox diamond traders in New York); see also Stewart Macaulay, *Non-Contractual Relations in Business: A Preliminary Study*, 28 AM. SOC. REV. 55, 55, 63 (1963) (studying the behavior of managers in Wisconsin).

45. Drug dealers trade under carefully maintained brand names, although they suffer from a short half-life. See Nick Janetos & Jan Tilly, *Reputation Dynamics in a Market for Illicit Drugs* 1 (U. Pa., Working Paper No. arXiv:1703.01937v1, 2017), <https://arxiv.org/pdf/1703.01937.pdf>.

46. See Cheung et al., *supra* note 18, at 619; Smith, *supra* note 17.

47. A sample of contemporary examples of pro-reputation attitudes includes *The Disrupter Series: How the Sharing Economy Creates Jobs, Benefits Consumers, and Raises Policy Questions: Hearing Before the Subcomm. on Commerce, Mfg., & Trade of the H. Comm. on Energy & Commerce*, 114th Cong. 2 (2016) (statement of Hon. Michael C. Burgess, Chairman, Subcomm. on Commerce, Mfg., & Trade) (“Sharing platforms are inherently good, providing reputation feedback loops.”); *Barriers to Opportunity: Do Occupational Licensing Laws Unfairly Limit Entrepreneurship and Jobs: Hearing Before the Subcomm. on Contracting and Workforce of the H. Comm. on Small Business*, 113th Cong. 11 (2014) (statement of Hon. Richard Hanna, Chairman, Subcomm. on Contracting and Workforce) (“Bad actors get in, people find out about their reputations, good or bad, they grow or leave the market.”); FTC, *THE “SHARING” ECONOMY: ISSUES FACING PLATFORMS, PARTICIPANTS & REGULATORS* 32 (2016), [https://www.ftc.gov/system/files/documents/reports/sharing-economy-issues-facing-platforms-participants-regulators-federal-trade-commission-staff/p151200\\_ftc\\_staff\\_report\\_on\\_the\\_sharing\\_economy.pdf](https://www.ftc.gov/system/files/documents/reports/sharing-economy-issues-facing-platforms-participants-regulators-federal-trade-commission-staff/p151200_ftc_staff_report_on_the_sharing_economy.pdf) (“[A] seller’s favorable reputation can provide important leverage for regulators seeking to ensure consumers are protected when shopping online.”); Jürgen Backhaus, *Company Board Representation*, in *THE ELGAR COMPANION TO LAW AND ECONOMICS* 155, 155 (Jurgen Backhaus ed., 1999); RICHARD A. POSNER, *THE ECONOMICS OF JUSTICE* 288 (1981); Strahilevitz, *supra* note 1, at 71; Omri Ben-Shahar, *Consumer Protection Without Law*, REGULATION 26, 26 (Summer 2010); David Charny, *Illusions of a Spontaneous Order: “Norms” in Contractual Relationships*, 144 U. PA. L. REV. 1841, 1841–42 (1996); Alex Geisinger, *Are Norms Efficient? Pluralistic Ignorance, Heuristics, and the Use of Norms as Private Regulation*, 57 ALA. L. REV. 1, 1–2, 29–30 (2005); Robert E. Scott, *A Theory of Self-Enforcing Indefinite Agreements*, 103 COLUM. L. REV. 1641, 1644, 1692 (2003). In economics, see, e.g., Benjamin Klein & Keith B. Leffler, *The Role of Market Forces in Assuring Contractual Performance*, 89 J. POL. ECON. 615, 616 (1981). On complementarity between law and reputation, see Kishanthi Parella, *Reputational Regulation*, 67 DUKE L.J. 907, 910–18 (2018); Shapira, *supra* note 25, at 1203. But see Eric A. Posner, *Recent Books On International Law*, 101 AM. J. INTL. L. 509, 510 (2007) (reviewing ROBERT E. SCOTT & PAUL B. STEPH, *THE LIMITS OF LEVIATHAN: CONTRACT THEORY AND THE ENFORCEMENT OF INTERNATIONAL LAW* (2006)).

and often misguided government intervention.<sup>48</sup> Given this new zeitgeist, there is little in the way of effective opposition to the recent policy trends that have dramatically scaled down consumer protection.<sup>49</sup>

To give a sense of where the contemporary battle lines are drawn, consider the influential debate between Professors Richard Epstein and Oren Bar-Gill (who also serves as a reporter for the new Restatement of Consumer Contracts).<sup>50</sup> Both scholars debate the old question of asking how severely contract law should limit the freedom of contract in the name of other interests.<sup>51</sup> Epstein concedes the existence and importance of cognitive constraints on consumer decision-making, which he agrees can lead to “serious mistakes.”<sup>52</sup> Still, in his view, “second-order rationality” in the form of reputation, among other sources, can overcome these shortcomings.<sup>53</sup> Remarkably, Epstein sees reputation as a valid response to the new problems posed to the traditional model by behavioral economics.<sup>54</sup> In contrast, Bar-Gill argues that because goods are sometimes unique, or consumers use them in unique ways, there is too little information that is transferable among consumers.<sup>55</sup> Under such conditions, Bar-Gill contends, there is still a need for regulatory interventions in private contracts, such as safety standards or immutable warranties.<sup>56</sup>

The most surprising feature of this debate is not the disagreement but the broad agreement that underlies it. For standardized goods (or standard uses), reputation, in addition to

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48. See Rory Van Loo, *The Corporation as Courthouse*, 33 YALE J. REG. 547, 569 (2016) (noting the trend where “[t]he consumer legal system is evolving toward a similar reliance on reputation-based governance mechanisms”). On the problem of authority, see MICHAEL HUEMER, *THE PROBLEM OF POLITICAL AUTHORITY* 100 (2013) (arguing that courts have a limited role and “may not go on to coercively impose paternalistic or moralistic laws”); see also Charny, *supra* note 47, at 1845–47 (highlighting the centralization inherent to informal systems of ordering); Duncan Kennedy, *The Role of Law in Economic Thought: Essays on the Fetishism of Commodities*, 34 AM. U. L. REV. 939, 944–49 (1985) (critiquing the tendency to see the market as natural and state interventions as artifice).

49. See sources cited *supra* note 5.

50. See Bar-Gill, *supra* note 5, at 749–54; Richard A. Epstein, *The Neoclassical Economics of Consumer Contracts*, 52 MINN. L. REV. 803, 803–10 (2003).

51. See Bar-Gill, *supra* note 5, at 749–54; Epstein, *supra* note 50, at 808–10.

52. Epstein, *supra* note 5, at 111.

53. *Id.*

54. Epstein, *supra* note 50, at 811.

55. Bar-Gill, *supra* note 5, at 756 (“[Epstein] forcefully argues that mistakes with respect to the value of a standardized product are unlikely to persist in the marketplace. But not all products are standardized. . . . With a non-standardized good, the information obtained by one consumer might not be relevant to another consumer who purchased a different version of the nonstandard good.”).

56. *Id.* at 793–94.

other background pressures, can be sufficiently potent to curb opportunistic behavior. Hence, contract and consumer law need not worry about intervening in areas where product reputation is abundant.<sup>57</sup> Similar attitudes were expressed by other leading figures in the field and in the context of torts, occupational licensing, and even drug regulation.<sup>58</sup> As shall become clear, the existence of reputation failures undermines this view.

*B. The Supposed Reliability of Reputation in Legal Thought*

These debates highlight the centrality of the belief that reputation is an effective, dependable, credible, and reliable regulator.<sup>59</sup> Advocates argue that the loss of reputation is immediate, independent of lengthy and uncertain trials, and stems from the interactions of the parties themselves.<sup>60</sup> Additionally, reputation allows parties to tap into assets that the legal system cannot reach.<sup>61</sup> For these reasons, advocates believe that what the law does slowly and inaccurately, reputation can do quickly and precisely.<sup>62</sup>

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57. See Schwartz & Scott, *supra* note 5, at 557; see also Robert A. Hillman & Jeffrey J. Rachlinski, *Standard-Form Contracting in the Electronic Age*, 77 N.Y.U. L. REV. 429, 441 (2002) (arguing that reputational pressures restrain firms from enforcing some exploitative terms in standard-forms contracts).

58. See *supra* sources cited note 5.

59. See Klein, *supra* note 8, at 2 (noting that reputation enforcement does not involve coercion); Barak D. Richman, *Norms and Law: Putting the Horse Before the Cart*, 62 DUKE L.J. 739, 740 (2012) (“Among the most salient features of modern courts are that they are expensive, slow, and inaccurate.”); see also Scott Baker & Albert H. Choi, *Reputation and Litigation: Why Costly Legal Sanctions Can Work Better Than Reputational Sanctions*, (Va. Law & Econ., Research Paper No. 2013-02, 2013).

60. See Richman, *supra* note 38, at 2335.

61. *Id.* at 2332 (explaining that efficient enforcement is more important than efficient administration in explaining why merchant communities prefer private ordering to contractual enforcement).

62. See, e.g., John Barton, *The Economic Basis of Damages for Breach of Contract*, 1 J. LEGAL STUD. 277, 277 (1972); Lisa Bernstein, *Private Commercial Law in the Cotton Industry: Creating Cooperation Through Rules, Norms, and Institutions*, 99 MICH. L. REV. 1724, 1725 (2001) (arguing that the informal order at the cotton industry “work[s] extraordinarily well,” that this system resolves disputes “expeditiously and inexpensively,” and that arbitration awards “are widely respected and complied with promptly”); Juan Jose Ganuza, Fernando Gomez & Marta Robles, *Product Liability versus Reputation*, 32 J.L. ECON. & ORG. 213, 213 (2016); Lawrence Lessig, *The New Chicago School*, 27 J. LEGAL STUD. 661, 665 (1998). For earlier examples of reputation advocates, see, e.g., Avner Greif, *Informal Contract Enforcement: Lessons from Medieval Trade*, in 2 THE NEW PALGRAVE DICTIONARY OF ECONOMICS AND THE LAW 287, 287–88 (Peter Newman ed., 1998); Janet T. Landa, *A Theory of the Ethnically Homogeneous Middleman Group: An Institutional Alternative to Contract Law*, 10 J. LEGAL STUD. 349, 349 (1981).

As central as reputation is to these debates, it is perplexing to see how little attention is given to reputation's nature.<sup>63</sup> Instead, the literature mostly relies on a simplistic "emergentist" view of reputation that ignores all questions of how reputation comes to be.<sup>64</sup> The reputation of goods and services is described as simply emerging from complex market interactions.<sup>65</sup> A seller sells a widget and once enough consumers purchase and use it, the widget "automatically" gains a reputation for quality.<sup>66</sup> Somehow, reputation emerges. From where? How? By whom? These issues are hardly ever addressed. Instead, reputation is taken to be, as Shapira pointedly notes, "[a] frictionless, uncomplicated process in which individuals somehow get access to information."<sup>67</sup>

It is hard to overstate just how common it is for people to perceive that reputation is reliable and how much this perception influences policy. Take, for example, economic models of market transactions; there, it is common to assume that "[t]he moment that a person cheats, it becomes common knowledge that the person lacks integrity, and hence there is no cooperation for the rest of the game."<sup>68</sup> In the foundational Klein-Leffler model of reputation, consumers are explicitly assumed to "costlessly communicate [quality information] among one another."<sup>69</sup> Such spontaneous reputational information is then thought to propagate "throughout the community without

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63. LAWRENCE MCNAMARA, REPUTATION AND DEFAMATION 19 (2007) ("[O]nly a few works are concerned with the nature of reputation."); Laura A. Heymann, *The Law of Reputation and the Interest of the Audience*, 52 B.C. L. REV. 1341, 1345 (2011); Robert C. Post, *The Social Foundations of Defamation Law: Reputation and the Constitution*, 74 CALIF. L. REV. 691, 692 (1986) (describing reputation as a "mysterious thing").

64. A view is emergentist if it identifies a phenomenon only at the complex level. For example, the quality of "saltiness" does not describe the taste of chlorine or sodium, yet their combination creates a salty ionic compound; a grain of sand has no "pileness" to it, but once enough grains are collected, a pile emerges; or, more contentiously, no neuron has self-awareness, yet their collection seems to cause conscience. This omission is hardly unique to law; for a recent example in other fields, see Wenqi Shen et al., *Competing for Attention: An Empirical Study of Online Reviewers' Strategic Behavior*, 39 MGMT. INFO. SYS. Q. 683, 684 (2015) ("[M]ost of the existing literature has overlooked the question of how online reviewers are incentivized to write reviews.").

65. For a review of legal conceptions of reputation, see Post, *supra* note 63, at 691.

66. See Richman, *supra* note 59, at 750.

67. Shapira, *supra* note 25, at 1203.

68. W. Bentley MacLeod, *Reputations, Relationships and the Enforcement of Incomplete Contracts* 31 (Ctr. for Econ. Studies & Ifo Inst. for Econ. Research, Working Paper No. 1730, 2006); see also Lewis A. Kornhauser, *Reliance, Reputation, and Breach of Contract*, 26 J.L. & ECON. 691, 697 (1983) (depicting an ideal model of reputation where "buyers have perfect knowledge of the seller's performance rate").

69. Klein & Leffler, *supra* note 47, at 617. They do admit the possibility of imperfect recall of reputational information. *Id.*

institutional help.”<sup>70</sup> In legal scholarship, this conception arises most clearly in defamation law jurisprudence where reputation is thought of as a right—natural, static, or inherent, like property or dignity—that comes into being by immaculate conception and must be “protected” against those who seek to besmirch it.<sup>71</sup>

Some scholars have started to recognize cracks in the traditional paradigm.<sup>72</sup> As they note, reputational information may be costly to obtain, noisy,<sup>73</sup> distorted by the incentives of intermediaries,<sup>74</sup> or ineffectual (if, for example, a sellers’ presence in the market is short-lived).<sup>75</sup> Economists Paul Milgrom and John Roberts focus on the difficulty of creating reputation when opportunistic behavior is hard to detect.<sup>76</sup> Similarly, Professor Alan Schwartz notes the potential costs of reputation, explaining that “the innocent party [to a failed transaction] will incur costs in informing others that it was not at fault, and third parties will incur costs learning about which of the contract parties is unreliable.”<sup>77</sup> Finally, Professor Bar-Gill emphasizes the possibility that in some markets there will be an insufficient volume of reputational information.<sup>78</sup> Still, even admitting reputation’s potential noise does not amount to a claim that recognizes the inherent systematic distortion of reputational information.<sup>79</sup> Rather, the noise is thought to disappear, as new information accumulates and “increases the diagnosticity” and persuasiveness of reputation.<sup>80</sup> Moreover, these are exceptions. The dominant view in the policy and scholarship is still very much emergentist, expressing great trust in the reliability of reputation.

The emergentist view is problematic for several reasons, not the least of which is its lack of any theoretical underpinnings that explain when—and when not—reputation will come to be. Why is

70. See Richman, *supra* note 59, at 750.

71. See Post, *supra* note 63, at 692; Yonathan Arbel & Murat Mungan, *The Uneasy Case for Expanding Defamation Law*, 71 ALA. L. REV. (forthcoming 2019) (arguing that audiences are actively involved in assigning meaning to statements and that defamation law might exacerbate the harmful effect of lies).

72. Some notable examples include Goldman, *supra* note 9; Stemler, *supra* note 4; Van Loo, *supra* note 48, at 583 (noting the existence of potential informational market failures due to manipulations of consumer reviews).

73. See Alan Schwartz, *The Enforcement of Contracts and the Role of the State*, in LEGAL ORDERINGS AND ECONOMIC INSTITUTIONS 105, 105 (Fabrizio Cafaggi et al. eds., 2007) (“Reputation is a noisy signal.”).

74. See Shapira, *supra* note 25, at 1219.

75. See Douglas W. Diamond, *Reputation Acquisition in Debt Markets*, 97 J. POL. ECON. 828, 829 (1989).

76. PAUL MILGROM & JOHN ROBERTS, *ECONOMICS, ORGANIZATION, AND MANAGEMENT* 265 (1992).

77. See Schwartz, *supra* note 73, at 105.

78. See Bar-Gill, *supra* note 5, at 756.

79. See, e.g., MILGROM & ROBERTS, *supra* note 76, at 259–67.

80. Adwait Khare et al., *The Assimilative and Contrastive Effects of Word-of-Mouth Volume: An Experimental Examination of Online Consumer Ratings*, 87 J. RETAILING 111, 112 (2011).

information about some products abundant whereas information for other products is sparse? Another problem is that many jurists have come to think of reputation as a right that *belongs* to individuals,<sup>81</sup> rather than the byproducts of dynamic social processes.<sup>82</sup> As a result, much of the discussion about reputation neglects its social value.<sup>83</sup> But most disconcerting is the implication that reputation is generally reliable—that it fairly describes the quality of the underlying good without systematic bias. After all, if reputation simply emerges, there is no process by which it will be “tainted.” Thus, the proposition that reputation can be unreliable cuts at heart, nerve, and sinew of these influential works.

### III. REPUTATION FAILURE: MICROFOUNDATIONS, DISTORTIONS, AND SOCIAL WELFARE

When my neighbor complained that his newly purchased lawn mower was shoddy, he created reputational information.<sup>84</sup> When user “daniel” wrote on Amazon that a play tent has “the stability of a house of cards,” he or she created reputational information.<sup>85</sup> When musician Dave Carroll uploaded his song “United Breaks Guitars” to YouTube, he created reputational information, and powerful information at that: United’s stock price fell ten cents, representing a market cap loss of \$180 million.<sup>86</sup>

Reputation is information. It is a kind of statistical information which helps consumers predict their own experiences based on the

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81. See, e.g., Joseph Blocher, *Reputation as Property in Virtual Economies*, 118 YALE L.J. POCKET PART 120, 120 (2009), <https://www.yalelawjournal.org/forum/reputation-as-property-in-virtual-economies> (“[R]eputation is not merely valuable; it is the new New Property.”). Moreover, many disagreed with the Supreme Court’s decision in *Paul v. Davis*, 424 U.S. 693, 694 (1976) (holding that harm to reputation, by itself, is not deprivation of liberty or property for Fourteenth Amendment purposes). See Eric J. Mitnick, *Procedural Due Process and Reputation Harm: Liberty as Self-Invention*, 43 U.C. DAVIS L. REV. 79, 89–97 (2009); see also *Marrero v. City of Hialeah*, 625 F.2d 499, 514 (5th Cir. 1980) (concerning a Florida law that considers business reputation a property interest).

82. See POSNER, *supra* note 47, at 252–53 (1981) (“It makes no sense to treat reputation as a ‘right.’ Reputation is what others think of us.”).

83. See Heymann, *supra* note 63, at 1342.

84. See Nick Emler, *Gossip, Reputation, and Social Adaptation*, in GOOD GOSSIP 135 (R. F. Goodman & A. Ben-Ze’ev eds., 1994) (“Reputations do not exist except in the conversations that people have about one another.”).

85. daniel, Customer Review of “AMASKY tm Large Space Children Game Play Tent,” AMAZON (Apr. 20, 2016), [https://www.amazon.com/gp/customer-reviews/R373NHZZ854AU4/ref=cm\\_cr\\_arp\\_d\\_rvw\\_ttl?ie=UTF8&ASIN=B00YBTFY52](https://www.amazon.com/gp/customer-reviews/R373NHZZ854AU4/ref=cm_cr_arp_d_rvw_ttl?ie=UTF8&ASIN=B00YBTFY52).

86. See Chris Ayres, *Revenge is Best Served Cold – on YouTube*, TIMES (London) (July 22, 2009, 1:00 AM), <https://www.thetimes.co.uk/article/revenge-is-best-served-cold-on-youtube-2dhbsh6jtp5>; Gulliver, *Did Dave Carroll Lose United Airlines \$180m?*, ECONOMIST (July 24, 2009), <https://www.economist.com/gulliver/2009/07/24/did-dave-carroll-lose-united-airlines-180m>.

distribution and valence of experiences of past consumers.<sup>87</sup> As such, reputational information is like a poll. But as the examples highlight, this kind of information does not simply emerge; rather, it is the fruit of deliberate action by disparate individuals who decide to take time and effort to share reviews, opinions, gossip, and other word-of-mouth information.

The most basic observation to make is that such peer-to-peer reputational information is a public good.<sup>88</sup> While everyone benefits from having this public resource, producers of reputational information are not directly compensated for their contributions. Private costs and public benefits are a recipe for the well-known free-rider problem—like national defense, clean air, and a vaccinated society—where there is a constant concern with overconsumption and undersupply.<sup>89</sup>

Once reputation is seen as public good, a deep puzzle is exposed: What motivates individuals to share reputational information? Who does so? And, critically, to what effect?<sup>90</sup>

This Part explores these “microfoundations” of reputation and their consequences. It shows how people share experiences for reasons that are mostly private and self-serving.<sup>91</sup> As a result, future consumers are often exposed to a highly unrepresentative and biased sample of limited credibility. Inferences drawn from such samples can be highly misleading, even for those consumers who are aware of them and try to account for them. As data scientists would say: Bias in, bias out.<sup>92</sup>

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87. See Goldman, *supra* note 9, at 294; Shapira, *supra* note 25, at 1201.

88. See Cowen, *supra* note 7. Once reputational information exists, it is hard to prevent people from using it (i.e., it is non-excludability); nor does use of this resource diminish it (i.e., it is non-rivalry). See Larry Downes, *The Economics of Information: From Dismal Science to Strange Tales*, in *THE NEXT DIGITAL DECADE* 273, 277–78 (Berin Szoka & Adam Marcus eds., 2010). Professional publications solve these problems by commoditizing the information they produce, which is subject to copyright and other protections. See, e.g., N.Y. GEN. BUS. LAW § 397 (McKinney 1961) (prohibiting the unconsented use of nonprofits’ test results by nonprofits).

89. Today, reputational platforms reap most of the benefit of reputation aggregation, but reputation’s direct producers receive very little reward. These issues are sometimes conceptualized as a tragedy of the commons. See Garrett Hardin, *The Tragedy of the Commons*, 162 *SCI. MAG.* 1243, 1243–48 (1968).

90. By and large, legal scholars have glossed over this question. One notable exception is Robert D. Cooter, *Decentralized Law for A Complex Economy: The Structural Approach to Adjudicating the New Law Merchant*, 144 *U. PA. L. REV.* 1643, 1669 (1996) (arguing that individuals disseminate reputational information due to an internalized social norm).

91. For an exploration of consumer activism in the marketplace, see Yonathan A. Arbel & Roy Shapira, *Consumer Activism: From the Informed Minority to the Crusading Minority*, *DEPAUL L. REV.* (forthcoming 2019) and Arbel & Shapira, *supra* note 2.

92. Sandra G. Mayson, *Bias In, Bias Out*, 128 *YALE L.J.* 2218, 2224 (2019).

A. *The Microfoundations of Reputation*

1. *The Costs of Gossip*

Creating and sharing reputational information involves effort, time, and, in some cases, the risk of legal liability. “Bianca S.” must have spent the better part of her lunch break writing a 143-word review of a cleaning service attached alongside six photos of her home.<sup>93</sup> One anonymous Amazon user probably spent at least a few minutes writing a 291-word review of his experiences with Kevlar gloves,<sup>94</sup> and “The Amazing Lucas” in all likelihood spent a few hours creating and editing a seven-minute review of the movie *It*.<sup>95</sup> Not only is creating reviews time consuming, it is also sometimes emotionally difficult to say negative things about others.<sup>96</sup> Beyond these costs, as will be elaborated below, there is a growing tendency among some service providers to sue consumers for negative reviews, using factual inaccuracies and misstatements to ground their lawsuits.<sup>97</sup> Such lawsuits can involve months of litigation, a serious disruption, and—in some rare cases—large judgments.<sup>98</sup>

These broadly-defined costs suggest that there must be countervailing motivations to produce reputational information, or else people—as distinct from sellers, advertisers, and affiliates—will not generate reputational information. Citing the utility of reputation to the operation and efficiency of the market, as well as the welfare of future consumers, is insufficient as these are *public* benefits.<sup>99</sup> What needs to be determined, then, are the specific *private* benefits—what the sharing individual gets from incurring these costs.

2. *Internal Drives: On Spite and Gratitude*

Starting in the 1960s, psychologists began investigating the psychological drives impelling individuals to participate in

93. Bianca S., Customer Review of “Joanna Cleaning Service,” YELP (July 15, 2016), <https://www.yelp.com/biz/joanna-cleaning-service-brooklyn-2?hrid=XjR0XP21gLXqvOoHH99vEA>.

94. PsychSchematics, Customer Review of “SINNAYEO- Kevlar Cat Bird Dog Reptile Barbecue, Grill, hearth Leather Gloves Animal Handling Gloves,” AMAZON (Mar. 4, 2017), <https://www.amazon.com/gp/review/R2ZUV15SLM6H0M>.

95. The Amazing Lucas, *it movie 2017 review WHY THIS MOVIE IS BAD*, YOUTUBE (Sept. 12, 2017), <https://www.youtube.com/watch?v=PEKLB9j6-nY>.

96. Many religions prohibit calumny and detraction. *See, e.g.*, Joseph Delany, *Detraction*, in 4 THE CATHOLIC ENCYCLOPEDIA 757, 757–58 (Charles G. Herbermann et al. eds., 1908); YISRAEL MEIR KAGAN, SEFER CHAFETZ CHAYIM (Yedidya Levy trans., 2008).

97. *See infra* Subpart IV.B.5.

98. *See* Steven Tadelis, *Reputation and Feedback Systems in Online Platform Markets*, 8 ANN. REV. ECON. 321 (2016).

99. *See* Jeffrey L. Harrison, *A Positive Externalities Approach to Copyright Law*, 13 J. INTEL. PROP. L. 1, 8–10 (2012).

word-of-mouth activity.<sup>100</sup> In an influential paper, psychologist Ernest Dichter highlighted four internal motivations: self-centered perceptions, quality of experience, altruistic motivations, and message involvement.<sup>101</sup> In the presence of these factors, individuals would be motivated to create and share reputational information.<sup>102</sup> Over time, however, this theory encountered difficulties. Most problematic were the empirical findings that consumers are more likely to share reputational information when they had a favorable experience.<sup>103</sup> Yet other evidence showed the exact opposite: dissatisfaction yields greater propensity to share.<sup>104</sup> In 1998, business professor Eugene Anderson reconciled these findings by explaining that the underlying issue is the extremity of experience rather than its valence.<sup>105</sup> Further, current work in psychology explains the creation of favorable and negative reviews as a distinct activity motivated by different internal impetus. For example, D.S. Sundaram et al. argued that positive word-of-mouth results from altruism,<sup>106</sup> product involvement, self-enhancement, and a desire to help the company, whereas negative word-of-mouth is due to anxiety reduction, vengeance, altruism, and advice-seeking purposes.<sup>107</sup>

Critically, these internal drivers are related to the quality of the experience. The standard Expectation Disconfirmation Theory holds that the gap between expectation and reality creates a sense of

100. The propensity to help others, as well as the idea that one must “retaliate” against wrongs and “reward” generosity, has strong roots in evolutionary psychology and social norms. See ELINOR OSTROM, TRUST AND RECIPROcity: INTERDISCIPLINARY LESSONS FOR EXPERIMENTAL RESEARCH 41–44 (2003); Yonathan A. Arbel & Yotam Kaplan, *Tort Reform Through the Back Door: A Critique of Law and Apologies*, 90 S. CAL. L. REV. 1199, 1212 n.60 (2017); see also Jeffrey L. Harrison, *Spite: Legal and Social Implications*, 22 LEWIS & CLARK L. REV. 991, 993 (2018) (“[P]erhaps actions that appear spiteful are actually not self-regarding but have deontological significance in that the detractor acts out of sense of duty.”).

101. Ernest Dichter, *How Word-of-Mouth Advertising Works*, 44 HARV. BUS. REV. 147, 148 (1966); see also Kyung Hyan Yoo & Ulrike Gretzel, *What Motivates Consumers to Write Online Travel Reviews?*, 10 INFO. TECH. & TOURISM 283, 286 (2008) (discussing motivations).

102. See Yoo & Gretzel, *supra* note 101, at 286–88.

103. See John H. Holmes & John D. Lett, Jr., *Product Sampling and Word of Mouth*, 17 J. ADVERT. RES. 35, 36 (1977).

104. See Marsha L. Richins, *Negative Word-of-Mouth by Dissatisfied Consumers: A Pilot Study*, 47 J. MARKETING 68, 76 (1983).

105. See Eugene W. Anderson, *Customer Satisfaction and Word of Mouth*, 1 J. SERV. RES. 5, 11 (1998).

106. One oddity with altruistic motivations is that consumers tend to review products that were already extensively reviewed despite the low information value of such reviews. See Jonathan Lafky, *Why Do People Rate? Theory and Evidence on Online Ratings*, 87 GAMES & ECON. BEHAV. 554, 567 (2014); Fang Wu & Bernardo A. Huberman, *Opinion Formation Under Costly Expression*, 1 ACM TRANSACTIONS ON INTELLIGENT SYS. & TECH. 1, 3 (2010).

107. See D.S. Sundaram et al., *Word-Of-Mouth Communications: A Motivational Analysis*, 25 ADVANCES IN CONSUMER RES. 527, 527–28 (1998).

disequilibrium in the consumer that manifests as feelings of spite or gratitude that motivate action.<sup>108</sup> A recently developed, empirically successful variant of this theory is the tractable “brag and moan” model. This model stipulates that independent of expectations, extreme experiences would motivate individuals to share their opinions with others.<sup>109</sup> The problem is, however, that many if not most products and services are not extreme in the experiences they generate.<sup>110</sup> The theory holds that these tepid experiences will tend to be suppressed because they are “boring” and do not evoke any sense of spite or gratitude.<sup>111</sup> Empirical research strongly supports this prediction.<sup>112</sup>

### 3. *Social Pressures and Herd Behavior*

Aristotle was not wrong: man is a social animal. As such, we are in some sense “programmed” to cooperate, reciprocate, and engage in social behavior.<sup>113</sup> It is no coincidence that reputation-creating activities stand at the center of so many social activities.<sup>114</sup> In social gatherings, individuals gossip, share experiences, and impart opinions with other members of the social community.<sup>115</sup> Such activities have a clear social function. When transgressors violate community norms, gossip and related activities allow members of the community to learn of the violation and take concerted social action against the transgressor, such as avoidance, disrespect, and in extreme cases, shunning and excommunication.<sup>116</sup> Fearing this,

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108. See William O. Bearden & Jesse E. Teel, *Selected Determinants of Consumer Satisfaction and Complaint Reports*, 20 J. MARKETING RES. 21, 21–27 (1983).

109. Nan Hu et al., *Can Online Reviews Reveal a Product’s True Quality? Empirical Findings and Analytical Modeling of Online Word-of-Mouth Communication*, EC’06 PROC. 7TH ACM CONF. ELECTRONIC COM. 324, 327 (2006) (attempting to discern whether consumer spite (or gratitude) is premised on a desire to punish the seller or to warn future buyers failed to reach any clear conclusions); Lafky, *supra* note 106, at 563.

110. Lafky, *supra* note 106, at 556–57.

111. *Id.*

112. See *infra* Subpart II.A.

113. See, e.g., OSTROM, *supra* note 100, at 28 (summarizing experimental studies showing human tendency to reciprocate at the expense of self-interest).

114. See, e.g., Nicholas Emler, *Gossip, Reputation, and Social Adaptation*, in GOOD GOSSIP 117, 117 (Robert F. Goodman & A. Ben-Ze’ev eds., 1994) (exploring the role of gossip).

115. See Jonah Berger, *Word of Mouth and Interpersonal Communication: A Review and Directions for Future Research*, 24 J. CONSUMER PSYCHOL. 586, 588–90 (2014) (arguing that word-of-mouth activities are means to a variety of social ends, such as self-enhancing one’s image, signaling a positive identity, and filling conversational space).

116. See, e.g., ROBERT C. ELLICKSON, ORDER WITHOUT LAW: HOW NEIGHBORS SETTLE DISPUTES 130 (1991).

community members feel a strong pressure to conform, thus maintaining social norms.<sup>117</sup>

The standard view of social pressures fails to consider the many ways that social forces can also undermine cooperation.<sup>118</sup> If a seller misbehaves in a market, it is important that buyers share this information. But proper socialization often consists of masking one's true feelings, forgiving slights, and avoiding offending others even at the cost of distorting reality (i.e., "white lies"). Forgiveness and charity can play a negative role by leading consumers to avoid pursuing action.<sup>119</sup> Even reciprocity can be problematic, as discovered inadvertently by eBay's engineers.<sup>120</sup> In one iteration, buyers and sellers could rate each other after every transaction.<sup>121</sup> This led reviewers to post (artificially) favorable reviews in the hope that their counterparts will positively review them.<sup>122</sup> Consumers explained their behavior as being motivated by fear of retaliation: "[I]f I left a bad review, I might be afraid of being retaliated against."<sup>123</sup> A similar issue arises with Uber and Lyft, where both drivers and passengers rate each other.<sup>124</sup> In addition, individuals often mask their opinions due to the Social Desirability Bias,<sup>125</sup> the pressure to strategically project socially acceptable opinions.<sup>126</sup> A hijab-wearing interviewer would hear more women reporting themselves as religious than an unveiled one.<sup>127</sup> Similarly, this bias often leads people to misreport tax compliance, porn consumption, homosexual

117. *Id.* at 57.

118. This conversion—of how social tendencies undermine cooperation—is similar to Adam Smith's conversion—the idea that selfish behavior can promote cooperation. SMITH, *supra* note 1, at 326–27.

119. *See* Arbel & Shapira, *supra* note 2 (discussing findings showing that most consumers avoid reacting to seller failure).

120. *See* Chrysanthos Dellarocas et al., *Self-Interest, Reciprocity, and Participation in Online Reputation Systems* 3 (MIT Sloan, Working Paper No. 4500-04, 2004).

121. *Id.*

122. *Id.* at 1.

123. *See* FTC, *supra* note 47, at 42; Edelman & Geradin, *supra* note 4, at 316 ("Some users seem to fear retaliation through a review platform."); *see also* 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, 38 (2015).

124. *See, e.g.*, SAUL KASSIN ET AL., *SOCIAL PSYCHOLOGY* 285 (10th ed. 2017) (discussing the role of reciprocity with respect to reviews); Stemler, *supra* note 4, at 692 (discussing the effects of reciprocity in the sharing economy).

125. *See* Maryon F. King & Gordon C. Bruner, *Social Desirability Bias: A Neglected Aspect of Validity Testing*, 17 *PSYCHOL. & MARKETING* 79, 82 (2000) ("Today, [Social Desirability Bias] is considered to be one of the most common and pervasive sources of bias affecting the validity of experimental and survey research findings in psychology.").

126. *See* Lisa Blaydes & Rachel M. Gillum, *Religiosity-of-Interviewer Effects: Assessing the Impact of Veiled Enumerators on Survey Response in Egypt*, 6 *POL. & RELIGION* 459, 462 (2013).

127. *Id.* at 476.

activities, recycling, and charity.<sup>128</sup> It is hard to overstate the tendency of individuals to misstate opinions given this bias.<sup>129</sup>

Social pressures often result in individuals herding around popular opinions.<sup>130</sup> Herding is the convergence of opinions, a phenomenon very familiar in public debates, whereby participants “often shift their public statements in accordance with reputational incentives.”<sup>131</sup> Herding is also well documented in the context of reviews.<sup>132</sup> Experiments by University of Washington Professor Ann Schlosser found that exposing subjects to past negative reviews increases the likelihood that the subject will also voice a negative review.<sup>133</sup> Similarly, reviews for popular movies tend to lump around leading opinions.<sup>134</sup> Interestingly, some individuals exhibit an antiherding behavior whereby they strategically express nonconforming opinions, possibly in an attempt to lead the herd.<sup>135</sup> While it is hard to assess the overall effect of social motivations in the abstract, the effect seems large. As marketing professors Wendy Moe and David Schwiedel concluded: “[A] vocal subset of the customer base may dominate the ratings environment, consequently steering the subsequently posted evaluations and deterring some customers from contributing to the environments.”<sup>136</sup>

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128. See Samuel Himmelfarb & Carl Lickteig, *Social Desirability and the Randomized Response Technique*, 43 J. PERSONALITY & SOC. PSYCHOL. 710, 710–17 (1982) (reviewing empirical findings).

129. See King & Bruner, *supra* note 125, at 82.

130. See Timur Kuran & Cass R. Sunstein, *Availability Cascades and Risk Regulation*, 51 STAN. L. REV. 683, 727–30 (1999); Maria del Mar Rueda et al., *Use of Randomized Response Techniques When Data Are Obtained from Two Frames*, 9 APPLIED MATHEMATICS & INFO. SCI. 389, 389 (2015). Social motivations are complex and their effects can go in many different directions, including antiherding, as in Radu Jurca et al., *Reporting Incentives and Biases in Online Review Forums*, 4 ACM TRANSACTIONS ON WEB 1, 1–3, 14, 20, 21, 22, 25 (2010).

131. Cass R. Sunstein, *Deliberative Trouble? Why Groups Go to Extremes*, 110 YALE L.J. 71, 78 (2000).

132. See Stemler, *supra* note 4, at 693–94 (discussing evidence of herding in online reviews).

133. See Ann E. Schlosser, *Posting Versus Lurking: Communicating in a Multiple Audience Context*, 32 J. CONSUMER RES. 260, 264 (2005) (“[R]eading a negative review triggers posters’ concerns with the social outcomes of their public evaluations, thereby causing them to lower their public ratings strategically.”).

134. See Young-Jin Lee et al., *Do I Follow My Friends or the Crowd? Information Cascades in Online Movie Ratings*, 61 MGMT. SCI. 2241, 2256 (2015).

135. Wendy W. Moe & David A. Schwiedel, *Online Product Opinions: Incidence, Evaluation, and Evolution*, 31 MARKETING SCI. 372, 383 (2012); Shen et al., *supra* note 64, at 689–90 (finding that raters choose to review less reviewed books in order to stand out and gain more attention where there are reviewer rankings systems).

136. Moe & Schwiedel, *supra* note 135, at 385. Similarly, others find that attention seeking is another important social motivator (where there are reviewer ranking systems). See Shen et al., *supra* note 64, at 685. Additionally, maintaining an online social identity (rather than anonymity) was found to lead to more quality content. Zhongmin Wang, *Anonymity, Social Image, and the*

#### 4. *Material Incentives: Shilling and Cherry-Picking*

Material rewards are the most direct form of incentivizing individuals to share reputational information. The familiar version of that is “shilling,” also known as “fake reviews” or “astroturfing,” which involves the provision of payments in exchange for (unfounded) positive reviews.<sup>137</sup> Shilling is reported to be quite common, with some estimating that as much as 30 percent of online reviews are fake.<sup>138</sup> In 2013, for example, Samsung was fined \$340,000 because it paid for fake reviews—both positive reviews for their own products and negative reviews for their competitors.<sup>139</sup> Various websites offer full reimbursement of the purchase of certain products in exchange for positive reviews, which are then reported by the unwitting platforms as being made by “verified users.”<sup>140</sup> Firms also use negative rewards, i.e., sanctions, to deter consumers from sharing negative reviews.<sup>141</sup> Until the recent passing of the Consumer Review Fairness Act, and perhaps continuing despite the law, firms would include nondisparagement clauses in contracts with consumers.<sup>142</sup> In addition, firms sometimes threaten consumers with legal action for defamation or use copyright law to argue that a review infringes on

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*Competition for Volunteers: A Case Study of the Online Market for Reviews*, 10 B.E. J. ECON. ANALYSIS & POL'Y 1, 1–31 (2010).

137. See generally FTC, *supra* note 47, at 41–42 (reviewing evidence on shilling and reporting some attempts by reputation platforms to curb shilling); Kaitlin A. Dohse, *Fabricating Feedback: Blurring the Line Between Brand Management and Bogus Reviews*, 2013 U. ILL. J.L. TECH. & POL'Y 363, 370–71 (reviewing some of the services that offer bogus reviews).

138. Nan Hu et al., *Manipulation of Online Reviews: An Analysis of Ratings, Readability, and Sentiments*, 52 DECISION SUPPORT SYS. 674, 681 (2012) (estimating fake reviews at 10 percent); Karen Weise, *A Lie Detector Test for Online Reviewers*, BLOOMBERG BUSINESSWEEK (Sept. 29, 2011, 6:09 PM), <https://www.bloomberg.com/news/articles/2011-09-29/a-lie-detector-test-for-online-reviewers>.

139. See Andreas Munzel, *Malicious Practice of Fake Reviews: Experimental Insight into the Potential of Contextual Indicators in Assisting Consumers to Detect Deceptive Opinion Spam*, 30 RECHERCHE & APPLICATIONS MARKETING 24, 41 (2015).

140. See, e.g., AMZDISCOVER, <https://www.amzdiscover.com/blog/best-100-amazon-review-groups-to-help-you-test-products/> (last visited Dec. 3, 2019); AMZRC, <https://amzrc.com/> (last visited Dec. 3, 2019). A more extensive list of websites like these is on record with the author.

141. Brad Tuttle, *Guess Who's Getting Some Pretty Awful Reviews: User Review Sites*, TIME (Sept. 21, 2013), <http://business.time.com/2013/09/21/guess-whos-getting-some-pretty-awful-reviews-user-review-sites/>.

142. Consumer Review Fairness Act of 2016, 15 U.S.C. § 45b(b)(1) (2012) (voiding standard form contracts that include anti-disparagement clauses). See Lucille M. Ponte, *Protecting Brand Image or Gaming the System? Consumer “Gag” Contracts in an Age of Crowdsourced Ratings and Reviews*, 7 WM. & MARY BUS. L. REV. 59, 59 (2016) (surveying the use of anti-disparagement clauses before the law).

their copyright and should be taken down.<sup>143</sup> Shilling strategies are highly diverse, sophisticated, and reportedly quite potent.<sup>144</sup>

A related but less understood problem is that of “cherry-picking.” Companies often selectively choose consumers who are most likely to disseminate either favorable or unfavorable information and reward them.<sup>145</sup> As is very familiar, businesses offer thinly veiled bribes to unhappy consumers in the form of reimbursements, free meals, or “heartfelt” apologies.<sup>146</sup> Celebrities and other influencers are also more likely to receive special treatment in the hope that they will share their (unrepresentative) experiences with their many followers.<sup>147</sup>

Both shilling and cherry-picking result from strategic behavior on behalf of firms. Both result in and emphasize more extreme opinions, at the extreme of middling ones.<sup>148</sup> This is because it would not pay to invest in promoting middling reviews.<sup>149</sup>

### B. *Reputational Distortions*

Placing reputation within a framework of individual rationality allows us to draw meaningful conclusions about the integrity, evolution, and credibility of reputational information.<sup>150</sup> Based on the

143. See *infra* Subpart IV.B.

144. See Dohse, *supra* note 137, at 370–71 (reviewing online shilling techniques and the services). For an updated list of shilling services and news, see *Opinion Spam Detection: Detecting Fake Reviews and Reviewers*, <https://www.cs.uic.edu/~liub/FBS/fake-reviews.html> (last visited Dec. 3, 2019).

145. See generally Shmuel L. Becher & Tal Z. Zarsky, *Minding the Gap*, 51 CONN. L. REV. 69, 90 (2018) (demonstrating how firms treat consumers based on the threat the consumers pose to the firms’ revenue).

146. See generally Arbel & Kaplan, *supra* note 100, at 1216 (exploring the corrosive effects of apologies on deterrence).

147. See Becher & Zarsky, *supra* note 145, at 90–91 (finding that firms often consider consumers’ “online influence over peers” when deciding how to handle complaints).

148. See, e.g., Miguel Helft, *Charges Settled over Fake Reviews on iTunes*, N.Y. TIMES (Aug. 26, 2010), <http://www.nytimes.com/2010/08/27/technology/27ftc.html> (discussing false reviews that “typically gave the games four or five stars”).

149. Astroturfing is a form of advertising, although a highly misleading one. For some economic dynamics of reputation and advertising, see Kyle Bagwell, *The Economic Analysis of Advertising*, in 3 HANDBOOK OF INDUSTRIAL ORGANIZATION 1701, 1703 (Mark Armstrong ed., 2007); Phillip Nelson, *Advertising as Information*, 82 J. POL. ECON. 729, 730 (1974); see also Lingfang (Ivy) Li et al., *Buying Reputation as a Signal of Quality: Evidence from an Online Marketplace 2* (Nat’l Bureau of Econ. Research, Working Paper No. 22584, 2016) (finding that quality sellers tended to participate more often in a program where they offer rebates for (all) reviews of their products).

150. Professor Abbey Stemler recently provided an insightful account of such biases in the context of the sharing economy where intimate interactions between peers occur often (such as sharing a stranger’s house or car). Stemler, *supra* note 4, at 674. Unlike her account, I focus on developing the microfoundations of reputation of consumer goods generally and explore how sophisticated, rational consumers would process flawed reputational information.

framework developed in the last Subpart, three systemic distortions will be expounded here, relating to participation, selection, and content biases. The implications for consumer action are explored in the following Part, but the overall arc of the argument is that in the presence of these distortions, a reputation failure emerges, which undermines the reliability of reputational information.

### 1. *Reputational Sluggishness*

Reputational sluggishness is the consequence of feeble, yet existing, motivations to contribute to the public good of reputation. On the one hand, reputation creators do not benefit financially from creating reputational information.<sup>151</sup> It is hard to commoditize opinions and the transaction costs of doing so are prohibitive.<sup>152</sup> On the other hand, there are drivers that incentivize individuals to create reputational information even in the absence of monetary compensation. Altruism, desire for social recognition, gratitude, and anger all provide reasons for people to create reputational information that benefits others.<sup>153</sup> Sluggishness emphasizes the concern that for many individuals, or in many circumstances, these benefits are insufficient. As a result, participation rates in reputation creation are going to be low, leading reputational information to be more slowly developed than is generally recognized.<sup>154</sup>

Empirical data, while wanting, suggests the broad scope of this issue. One study found a sharing rate of fifteen out of a thousand consumers.<sup>155</sup> More optimistic estimates suggest a rate of one in ten.<sup>156</sup> In my analysis of product review data from Amazon, I found that among electronics products with at least one review, the median product only had two reviews.<sup>157</sup> Moreover, few elect to write long

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151. Today, reputational platforms reap most of the benefit of reputation aggregation, but reputation's direct producers receive very little reward. *See also* Goldman, *supra* note 9, at 301.

152. Blockchain and cryptocurrencies may be promising solutions to such transactions as they offer—in theory—trivial transaction costs. In the future, it may be possible to commoditize opinions and employ a pay-per-use model.

153. *See* Lafky, *supra* note 106, at 555.

154. *See generally* Thomas R. Palfrey & Jeffrey E. Prisbrey, *Altruism, Reputation and Noise in Linear Public Goods Experiments*, 61 J. PUB. ECON. 409, 410 (1996) (explaining that “altruistic behavior is illusionary or, at best, of minor importance”).

155. Eric T. Anderson & Duncan I. Simester, *Reviews Without a Purchase: Low Ratings, Loyal Customers, and Deception*, 51 J. MARKETING RES. 249, 251 (2014).

156. *See, e.g.*, Andrew Thomas, *The Secret Ratio That Proves Why Customer Reviews Are So Important*, INC., <https://www.inc.com/andrew-thomas/the-hidden-ratio-that-could-make-or-break-your-company.html> (last visited Dec. 3, 2019) (explaining that only one in ten satisfied customers will leave a review).

157. The mean was considerably higher at sixteen; the result of a few products amassing many reviews. The analysis was based on data collected by Ruining He & Julian McAuley, *Ups and Downs: Modeling the Visual Evolution of Fashion*

verbal reviews.<sup>158</sup> Another indication comes from eBay. There, for every negative review there are *three times* as many complaints to customer service, which strongly indicates that many negative reviews are either not generated or are deleted.<sup>159</sup> In fact, this three to one ratio seems like a *lower* bound on the scope of suppression of opinions by users because it is reasonable that there would be many more negative reviews than there would be active complaints. A more speculative source of data, but interesting nonetheless, comes from the sanitation reputation of restaurants in Los Angeles. In a series of studies, researchers attempted to establish the effect of a law that required restaurants to disclose their sanitation ratings.<sup>160</sup> In a naïve model of reputation the impact of such a law on food-borne illnesses should be relatively small.<sup>161</sup> If a person contracts such an illness, then conditions are ripe for the word to travel fast: a food-borne illness is highly salient, it is moderately easy to establish its cause, and it is of great interest to prospective diners.<sup>162</sup> Then, mandatory disclosure of sanitation levels would then not be expected to have a significant effect on food-borne illness because the information would already exist throughout the market. Despite that, the study found that the law had a powerful effect, with a sharp decline in hospitalizations due to foodborne illnesses.<sup>163</sup> The law's effectiveness is amenable to a few explanations, but one is that the reputation system was too congested to work properly before the law—despite the ideal background conditions.

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*Trends with One-Class Collaborative Filtering*, U.C. SAN DIEGO JACOBS SCH. ENGINEERING, <http://cseweb.ucsd.edu/~jmcauley/pdfs/www16a.pdf>.

158. Most reviews on Amazon for electronics are in the range of one hundred-150 characters, or about half a paragraph. See Max Woolf, *A Statistical Analysis of 1.2 Million Amazon Reviews*, MAX WOOLF'S BLOG (June 17, 2014), <http://minimaxir.com/2014/06/reviewing-reviews/>.

159. See Nosko & Tadelis, *supra* note 4, at 9 (concluding “there are a substantial number of transactions that went badly for which negative feedback was not left”).

160. Ginger Zhe Jin & Phillip Leslie, *The Effect of Information on Product Quality: Evidence from Restaurant Hygiene Grade Cards*, 118 Q.J. ECON. 409, 410 (2003) [hereinafter Jin & Leslie, *Effect of Information*]; see also Ginger Zhe Jin & Phillip Leslie, *Reputational Incentives for Restaurant Hygiene*, 1 AM. ECON. J.: MICROECONOMICS 237, 238 (2009) [hereinafter Jin & Leslie, *Reputational Incentives*]; Paul A. Simon et al., *Impact of Restaurant Hygiene Grade Cards on Foodborne-Disease Hospitalizations in Los Angeles County*, 67 J. ENVTL. HEALTH 32, 32 (2005). The local health department collected these ratings long before restaurants were required to disclose them. Jin & Leslie, *Effect of Information*, *supra*, at 410; Jin & Leslie, *Reputational Incentives*, *supra*, at 238.

161. See Simon et al., *supra* note 160, at 32 (explaining that some studies have not found a connection between low department of health inspection scores and foodborne-disease outbreaks at restaurants).

162. See Jin & Leslie, *Reputational Incentives*, *supra* note 160, at 238 (“Local customers can learn about a restaurant’s hygiene quality by repeatedly patronizing the restaurant, by talking to friends who have patronized the restaurant, or through exposure to local news reports about the restaurant.”).

163. Jin & Leslie, *Effect of Information*, *supra* note 160, at 439–40.

## 2. *Regression to the Extreme*

So far, we saw that only *some* consumers would choose to produce reputational information, but this leaves the question of *who* those consumers are. If the sample of consumers who produce reputation is randomly selected, then we would expect the outliers to experience what statisticians call “regression to the mean,” i.e., the eventual balancing of outliers towards the mean of the group.<sup>164</sup> Indeed, the regression to the mean will be impeded by sluggishness, but there is the possibility of self-correction over time with a randomly selected sample. Unfortunately, the selection of consumers is all but random.

Regression to the extreme is the propensity of reputational data to emphasize, rather than eliminate, outlier experiences over time. Internal motivations select against middling reviews because those reviews are based on experiences that are too “boring” to generate the requisite sense of spite or gratitude that will overcome the costs of producing reputational information.<sup>165</sup> Additionally, reciprocity norms would lead consumers to overly represent positive experience, in hopes of receiving reciprocal reviews from sellers,<sup>166</sup> and herding would tend to silence nonpopular reviews that might betray the consumer’s lack of sophistication.<sup>167</sup> If a bottle of French wine receives paeans, an individual consumer may be embarrassed to reveal that she did not like it, noted no accents of “forest floor,” and was not seduced by its “interplay of plump grapes and jazzy oak.”<sup>168</sup> Lastly, financial incentives select against middling reviews because shilling and cherry-picking foster creation of extreme opinions. All these tendencies lead to “regression to the extreme”: the propensity of reputational data to emphasize, rather than eliminate, outlier experiences over time.<sup>169</sup>

Product reviews consistently provide strong evidence of regression to the extreme. One might expect that most products sold on the market would follow some generalized, bell-shaped (Gaussian) distribution—after all, very few products are really outstanding or truly atrocious. Instead, most reviews on a large variety of online platforms form a so-called “J-shaped distribution,” with most reviews

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164. Stephen M. Stigler, *Regression Towards the Mean, Historically Considered*, 6 STAT. METHODS MED. RES. 103, 103–05 (1997).

165. Nan Hu et al., *Overcoming the J-shaped Distribution of Product Reviews*, 52 COMM. ACM 144, 145 (2009).

166. See Stemler, *supra* note 4, at 692.

167. *Id.* at 693.

168. Wine Description of Lewis, Cabernet Sauvignon Napa Valley 2014, WINE SPECTATOR TOP 100, <http://top100.winespectator.com/wine/wine-no-1/>; Wine Description of Orin Swift, Machete California 2014, WINE SPECTATOR TOP 100, <http://top100.winespectator.com/wine/6-orin-swift/>.

169. See Hillel J. Bavli, *The Logic of Comparable-Case Guidance in the Determination of Awards for Pain and Suffering and Punitive Damages*, 85 U. CIN. L. REV. 1, 17 (2017).

amassed in the extremes.<sup>170</sup> On Amazon, more than 72 percent of the products have an *average* rating of at least four stars.<sup>171</sup> In Airbnb listings, the average rating is 4.7 stars.<sup>172</sup> Studies repeatedly find that middling reviews are rare and that even products with an average rating of two or three stars have only a few middling reviews.<sup>173</sup> Further evidence suggests this pattern is not unique to online settings but carries over to offline settings.<sup>174</sup> Figure 1 shows the distribution of 1.2 million electronic products listed on Amazon,<sup>175</sup> while Figure 2 shows a comparison of three specific products.<sup>176</sup>

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170. See, e.g., Chrysanthos Dellarocas & Ritu Narayan, *A Statistical Measure of a Population's Propensity to Engage in Post-Purchase Online Word-of-Mouth*, 21 STAT. SCI. 277, 279–80 (2006); Yi-Chun Ho et al., *Disconfirmation Effect on Online Rating Behavior: A Structural Analysis*, 28 INFO. SYS. RES. 626, 630 (2017); Hu et al., *supra* note 165, at 144–45 (detailing evidence from Amazon and arguing that the J shaped distribution “contradicts the law of ‘large numbers’ that would imply a normal distribution”); Hu et al., *supra* note 109, at 328 (finding that 54 percent of all products on Amazon have a review distribution that is neither normal or bimodal, and 35 percent have a unimodal, nonnormal distribution); Woolf, *supra* note 158.

171. See Wu & Huberman, *supra* note 106, at 3; Woolf, *supra* note 158.

172. See Zervas et al., *supra* note 15, at 3.

173. See Lafky, *supra* note 106, at 556.

174. See Eugene W. Anderson, *Customer Satisfaction and Word of Mouth*, 1 J. SERV. RES. 5, 6–7 (1998).

175. See Woolf, *supra* note 158.

176. *Amazon.com Customer Reviews: Culture War? The Myth of a Polarized America*, AMAZON, [www.bit.do/RBProd1](http://www.bit.do/RBProd1) (last visited Dec. 3, 2019); *Amazon.com Customer Reviews: \$20 PlayStation Store Gift Card [Digital Code]: Video Games*, AMAZON, [www.bit.do/RBProd2](http://www.bit.do/RBProd2) (last visited Dec. 3, 2019); *Amazon.com Customer Reviews: BIC Cristal For Her Ball Pen, 1.0, Black, 16ct*, AMAZON, [www.bit.do/RBProd3](http://www.bit.do/RBProd3) (last visited Aug. 28, 2019).

FIGURE 1. DISTRIBUTION OF RATINGS OF 1.2 MILLION ELECTRONIC PRODUCTS LISTED ON AMAZON

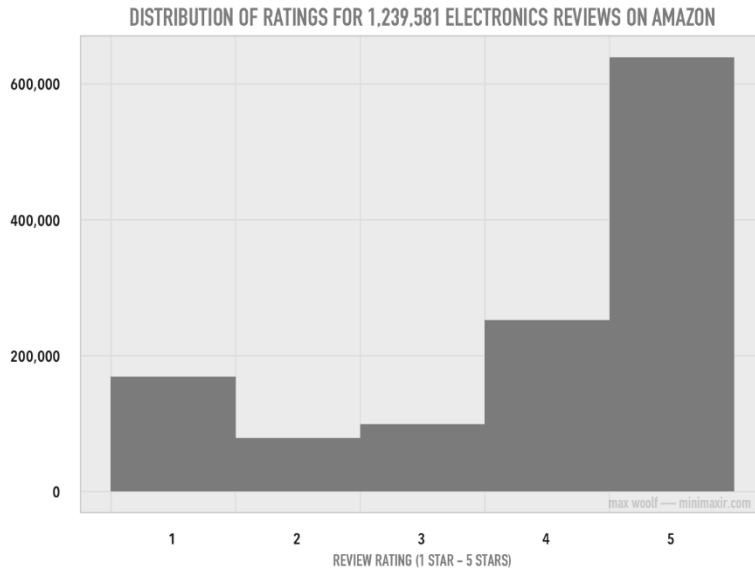
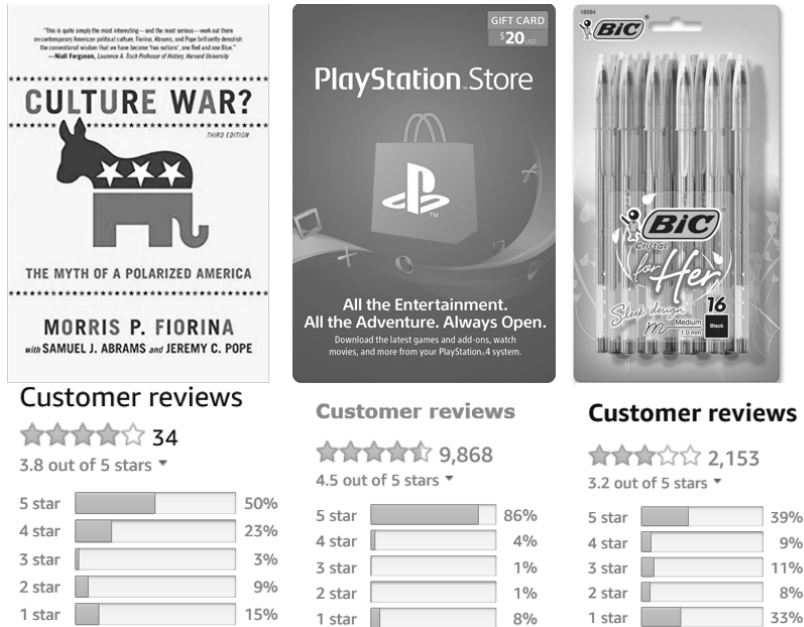


FIGURE 2. REVIEWS OF THREE SAMPLE PRODUCTS



Although the J-shaped distribution strongly supports the idea of regression to the extreme, alternative explanations should also be considered. One alternative is that market dynamics push low-quality products out of the market.<sup>177</sup> Because such pressures leave only high-quality products on the market, reviews would be (accurately) amassed in the right tail. While worthy of further investigation, this explanation appears unlikely for a number of reasons. Even if the products on the market are of high quality, there should still be some middling reviews,<sup>178</sup> and, in particular, there should be more middling reviews than negative reviews.<sup>179</sup> This explanation suggests that high ranking is indicative of quality, but in fact, rankings of identical products listed on different platforms are often negatively correlated, such that a high ranking of the same product in one place does not predict a high ranking elsewhere.<sup>180</sup>

A more general issue, and one that clouds other alternative explanations, is that voluntary consumer reviews systematically diverge from other types of evaluations. Across a variety of products, professional testing of the same products listed on consumer websites shows low correlation with consumer reviews.<sup>181</sup> Not only does the average quality differ, but a systematic difference in the *distribution* of opinions also exists. While consumers' reviews follow the noted J-distribution, professional reviews of the same products follow a bell-shaped distribution.<sup>182</sup> One can almost hear the exasperation in the voice of the researchers who concluded that "critics are more normal than normal users."<sup>183</sup> If professional reviewers are competent, one would expect a strong correlation between their judgments and consumer reviews; the lack of such correlations suggests that at least one of these sources of information is amiss. To test whether the professional reviewers are actually inaccurate, consider the following experiment. 218 participants, none of them a professional critic, were

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177. A related theory is that consumers select products that they will probably like and so it is expected that there will be a concentration of satisfied consumers. See Nilesh Dalvi et al., *Para 'normal' Activity: On the Distribution of Average Ratings*, 7 PROC. 7TH INT'L AAAI CONF. WEBLOGS & SOC. MEDIA 110, 111, 115 (2013). This theory, however, needs to explain why, in the absence of regression to the extreme, there are so few middling reviews, which are to be expected in light of possible consumer mistakes among similarly highly rated products.

178. See Hu et al., *supra* note 165, at 145–46.

179. See Stigler, *supra* note 164, at 104–05.

180. See de Langhe et al., *supra* note 14, at 826.

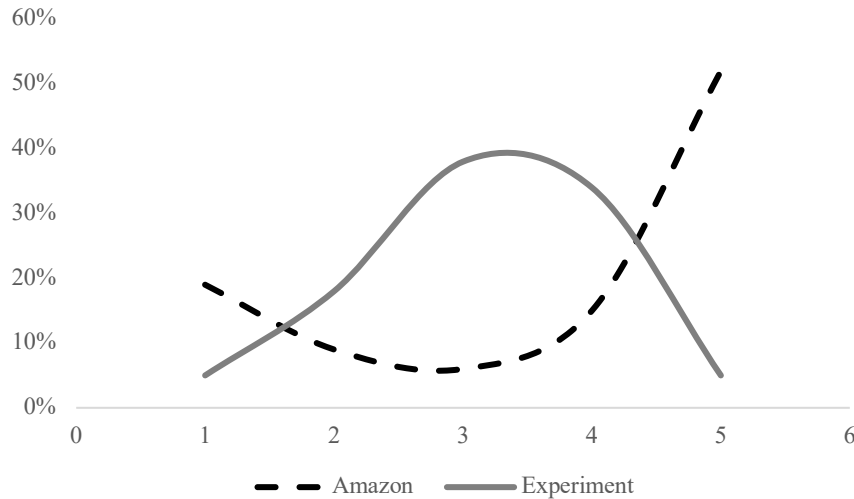
181. See generally Roberto Centeno et al., *On the Inaccuracy of Numerical Ratings: Dealing with Biased Opinions in Social Networks*, 17 INFO. SYS. FRONTIERS 809, 809 (2015) (discussing how reputation rankings within current social networks are likely skewed due to subjectivity issues); Dalvi et al., *supra* note 177 (discussing a theory that consumers select products that they will probably like, thus leading to concentrations of satisfied customers); de Langhe et al., *supra* note 14, at 818 (comparing online reviews to reviews of the same products in Consumer Reports).

182. See Centeno et al., *supra* note 181, at 811.

183. See Dalvi et al., *supra* note 177, at 114.

asked to review a product that—unbeknownst to them—was also listed on Amazon.<sup>184</sup> The experimental reviews followed the bell curve, unlike their Amazon counterparts, as illustrated in reproduced Figure 3 below:<sup>185</sup>

FIGURE 3. AMAZON REVIEWS VS. REVIEWS BY TEST PARTICIPANTS



### 3. Reputation Integrity

The last issue is the concern that even when consumers have an incentive to report experiences, they may face adverse incentives about the content of their reviews. For multiple reasons, individuals may misstate the quality of their own experience. Consider, for example, social pressures to conform, financial incentives, a desire to avoid confrontation, an endowment effect, personal style, and other similar considerations.<sup>186</sup> All of these may lead individuals to report their experiences more or less favorably than they actually were.

Threats to the integrity of reputational information are hard to measure through data itself, but there is evidence that exposure to the opinions of others will make others report more or less favorably about their own experiences. Sociologist Ronald Burt noted, in the

184. Hu et al., *supra* note 165, at 145–46.

185. The graph reproduces the data presented in *Id.* at 146.

186. Ronald Burt, *Gossip and Reputation*, 9–13 (2008) <https://faculty.chicagobooth.edu/ronald.burt/research/files/GR.pdf>. This source was taken from Ronald Burt's faculty website; it was a preprint of a chapter to appear in *Management et réseaux sociaux: ressource pour l'action ou outil de gestion?*, edited by Marc Lecoutre and Lievre Pascal, Editions Hermes - Lavoisier, and published in 2008.

context of gossip and stories told about others, that “[a]ccuracy is a nicety more than a requirement for the stories.”<sup>187</sup> Thus, he finds significant echo chamber effects, where people shape the valance of reputational information on the basis of context and audience rather than merit.<sup>188</sup> One such experimental finding is made by Tory Higgins, who gave research subjects a description of a person called Donald.<sup>189</sup> The key was that the descriptions were very ambiguous about whether Donald had positive or negative characteristics.<sup>190</sup> Then, a confederate entered the room and said that he “kinda likes” or “kinda dislikes” Donald, and asked the subjects for their opinion.<sup>191</sup> The subjects then offered a distorted view of Donald that accorded with the confederate’s disposition.<sup>192</sup>

\* \* \*

In sum, the theory of the microfoundations of reputation suggests that (1) there will be a trend in reputational data towards more extreme reviews, (2) that the integrity of information will be compromised, and (3) that the volume of reputational data will be constrained by reputational sluggishness. The predictions of this theory are consistent with available data, which show that significant divergence exists between voluntary consumer reviews and other measures of quality.<sup>193</sup> While there is much to be desired in the way of additional evidence, the existing data come from millions of different products and across various platforms. All in all, the case for distortions seems robust, given current knowledge.

### C. *Flawed Information, Flawed Decisions*

When consumers make purchase decisions, one key type of information they seek is data on the experiences of past consumers. From the perspective of a prospective consumer, it is useful to know how frequently the product or service resulted in a favorable experience along some dimension (e.g., quality of food, promptness of service, durability).<sup>194</sup> Consumers seek to extrapolate from these data to predict their own individual experience despite the obvious

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187. *Id.* at 1.

188. *Id.* at 9–10.

189. E. Tory Higgins & William S. Rholes, “Saying is Believing”: *Effects of Message Modification on Memory and Liking the Person Described*, 14 J. EXPERIMENTAL SOC. PSYCHOL. 363, 366 (1978).

190. *Id.* at 366–67.

191. *Id.* at 367.

192. *Id.* at 368–70, 374–77. For more examples of social pressures, see discussion and notes *supra* Subpart III.A.3.

193. See *supra* notes 172–87 and accompanying text.

194. Xinxin Li & Lorin M. Hitt, *Self-Selection and Information Role of Online Product Reviews*, 19 INFO. SYS. RES. 456, 459–60 (2008).

differences in taste among individuals.<sup>195</sup> Moreover, consumers care about more than the average expected experience—whether it is good or bad on *average*—but also about its variance, e.g., a phone that generally functions perfectly but will on rare occasions explode could have the same average rating as a phone that is consistently mediocre.<sup>196</sup> To the risk-averse consumer, the high-variance phone would be inferior.<sup>197</sup> To optimize decisions, then, consumers would like to have access to the *distribution* of past consumer experiences, rather than just their average.

Understood this way, the deleterious effect of sluggishness, integrity, and regression to the extreme become apparent as they make estimation less accurate. This loss of accuracy is because both the *quantity* and *quality* of reputational information themselves are jeopardized. The goal of this Part is to study these effects, using both theory and a Monte Carlo simulation. One key insight from the simulation, which is worth emphasizing here and throughout, is that not all reputation failures are born equal. Some may lead to small distortions that are largely inconsequential. Understanding the circumstances under which reputation failures are most severe is key to policymaking but, unfortunately, is largely outside the ambit of this paper.

### 1. *Informational Distortions*

Sluggishness makes quality estimation difficult because it limits the *quantity* of available data. Because consumers lack incentives to share reputational information data exist for only a fraction of all consumers. This limited quantity of information has two related adverse effects. First, sluggishness leads outlier, unrepresentative experiences to appear more common than they actually are—there is not enough “regular use” data to contradict them.<sup>198</sup> If, by chance alone, one of these consumers had an extreme but unrepresentative experience, an outlier, this will taint the perception of the product. Sluggishness prolongs the time it takes for more reviews to accumulate and correct the noise.<sup>199</sup> Second, less information also

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195. *Id.* at 459.

196. Hayley Tsukayama, *How Samsung Moved Beyond Its Exploding Phones*, WASH. POST (Feb. 23, 2018), [https://www.washingtonpost.com/business/how-samsung-moved-beyond-its-exploding-phones/2018/02/23/5675632c-182f-11e8-b681-2d4d462a1921\\_story.html](https://www.washingtonpost.com/business/how-samsung-moved-beyond-its-exploding-phones/2018/02/23/5675632c-182f-11e8-b681-2d4d462a1921_story.html).

197. See Eyal Zamir, *Loss Aversion and the Law*, 65 VAND. L. REV. 829, 872 (2012) (articulating that individuals who perceive losses as more painful than potential gains are less inclined to pursue the potential gains).

198. Consider an example of a product that has, on average, a three-star quality. If the first consumer, by chance, ranks it at one star, then it would take two higher-than-average consumers rankings of four stars to correct this impression.

199. For an analysis of the dynamic evolution of reputation, including the possibility that early adopters may be systematically different in their

means less information regarding the distribution of experiences. Even if the average is accurate, consumers also care about the distribution, but sluggishness limits the volume of available information.<sup>200</sup>

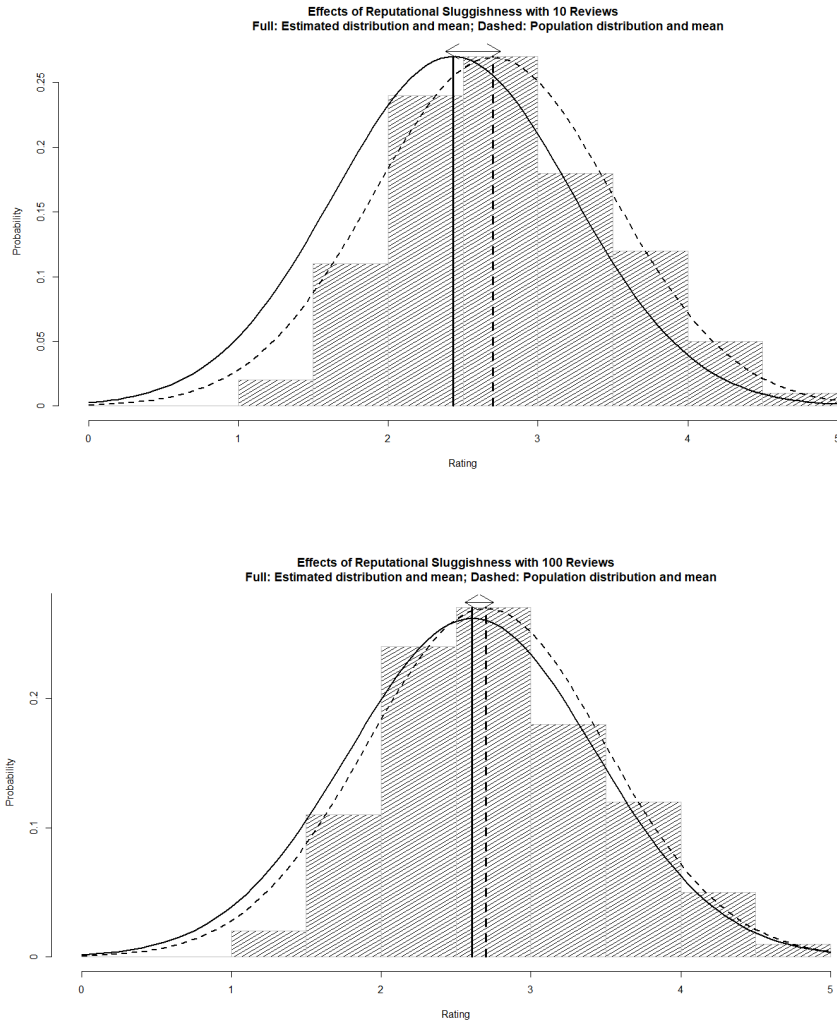
The problem of sluggishness is the same familiar problem of surveys with small sample sizes. Figure 4 illustrates, using randomly generated values, how much sluggishness can distort one's impression of products. Both graphs track the distribution of reviews that were given by a sample of all consumers who chose to share their reviews of the same product. In the top graph, only ten consumers chose to do so, whereas in the bottom graph, one hundred consumers shared their reviews. The dashed line indicates the full distribution of all consumer experiences while the full line denotes the estimated distribution based on the limited number of consumer reviews. As can be seen, a smaller sample distorts one's view of both the mean and the distribution.

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preferences and views from standard consumers, see generally Li & Hitt, *supra* note 194.

200. See Li & Hitt, *supra* note 194, at 457–58, 463 and accompanying text.

FIGURE 4. ESTIMATED AVERAGE VS. REAL AVERAGE AS THE NUMBER OF OPINIONS INCREASE



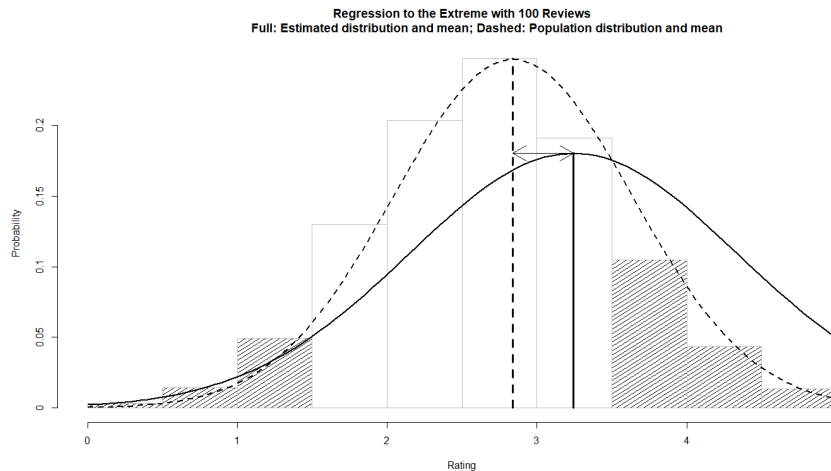
The next distortion concerns the quality of information and is caused by regression to the extreme. Because incentives to report experiences are weakest when the experiences are rote or bland, very few reviews fall in the middle range, leaving only extreme reviews reported.<sup>201</sup> Trying to infer quality based on such a sample involves a thorny statistical problem known as “middle censoring.” From a statistical perspective, most methods of estimation assume that the

201. See Hu et al., *supra* note 165, at 145.

sample is taken from a random sample.<sup>202</sup> If, instead, subjects self-select—as is the case here—then this bias could undermine the validity of statistical inferences. Figure 5 demonstrates the potential implications of regression to the extreme. Similarly, the figure collects, using randomly generated data, different consumer reviews—with a sample of one hundred participating consumers—but it omits the reviews of people with middling reviews who presumably lacked an incentive to share. A prospective consumer, seeking to decide whether to buy the product, only observes the filled bars (the empty bars are not visible and illustrate the distribution of unreported experiences). The full lines again mark the consumer's best guess about the mean and distribution based on this limited information.<sup>203</sup> The difference between the estimated mean and the mean of all experiences (dashed) is highlighted by the arrow. As can be seen, naïve estimation methods would yield widely inaccurate outcomes.

FIGURE 5. ESTIMATED AVERAGE VS. REAL AVERAGE AS THE NUMBER OF OPINIONS INCREASE

*Dashed = Estimated Average; Full = Average of all consumers.  
The shorter the gap between the curves and the means, the more accurate the estimate*



Notably, Figure 5 illustrates that the extremes do not “even out.”<sup>204</sup> It may seem that in a large sample, extreme results on one

202. See DAVID S. MOORE & GEORGE P. MCCABE, INTRODUCTION TO THE PRACTICE OF STATISTICS (5th ed., 2006).

203. See *infra* Subpart III.C.2.

204. See Bavli, *supra* note 169, at 17.

end will be balanced by extreme results on the other end. This logic, however, only applies to symmetric distributions—not the positively-biased J distribution here.<sup>205</sup>

Finally, there are problems with the integrity of information. Herding (or antiherding) is a highly path-dependent phenomenon. Some products will appear to draw more and more favorable reviews, but this can be the result of chance that led the group of first consumers to have a favorable experience.<sup>206</sup> Or, a product may appear overly negative simply because a random group of first consumers experienced some rare issues.

In sum, for a prospective consumer to accurately estimate the quality of the underlying good, both the quantity and quality of reputational information are essential. Sluggishness and regression to the extreme make reputational information scarce and biased. Consequently, the estimated mean and distribution of reported reviews systematically diverge from the actual mean and distribution, thus making them unreliable as sole guides for consumer decision-making. The question still remains, however, whether consumers can adjust for these distortions.

## 2. *Overcoming Bias*

Distorted information is likely to have a strong effect on consumers. Survey after survey, consumers express strong confidence in reputational information, describing it as a reliable source of information.<sup>207</sup> While it is unclear whether consumers take reputation at face value, the level of their confidence is at least suggestive of the former. Moreover, evidence shows a strong monotonic relationship between ratings and sales—a half-star increase in a restaurant rating resulting in a 19 percent higher likelihood that the restaurant would sell out and another half-star increase resulted in a 5 percent–9 percent increase in revenues.<sup>208</sup> Consumers can also be affected by distorted information through a

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205. See Hu et al, *supra* note 165, at 144 (“[T]he average is statistically meaningful only when it is based on a unimodal distribution, or when it is based on a symmetric bimodal distribution. However, since product systems have an asymmetric bimodal (J-shaped) distribution, the average is a poor proxy of product quality.”).

206. See Stemler, *supra* note 4, at 693 (discussing evidence of herding in online reviews).

207. See generally Rosie Murphey, *Local Consumer Review Survey: Online Reviews Statistics & Trends*, BRIGHTLOCAL (Dec. 7, 2018), <https://www.brightlocal.com/learn/local-consumer-review-survey/> (finding that 89 percent of consumers read online reviews for local businesses and that 91 percent of eighteen-to thirty-four-year-old consumers trust online reviews as much as they trust personal recommendations).

208. See Michael Anderson & Jeremy Magruder, *Learning from the Crowd: Regression Discontinuity Estimates of the Effects of an Online Review Database*, 122 *ECON. J.* 957, 966 (2012); Michael Luca, *Reviews, Reputation, and Revenue: The Case of Yelp.com 2* (Harv. Bus. Sch., Working Paper No. 12-2016, 2016).

variety of behavioral, cognitive limitations,<sup>209</sup> most notably anchoring. Anchoring is the well-replicated psychological phenomenon that describes how the introduction of arbitrary and irrelevant numbers affects the outcomes of negotiations, evaluations, and work performance ratings.<sup>210</sup> If the consumer is exposed to inflated reviews, then this can anchor an inflated sense of value.<sup>211</sup> In addition, even if consumers learn that the data is biased, it is unclear that they can effectively discount it.<sup>212</sup> In a set of studies, researchers investigated how individuals reacted when they learn that they receive biased advice.<sup>213</sup> Participants were asked to estimate the cost of a house in Pittsburgh.<sup>214</sup> To aid them, they were given an estimate by a local realtor who knew the local market.<sup>215</sup> However, the realtor also had an incentive to exaggerate her estimate, because her commission was based on the final sale price.<sup>216</sup> Surprisingly, the control group that was unaware of the realtor's bias had more accurate estimates than the treatment group which was informed that the realtor had a conflict of interest.<sup>217</sup> Finally, even if consumers were capable of mentally detaching from these effects, it is unclear that most have the statistical literacy to effectively discount online data.<sup>218</sup> The median American will likely not understand what it means to be *median*.<sup>219</sup> In a famous experiment, respondents insisted that a person described to them is less likely to

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209. See Bar-Gill, *supra* note 5, at 749.

210. See, e.g., Adrian Furnham & Hua Chu Boo, *A Literature Review of the Anchoring Effect*, 40 J. SOCIO-ECON. 35, 35 (2011).

211. See *id.*

212. See Daylian M. Cain et al., *When Sunlight Fails to Disinfect: Understanding the Perverse Effects of Disclosing Conflicts of Interest*, 37 J. CONSUMER RES. 836, 845, 847 (2011) (finding an absence of the ability to effectively discount the biased information when disclosed).

213. George Loewenstein et al., *The Limits of Transparency: Pitfalls and Potential of Disclosing Conflict of Interest*, 101 AM. ECON. REV.: PAPERS & PROC. 423, 425 (2011).

214. See *id.*

215. See *id.*

216. See Cain et al., *supra* note 212, at 840–41 (finding that groups that were aware of the bias had a higher variation in results).

217. See *id.* at 845, 847.

218. See, e.g., Laurent E. Calvet et al., *Measuring the Financial Sophistication of Households*, 99 AM. ECON. REV. 393, 393 (2009) (“Many households invest in ways that are hard to reconcile with standard financial theory and that have been labelled as investment mistakes.”); Mark Grinblatt, et al., *IQ, Trading Behavior, and Performance*, 104 J. FIN. ECON. 339, 360 (2012) (finding that measured levels of IQ affect stock market sophistication).

219. See Pranjali Gupta & Judy Harris, *How E-WOM Recommendations Influence Product Consideration and Quality of Choice*, 63 J. BUS. RES. 1041, 1042 (2010) (explaining how research finds that consumers sometimes lack motivation to process information, sometimes trusting even a single data point).

be a bank teller than be both a bank teller *and* a feminist.<sup>220</sup> But this, of course, cannot be. Obviously there are more bank tellers than there are bank tellers who are also feminists, but still, people find it difficult to intuit statistical judgments.<sup>221</sup>

Consequently, the law is generally skeptical of consumers' abilities to correct biased data, even in situations where consumers may be aware of the existence of distortions and where third-party services may be used to correct them.<sup>222</sup> Such are, for example, the limits on contractual misrepresentation, investor fraud through pump-and-dump strategies, false advertising, defamation, and false lights. The pump-and-dump scheme is especially telling because it involves the dissemination of wrong reputational information about firms.<sup>223</sup> Even though investors may be thought to be, on average, somewhat more sophisticated than consumers and even though it may be clear to those investors that pump-and-dump schemes take place, the law still chooses to proscribe such activities, fearing that consumers will not be able to compensate for such misleading strategies adequately.<sup>224</sup>

While it is clear that reputation failure could have a strong effect on most consumers, in the rest of this Part, I focus on a harder question. Can consumers—at least those that are rational, sophisticated, and informed—overcome these distortions? After all, it is fair to assume that many consumers at least suspect that reputational information should not be taken at face value. This Part investigates these issues, using both examples and computer simulations to evaluate three central consumer strategies: cardinal evaluations—i.e., choosing a product based on its score or mean; ordinal ranking—i.e., choosing the relatively better-rated product; and evaluating qualitative information—i.e., choosing on the basis of the content of reviews.

**Cardinal Evaluations.** Suppose that a consumer is trying to estimate the quality of a hypothetical product based on the valence of reviews. She knows that reviews in the middle, rated two or three

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220. Amos Tversky & Daniel Kahneman, *Extensional Versus Intuitive Reasoning: The Conjunction Fallacy in Probability Judgment*, 90 PSYCHOL. REV. 293, 297 (1983).

221. *But see* Berit Brogaard, *Linda the Bank Teller Case Revisited*, PSYCHOL. TODAY (Nov. 22, 2016), <https://www.psychologytoday.com/us/blog/the-superhuman-mind/201611/linda-the-bank-teller-case-revisited>.

222. *See Truth In Advertising*, FTC, <https://www.ftc.gov/news-events/media-resources/truth-advertising> (last visited Dec. 3, 2019) (showing the Federal Trade Commission aims to protect consumers by enforcing federal law which says information given to consumers must be truthful and not misleading).

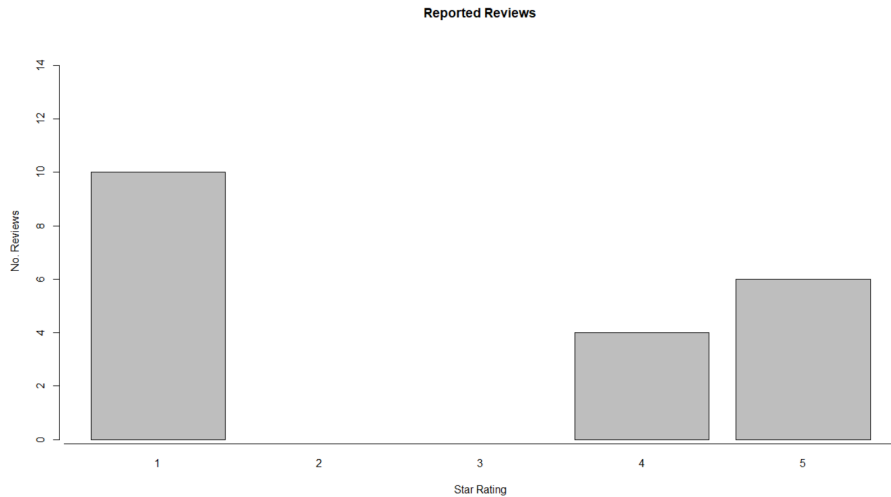
223. *See Pump and Dump*, INVESTOPEDIA, <https://www.investopedia.com/terms/p/pumpanddump.asp> (last updated Apr. 26, 2019).

224. In the unregulated space of Bitcoin, a recent research paper found that the market price of bitcoin rose up in 2013 tenfold due to manipulative trading tactics by a single trader. Neil Gandal et al., *Price Manipulation in the Bitcoin Ecosystem*, 95 J. MONETARY ECON. 86, 87 (2018).

stars, are suppressed, so she only sees extreme reviews. Figure 6 lists the information that is available to her. Armed with the knowledge that middling reviews are censored, what can she say about the quality of the underlying product? What would she believe the mean to be? How confident should she be?<sup>225</sup>

FIGURE 6. FREQUENCY OF REVIEWS UNDER REGRESSION TO THE EXTREME

*Bars show the number of reviews in each ranking category*



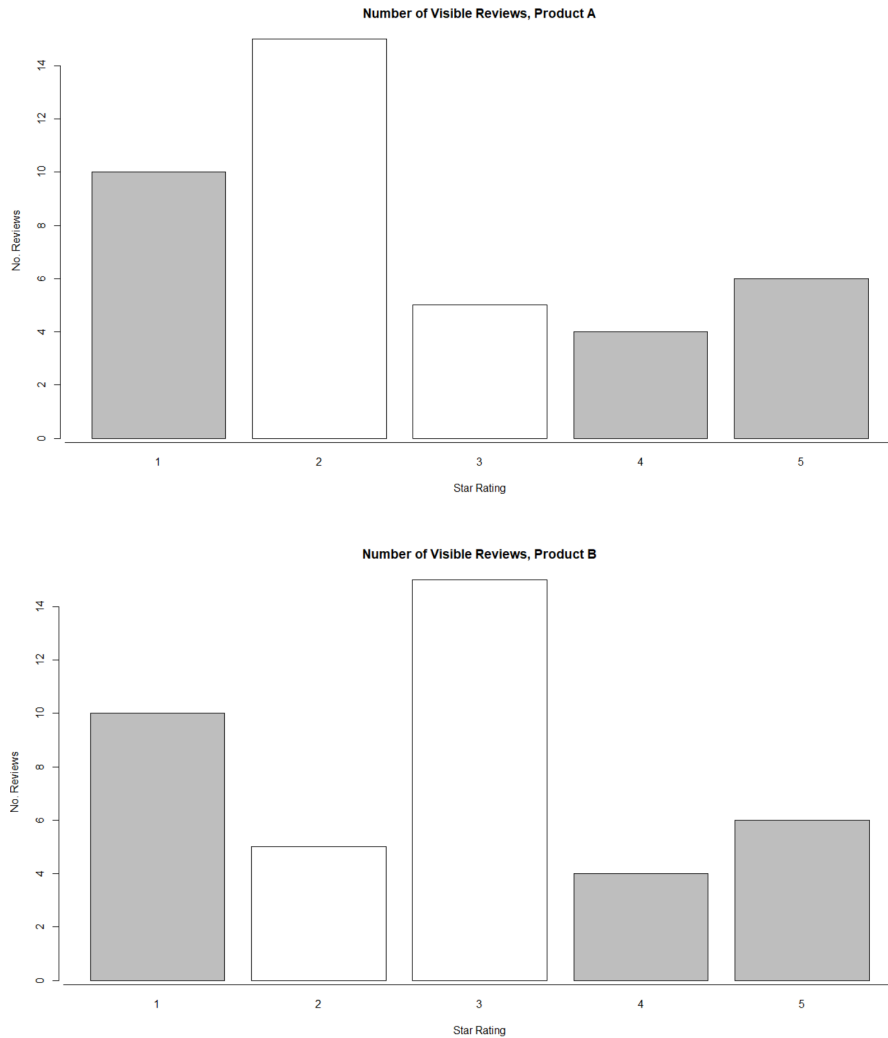
Next, based on this analysis, which of Figures 7 and 8 best represents the quality of the underlying product?

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225. As I shall argue, consumers care about more than the mean, but average star rating is often the first filter consumers use in their searches.

FIGURES 7 & 8. FREQUENCY OF POTENTIAL REVIEWS UNDER  
REGRESSION TO THE EXTREME

*Bars, full and empty, show the number of reviews in each  
ranking category*



Of course, these questions are not answerable. In fact, these figures are only two of many possible distributions. There is just not enough information to make accurate so-called cardinal evaluations, i.e., determinations of the quality of the product on the basis of review valence.<sup>226</sup> In particular, estimating the mean on the basis of a

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226. If one has enough data about the relationship between full reviews (as in reviews solicited from *all* consumers) and voluntary reviews, it may be possible to make some educated guesses to fill in the missing data. Whether this will be

truncated sample is a risky proposition, doubly so when the sample is small due to sluggishness, and triply so when the data is misstated due to integrity bias. Still, consumers often try to estimate quality on the basis of review valence, especially by limiting their searches to products above a certain mean.

**Ordinal Comparisons.** Suppose that the consumer reluctantly accepts that means are problematic, and instead seeks to compare *among* products, reasoning that if all are subject to biases, at least the comparison of the means would reveal which one is superior.<sup>227</sup> The following Table describes two products that the consumer is trying to compare; the shaded area is middling information that is *not* available to her. On the basis of available information, she takes the mean of product A to be 2.8 and that of product B to be also 2.8. She also notes that they both have the same distribution of reviews. She concludes that the two products are of equal value. Based on your knowledge of the shaded information, is this a correct conclusion?

TABLE 1. ORDINAL COMPARISON WITH TRUNCATED DATA

<i>StarRanking</i>	No. Reviews	
	Product A	Product B
★	10	10
★★	15	5
★★★	5	15
★★★★	4	4
★★★★★	6	6
Estimated mean	2.8	2.8
Real mean	2.5	2.8

To give a sense of the scope of mistakes based on interproduct comparisons, I conducted various Monte Carlo simulations, reported in Figures 9, 10, and 11.<sup>228</sup> Monte-Carlo simulations are a computer-assisted technique used in finance, physics, and computer science to track complex interactions in domains where the parameter space is

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possible, the accuracy of such process and its transferability across domains remains to be seen.

227. It is worth recalling that statistical tests of significance of mean difference (Student's T-Test) are unhelpful when the sample is not randomly chosen. See MOORE & MCCABE, *supra* note 202, at 463. Nonparametric tests also depend on various assumptions that may not hold in these contexts. *Id.*

228. The computer simulation is on file and can be replicated by the reader. Given the use of randomness, actual results may vary *slightly* among runs, but given the large volume of trials, this deviation will not affect any of the conclusions here.

large and uncertain.<sup>229</sup> By running thousands of simulated experiments, each with random deviations, the experimenter can learn of trends in the data.<sup>230</sup> Methodologically, the Monte Carlo simulation is akin to a quasi experiment; it is useful in demonstrating the existence of certain phenomena and indicating their potential magnitude, although it is not at the epistemic level of natural experiments as it only studies possibilities rather than actual quantities.<sup>231</sup>

The first simulation generated two products of arbitrarily chosen *mean* quality (although they shared all other statistical features). Each product was “tried” by one hundred different “consumers,” which means that each consumer has a random experience based on the quality of the product. The higher mean product was more likely to generate a favorable experience. After trying the product, each consumer could report the experience by rating it from one to five stars in half-star increments. Because of regression to the extreme, the consumers are coded not to share experiences in the range of two to three stars. Once all the information accumulates, a new consumer comes and tries to decide which product to purchase on the basis of interproduct comparisons. She chooses the one with the higher reported mean, based on the reasoning noted above. The code then counts every instance where the consumer was misled into choosing the inferior product. This process, for the same products, was repeated ten thousand times. This gives an account of the frequency of mistakes, given products of different means. To see how a higher difference would affect the frequency of mistakes, the simulation then ran the same process but increased the mean of product B by a slight amount. The following figures report this simulation, and two others, explained below.

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229. See Ankita Bihani, *A New Approach to Monte Carlo Simulation of Operations*, 8 INT’L J. ENGINEERING TRENDS & TECH. 218, 218 (2014). A recent example is the use of a Monte-Carlo Simulation to evaluate the rarity of intelligent life in the universe. See Anders Sandberg, Eric Drexler & Toby Ord, *Dissolving the Fermi Paradox*, CORNELL U. (June 8, 2018), <https://arxiv.org/pdf/1806.02404.pdf>.

230. See Bihani, *supra* note 229, at 218–19.

231. See Robert L. Harrison, *Introduction To Monte Carlo Simulation 2* (Jan. 1, 2011) (unpublished manuscript) (on file with the National Institutes of Health), <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC2924739/pdf/nihms219206.pdf>.

FIGURE 9. DIFFERENCE IN MEAN

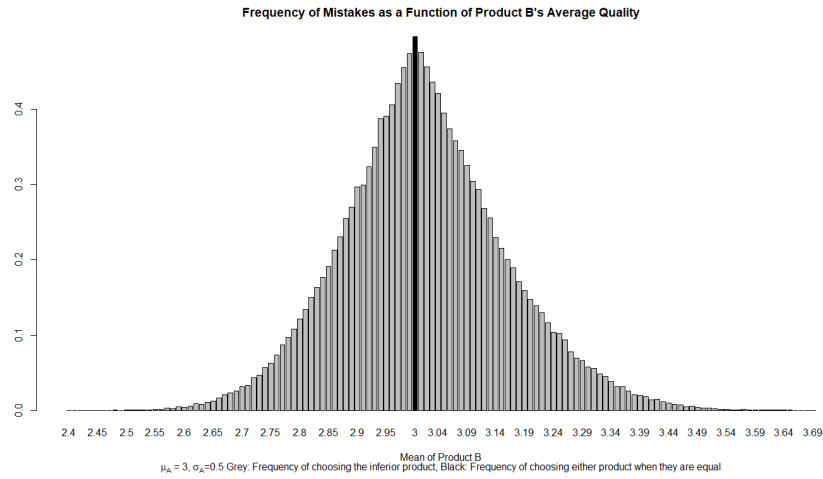


FIGURE 10. DIFFERENCE IN SALES VOLUME

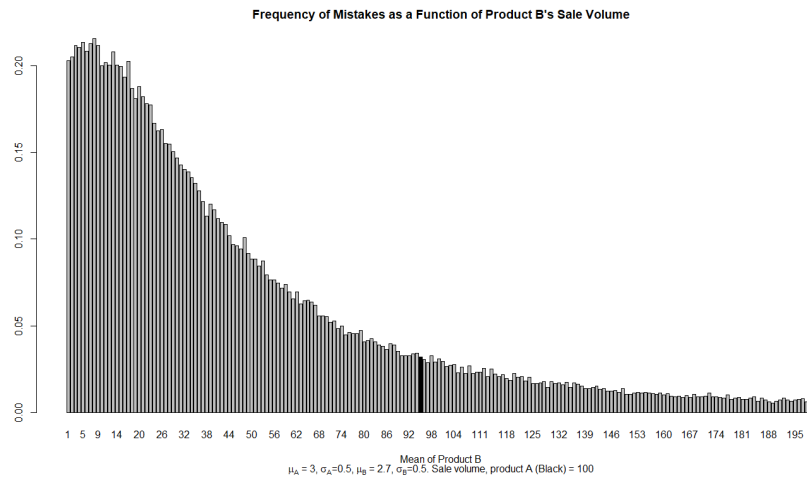


FIGURE 11. DIFFERENCE IN STANDARD DEVIATION

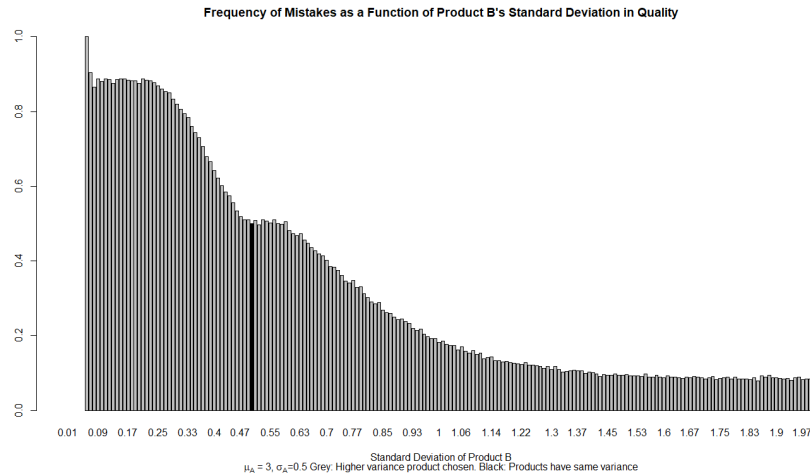


Figure 9 shows how the mean quality of the underlying goods affects consumer mistakes.<sup>232</sup> For products that are not clearly distinguishable, i.e., they have a somewhat similar mean, consumer mistakes are widespread. For example, if the difference in mean is 0.1 stars, then under the parameters of the simulation consumers would choose the wrong products in 25 percent of the cases. For products that are even harder to distinguish, with only a 0.05 star-difference, the ratio of mistakes rises to 35 percent. On the flip side, the more different the products are, the fewer mistakes consumers commit, despite regression to the extreme. When the difference is 0.25 stars, the ratio of mistakes falls below 10 percent, and when it is 0.5 stars, it mostly disappears.

Figure 10 reports the same simulation, but this time it holds the mean difference constant at 0.3 stars and only varies the sale volume. One product is reviewed throughout by one hundred consumers, whereas the other is reviewed by a variable number of consumers. When the second product is reviewed by only fifteen consumers, the ratio of mistakes raises to about 20 percent. This is important, in part because the difference in means is relatively significant (0.3 stars), and in part because most products have very few reviews, making this scenario likely.<sup>233</sup>

232. Part of the distortion of reputational information is also due to the use of integers or half integers (i.e., a consumer reports a 2.5-star review, whereas the actual experience is 2.34). Despite its flaws, the integer ranking system is almost universal.

233. As noted, the median product only has two reviews. *See supra* note 157 and accompanying text.

Finally, Figure 11 reports the same simulation but this time holding the mean and sale volume equal, and only changing the variability of experiences. From a consumer perspective, in choosing between two products with equal means, the one with the lower variability would be preferred due to risk aversion. Here we find the most considerable degree of mistakes. When one product yields consistent experiences and the other variable ones, the ratio of mistake is very high—when the variance of one product is 0.1 stars, but the variance of the other is 0.5 stars, consumers mistakenly prefer the inferior product in over 80 percent of the cases. Only when both products are highly variable does the ratio of mistakes start to fall.

Taken together, and under some important caveats, these simulations demonstrate the potential scope of consumer errors given reputation failure. At the same time, the simulations also demonstrated a broad range of cases where reputation failure is unlikely—specifically, environments where there is a great difference in product quality, when the sale volume is large, and when quality variability is large or constant across products. This conclusion is important in evaluating the social harm and the contexts in which it is likely to arise from reputational distortions. An important caveat, however, is that these simulations are based on stylized examples and use arbitrarily chosen parametric values. This limits the interpretation of the results reported here. On the other hand, real-life considerations tend to increase the problematic nature of reviews relative to the simulations. For example, satisfied consumers may be more or less likely to report their experiences than disgruntled consumers.<sup>234</sup> After all, the tendency to complain is different from the tendency to praise, and spite is not simply gratitude multiplied by negative one. Other practical complications involve consumers ascribing different meaning to star reviews (for some, a four-star review means high-valence, while for others, it will indicate a negative experience); the possibility that some products will have bimodal or other nonstandard distributions; the dynamic effect caused by buyers experimenting less with low-reviewed products; and firms investing different amounts of efforts in shilling and cherry-picking. These considerations would tend to make not only the simulations less reliable but also *any* quantitative approach to the data.

**Qualitative Analysis.** Suppose now that the consumer seeks to only read reviews and focus only on qualitative content. In particular, she is trying to decide between two brands of toilet paper sold on one

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234. See Interview with anonymous medium-sized seller on Amazon of organic products for babies (Jan. 19, 2018) (claiming that disgruntled consumers are more prone to writing reviews than very happy ones); cf. Chrysanthos Dellarocas & Charles A. Wood, *The Sound of Silence in Online Feedback: Estimating Trading Risks in the Presence of Reporting Bias*, 54 MGMT. SCI. 460, 460 (2008) (finding that satisfied consumers are more prone to write reviews).

platform. It turns out that there are almost 8000 different reviews for the two brands.<sup>235</sup> How long would it take her to read them all? How confident should she be in her ability to spot fake reviews? Suppose that she finds some regularity in reviews that she deems suspect, so she dismisses them; how long would it take for financially motivated sellers to produce reviews that avoid the pattern?

Stated more generally, qualitative analysis does not scale, and trying to peruse all the reviews of more than a few products can often be unmanageable. Yet, limiting attention to a few potential products is also unworkable—what would be the selection criteria? If it is reputation (e.g., only products with 4.5 stars), this runs into exactly the same issues discussed above. Moreover, the ability to spot fake reviews—consumer overconfidence notwithstanding—is in fact quite limited.<sup>236</sup> Finally, even if a consumer can find a useful guiding heuristic, it will be exploitable. If consumers only trust the reviews of serial reviewers, for example, a seller may derive a sizeable financial benefit from bribing this serial reviewer.<sup>237</sup> If consumers mostly care about negative reviews, for another example, then a seller will pay to invest heavily in shilling against competitors' products.<sup>238</sup> If consumers mostly care about the volume of sales, the seller may artificially inflate sales by giving away products.<sup>239</sup> Stated more generally, heuristics beget loopholes which beget exploitation by opportunistic sellers.

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To summarize, this Part demonstrated how the microfoundations of reputation result in informational distortions. Because the reasons to share information are often private and self-serving, three types of information distortions emerge—sluggishness, regression to the

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235. *ANGEL SOFT Toilet Paper Bath Tissue, 48 Double Rolls, 260+ 2-Ply Sheets Per Roll*, AMAZON, <https://www.amazon.com/Angel-Soft-Toilet-Double-Tissue/dp/B00FFJ2LXU/> (last visited Dec. 3, 2019); *Cottonelle Ultra ComfortCare Big Roll Toilet Paper, Bath Tissue, 12 Toilet Paper Rolls*, AMAZON, <https://www.amazon.com/Cottonelle-Ultra-ComfortCare-Toilet-Tissue/dp/B01AFRSQGW/> (last visited Dec. 3, 2019).

236. See, e.g., Ponte, *supra* note 142, at 64–65 (“[I]t is becoming challenging to decipher more sophisticated forms of fake online reviews.”); Bing Liu, *Opinion Spam Detection: Detecting Fake Reviews and Reviewers*, U. ILL. CHI, <https://www.cs.uic.edu/~liub/FBS/fake-reviews.html#reviews> (last visited Dec. 3, 2019) (providing an example to test one’s ability in detecting fraud reviews).

237. See, e.g., Jason Murdock, *Amazon Sellers Are Bribing Users with Cash and Gift Vouchers for Five-Star Reviews, Investigation Reveals*, NEWSWEEK (July 5, 2019, 12:01 AM), <https://www.newsweek.com/amazon-fake-reviews-which-investigation-bribes-cash-vouchers-five-star-reviews-1447606>.

238. See, e.g., Jacob Shamsian, *Beauty Brands Are Reportedly Paying \$85,000 to Influencers Who Trash Their Competitors on YouTube*, INSIDER (Aug. 30, 2018, 1:11 PM), <https://www.insider.com/brands-reportedly-paying-influencers-to-criticize-makeup-competitors-2018-8>.

239. See Ponte, *supra* note 142, at 134.

extreme, and integrity bias. As a result, peer-to-peer reputational information tends to provide a false sense of the true quality of the underlying product. While consumers can try to account for these distortions, many will lack the requisite sophistication, and even consumers who do account for the distortions might not be able to do so given the potentially corrupting effect of the distortions. This is not to say that distortions are always strong or that consumer heuristics are not helpful. Still, reputation failures have important normative implications which I now move to discuss.

#### IV. LEGAL IMPLICATIONS OF REPUTATION FAILURE

What does the law have to say or do about reputation failures? I start with the most direct legal interventions that are needed when the symptoms of reputation failure are present and acute (which is not always the case). I then move to outline a more ambitious program: *Reputation-by-Regulation*. The key idea is to shift attention from symptoms—such as consumer mistakes—to causes. Legal institutions can be improved to facilitate the creation of quality reputational information, thus mitigating some of the root causes of reputation failure.

##### A. *Reputation Failure and Contemporary Debates in Contracts and Torts*

There are many who call for deregulation on the basis of the rise of reputational information.<sup>240</sup> There has also recently been growing support among sharing-market enthusiasts, liberals and conservatives alike, who believe that online platforms open avenues for effective self-regulation “outside the law.”<sup>241</sup>

Recognizing reputation failures highlights the dangers of relying on existing market mechanisms. Naïve reliance on reputation-based market mechanisms often leads to perverse outcomes in the presence of acute reputation failures. When consumers select products on the basis of biased or distorted reputational information, they are likely to make persistent mistakes<sup>242</sup>—a social deadweight loss.<sup>243</sup> These mistakes have negative dynamic effects because they make the production of quality products less rewarding and the production of unsafe products more rewarding.<sup>244</sup> Such a dynamic can devolve into

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240. See *supra* notes 4–6 and accompanying text.

241. See *supra* note 47 and accompanying text (providing deregulatory examples among lawmakers and scholars).

242. See *supra* Subpart III.C.1.

243. See Cannon & Chung, *supra* note 123, at 39.

244. See Michael Spence, *Consumer Misperceptions, Product Failure and Producer Liability*, 44 REV. ECON. STUD. 561, 561 (1977) (“The effect of consumer misperceptions is that demand votes are miscast, and the supply-side produces the wrong products.”); see also Oren Bar-Gill, *Seduction by Plastic*, 98 NW. L. REV. 1373, 1399 (2004) (studying the market effects of consumer mistakes).

what economists call a “lemon market,” where sellers decide to stop selling quality goods even though consumers would want to buy them because consumers cannot distinguish between high and low-quality goods.<sup>245</sup>

In the presence of persistent and systematic consumer errors, recent scholarship has shown that some type of regulation can be welfare-enhancing even when accounting for the limitations of a top-down regulator.<sup>246</sup> If sellers cannot be trusted to meet consumer expectations, then setting boundaries for permissible dealings may improve matters.<sup>247</sup> Thus, laws and regulations such as lemon laws, implied warranties, safety audits and recalls, restaurant safety grading, and many other measures may be needed more than critics would admit. It also helps draw the boundaries of the sharing economy and the continued need for traditional reputational sources, such as professional critics or professional review media (Consumer Reports, for example).

In sum, reputation failure fits in the family of market failures. It is a market friction that can justify intervention in consumer markets in order to improve consumer and social welfare. Of course, reputation failures do not give a carte blanche for regulation. These failures vary in scope and severity and in some cases, the costs of product regulation by an outside regulator may outweigh the benefits.<sup>248</sup> Still, modern debates on deregulation—especially those involving the sharing economy—fail to recognize that reputation is subject to systematic failures.<sup>249</sup> Bringing this insight into modern debates should temper some deregulatory trends.

### B. Reputation-by-Regulation

Today, the regulatory schema is one of competition between legal ordering and market ordering “outside the law.”<sup>250</sup> Policymakers are told to choose between heavy-handed regulation and unbridled trust

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245. See Akerlof, *supra* note 28, at 489.

246. See e.g., Oren Bar-Gill, *Algorithmic Price Discrimination: When Demand Is a Function of Both Preferences and (Mis)Perceptions*, 86 U. CHI. L. REV. 217, 235–36 (2019); Oren Bar-Gill & Kevin E. Davis, *(Mis)perceptions of Law in Consumer Markets*, 19 AM. L. & ECON. REV. 245, 280–81 (2017).

247. About CPSC, U.S. CONSUMER PROD. SAFETY COMM’N, <https://www.cpsc.gov/About-CPSC/> (last visited Dec. 3, 2019) (“CPSC is charged with protecting the public from unreasonable risks of injury or death associated with the use of the thousands of types of consumer products under the agency’s jurisdiction.”).

248. Harold Demsetz, *Information and Efficiency: Another Viewpoint*, 12 J.L. ECON. 1, 19 (1969) (describing the “!,” the fallacious assumption that against market failures there is a perfect regulator).

249. See Stemler, *supra* note 4, at 687–88.

250. Ronald J. Gilson *et al.*, *Braiding: The Interaction of Formal and Informal Contracting in Theory, Practice, and Doctrine*, 110 COLUM. L. REV. 1377, 1379 (2010).

in the market.<sup>251</sup> The analysis presented here suggests a novel third way, a complementarity model between these two options. The key insight is that the law has an active role to play ex ante in designing the rules of the game, such that the information that flows to the market is more reliable and abundant. I name this family of strategies *Reputation-by-Regulation* to indicate how closely related reputation is to regulation. Rather than an organic and “natural” outgrowth of market relations, reputation is deeply influenced by background legal institutions. Drawing awareness to Reputation-by-Regulation helps expose the role legal institutions play in the development of reputational information and highlights alternative institutional strategies. The rest of this Part suggests a menu of five options that illustrate how the law can take various degrees of involvement in removing reputational bottlenecks.

To provide some initial motivation to Reputation-by-Regulation, it is worth noting that when reputation works it has an important advantage over standard disclosures rules in that it communicates with consumers in their own terms, thus avoiding some of the critiques brought against mandatory disclosure over the last few years.<sup>252</sup> As a peer-to-peer mechanism, consumers directly transmit the information that they find pertinent using their language and emphasizing their use patterns. For example, consumer comments on fuel economy can track normal use patterns more accurately than the abstract categories of pure city or highway miles required by law.<sup>253</sup> Similarly, annual percentage interest rates that credit issuers must disclose may be less intelligible to consumers than actual examples of costs per use.<sup>254</sup> As these examples highlight, there is great potential in Reputation-By-Regulation.

### *1. Leveraging Market Players: The Role of Reputational Platforms*

It goes without saying that market players will often have an incentive and ability to deal with market problems themselves. In the last two decades, for example, reputational platforms specializing in the aggregation of peer-to-peer reputational information have blossomed.<sup>255</sup> Such platforms have realized the value of “reputation for reputation,” i.e., the value of garnering consumer trust which can

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251. *Id.* at 1398.

252. See Omri Ben-Shahar & Carl E. Schneider, *The Failure of Mandated Disclosure*, 159 U. PA. L. REV. 647, 651 (2011). See generally OMRI BEN-SHAHAR & CARL E. SCHNIEDER, MORE THAN YOU WANTED TO KNOW: THE FAILURE OF MANDATED DISCLOSURE 6 (2014) (providing general background on the use and limitations of mandatory disclosure systems).

253. 16 C.F.R. § 259.4 (2019).

254. 12 C.F.R. § 226.5 (2019).

255. Spencer E. Ante, *How Amazon is Turning Consumer Opinions into Gold*, BUS. WEEK, Oct. 26, 2009, at 47, 47.

then be monetized using various business models.<sup>256</sup> Although it may seem natural now, in the early days of the internet it was far from evident that a shopping website would want to display information that could portray some of its traded products in a negative light.<sup>257</sup> The sentiment at the time was that “[l]etting consumers rant about products in public was a recipe for retail suicide.”<sup>258</sup> It was also incredible that consumers could trust the advertised opinions of complete strangers.<sup>259</sup> Still, a small online bookseller by the name of Amazon took a bold step and adopted a system of consumer feedback.<sup>260</sup> The rest, is, well, history.<sup>261</sup>

Reputational platforms are metaregulators and, within their limits, should be enlisted to address some of the problems of reputation failure. Given that consumer trust is a source of the “new oil”—internet traffic—platforms have an incentive to develop metareputation for being honest curators of reputational information.<sup>262</sup> Indeed, some platforms have already taken voluntarily action to stamp out fake reviews.<sup>263</sup> Amazon uses a variety of algorithms to detect suspect reviews, prohibits the provision of incentives-for-reviews, and sues violators.<sup>264</sup> Moreover, Amazon also lists some reviews as those done by “Verified Purchasers” to further limit manipulation, although this has led to a cottage industry of payments for purchases coupled with fake reviews.<sup>265</sup>

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256. *Id.*

257. *Id.* at 47.

258. *Id.*

259. *See* Tadelis, *supra* note 98.

260. *Ante*, *supra* note 255, at 47. For a review of eBay’s history and success, see Tadelis, *supra* note 98, at 321.

261. For historical examples of reputation systems, see *supra* note 5.

262. *See* Eric Goldman, *The Regulation of Reputational Information*, in *THE NEXT DIGITAL DECADE: ESSAYS ON THE FUTURE OF THE INTERNET* 293, 294–95 (Berin Szoka & Adam Marcus eds., 2010) (reviewing examples of online reputational platforms).

263. *See* Communications Decency Act of 1996, 47 U.S.C. § 230 (2012) (immunizing websites from liability for restricting material that the website considers to be obscene or otherwise objectionable, “whether or not such material is constitutionally protected”).

264. *See* *Community Guidelines*, AMAZON, <https://www.amazon.com/gp/help/customer/display.html?nodeId=14279631> (last visited Dec. 3, 2019) (limiting reviews made with a financial motive). Amazon is not the only platform that protects its reviews. For other examples from other providers see *Content Guidelines*, YELP, <https://www.yelp.com/guidelines> (last visited Dec. 3, 2019) (prohibiting biased contributions); *What Constitutes a First-Hand Traveler Review?* TRIPADVISOR, <https://www.tripadvisor.com/hc/en-us/articles/200614837-What-constitutes-a-first-hand-traveler-review-> (last visited Dec. 3, 2019) (limiting reviews in various ways, including “second-hand information”).

265. Various websites offer refunds, sometimes with commission, for reviews. *See* list of websites cited *supra* note 140. A further list of sites is on record with the author.

To the extent that such systems work, they are desirable and helpful. But reputational platforms are also limited in their policing powers. For the most part, platforms only rely on contractual agreements between themselves, sellers, and buyers.<sup>266</sup> Thus, their ability to investigate and sanction fake reviews is very limited. Platforms also risk harmful public relations implications if they take actions that consumers deem too aggressive.<sup>267</sup> Moreover, platforms' ability to correct consumer misstatements, investigate cherry-picking, or validate information is also limited. There is not much TripAdvisor can do to enforce its ban of reviews by family members of an owner's hotel.<sup>268</sup>

A deeper problem is that platforms do not always have the incentive to act in the public interest. Platforms face a conflict of interest because profits and sales can be in tension with consumer trust. The existence and type of a conflict depends on the specific business model, but any platform that profits from the transactions it facilitates may be tempted to promote higher margin items.<sup>269</sup> As a result, the platform may list these products first, suppress negative reviews of its own products, or otherwise manipulate the market for its own advantage.<sup>270</sup> Even if gross violations of consumer trust can be detected, small violations of consumer trust—"fudging" on the margin"—will be all but impossible to detect by consumers.<sup>271</sup> When Amazon, for example, lists its own products prominently on the first page and before higher-rated products, it trades off some of the trust consumers place in it, the trust that it will feature best products first, against its own profits.<sup>272</sup> Uber, facing pressures from drivers,

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266. See, e.g., *Amazon Services Business Solutions Agreement*, AMAZON, [https://sellercentral.amazon.com/gp/help/external/1791?language=en\\_US&ref=efph\\_1791\\_cont\\_G521](https://sellercentral.amazon.com/gp/help/external/1791?language=en_US&ref=efph_1791_cont_G521) (last visited Dec. 3, 2019) (defining sellers' agreement); *Conditions of Use*, AMAZON, <https://www.amazon.com/gp/help/customer/display.html?nodeId=508088&tag=zxcv123-20> (last visited Dec. 3, 2019) (defining buyers' agreement).

267. See David Streitfeld, *Giving Mom's Book Five Stars? Amazon May Cull Your Review*, N.Y. TIMES (Dec. 23, 2012) <https://www.nytimes.com/2012/12/23/technology/amazon-book-reviews-deleted-in-a-purge-aimed-at-manipulation.html>.

268. See *How Does TripAdvisor Catch Fake Reviews?*, TRIPADVISOR, <https://www.tripadvisor.com/TripAdvisorInsights/w3688> (last updated July 13, 2018).

269. See David Adam Friedman, *Do We Need Help Using Yelp? Regulating Advertising on Mediated Reputation Systems*, 51 U. MICH. J.L. REFORM 97, 111, 161 (2017) (exploring the conflict of interest).

270. See *id.* at 122; Julia Angwin & Surya Mattu, *Amazon Says It Puts Customers First. But Its Pricing Algorithm Doesn't*, PROPUBLICA (Sept. 20, 2016, 8:00 AM), <https://www.propublica.org/article/amazon-says-it-puts-customers-first-but-its-pricing-algorithm-doesnt>; Julie Creswell, *How Amazon Steers Shoppers to Its Own Products*, N.Y. TIMES (June 23, 2018), <https://www.nytimes.com/2018/06/23/business/amazon-the-brand-buster.html>.

271. See Friedman, *supra* note 269, at 111.

272. See *id.* at 130; Angwin & Mattu, *supra* note 270.

systematically censors reviews from passengers who give four-star or less reviews more than a few times.<sup>273</sup> A large class action was brought and settled against Angie's List in which the primary allegation was that Angie's List reviewer ratings were influenced by payments from providers.<sup>274</sup> Yelp has been the subject of extensive litigation for allegedly manipulating reviews against businesses that were not willing to pay advertising fees.<sup>275</sup> According to an investigation by the Wall Street Journal, the Federal Trade Commission ("FTC") received hundreds of complaints against Yelp alleging that businesses received unfair reviews after refusing to advertise on the website.<sup>276</sup> Another platform, *Consumer Affairs*, has similarly been subject to litigation for allegedly presenting reviews of certain paying members in a more favorable light.<sup>277</sup> A ProPublica report also suggests that Amazon may be unfairly manipulating listings in order to promote its own goods.<sup>278</sup>

Exacerbating the conflict of interest is the right courts granted to platforms to almost arbitrarily curate reviews. The Ninth Circuit recently considered whether a platform could arbitrarily choose the reviews it presents to consumers.<sup>279</sup> The court held that the reviewee has no right to have any review posted at all and as such, cannot compel the platform to publish reviews it does not want to publish.<sup>280</sup> This decision licenses platforms to present reviews according to their own discretion—with a minimal check on their behavior.<sup>281</sup> Additionally, the fight against fake reviews *exacerbates* the problem

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273. David Lumb, *Uber Refines Its Rating System to Appease Both Drivers and Riders*, ENGADGET (Nov. 21, 2017), <https://www.engadget.com/2017/11/21/uber-refines-its-rating-system-to-appease-both-drivers-and-rider/>.

274. Conditional Amended Class Action Complaint, at 2, 4, 10, *Moore v. Angie's List, Inc.*, No. 2:15-cv-01243 (E.D. Pa. July 11, 2016).

275. See *Curry v. Yelp Inc.*, No. 14-cv-03547-JST, 2015 WL 1849037, at \*1, \*2 (N.D. Cal. Apr. 21, 2015); *Reit v. Yelp!, Inc.*, 907 N.Y.S.2d 411, 412–13 (N.Y. Sup. Ct. 2010); Rolfe Winkler, *Yelp Says FTC Won't Act on Complaints About Its Reviews*, WALL ST. J.: DIGITS (Jan. 6, 2015, 4:27 PM), <https://blogs.wsj.com/digits/2015/01/06/yelp-says-ftc-wont-act-on-complaints-about-its-reviews/> (reporting on a closed investigation by the FTC against Yelp). Note that these cases were ultimately dismissed; see also Eric Goldman, *Court Says Yelp Doesn't Extort Businesses*, FORBES (Sept. 3, 2014, 12:20 PM), <https://www.forbes.com/sites/ericgoldman/2014/09/03/court-says-yelp-doesnt-extort-businesses/#c62f7d76e4ab> ("For years, Yelp has been dogged by allegations that it manipulates user reviews.").

276. See Angus Loten, *Yelp Reviews Brew a Fight over Free Speech vs. Fairness*, WALL ST. J. (Apr. 2, 2014, 7:31 PM), <https://www.wsj.com/articles/no-headline-available-1396479922>.

277. See *Consumer Cellular, Inc. v. ConsumerAffairs.com*, No. 3:15-CV-1908-PK, 2016 WL 3176602, at \*1 (D. Or. Feb. 29, 2016).

278. See Angwin & Mattu, *supra* note 270 ("About three-quarters of the time, Amazon placed its own products and those of companies that pay for its services in [a prominently placed] position.").

279. *Levitt v. Yelp! Inc.*, 765 F.3d 1123, 1126 (9th Cir. 2014).

280. *Id.* at 1133.

281. *Id.* at 1133–34.

because screening of reviews, often done algorithmically, relies on necessarily opaque standards since disclosing the algorithm would invite abuse by sellers.<sup>282</sup> At the same time, these opaque algorithms give the platform more power to abuse consumer trust.<sup>283</sup>

To the extent regulators are worried about these issues, a few options to leverage market players present themselves: regulation, investigation, and accreditation.

a. Regulating Platforms

On the regulatory side, consumer agencies and legislators can create a unified set of rules that governs what constitutes fair and reasonable treatment of consumer peer-to-peer reputational information.<sup>284</sup> A platform should not promote its own products, or higher-margin products, when it presents consumer-sourced reputational information. A clear first step in this direction is to revise the holding that platforms are free to arbitrarily curate reviews.<sup>285</sup> Additionally, platforms should be considered as forum providers for speech, limiting their ability to arbitrarily censor reviews. Platforms should also be required to publish their review curation, aggregation, and display standards. Another possibility is to require platforms to release certain key statistical information such as the volume of sales. Additionally, platforms might be required to display the ratio of consumers who did not rate the product to those who did in order to aid consumers (or assistive technology) in drawing better statistical inferences. Alternatively, they might simply be required to create and follow their own choice of standards of regulation—thus creating metaregulation of sorts, relying on the platforms to find the right balance of substantive rules.

A useful source of inspiration (although with some caution) is the evolving international standards of platform regulation developed by the International Consumer Protection Enforcement Network (“ICPEN”), a network of consumer protection authorities from nearly sixty countries.<sup>286</sup> The ICPEN standards include disclosure

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282. See David Adam Friedman, *Addressing the Commercialization of Business Reputation*, 80 LAW & CONTEMP. PROBS. 73, 83 (2017).

283. See *id.* at 79 (relating the conflict of interest to the business model of the platform).

284. See Strahilevitz, *supra* note 1, at 64, 69, 71 (arguing that the government should subsidize and encourage transparency among reputational platforms); Van Loo, *supra* note 48, at 585–99 (developing an account of the regulation of platforms by agencies, highlighting the need for regulation in certain key areas).

285. See *Levitt*, 765 F.3d at 1126, 1134.

286. INT’L CONSUMER PROT. & ENF’T NETWORK, ONLINE REVIEWS & ENDORSEMENTS: ICPEN GUIDELINES FOR REVIEW ADMINISTRATORS 7 (2016) <https://icpen.org/sites/default/files/2017-06/ICPEN-ORE-Guidelines%20for%20Review%20Administrators-JUN2016.pdf> (guiding reputational platforms to be “equal and fair in the collection of reviews,” be “alert and proactive in the moderation of reviews,” and “transparent in publication of reviews”).

standards governing platforms' methods for curating and aggregating reviews, requirements for platform functionality of review sorting according to consumer criteria, and obligations to present negative reviews of a platforms' own products.<sup>287</sup> It should be noted, however, that some of these regulations can run into potential First Amendment constraints.<sup>288</sup> At the same time, their usefulness and importance merits serious consideration.

b. Policing Platforms

To ensure the integrity of reputational information, it may be necessary for an external agency to regularly inspect and police the inner workings of reputational platforms.<sup>289</sup> This is already done, to some extent, by the FTC.<sup>290</sup> However, there are still some important informational gaps.<sup>291</sup> The agency should first have access to all reviews posted to the platform, including their timestamps, IP addresses, and external information relating to the product price and type. Then, it should access the (anonymized) reviewer data itself—past transactions and past review history—in order to identify shell accounts. Then, the agency should trace typical consumer searches and the corresponding results: what products are featured, in which order, and by which criteria. Finally, the agency should review the platform's algorithms for identifying faux reviews and test their operation. Such investigations are crucial given that many of the processes for collecting and curating reputational information are opaque and that opacity may be necessary to avoid manipulation by other market players. In addition to audits, the agency should also investigate claims of unfair treatment by market players.

c. Platform Accreditation

Accreditation is perhaps the least intensive form of regulatory intervention. Accreditation will involve using a badge to indicate that the platform is monitored by the agency and that it complies with its *own* standards. Receiving accreditation may be entirely voluntary,

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287. *Id.* at 7–11.

288. *See* *Zauderer v. Office of Disciplinary Counsel of Supreme Court of Ohio*, 471 U.S. 626, 650–51 (1985) (permitting disclosure requirements for attorneys); *Milavetz, Gallop & Milavetz, P.A. v. United States*, 559 U.S. 229, 252–53 (2010) (same). *But cf. In re R.M.J.*, 455 U.S. 191, 203 (1982) (holding that misleading commercial speech is not protected); *Cent. Hudson Gas & Elec. Corp. v. Pub. Serv. Comm'n of N.Y.*, 447 U.S. 557, 563–64 (1980) (applying intermediate scrutiny).

289. *See* Van Loo, *supra* note 48, at 585–98 (suggesting the need for external policing).

290. *See* Brogaard, *supra* note 221.

291. On existing agency powers to conduct audits, see Yonathan A. Arbel, *Admininization: Gatekeeping Consumer Contracts*, 71 VAND. L. REV. 121, 144–46 (2018) (exploring the use of agencies to audit market players for consumer abuse).

thus sidestepping any potential First Amendment concerns.<sup>292</sup> Of course, if the agency finds at any time that the platform is not in compliance, it may strip its badge.

Receiving a badge would garner consumer trust. Such a system can thus be valuable even if it is entirely voluntary because it will be in the platform's interest to receive accreditation. Remember that consumers may be suspicious even when platforms act honestly because the platform has superior information regarding its own internal practices. The badge would allow platforms to credibly communicate their honesty to the public.

## 2. *Professional Publications*

An alternative or supplement to a system of accreditation involves using professional rating agencies and publications. Some successful examples include *Consumer Reports*, *US News*, *PC Magazine*, *Michelin Restaurant Review*, and the *New York Times Book Review* section.<sup>293</sup> Like reputation platforms, these services are also premised on the idea of a reputation for reputation, i.e., monetizing consumer trust in their reputation production services.<sup>294</sup> Moreover, they have some advantages over amateur consumer reviews in that they have both the facilities and knowledge to extensively test products.<sup>295</sup> Such publications are demonstrably valuable, as consumers continue to use them despite their cost and the rise of free online consumer-generated information.<sup>296</sup> Indeed,

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292. The use of a government agency, rather than a market player, is motivated by the infinite regress problem noted by Brian Galle, whereby consumers might worry that the contracted auditor is itself compromised. See Brian D. Galle, *Self-Regulation of Social Enterprise*, in RESEARCH HANDBOOK ON SOCIAL ENTERPRISE LAW 7–8 (forthcoming); see also Oren Perez et al., *The Dynamic of Corporate Self-Regulation: ISO 14001, Environmental Commitment, and Organizational Citizenship Behavior*, 43 LAW & SOC'Y REV. 593, 593–94 (2009) (studying self-regulation under voluntary accreditation).

293. See, e.g., *Book Review*, N.Y. TIMES, <http://www.nytimes.com/section/books/review> (last visited Dec. 3, 2019); *Electronics: Ratings & Buying Guides*, CONSUMER REP., <http://www.consumerreports.org/cro/index.htm> (last visited Aug. 27, 2019); *The MICHELIN Star Restaurant Rating System*, MICHELIN, <http://guide.michelin.com/th/en/to-the-stars-and-beyond-th> (last visited Aug. 27, 2019).

294. Paul Resnick et al., *Reputation Systems*, 43 COMM. ACM 45, 47–48 (2000).

295. See, e.g., Jeff S. Bartlett & Gabe Shenhar, *How Consumer Reports Tests Cars*, CONSUMER REP., <https://www.consumerreports.org/cars-how-consumer-reports-tests-cars/> (last visited Dec. 3, 2019) (noting that Consumer Reports has a 327-acre test center where it test drives cars for hundreds of thousands of miles).

296. Consumer Reports, for example, charges thirty-nine dollars per year for a digital membership. See *Buying Smart is Just the Start*, CONSUMER REP., <http://www.consumerreports.com/join?INTKEY=1810GHOMB> (last visited Dec. 3, 2019). In recent years, various professional and semiprofessional critics started using platforms such as YouTube to broadcast reviews. See, e.g., *10 YouTube Film Critics You Need to Be Watching*, WHATCULTURE,

their continued existence is a possible testament to the existence of reputation failure in peer-to-peer reputational information.<sup>297</sup>

Still, reliance on such publications is not without its limitations. Professional critics do not always care about the same things as less-sophisticated consumers.<sup>298</sup> Professional publications can only cover a sliver of the product-space, and it is unlikely that they can ever approach the comprehensiveness of consumer-sourced reviews.<sup>299</sup> But, most acutely, as consumers place more confidence in such publications, it becomes more profitable for sellers to bribe those reviewers to publish favorable reviews.<sup>300</sup>

The government may increase the use of such services by either subsidizing them or otherwise requiring testing in some areas. Notably, the state already supports these publications by protecting their copyright and intellectual property. Such protections can be extended through broader, more aggressive copyright protections, subject—of course—to a full cost-benefit analysis.

### 3. *Fighting Fake Reviews*

As noted earlier, fake reviews are the scourge of the reputation system. The more consumers use and trust reviews, the more it pays to invest in creating fake reviews.<sup>301</sup> And while reputation platforms have some incentive to fight fake reviews, their efforts tend to fall short.<sup>302</sup>

A useful market-based solution here is the leveraging of a competitor's interest. Importantly, I propose that fake reviews will

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<http://whatculture.com/film/10-youtube-film-critics-you-need-to-be-watching> (last visited Dec. 3, 2019). These critics monetize user engagement through ads or, one worries, side payments from sellers. See Jeff Rose, *How Much Do YouTubers Really Make?*, FORBES (Mar. 21, 2019), <https://www.forbes.com/sites/jrose/2019/03/21/how-much-do-youtubers-really-make/#8b3cec37d2b2>.

297. While professional reviews continue to exist, consumers rely more often on peer-to-peer reputational information. See Mehdi Ghazisaeedi et al., *Trustworthiness of Product Review Blogs: A Source Trustworthiness Scale Validation*, 6 AFR. J. BUS. MGMT. 7498, 7498 (2012).

298. See WEBER SHANDWICK & KRC RES., BUY IT, TRY IT, RATE IT: STUDY OF CONSUMER ELECTRONICS PURCHASE DECISIONS IN THE ENGAGEMENT ERA 6, 8 <https://www.webershandwick.com/uploads/news/files/ReviewsSurveyReportFINAL.pdf>.

299. Compare Woolf, *supra* note 158 (examining over 1.2 million consumer product reviews on Amazon), with *All Products A-Z*, CONSUMER REP. <https://www.consumerreports.org/cro/index.htm> (last visited Dec. 3, 2019) (noting that the service has only reviewed just over 9,000 products).

300. See Roomy Khan, *From Fake Reviews to Unvetted Sellers: Here's Why Amazon Marketplace Needs More Oversight*, FORBES (Apr. 1, 2019), <https://www.forbes.com/sites/roomykhan/2019/04/01/amazon-marketplace-a-chaotic-bazaar-unvetted-sellers-to-fake-reviews-where-is-the-oversight/>.

301. See *supra* notes 145–47.

302. See David Adam Friedman, *supra* note 269, at 142 (questioning the “effectiveness of these internal initiatives to discourage and eliminate false reviews”); Stemler, *supra* note 4, at 707–10.

be considered a form of false advertising and subject to the Lanham Act of 1940 or state-level antitrust laws, which permit competitors to bring private suits against sellers for posting fake reviews.<sup>303</sup> Some courts have authorized the use of this provision to impose liability for fake reviews.<sup>304</sup> This tool is helpful—competitors may lose market share when a firm fakes its own reviews or use reviews to attack another—but it is also quite limited. Only competitors may employ this tool, and they themselves have limited resources to investigate claims. More fundamentally, the cost of fighting false advertising by a competitor is private, but the benefit accrues to all the firms that compete in the space.

In contrast to private market players, the FTC, the Consumer Financial Protection Bureau, and some state agencies have broad investigative powers.<sup>305</sup> These agencies can investigate fraud and have both the authority and resources to do so effectively.<sup>306</sup> They can also use their powers to fine market players for unlawful behavior, creating the strong deterrence needed to effectively combat the generation of fake reviews.<sup>307</sup> Importantly, fake reviews can be considered a form of false advertising and subject to the Lanham Act or state-level antitrust laws,<sup>308</sup> although the exact mechanisms are beyond the scope of this Article.<sup>309</sup> Reputation failure provides strong reasons for further investment in resources in these measures.

One issue in combating fake reviews is the First Amendment protection of speech. Historically, the First Amendment was not thought to cover fraudulent speech.<sup>310</sup> In *In re R.M.J.*,<sup>311</sup> the Supreme Court held that states are free to regulate advertising that is inherently misleading.<sup>312</sup> And while the recent decision in *United States v. Alvarez*<sup>313</sup> allowed some protection of fraudulent speech in the context of the Stolen Valor Act, such protection is very limited.<sup>314</sup>

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303. 15 U.S.C. § 1125(a) (2012); *see, e.g.*, CAL. BUS. & PROF. CODE § 17200 (West 2019).

304. *Romeo & Juliette Laser Hair Removal, Inc. v. Assara I LLC*, No. 08cv0442(DLC), 2016 WL 815205, at \*21–23 (S.D.N.Y. Feb. 29, 2016).

305. Dodd-Frank Wall Street Reform and Consumer Protection Act § 1052, 12 U.S.C. § 5562 (2012); 15 U.S.C. § 46 (2012).

306. 12 U.S.C. § 5562; 15 U.S.C. § 46.

307. *See also* Arbel, *supra* note 291, at 171–72.

308. *See* 15 U.S.C. § 1125(a); CAL. BUS. & PROF. CODE § 17200; *Assara I LLC*, 2016 WL 815205, at \*21–23.

309. On the regulation of platforms, *see, e.g.*, Max N. Helveston, *Regulating Digital Markets*, 13 N.Y.U. J.L. & BUS. 33, 83–84 (2016).

310. *See* Va. Bd. of Pharmacy v. Va. Citizens Consumer Council, Inc., 425 U.S. 748, 771 (1976).

311. 455 U.S. 191 (1982).

312. *Id.* at 207.

313. 567 U.S. 709 (2012).

314. *Id.* at 719, 730 (allowing regulation of fraudulent speech); *see also* *Donaldson v. Read Magazine, Inc.*, 333 U.S. 178, 190 (1948) (holding that the government’s power “to protect people against fraud” has “always been recognized in this country and is firmly established”).

Fake reviews are by their nature misleading, thus it seems that well-tailored regulations meant to apply this standard would be justified. In addition, the law should limit businesses' ability to offer incentives for favorable reviews, i.e., cherry-picking consumers. Such an approach could sidestep many of the thorny constitutional tensions while advancing the goal of combating reputation failure.

To be clear, it is not expected that regulatory action alone will be capable of eliminating fake reviews. Still, decisive regulatory action can significantly curtail the profitability of this practice. It should also be noted that investing in some of the other measures proposed here would also be helpful in fighting fake reviews. It is much easier and cheaper to cultivate a favorable view of one's restaurant when competing with a handful of reviews; it is much more complex to do so when there are dozens of reviews.

#### 4. *Fostering Positive Incentives*

As argued earlier, because reputation is a public good, consumers often lack sufficient incentive to create it—a problem most acute with respect to middling experiences and unpopular opinions. The nascent law regulating consumer benefits exhibits considerable confusion about this basic point and takes an overly strong stance against incentivizing reviews.<sup>315</sup> Here, again, the microfoundations framework helps delineate the proper limits of providing incentives and behavioral nudges to consumers.

To promote transparency in the market and curb false advertising, the FTC announced new guidelines in 2015 that regulate incentivized reviews.<sup>316</sup> The context of these guidelines is facially reasonable: the ascendancy of social media has created a new form of endorsement—reviews by “influencers,” or individuals who amass many followers. Companies are estimated to be spending billions of dollars paying influencers to endorse products on their social media accounts.<sup>317</sup> In response, the FTC sought to require influencers to disclose their financial interests.<sup>318</sup>

The result, however, is the proverbial throwing out the baby with the bathwater. Consumers need incentives and nudges to produce accurate reputational information, which are outcomes of consumers not internalizing the benefits of reputational information.<sup>319</sup> Direct incentives consist of free products, discounts, payments, and commissions. Nudges, such as prompts to rate the previous

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315. 16 C.F.R. § 255 (2019).

316. *Id.*

317. See Suzanne Kapner and Sharon Terlep, *Online Influencers Tell You What to Buy, Advertisers Wonder Who's Listening*, WALL ST. J. (Oct. 20, 2019, 8:59 PM) <https://www.wsj.com/articles/online-influencers-tell-you-what-to-buy-advertisers-wonder-whos-listening-11571594003>.

318. 16 C.F.R. § 255.5 (2019).

319. See *supra* Subpart III.B.

experience before engaging in a new transaction or reminders to rate and review, also increase the creation of consumer reputational information.<sup>320</sup>

Despite the importance of such incentives and nudges, the FTC guidelines impose onerous disclosure requirements that are triggered almost indiscriminately without attention to context. For example, if a restaurant chooses to offer free meals on its opening night so as to incentivize traffic, every person dining there has to disclose her financial stakes when discussing her experience—even if the restaurant never asked for any review, much less a favorable one.<sup>321</sup> The same goes for a “dollar-off” coupon, sweepstakes promotions, or even charity donations.<sup>322</sup> The imposition of such broad duties is not only onerous but it also has unwanted secondary effects. Like the harried student highlighting the entire textbook, there is danger in indiscriminate disclosure. Using the same disclosure standards for content-neutral and content-biased reviews can be misleading. Even worse, mandating such disclosures may exacerbate the problem of regression to the extreme. Research finds that disclosing financial incentives may create a “moral license” to exaggeratedly extol the virtues of the product.<sup>323</sup>

There is a readily available alternative. The developing international standard permits the use of content-neutral incentives.<sup>324</sup> Under this standard, businesses may legitimately offer incentives to reputation creators if it ensures that the resulting opinion arises independently of the incentive.<sup>325</sup> A content-neutral incentive may include offering free products under an agreement that clearly states that the user has full discretion over the content of the review and that future promotions will not be made contingent on her response.<sup>326</sup> Or businesses can provide discounts to consumers who review a product, so long as the review is anonymized by a trusted third-party.<sup>327</sup> Research on the effect of such incentives is scant, but it suggests that content-neutral reviews are effective. A recent study compared incentivized reviews to organic ones, both qualitatively and

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320. Stemler, *supra* note 4, at 684–85 (discussing creation of reputational information by encouraging or requiring users to leave feedback after a transaction is complete).

321. FTC, THE FTC’S ENDORSEMENT GUIDES: WHAT PEOPLE ARE ASKING 5 (2017).

322. *Id.* at 4.

323. See Loewenstein et al., *supra* note 213, at 424–25.

324. See Int’l Consumer Prot. & Enft Network, *Online Reviews & Endorsements: ICPEN Guidelines for Review Administrators*, 8 (June 2016).

325. See *id.*

326. See *id.* (stating that financial or material benefits should be given by review administrators to all types of reviews); see, e.g., FTC, *supra* note 321.

327. See Int’l Consumer Prot. & Enft Network, *supra* note 324, at 8; see, e.g., Maria Petrescu et al., *Incentivized Reviews: Promising the Moon for a Few Stars*, 41 J. RETAILING AND CONSUMER SERVS. 288, 292 (2018) (stating reviewers are given incentives such as discounted products from third party companies).

quantitatively.<sup>328</sup> Not surprisingly, incentivized reviews put less emphasis on price; but importantly, there was no difference in rating between the content-neutral-incentivized and organic reviews.<sup>329</sup> Thus, incentives can have desirable effects for creating reliable reputational information.

##### 5. *Controlling Costs: First Amendment and Reputation*

The last set of solutions builds on the key insight that the *costs* of reputation generation are wholly private, but the benefits are partly public. This Subpart advocates the expansion of free speech safeguards provided by the First Amendment to consumer reviews.

Today, with increasing frequency, lawsuits are brought against consumers for providing reviews.<sup>330</sup> Businesses latch onto factual inaccuracies (some small or innocent) and sue using a variety of doctrines including defamation, tortious interference, injurious falsehoods (commercial disparagement),<sup>331</sup> and false light.<sup>332</sup> One report finds that “negative reviews have become the subject of dozens of lawsuits across Texas in recent years,” and there is a growing sense that this happens across the nation.<sup>333</sup> The consequences of such lawsuits can be dire: a woman complaining online about the services of her divorce attorney was charged with \$350,000 in damages.<sup>334</sup> Admittedly, such judgments are relatively exceptional. However, the threat is not just liability but also litigation. Indeed, according to Professor Lyriisa Lydsky, a primary reason such lawsuits are brought is not to collect damages but to silence.<sup>335</sup> And this menacing effect is amplified by consistent media coverage of such lawsuits.<sup>336</sup>

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328. Petrescu et al., *supra* note 327, at 291, 293.

329. *See id.* at 294 (finding that providing incentives does not affect the “satisfaction ratings assigned to the product in the form of ‘stars’ from one to five” although they do find some evidence of “potential linguistic and sentiment differences found in the qualitative analysis”).

330. *See, e.g.*, Brittany Glas, *Think Twice Before You Post a Negative Review Online*, KXAN (Feb. 14, 2018), <https://kxan.com/news/local/austin/think-twice-before-you-post-a-negative-review-online/>.

331. *See* LOUIS ALTMAN & MALLA POLLACK, 3 CALLMANN ON UNFAIR COMPETITION, TRADEMARKS, & MONOPOLIES, §11:13 (4th ed., 2019). States differ considerably; *see also* Gillon v. Bernstein, 218 F. Supp. 3d 285, 301 (D.N.J. 2016) (considering whether an unfavorable review amounts to product disparagement).

332. RESTATEMENT (SECOND) OF TORTS § 623A, § 623A cmt. g, § 652E, § 652E cmt. b (AM. LAW INST. 1977).

333. Glas, *supra* note 330.

334. Blake v. Giustibelli, 182 So. 3d 881, 884 (Fla. Dist. Ct. App. 2016); *see also* Samson Habte, *Court Affirms \$350k Verdict for Lawyer Smeared on Avvo*, BLOOMBERG L. (Jan. 27, 2016), <https://www.bloomberglaw.com>.

335. *See* Lyriisa Barnett Lidsky, *Silencing John Doe: Defamation & Discourse in Cyberspace*, 49 DUKE L.J. 855, 858–60 (2000) [hereinafter Lidsky, *Silencing John Doe*]; *see also* Lyriisa Barnett Lidsky, *Anonymity in Cyberspace: What Can We Learn from John Doe?*, 564 B.C. L. REV. 1373, 1374 (2009).

336. *See, e.g.*, Beth Landman & Julia Marsh, *I Wrote a Negative Yelp Review – and It Made My Life a Nightmare*, N.Y. POST (May 28, 2018),

To compound the matter further, in handling these lawsuits, consumers face the common risk of de-anonymization.<sup>337</sup> Nor is state legislation very helpful. Anti-Strategic Lawsuits Against Public Participation (“Anti-SLAPP”) legislation meant to combat abusive lawsuits is not broadly adopted or consistently applied.<sup>338</sup> Finally, even slight increases in cost can dissuade reviewers (reduce the number of reviews). One experiment, for example, tested how small costs affect behavior and found that “[r]emoving a cost of only \$0.25 . . . leads to a more than 50 percentage point increase in the frequency of rating.”<sup>339</sup>

Some examples might be helpful in appreciating the chilling effect of litigation risk. One New Jersey consumer, Jane Perez, complained online about her contractor, stating, “My home was damaged: the ‘work’ had to be re-accomplished . . . he invoiced me for work not even performed.”<sup>340</sup> The contractor sued Perez for \$750,000 in damages for defamation.<sup>341</sup> The contractor finally lost the suit, but along the way, Ms. Perez deleted her review and had to defend herself through an expensive five-day jury trial.<sup>342</sup> Or, take the case of Las Vegas consumer Pamela Boling.<sup>343</sup> She sought the assistance of a tax professional to help demonstrate her economic hardships to tax authorities. However, the service she received was below her expectations, so she turned to Yelp and wrote a review concluding “this is MALPRACTICE!”<sup>344</sup> Soon after, the business filed a defamation lawsuit against her. To ward off the lawsuit, she spent \$40,852 in litigation costs.<sup>345</sup> Although she ultimately won the case

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<https://nypost.com/2018/05/28/i-wrote-a-negative-yelp-review-and-it-made-my-life-a-nightmare/>.

337. See, e.g., *Yelp, Inc. v. Hadeed Carpet Cleaning, Inc.*, 770 S.E.2d 440, 441 (Va. 2015) (ruling, by the Supreme Court of Virginia, that authority exists for disclosing the identity of the consumers); see also Lori A. Roberts, *Brawling with the Consumer Review Site Bully*, 84 U. CIN. L. REV. 633, 653–56 (2016) (reviewing the procedures involved in de-anonymizing consumers). Every month, Yelp receives about six subpoenas to reveal the identity of consumers and many more requests are filed with the courts. See Loten, *supra* note 276.

338. For a review of state legislation, see *State Anti-SLAPP Laws*, PUB. PARTICIPATION PROJECT, <https://anti-slapp.org/your-states-free-speech-protection> (last visited Dec. 3, 2019); see also Aaron Smith, Note, *SLAPP Fight*, 68 ALA. L. REV. 303, 305 (2016) (surveying anti-SLAPP legislation and exploring the uncertainty surrounding their applicability in federal courts).

339. Lafky, *supra* note 106, at 561.

340. Complaint at 3–4, *Dietz Dev., LLC v. Perez*, 2012 Va. Cir. LEXIS 139 (Va. Cir. Ct. Dec. 7, 2012) (No.2012-16249).

341. *Id.* at 9–10.

342. See Paul A. Levy, *Ruminations About Dietz v. Perez*, PUB. CITIZEN (Mar. 28, 2014, 6:22 PM), <http://pubcit.typepad.com/clpblog/2014/03/ruminations-about-dietz-v-perez.html>.

343. Defendant Pamela Boling’s Motion for Costs and Attorneys’ Fees Under NRS 41.670 at 1, *IQTAXX, LLC v. Pamela Boling*, 2016 WL 4924268 (Nev. D. Ct. May 12, 2016) (No. 15-A-728426-C).

344. *Id.* at 4.

345. *Id.* at 15.

and recovered some costs, the process was long, risky, and caused her to redact her original opinion—suppressing a view that the court deemed legitimate.<sup>346</sup> Finally, consider the case of Stephen Glover, who posted a negative review about his lawyer, claiming that he was the “[w]orst ever” because he yelled at him to “GOOGLE IT!” in response to a question and otherwise acted unprofessionally.<sup>347</sup> This review led to a two-year defamation lawsuit and appeal where Glover, finally, prevailed.

The chilling effect of lawsuits is related to the lack of legal safeguards to protect consumer speech.<sup>348</sup> Under prevailing standards, businesses can bring a defamation lawsuit against consumers if the review contains some factual inaccuracies.<sup>349</sup> From a First Amendment perspective, some courts have been willing to accept that reviews are a matter of public interest and therefore should be protected under the First Amendment, but the scope of protection is slim. In a recent case, the Oregon Supreme Court explained that reviews are protected only if “a reasonable factfinder could not conclude that [the consumer’s] review implies an assertion of fact.”<sup>350</sup> In effect, the decision underscores the costs borne by consumers who pen reviews. Beyond the possibility of an anticonsumer mistake by judges or juries,<sup>351</sup> it is simply difficult for most consumers—especially those who are emotional—to write reviews that clearly communicate an opinion or avoid any factual inaccuracies given inevitable gaps in recollection, errors in phrasing, or strong emotions.<sup>352</sup>

If we recognize the social importance of consumer reviews, the weak positive incentives to produce them, and the risk of liability or even just litigation, a few solutions present themselves. One moderate solution is greater adoption and broader implementation of anti-SLAPP legislation.<sup>353</sup> This legislation is useful because it imposes costs on strategic lawsuits by businesses. But it is also limited. To win such a suit, the consumer has to prove that the

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346. *See id.*

347. *Spencer v. Glover*, 397 P.3d 780, 783 (Utah Ct. App. 2017).

348. *See* DAN B. DOBBS ET AL., *THE LAW OF TORTS*, 159–61 (2d ed. 2011 & Supp. 2016); W. PAGE KEETON ET AL., *PROSSER AND KEETON ON THE LAW OF TORTS* 771–72, 839–40 (5th ed. 1984).

349. DOBBS ET AL., *supra* note 348, at 167–71; MCNAMARA, *supra* note 63, at 2; *see* *Sim v. Stretch* [1936] 52 Times L. Rep. 669, 669–71 (UK).

350. *Neumann v. Liles*, 369 P.3d 1117, 1126 (Ore. 2016) (interpreting *Milkovich v. Lorain Journal Co.*, 497 U.S. 1 (1990)).

351. Nuno Garoupa, *Dishonesty and Libel Law: The Economics of the “Chilling” Effect*, 155 J. INSTITUTIONAL THEORETICAL ECON. 284, 285, 289 (1999).

352. Lidsky, *Silencing John Doe* *supra* note 335, at 865 (noting the current protections are “inadequate”).

353. *See* Smith, *supra* note 338, at 305. The “SLAPP” in anti-SLAPP stands for “strategic lawsuit against public participation.” Dan Frosch, *Venting Online, Consumers Can Find Themselves in Court*, N.Y. TIMES (May 31, 2010) <https://www.nytimes.com/2010/06/01/us/01slapp.html?module=inline>.

business does not stand a good chance of prevailing, which—given the current legal standards and the limited resources consumers have—is tough.<sup>354</sup> Other options also include the use of legal aid subsidies or crowdfunding to defend consumers, arbitration, and other forms of alternative dispute resolution, and agency audits.<sup>355</sup>

The most powerful solution would be a First Amendment protection in the form of a consumer review privilege.<sup>356</sup> Today, political speech enjoys broad protections under the *New York Times v. Sullivan*<sup>357</sup> standard.<sup>358</sup> Despite the recognition that protecting political speech could foster false allegations, the Supreme Court expressed a strong preference for the promotion of speech on matters involving public figures.<sup>359</sup> As a result, the Court ruled that unless plaintiffs can show malice on the defendant's side, a lawsuit cannot be brought.<sup>360</sup> As a result, such lawsuits are relatively rare. Future cases, most notably *Dun & Bradstreet, Inc. v. Greenmoss Builders*,<sup>361</sup> emphasized that issues of public interest are also deserving of greater protection.<sup>362</sup> This is explained on the basis of the positive externality of speech, a feature that consumer reviews also share.<sup>363</sup>

A consumer review privilege would still permit businesses to bring lawsuits against false reviews, but they will have to be able to show malice on the consumer side. Such a privilege will greatly reduce the business ability to strategically drag consumers to court.<sup>364</sup> The privilege would also protect consumers in the lawsuit itself, although given the high win rate consumers enjoy today, this effect is admittedly small. Additionally, this privilege will considerably limit

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354. See *id.* at 305, 316–18, 325.

355. See Arbel, *supra* note 291, at 158; Ronen Perry, *Crowdfunding Civil Justice*, 59 B.C. L. REV. 1357, 1359–60 (2018) (describing the use of crowdfunding to subsidize litigation).

356. See Lyrissa Barnett Lidsky & Ronnell Andersen Jones, *Of Reasonable Readers and Unreasonable Speakers: Libel Law in a Networked World*, 23 VA. J. SOC. POL'Y & L. 155, 157–59 (2016) (exploring how policymakers can amend the rules on expression of opinion and the malice requirements to control speech).

357. 376 U.S. 254 (1964).

358. See *Gertz v. Robert Welch, Inc.*, 418 U.S. 323, 334–37, 340 (1974); *Sullivan*, 376 U.S. at 269–70; see also Anthony Lewis, *New York Times v. Sullivan Reconsidered: Time to Return to "The Central Meaning of the First Amendment"*, 83 COLUM. L. REV. 603, 604 (1983) (noting that the Supreme Court had gone “for 170 years without finding in the first amendment any limits on libel judgments”). *But cf.* *Milkovich v. Lorain Journal Co.*, 497 U.S. 1, 18–19 (1990) (holding that there is no “wholesale defamation exemption for anything that might be labeled ‘opinion’”).

359. See *Sullivan*, 376 U.S. at 269–70.

360. See *id.* at 279–80.

361. 472 U.S. 749 (1985).

362. See *id.* at 758–59 (1985); see also *Snyder v. Phelps*, 562 U.S. 443, 453–54 (2011) (testing what counts as public interest).

363. See POSNER, *supra* note 47, at 297–98.

364. For an early expression of this sentiment, see THOMAS STARKIE, A TREATISE ON THE LAW OF SLANDER, LIBEL, SCANDALUM MAGNATUM, AND FALSE RUMOURS xx–xxi (New York, J. & J. Harper 1826).

the ability of businesses to de-anonymize consumers. As a result, this privilege would significantly reduce the cost of legal liability making speech more attractive on the margin. Indeed, existing privileges are also justified by the positive externalities of speech, so this privilege would be a natural extension.

Some have objected to protecting consumers' reviews on the ground that it encourages reckless or deliberate lies by consumers against businesses.<sup>365</sup> However, objections of this sort have not sufficiently accounted for the public value of reputation or its microfoundations.<sup>366</sup> They assume that consumers share a desire to besmirch the reputation of firms but say little about why (or when) consumers care to tell the truth in the first place. Moreover, they have not analyzed the dynamic equilibrium that emerges from a lax defamation regime. In short, people tend to place less trust in assertions that are made in the absence of defamation law and so the negative impact of lies would be much abated.<sup>367</sup> Thus, the opposition to consumer review privileges should be revisited. At the very least, scholars and policymakers should adopt a more skeptical approach to the social utility of defamation laws, and courts should better understand the chilling effect of their rulings, even when the case is finally disposed of in favor the consumer.

## V. CONCLUSION

Reputation is fundamental to the operation of many markets. When reputation works, it works extremely well; it disciplines sellers at a low cost, saving the need for courts and lawyers. But reputation can also fail. Today, many are too excited by the rise of the sharing economy to see that the microfoundations on which it rests are faltering.

Earlier scholarship—in law, economics, sociology, and biology—has trusted reputation to work well, at least in certain domains. This Article explained why careful analysis of the microfoundations of reputation—the microincentives that lead individuals to create and share reputational information—suggests the potential of reputation failures. Such failures have a significant bearing on future policymaking and contracts scholarship in particular. Most directly, it invites greater skepticism towards current trends to deregulate consumer transactions on the basis of faith in the internal regulatory power of market forces.

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365. See Dohse, *supra* note 137, at 390–91.

366. See Heymann, *supra* note 63, at 1417–23 (arguing that the public interest dimension of reputation has been neglected).

367. See Yonathan A. Arbel & Murat Mungan, *The Case Against Strong Defamation Laws 6–7* (Univ. of Ala. Legal Studies Research Paper No. 3311527), [https://papers.ssrn.com/sol3/papers.cfm?abstract\\_id=3311527](https://papers.ssrn.com/sol3/papers.cfm?abstract_id=3311527).

The most ambitious goal of this Article is to carve a path for future regulation of consumer markets—Reputation-by-Regulation, i.e., the use of laws and institutions to improve the flow of reputational information to the market. This approach holds considerable promise. Like mandatory disclosures, the law of reputation seeks to improve markets indirectly by providing consumers with reliable information that would allow them to make informed purchasing decisions.<sup>368</sup> By identifying and removing reputational failures, the law can increase consumer welfare without mandating any specific set of terms, thus preserving autonomy and freedom of contract.<sup>369</sup> Addressing reputation failure should be the cornerstone of future consumer policy.

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368. See, e.g., John C. Coffee, Jr., *Market Failure and the Economic Case for a Mandatory Disclosure System*, 70 VA. L. REV. 717, 728–29 (1984); Amy J. Schmitz, *Remedy Realities in Business-to-Consumer Contracting*, 58 ARIZ. L. REV. 213, 217, 219 (2016) (“Classical contract doctrine prefers formulistic disclosure rules . . . [D]isclosure bolsters freedom of contract by giving consumers an opportunity to review contract terms before consenting.”).

369. See Andrew T. Bond, Essay, *An App for That: Local Governments and the Rise of the Sharing Economy*, 90 NOTRE DAME L. REV. ONLINE 77, 95–96 (2015) (arguing that reputational incentives allow deregulation).