Micro-Costs

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The modern world is filled with tiny attentional impositions (cognitive-asks) that inflict small mental burdens (micro-costs) on virtually everyone, everywhere, all the time. Micro-costs make life worse, and everybody knows it. They sap collective energy; they lead to worse decisions; they exacerbate inequality; and they contribute to an overall sense of "mismanagement" in the world, a sentiment that readily pairs with destructive political impulses.

Yet the law has essentially ignored micro-costs—until now. In what follows, we construct a theory of micro-costs that gives the phenomenon analytic shape and charts a path forward for reform. Drawing on the insights of philosophy, economics, and cognitive science, we canvass the ways that micro-costs crowd out the best parts of life, impair cognitive performance, and inflame societal disaffection. Micro-costs are everywhere—cutting across otherwise-disparate spheres of life—because a host of technological, social, and organizational developments have made cognitive-asks cheaper, more valuable, and harder to avoid than in years past. Motivated by this diagnosis, the Article culminates with a number of ideas for regulating micro-costs on the ground.

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** Professor of Law and Director of the Health Law, Policy, & Management Program, Texas A&M; Harvard University, J.D.; Stanford University, A.B. The sheer volume of insightful comments we received on early drafts of this Article—from colleagues across the country—was staggering. That input was crucial to improving the Article. Because so many people played a role, we literally cannot list them all, but we sincerely extend genuine thanks. What we have chosen to do instead is list those colleagues who showed a special fortitude in not only commenting on our drafts, but in tirelessly entertaining, with no visible display of irritation, repeated follow-up questions from us—in particular Professors Tim Fisher, Jill Anderson, Carleen Zubrzycki, Anne Dailey, Peter Siegelman, Michael Fischl, Peter Lindseth, Anya Bernstein, Nadiyah Humber, Murat Mungan, Hannah Bloch-Wehba, Travis Pantin, and Vanessa Casado Perez. We also thank our indefatigable research assistants Emmakate Foley, Samuel Valas, Chadrick Dewey, Brandon Robinson, Chris Overmeer, and Gregory Fassuliotis for their exceptional work.

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INTRODUCTION

Either there is a heaven, or there is not.

But if there *is*, here are a few things it won't have: terms of service "revisions," read receipts, push notifications, one-time verification codes, bloated "cc" lines, surveys, scheduling polls, software "updates," planning calls, newsletters, approval requests, group texts, "check-in" portals, customer service menus, "unsubscribe" systems—and so on. Heaven won't have those things because, as we all know from experience, they're mostly terrible.[1]

We jest about the afterlife in service of a serious point about the here and now. In today's world, a *colossal* amount of people's time and energy is being wasted. Daily life is virtually defined by tiny-but-incessant demands on attention that are necessary—and ever-growing—to keep up with social, civic, and professional life.[2] We refer to these demands as "cognitive-asks" and to the resulting expenditures of attention as "micro-costs."

Every reader knows exactly what we are talking about. Yet theorists and lawmakers alike have ignored (or dismissed) micro-costs. That is a serious mistake. Micro-costs are a major threat to individual and societal welfare. That micro-costs are seemingly trivial in isolation has blinded observers to the fact that, at *scale*, micro-costs are a destructive swarm.[3] They have siphoned cognitive energy away from subjects of actual import into the endless triage of trifling matters.[4] They have colonized everyday life in a way that interrupts emotional repose and corrodes human flourishing.[5] They have sown institutional distrust and inflamed political disaffection in fragile times.[6]

Furthermore, like so many social ills, micro-costs are inequitably distributed. They are borne most heavily by the most vulnerable—the needy, the working poor, low-level criminal offenders—all of whom find themselves subject to micro-cost gauntlets merely in their effort to survive.[7] That said, the micro-cost dynamic is not limited to any one domain or group; it suffuses our lives as

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1. We make no warranties, however, about the *other* place. *Cf.* GRANT GILMORE, THE AGES OF AMERICAN LAW 111 (1st ed. 1977) (suggesting Hell would have a significant number of rules and administrative tasks).

2. *See, e.g.*, Elizabeth F. Emens, *Admin*, 103 GEO. L.J. 1409, 1412 (2015) (canvassing the myriad—and growing—forms of rote informational management work that are required to maintain social and professional life). *See generally* TIM WU, THE ATTENTION MERCHANTS: THE EPIC SCRAMBLE TO GET INSIDE OUR HEADS (2016) (pioneering a legal theory of the "attention economy," focused on the extraction of surplus from small cognitive tasks).

3. *See, e.g.*, Richard E. Cytowic, *Why We're All Overwhelmed Today*, PSYCH. TODAY (Oct. 21, 2014) https://www.psychologytoday.com/us/blog/the-fallible-mind/201410/why-were-all-overwhelmed-today [https://perma.cc/4932-6LCG] (suggesting that the human brain cannot handle the vast numbers of requests on our attention); David Brooks, Opinion, *Death by a Thousand Paper Cuts*, N.Y. TIMES (Jan. 18, 2024), https://www.nytimes.com/2024/01/18/opinion/american-life-bureaucracy.html ("The growth of bureaucracy costs America over $3 trillion in lost economic output every year . . . .").

4. *See infra* Section II.B (discussing the material impacts of micro-costs).

5. *See infra* Section II.A (discussing the psychological impacts of micro-costs).

6. *See infra* Section II.C (discussing the societal impacts of micro-costs).

7. *See infra* Section II.C (discussing the disproportionate impact of micro-costs on the marginalized).

citizens, as laborers, and as consumers all at once, cutting across interactions with state agencies, employers, and all manner of merchants and service providers.[8] The presence of micro-costs everywhere—and the difficulty in avoiding them—contributes to widespread alienation and malaise. In our divided age, that could readily curdle into something far worse.

How did we arrive at this unhappy state? The short version is that in previous eras, because information was sufficiently costly to record, organize, transmit, and exploit, organic limits existed on the overall volume of cognitive-asks.[9] Certainly, cognitive-asks occurred. But they did not multiply without bound. Rather, they followed the normal—logarithmic—pattern of diminishing marginal returns. In recent years, especially the last decade, that has changed. The marginal cost of producing cognitive-asks has plummeted; the value of making them has increased; and engagement with cognitive-asks has become easier to compel.[10] As a result, micro-costs have proliferated in type and ballooned in quantity: a flood of small, incessant demands on attention that permeate everyday life. The good news is that the problem of micro-costs is not hopeless. Importantly (and contrary to the despairing intuitions of many), there are times, places, and ways that the law *could* address micro-costs. We begin that complex conversation here.[11]

There are many reasons why micro-costs have escaped scholarly treatment—and why this Article is the first of its kind. But one reason, we suspect, is the almost impossibly broad sweep of the problem. Micro-costs mediate, at ever-greater volume, virtually all forms of social coordination today—creating, transacting, fraternizing, governing, educating, care-providing—at both the grandest and most banal levels. The problem is big, diffuse, and heterogeneous. Moreover, it does not track the organizing dyads of mainstream legal and political theory, e.g., public vs. private, plaintiff vs. defendant, or consumption vs. production. All of this, in our view, only makes micro-costs more important to study.[12] Micro-costs are a social phenomenon in search of analytic form. And this Article—by naming and classifying a widespread phenomenon; by constructing a rich theory

8. *See infra* Section I.B (emphasizing the presence of micro-costs in many domains).

9. This is a familiar pattern in the "technology governance" space, particularly with respect to practices that have historically been limited more by functional constraints and social norms than legal regulation. *See, e.g.*, Rebecca Crootof & BJ Ard, *Structuring Techlaw*, 34 HARV. J.L. & TECH. 347, 353–54, 378 (2021) (offering a taxonomy of different ways that technological change can "disrupt[]" legal regimes); Jack M. Balkin, *Old-School/New-School Speech Regulation*, 127 HARV. L. REV. 2296, 2297 (2014) (exploring how these dynamics play out in the context of social media and content moderation on other web-based platforms).

10. *See infra* Part III (describing how micro-costs have spread in type and quantity).

11. *Cf.* Yochai Benkler, *The Alternative to Despair is to Build an Ark*, 373 SCIENCE 750, 750 (2021) (arguing for a concerted effort to counteract disinformation instead of resignation).

12. In this vein, we draw inspiration from other theorists who have explored the cross-contextual dynamics of the recent "informational turn" in social life. *See, e.g.*, JULIE E. COHEN, BETWEEN TRUTH AND POWER: THE LEGAL CONSTRUCTIONS OF INFORMATIONAL CAPITALISM 1 (2019); SHOSHANA ZUBOFF, THE AGE OF SURVEILLANCE CAPITALISM: THE FIGHT FOR A HUMAN FUTURE AT THE NEW FRONTIER OF POWER 8 (2019).

that explains the phenomenon's origin, its staying power, and its perils; and by advancing a conceptual framework to guide reform and empirical work—offers precisely that.[13]

* * *

Our Article proceeds in five parts. First, after providing a definition of micro-costs, we offer a series of vignettes designed to bring the phenomenon alive by canvassing the way micro-costs pervade everyday life.[14]

Second, we elaborate the drawbacks of excessive micro-costs—drawbacks consistent with intuition and contemporary experience but largely absent from any serious discussion in the legal literature. Micro-costs, we argue, make it harder for everyone (apart from the ultra-wealthy) to flourish. More specifically, micro-costs deplete limited cognitive resources, enable poor decisions, corrode the pursuit of a satisfying life, and leave people feeling disaffected and potentially hostile to longstanding cooperative traditions. Furthermore, micro-costs are regressive along a number of familiar axes. For groups like low-wage workers, recipients of public benefits, and justice-impacted individuals—demographic categories all indexed to race—the micro-cost problem extends and intensifies a long history of monitoring and control.[15]

Third, we use our vignettes, as well as more methodical arguments, to explore the problem's genesis. Why have cognitive-asks and micro-costs spiraled out of control, especially in the last decade? Our explanation focuses on three dynamics. Today, because of a host of technological, organizational, and social developments, cognitive-asks are (1) vastly cheaper to make, (2) worth more to the asker, and (3) much harder to avoid than in the past. The collective result of these trends is an avalanche of micro-costs.[16]

Fourth, we show why the market will not save us. Micro-costs are often "shrouded," that is, not incorporated into initial transactions, which makes them difficult for counterparties to parse and dampens incentives for micro-cost reduction.[17] In addition, because micro-costs are, by nature, extremely diffuse, individual firms generally cannot

13. Many of the most important theoretical and doctrinal developments of the last century began with canvassing—and labeling—an already-known but analytically elusive phenomenon. The paradigm case is Catharine MacKinnon's majestic work on sexual harassment. *See* CATHARINE A. MACKINNON, SEXUAL HARASSMENT OF WORKING WOMEN: A CASE OF SEX DISCRIMINATION 4 (1979).

14. *See infra* Section I.B (providing several scenes to illustrate micro-costs in everyday life).

15. *See infra* Section II.C. On the relationship between social control, managerialism, and racial subordination, see REUBEN JONATHAN MILLER, HALFWAY HOME: RACE, PUNISHMENT, AND THE AFTERLIFE OF MASS INCARCERATION 9 (2021) (exploring the daily bureaucratic overhead—in our lexicon, micro-costs—of supervised release) and ISSA KOHLER-HAUSMANN, MISDEMEANORLAND: CRIMINAL COURTS AND SOCIAL CONTROL IN AN AGE OF BROKEN WINDOWS POLICING 183 (2018) (theorizing the "hassle" associated with misdemeanor arrests and adjudication as a form of social control).

16. *See infra* Part III.

17. *See* Xavier Gabaix & David Laibson, *Shrouded Attributes, Consumer Myopia, and Information Suppression in Competitive Markets*, 121 Q.J. ECON. 505, 510, 531 (2006) (demonstrating through formal modeling that rational firms often have no incentive to de-shroud costs); *see, e.g.*, Jennifer Brown et al., *Shrouded Attributes and Information Suppression: Evidence from the Field*, 125 Q.J. ECON. 859, 871, 875 (2010) (confirming sellers on eBay often shroud consumers' shipping costs).

make enough of a difference to the overall problem that it becomes rational to "compete on micro-costs."[18] Finally, firms that *do* seek to compete on micro-costs face major barriers to convincing counterparties of that intention; advertisements of (genuine) micro-cost reduction are often indistinguishable from other micro-costs.[19]

Fifth and finally, we explore what law can do to curb the proliferation of cognitive-asks. While many observers have assumed the problem is insoluble—i.e., that being buffeted with micro-costs is part and parcel of modern life with little potential for solutions—we show that view is unnecessarily pessimistic. The reason micro-costs are painfully overabundant is that cognitive-asks are too cheap, too valuable, and too hard to avoid.[20] Reforms that accomplish the opposite—along the dimensions of cost, value, or avoidance—constitute a path forward. Some potential solutions are quite traditional in their conceptualization if not in their application to micro-costs; these include bans, taxes, and quotas. Other solutions, meanwhile, are more innovative, such as a "mandatory option" mechanism that would require firms to offer two different versions of the same product—one that incorporates micro-costs and one that does not—to facilitate dynamic pricing and consumer choice. Whatever the exact approach that reformers choose to adopt, the answer to micro-costs will likely be some combination of old solutions creatively deployed and new solutions carefully developed.[21]

That said, important as legal change can be, law obviously has limits. Longer-term change will require the transformation of norms.[22] Part of the micro-cost problem, after all, is the sense of despair and powerlessness that accompanies cognitive-asks. We have all grown accustomed to a world in which everyday life requires navigating a multitude of tiny-but-grating information management tasks, so we acquiesce. The phenomenon has not gone unnoticed. In fact, it is hard *not* to notice—a host of observers, across media, have been lamenting the omnipresence of administrative structures that sap cognitive energy today.[23] The shortfall comes in rigorous concrete responses, which is what this Article aims to propose. Our hope, however, is that legal interventions we develop here will not stand on their own; rather, they will spur an evolution of norms and deeper calls for change, regarding the organization of social, civic, and professional life.

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18. *See* Oren Bar-Gill, *The Behavioral Economics of Consumer Contracts*, 92 MINN. L. REV. 749, 758–59 (2008) (arguing that when certain anti-consumer practices are pervasive in an industry, it is not in any individual firm's interest to educate consumers).

19. *See infra* Section IV.B (describing an epistemological barrier to micro-cost reduction on an individual firm's level).

20. *See infra* Part III.

21. *See infra* Part V (proposing a range of possible solutions to micro-costs).

22. *See* Richard A. Posner, *Social Norms and the Law: An Economic Approach*, 87 AM. ECON. REV. 365, 367 (1997) (exploring the mechanisms by which legal change exerts influence on social norms).

23. *See, e.g.*, Brooks, *supra* note 3 (lamenting the increase of bureaucracy and its effect on Americans' finances, time, and freedom); Annie Lowrey, *The Time Tax*, ATLANTIC (July 27, 2021), https://www.theatlantic.com/politics/archive/2021/07/how-government-learned-waste-your-time-tax/619568 (stating that the expansion of bureaucracy comes at an expense of Americans' time).

I. THE MICRO-COST PROBLEM

In this Part, our goal is to define the phenomenon—as a foundation for exploring its origins, pathologies, and prognosis below. Our definitional strategy is two-fold. First, we formalize the idea of "cognitive-asks" and "micro-costs." What analytic work do we intend these labels to do? Which phenomena do they pick out, which do they exclude, and how does their conceptual content relate to other—more familiar—legal categories? Second, we bring the formal description alive through a handful of vignettes, which aim to capture the *experience* of hypertrophic micro-costs. The vignettes are meant to be both relatable and wholly unremarkable. They are supposed to resonate with the pedestrian vicissitudes of everyday life.

A. FORM

Let us begin with some formal—deliberately arid—definitions. "Cognitive-asks" refer to *any effort by Party X to temporarily command the attention of Party Y*. The style, frequency, duration, and purpose of this effort can vary dramatically. Some cognitive-asks are high-salience (a letter from the IRS informing someone of impending tax fraud charges), whereas others are low-salience (a random business soliciting performance feedback after a complete transaction). The important thing is that cognitive-asks involve one party making a demand—an ask—on the other party's attention.

Against this backdrop, "micro-costs" refer to *the diminution of utility—the loss of time, energy, and happiness—occasioned by responding to low-salience cognitive-asks*.[24] Diminution of utility occasioned by high-salience cognitive-asks, like a notice of impending tax fraud prosecution, fall beyond our horizon of concern. Not because they are unimportant; they are certainly important, and they can exhibit dynamics of proliferation analogous to those we trace below. The reason we focus on low-salience cognitive-asks is that those are the asks tending to escape critique. They are often treated as innocuous—an outcome of voluntary decisionmaking—deserving of no further scrutiny. We disagree; we believe low-salience asks are

24. The economic term "transaction costs"—denoting all the costs incident to performing a transaction—is too broad to adequately capture the phenomenon. *See, e.g.*, Douglas W. Allen, *What Are Transaction Costs?*, 14 RSCH. L. & ECON. 1, 3–4 (1991). Many if not most traditional transaction costs are major, financial, or both—e.g., physically looking at houses, doing a property title search, obtaining financing, and so on—rather than small or mental. *See, e.g.*, Gerti Dudkin & Timo Välilä, *Transaction Costs in Public-Private Partnerships: A First Look at the Evidence*, 1 COMPETITION & REGUL. NETWORK INDUS. 307, 308 (2006) (discussing transaction costs involved in establishing public–private partnerships). The former category is not our subject; major financial costs are transaction costs but not micro-costs. Transaction cost analysis also largely (although not exclusively) focuses on traditional market transactions of import, as opposed to the wide range of minor interactions we analyze here. *See* Allen, *supra* at 3–4. Nor do all accounts of transaction costs credit the burdens we identify here (instead registering them, incorrectly, as *de minimis* or immaterial). *See* Pierre Schlag, *The Problem of Transaction Costs*, 62 S. CAL. L. REV. 1661, 1663 (1989) ("[M]arket-based theorist[s] pose[] a predicate inquiry: Are transaction costs high or not?"). Thus, while some micro-costs might also be categorized as a species of transaction cost, as matter of illumination and emphasis, the micro-cost concept is better suited to convey the cross-cutting reality of the phenomenon and the supra-economic nature of its harms.

exactly what warrant greater attention today. For analytic purposes, accordingly, we put high-salience asks to one side.

Even as our definition is limited to low-salience asks, however, it is deliberately *not* limited to informational practices that (plausibly might) instantiate familiar forms of legal injury, such as "theft,"[25] "deception,"[26] and "abuse."[27] Cognitive-asks resulting in micro-costs can *also* be larcenous or deceptive or abusive, or any number of other injurious things.[28] But many—the vast majority—are not. That, in a sense, is precisely what motivates the analysis. The essence of the micro-cost category (and one of the main upshots of this Article) is that the vast majority of low-salience cognitive-asks are *not* injurious as such; very few low-salience asks, taken in isolation, involve cognizable legal harm. The problem stems from proliferation. It does not lie with any particular micro-cost; it lies with their swarm-like quality in aggregate.

Once again, just to be crystal clear: our account in no way precludes the possibility that some micro-costs, in addition to being "micro-costly," are also injurious in other ways. Tim Wu, for example, has developed an idea of "attentional theft" that in principle could (and in practice likely does) apply to some subset of micro-costs.[29] The point is that this subset—and more generally, the subset of micro-costs that violate *any* traditional tort, property, and consumer protection principles—is very small.[30] We do not mean the analysis to artificially exclude overlap between categories; we fully embrace the idea that some of the phenomena we have in mind also qualify as traditional legal injuries, inviting more familiar modes of regulation. What makes micro-costs interesting and worthy of study, however, is precisely the way they escape diagnosis by traditional legal means.

B. MATTER

So much for formal definitions: what real-world dynamics do we have in mind? By way of illustration, we offer the following vignettes. They mean to capture, in narrative form, the everyday reality of navigating a world in which micro-costs have spiraled out of control.

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25. *See* Tim Wu, *Blind Spot: The Attention Economy and the Law*, 82 ANTITRUST L.J. 771, 778, 801–02 (2019) [hereinafter Wu, *Blind Spot*] (describing "attentional theft"); Tim Wu, *The Crisis of Attention Theft—Ads that Steal Your Time for Nothing in Return*, WIRED (Apr. 14, 2017, 7:00 AM), https://www.wired.com/2017/04/forcing-ads-captive-audience-attention-theft-crime.

26. *See* Wu, *Blind Spot*, *supra* note 25, at 779; *see also* Lauren E. Willis, *Deception by Design*, 34 HARV. J.L. & TECH. 115, 116–17 (2020) (arguing that algorithmic models employed by tech companies are designed to deceive consumers but the law has not kept up).

27. *See* Alison Hung, Note, *Keeping Consumers in the Dark: Addressing "Nagging" Concerns and Injury*, 121 COLUM. L. REV. 2483, 2508–09 (2021) (addressing how the FTC would incorporate an "abuse" doctrine into its conception of consumer harms).

28. Another example is "manipulative" cognitive-asks. *See* Daniel Susser, Beate Roessler & Helen Nissenbaum, *Online Manipulation: Hidden Influences in a Digital World*, 4 GEO. L. TECH. REV. 1, 22–23, 35, 44–45 (2019) (arguing that manipulation should be recognized as a category of harm that is distinct from deception and better explains many corporate practices today).

29. Wu, *Blind Spot*, *supra* note 25, at 802 (explaining attentional theft concept but noting limits).

30. *See infra* Section III.A.3 (explaining general lack of liability for micro-cost infliction).

1. Obtaining SNAP Benefits

Due to rising inflation and food prices, Peter is struggling to make ends meet with his minimum wage job; he has decided to apply for his state's Supplemental Nutrition Assistance Program (SNAP). After six minutes on the website, Peter determines that the first step is to print a twenty-two-page application form, fill it out, make photocopies of it as well as a handful of ancillary "verification documents"—passport, driver license, or birth certificate; up-to-date paystubs from the last four weeks; records of any other public assistance he currently receives—and send all the paperwork to the SNAP office.[31]

Peter does all this, only to receive a letter, eight days later, indicating that his application materials have been marked "incomplete" by an assessor from ProForma, the private firm SNAP contracts with to triage initial applications. The letter goes on to explain that the reason for the incompleteness is "unknown at this time," and that Peter needs to call the ProForma's customer service center—or use their 24-hour chat service—for further details. Peter decides to try the chat service. When he logs on, he immediately receives a message from Belinda, an "automated service assistant." She asks for Peter's account number and after verifying that, explains that she is going to send a verification code to his phone for "fraud deterrence" purposes.

After finishing with these preliminaries, Belinda informs Peter that his application was flagged due to "incomplete information" about his "student status."[32] Peter expresses puzzlement, and Belinda explains that students who are enrolled in school "more than half-time" have to satisfy extra criteria—and furnish extra documentation—to qualify for SNAP benefits, and that Peter's student status is currently unknown.[33] Peter explains that he is not a student, so the extra criteria should not apply to him; Belinda counters that Peter "matches the profile" of an applicant currently enrolled in school more than part-time and that "public records suggest" he may be a student. Accordingly, Belinda continues, Peter will need to send in supplemental documentation of all post-secondary degree programs he has enrolled in, including dates of matriculation and degrees awarded.

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31. This is the actual system in Connecticut (and there is no reason to think Connecticut is anomalous). *See W-1E Application for Benefits*, CONN. DEP'T SOC. SERVS., https://portal.ct.gov/-/media/departments-and-agencies/dss/common-applications/application-for-benefits-w-1e—6.pdf [https://perma.cc/9S7B-XHER] (last visited Feb. 18, 2025).

32. *See, e.g.*, *SNAP for College Students*, D.C. DEP'T OF HUM. SERVS., https://dhs.dc.gov/service/snap-college-students [https://perma.cc/6JJP-L8ZR] (last visited Feb. 18, 2024) (noting higher education students attending "more than half-time" must qualify for an exemption to receive SNAP). For an overview of challenges applicants experience in applying for SNAP, see STACY DEAN, CTR. ON BUDGET & POL'Y PRIORITIES, SNAP: COMBATING FRAUD AND IMPROVING PROGRAM INTEGRITY WITHOUT WEAKING SUCCESS 11 (2016), https://www.cbpp.org/sites/default/files/atoms/files/6-9-16fa-testimony.pdf [https://perma.cc/34XE-LJ8L] ("The overwhelming majority of SNAP errors that do occur result from mistakes by recipients, eligibility workers, data entry clerks, or computer programmers, not dishonesty or fraud by recipients.").

33. *See, e.g.*, D.C. DEP'T OF HUM. SERVS., *supra* note 32.

Peter tells Belinda that he will work on getting this documentation, and he asks about the best way to provide it to the SNAP office. Belinda tells him ProForma has made him a personalized dashboard for just this purpose, and he will get a follow-up email with log-in instructions—but only after he completes two tasks. The first is a survey about his experience with the ProForma Service Assistance System; the second is an "interactive module" about the scope of SNAP benefits, so that he can "better understand the program." Belinda explains that she will text him links to both tasks—he should look for two separate text messages—after they finish the current chat session.

2. Organizing a Panel

Abha is a financial analyst at Firm X. Every month, Firm X hosts a company-wide lunchtime panel, during which employees from different departments discuss "hot topics" in their fields of expertise. Jordan from the "People Solutions" team oversees the program. This month, Jordan has asked Abha, along with two of her coworkers, to discuss cryptocurrency, and Abha has agreed. Two weeks before the panel, Abha receives an email from Jordan with a scheduling poll, asking Abha to "indicate her availability next week for a planning call." The poll has twenty half-hour time slots, and it allows Abha to toggle between three options: *convenient*, *less convenient*, and *unavailable*. Abha spends seven minutes filling out the poll. Later that day, Jordan emails Abha and the other participants again, soliciting preferences as between "three time slots that emerged as most convenient."

In advance of the planning call, Jordan circulates an eight-bullet-point list of potential topics, based on a "crowdsourcing" poll he circulated firm-wide to solicit ideas. Abha logs onto the call, and she and her colleagues spend half an hour volleying general thoughts about cryptocurrency. The morning of the day of the panel, Jordan sends Abha and the other participants an email asking them to furnish, via form, a "two to three sentence preferred description of your bio." Jordan also asks the participants to send in lunch requests, based on an attached menu, and to arrive a few minutes early.

The panel is a success. Abha receives lots of positive feedback, including a number of follow-up emails. Most of the emails are boilerplate notes—"Great job!"—from her immediate colleagues. But three are more involved. The first is an email from Bob, an intern in the finance department, expressing how much he enjoyed her talk, offering a slightly different take on one specific issue she discussed, and forwarding links to a few recent pieces of financial journalism. The second is an email from Solon, one of her colleagues from an overseas office, whose ostensible purpose is to praise Abha's performance, but whose actual purpose—it becomes clear a paragraph in—is that he was unhappy not to have been selected for the panel himself. The third is from Katrina, Abha's boss's boss (an important figure at Firm X), who is hoping that Abha might be able to "put together a quick literature review" for Katrina to learn more about these topics, and who would love to know what Abha "thinks about the attached piece." When

Abha tries to open the attachment from Katrina, she receives an "Error—Format Not Supported" message and can see no text.[34]

Finally, Abha also receives three emails from Jordan: one to the entire firm, linking to a "feedback survey" about the panel; a second to Abha, the other panelists, and all other parties involved in administrative and IT support, thanking everyone for participating; and a third to Abha personally, thanking Abha, beseeching Abha to provide, via form, more specific feedback about the panel (from the presenter's perspective), and asking Abha what her "favorite local coffee shop is," so that Jordan can "get a gift card to say thanks."

3. Buying Out a Lease

Jill's lease expires in a month, and she has decided to purchase her car. When Jill calls the dealer about the price, she is asked to verify her VIN and account number; this takes her three minutes to locate. Once the account is verified, the agent immediately begins explaining that Jill has been "pre-approved" for a lease rollover program, allowing her to "get a new car" at no additional monthly cost.

Jill explains that she wants to buy her car, not rollover the lease; the agent says that, unfortunately, he cannot provide her a "final price" because she has one lease payment left on her account, which can only be addressed using the online portal. Jill hangs up and logs into the portal, which directs her to a page about the same lease rollover program, including a series of mandatory prompts about Jill's preferences—in order to "personalize" her rollover offer. After nine minutes of navigating the portal, Jill makes the final lease payment. She calls the dealer back, and the agent informs her that prices quoted by phone are non-binding; when Jill asks how to obtain a "binding" price, he explains that he can text and email her links to the homepage for Wheels Within Reach, a system run by the company's financial arm. Jill hangs up, opens the homepage, and is prompted, first thing, to create a "My Wheels" account.

Eventually, Jill obtains the binding price, performs the needed banking tasks, and receives the car's title and bill of sale. Jill Googles her local DMV, which directs her to an appointment scheduler with separate calendars for the following services: *driving tests*, *registrations, out-of-state transfers, dealership services*, *title services*, *licensing*, *donations*, and *ticket amnesty*.[35] No explanations of these categories are provided; the site does explain, however, that all appointments are category-specific and non-transferable. Jill spends six minutes filling out the form—which solicits information about her as well as the car—for a "title services" appointment. The email confirmation directs Jill to a menu of "required documents"

34. Note that in practice, Abha will likely feel obligated (given the source of the email) to track down information about the file, find a better version, and so forth—even if Katrina never would have intended for her to incur those costs. This is yet another reason why micro-costs are so pernicious; the triggering asker can frequently be unaware of the extent of the burden being inflicted.

35. *Cf.*, *Service Type*, VA. DEP'T OF MOTOR VEHICLES, https://appointments.dmv.virginia.gov/OABS/Appointment/Index/f9d2f0ce-2853-4b10-969f-2cfcdc543d1c [https://perma.cc/K5SG-BBPX] (last visited Feb. 18, 2025) (listing different categories of appointments).

to review before her appointment. The menu lists fifteen different document types, each with separate "learn more" pages.

One hour before her scheduled time, Jill receives a text from the DMV asking her to confirm her appointment by texting "C." The text explains that if she does not confirm at least fifteen minutes before the start time, the appointment will automatically expire. When Jill arrives at the DMV, she is told that a service number will be texted to her sometime in the next thirty minutes, and that she will have five minutes, once the text arrives, to locate her service window. When she does so, the agent asks Jill for her driver's license, as well as registration and title. After looking over these items, the agent informs Jill that the registration still lists the bank as the owner and that, if she wishes to keep the same registration, she needs a letter from "someone at the bank" granting that permission. Jill asks if she can simply re-register the car in her name. The agent replies that she can, but it will require another appointment—under the "registrations" category—and once that is processed, Jill can make a third appointment to resume her current business.

4. Booking Air Travel

Ali wants to travel with her spouse and three-year-old child from Dallas to New York. When she searches for flights, she finds an affordable option on Airline X, using an online aggregator. Clicking the "purchase" button, she is redirected to the Airline X site, where she sees a table outlining four tiers of ticket—*economy lite, economy basic*, *economy*, and *economy plus*—with a separate tab for "elite" tickets.[36] Ali spends a few minutes scanning the table. She sees that all four tickets come with slightly different baggage allowances.[37] She also sees that only *economy plus* tickets include assigned seats; for other ticket types, assigned seats can be purchased a la carte.

Ali decides to go forward with the *economy basic* ticket. She spends four minutes filling out the passenger information for herself, her spouse, and her toddler. Once she completes the passenger information, Ali is navigated to the "seat selection" tool, and after reviewing the options, she realizes that for the whole family to sit together they will need to upgrade to *economy plus* seats. When Ali clicks to "learn more" about this option, a dialogue box explains that upgrading to *economy plus* seats will incur a premium of $49/seat, but also that this premium is $52/seat less than the premium required to upgrade the entire ticket to *economy plus*. While Ali is parsing this information, a chat box appears in the bottom-right-hand corner of the screen, with a message from "Avery," asking if he can be of help. Ali closes the chat box, opens another tab on her browser, and

36. *See, e.g.*, JT Genter, *How American Airlines Fare Classes Work*, NERD WALLET (Jan. 11, 2024, 6:31 AM), https://www.nerdwallet.com/article/travel/american-airlines-fare-classes [https://perma.cc/ZBG8-T7BY] (noting American Airlines "offers at least 11 different fare classes").

37. *See id.* (comparing bag allowances for different fare classes).

re-runs the initial search for tickets. She spends twelve minutes toggling between the half-complete reservation and other itineraries on different airlines.[38]

Ali eventually decides that it makes sense to buy the *economy basic* tickets and upgrade to *economy plus* seats. Two days later, it turns out that Ali's spouse needs a later flight to New York. So, she calls Airline X's customer service line to ask about changing her spouse's flight and about getting the *economy plus* seats refunded, since she no longer needs three seats together. After spending four minutes navigating the automated system, Ali gets ahold of a human. As she begins to explain the issue, the service agent politely interrupts Ali to explain that she needs to answer a few "initial questions" before they can get started. First, the agent requests identifying information; because Ali does not remember her frequent flier number, she is emailed a security code, which the agent has her read into the phone. Second, once Ali's identity is verified, the agent notes that Ali "recently declined to enroll in our new rewards program," and he explains that Ali will have to provide a reason for her decision—based on a prefabricated list, which he will recite—before moving onto to her "main business."

5. Getting a Check-Up

Doug's son, Stanley, has a bad cough, so Doug calls his pediatrician to set up a same-day appointment. When Doug gets through to the on-call nurse, she informs Doug that the practice has recently switched to an automated "symptom screener" tool—to help make "prioritization" decisions.[39] The nurse verifies Doug's phone number and texts Doug the tool, informing him that the results will be automatically uploaded to his son's patient portal, and that he can call back ten minutes after he finishes navigating the symptom screener. Doug does so, and he is scheduled to bring Stanley in later that morning. The nurse explains that thirty minutes before the appointment, Doug will be texted and emailed a link to Stanley's individualized "check-in portal," which Doug will need to fill out before the practice's computer system will register Doug and Stanley's arrival.

The check-in portal, when it arrives, requires Doug to do three things. First, it asks, once again, about Stanley's symptoms. Second, it prompts Doug to fill out a truncated version of Stanley's medical history (the office has the full version on file), focused specifically on greater-than-average pulmonary risk. Third, the portal has Doug click through two "verification" checklists—one related to the family's insurance plan, and the other related to emergency contacts. All three of these steps are required every time Stanley visits the doctor. The first and second

38. Note that we are assuming—arguendo, so to speak—that the prices that Ali compares during this twelve minute window *are stable*, i.e., that Airline X is not trying to capitalize on either (1) the fact of Ali's delay in making a selection, or (2) an inference about Ali's decision to shop around for other options, to increase the initial ticket price. If they did that—and we have all had experiences along these lines—the entire transaction would essentially have to start anew.

39. *See, e.g.*, *Symptom Screening Tools Vs. Nurse Triage*, TRIAGELOGIC (Sept. 18, 2023), https://triagelogic.com/symptom-screening-tools-vs-nurse-triage [https://perma.cc/ZZD7-HAM4] ("Some practices have implemented symptom screening tools to have nonclinical operators give patients initial health reviews before speaking with triage nurses or doctors.").

vary in substance depending on the reason for the visit; the third is repeated, each time, verbatim.

Doug completes the check-in portal, and a few minutes later, he and Stanley are called to the examination room. Once there, a medical assistant asks Doug to summarize Stanley's symptoms and to provide any relevant medical history; the assistant also asks Doug a series of "lifestyle" questions, related to Stanley's diet and school schedule, as well as the presence of firearms or other dangerous materials in the house. The assistant takes notes on a tablet, which, he explains, will be made available to the doctor. When the doctor arrives, she begins by asking Doug to describe Stanley's symptoms.

After the appointment, the doctor clears Stanley to go back to school, indicating that she will send an automated doctor's note through the normal patient portal, which is distinct from the check-in portal. When Doug attempts to log into the patient portal from his phone to retrieve the note, a dialogue box appears, requesting multi-factor authentication due to the use of a "new device." Doug is given an option to have a text message sent to his spouse's phone or an email sent to his work address. He opts for the latter, logs into his work email, retrieves the doctor's note, saves it into his phone, and sends it to Stanley's school. A few minutes later, he receives a reply from the school nurse asking him to upload the doctor's note to Stanley's Blackboard page, and to fill out a "symptom tracker"—sent via link—the school uses for contact-tracing. When Doug opens the link, he is asked to create an account.

* * *

Part II more formally enumerates the downsides of micro-costs and explains why they are worthy of sustained attention by scholars and policymakers. Before diving into that discussion, however, we want to pause for a moment and highlight some common threads. For example, even though only two vignettes involve interaction with state agencies—Buying Out A Lease and Obtaining SNAP Benefits—all of them feel like they *could* pertain to state agencies; all of them have the atmospheric trappings of government bureaucracy.[40] Likewise, the settings evoked by each "consumer" vignette—a property transfer (Buying Out A Lease), a commodity transaction (Booking Air Travel), and a doctor's visit (Getting A Check-Up)—are typically imagined as distinct realms of consumer life. One can easily imagine a world in which these transaction-types, given their magnitude, complexity, regulatory context, and so forth, would involve very different quantities (and types) of headache and rigamarole. Yet they all feel, as with many micro-cost-laden environments today, oddly continuous.

Finally, all five vignettes involve the same overall pattern of cognitive-asks. A small handful of asks are essentially just noise to the asked-party—think of the repeated attempts to get Jill to pursue a totally different "lease rollover"

40. *See generally* DAVID GRAEBER, THE UTOPIA OF RULES: ON TECHNOLOGY, STUPIDITY, AND THE SECRET JOYS OF BUREAUCRACY (2015) (exploring the growing similarities between state and private bureaucracy in the age of information capitalism).

transaction. But many asks plausibly *could* be of interest to the asked-party; they are not meritless *per se*. The problem has to do with their volume and ubiquity. In other words, relatively few of the cognitive-asks in these vignettes are individually objectionable. Taken in isolation, most are fine. What matters, for the reasons we elaborate below, is their aggregation.

II. THE DRAWBACKS OF EXCESSIVE MICRO-COSTS

Micro literally means "very small."[41] Accordingly, the very title and framing of this Article might cause some readers to wonder: why should we—society, the law, public institutions—care about this problem? What specific harms do micro-costs inflict, and what values do they crowd out? Why do micro-costs, as trespasses on attention, *themselves* warrant greater attention?

The answer is that micro-costs, if allowed to proliferate unchecked—as they have today[42]—produce *macro*-harms. Like micro-costs themselves, these harms come in many different guises. But we focus, here, on three broad categories: psychological harms, material harms, and societal harms.

First, excessive micro-costs make people feel worse; they saturate everyday life, which is already full of unpleasant tasks, with needless friction and frustration, drawing energy away from the non-instrumental pursuits that allow humans to flourish. *Second*, excessive micro-costs, by draining cognitive bandwidth, cause people to perform worse on mental tasks—large and small—that actually matter. These include things like parenting, working, and making important financial decisions. *Third*, and most fundamentally, excessive micro-costs exacerbate inequality, sow disaffection, and contribute to the appeal of destructive ideologies. For they contribute to the impression—which is, sadly, not wrong—that elites are mismanaging many of our most important institutions.

A. PSYCHOLOGICAL HARMS

No one welcomes unwanted attentional invasions, bureaucratic hurdles, or surprise distractions, for the very simple reason that experiencing those things makes one feel at least a little bit worse than before. A skeptical reader may think that goes without saying. Yet the reality is that in much American legal theorizing and rulemaking, the default assumption is that people feeling slightly worse doesn't really count unless it cashes out into something more objectively concrete.[43]

We disagree. In our view, when people feel worse, that is bad as such; even if it can sometimes be offset or justified by countervailing benefits, psychological harm is an important drawback to account for, especially at high levels of aggregation.

To explain why, we draw from the wisdom of the past. Thinkers and societies from time immemorial have offered different conceptions of what it means to

41. *Micro*, MERRIAM-WEBSTER'S COLLEGIATE DICTIONARY 783 (11th ed. 2004).

42. *See infra* Part III (showcasing how micro-costs have invaded many domains).

43. *See* Rachel Bayefsky, *Remedies and Respect: Rethinking the Role of Federal Judicial Relief*, 109 GEO. L.J. 1263, 1270–88 (2021) (cataloging—and critiquing—this trend in the context of jurisdiction and justiciability rules).

have "a good life." The conceptualization we will begin with here—which we believe to be a source of rough convergence across space, time, and worldview—is the ancient Greek concept of "eudaimonia" which, roughly, is a life marked by a set of conditions most likely to lead to human flourishing.[44] Taking eudaimonia as our guiding light, we offer two complementary propositions.

First, it is difficult to imagine *any* resonant account of the good life that defines it as anything like "a life filled with instrumental cognitive exertions adjacent to commerce or labor or obedience to the sovereign." And second—something of the converse—we think that any serious account of human flourishing envisions day-to-day existence as involving a significant amount of mental, temporal, and physical space that is *free* from cognitive-impositions connected with the chiefly instrumental pursuits of commerce, labor, social status, or government compliance. Put slightly differently, on our account, for the world to look like the world that most people would agree ex ante to live in, there must be some "eudaimonic space" for people to pursue a certain set of activities—be they restful, spiritual, physical, familial, recreational, reflective, or charitable activities—that either (1) are viewed as inherently valuable in and of themselves,[45] or (2) serve to recharge the cognitive battery used to make instrumental decisions.[46]

We distinguish between the two eudaimonic rationales—"inherent value" and "recharging"—deliberately. While eudaimonic space *is* likely to improve some of the instrumental decisions we make in the micro-cost world, it would be a mistake to argue that the *sole* function of eudaimonic space is to replenish our energies such that we are more likely to successfully navigate the choppy sea of cognitive-impositions in the micro-cost realm.[47] We think it more faithful to acknowledge—as philosophical and spiritual thinkers for millennia have done—that some activities are per se valuable for members of a society to be engaging in, even if those activities do *not* "cash out" into some other bloodless metric of

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44. *See* ARISTOTLE, THE NICOMACHEAN ETHICS bk. I, at 25–37 (G.P. Goold ed., H. Rackham trans., Harv. Univ. Press rev. ed. 1934) (c. 384 B.C.E.) (describing eudaimonia); Alan S. Waterman, *Two Conceptions of Happiness: Contrasts of Personal Expressiveness (Eudaimonia) and Hedonic Enjoyment*, 64 J. PERSONALITY & SOC. PSYCH. 678, 679 (1993) (explaining the concept of eudaimonia in modern terms).

45. *See* EPICURUS, THE PHILOSOPHY OF EPICURUS 183–84 (George K. Strodach ed. & trans., 1963) (stressing the importance of pleasurable activities and leisure).

46. *See* Yuta Takiguchi et al., *The Relationship Between Leisure Activities and Mental Health: The Impact of Resilience and COVID-19*, 15 APPLIED PSYCH. HEALTH & WELL-BEING 133, 146, 148 (2023) (discussing the importance of leisure time and its role in coping with stress).

47. As the Dalai Lama once remarked when meeting with a group of neuroscientists, "[a]ll human beings have an innate desire to overcome suffering, to find happiness. Training the mind to think differently, through meditation, is one important way to avoid suffering and be happy." *The Dalai Lama and Scientists Unite to Study Meditation*, UNIV. OF WIS.-MADISON: CTR. FOR HEALTHY MINDS (May 23, 2001), https://centerhealthyminds.org/news/the-dalai-lama-and-scientists-unite-to-study-meditation [https://perma.cc/TU3P-9M7K]; *see also* BERTRAND RUSSELL, IN PRAISE OF IDLENESS AND OTHER ESSAYS 25 (1935) (arguing for a reduction in the work week to "enable a man to use leisure intelligently"); MARCUS AURELIUS, MEDITATIONS bk. 4, at 42–43 (Gregory Hays trans. 2003) ("'If you seek tranquility, do less.' Or (more accurately) do what's essential . . . do less, better. Because most of what we say and do is not essential. If you can eliminate it, you'll have more . . . tranquility.").

welfare. That micro-costs interfere with the part of life from which people inherently draw value is a substantial negative decisionmakers and reformers should acknowledge.

The specifics of how micro-costs menace eudaimonic space are often context-dependent and therefore elude precise description, but consider the following. We take as an unassailable truth of lived experience that for most people there is a finite portion of the day that they are willing to "invest" in cognitively engaging with certain instrumental subjects (like labor or commerce) as compared to activities for their own sake (such as religious contemplation, quiet repose, quality time with family, and so forth).[48] A society that denies citizens a sufficient quantum of the latter has both an ex ante problem (no one would select that society to start with) and an ex post problem (those being denied sufficient eudaimonic space suffer in the short term and may lose faith in the system in the long term).

The remaining question is a practical one: do micro-costs today interfere with eudaimonic space at a meaningful level? That is an empirical question, which we cannot decisively resolve in this Article. But theory and intuition suggest the threat is very real. As we explain in Part III, a series of technological, social, and organizational changes means cognitive-asks (and thus micro-costs) today are vastly more frequent and vastly harder to avoid (either temporally or otherwise) than in the past. Both of those developments, almost by definition, threaten eudaimonic space.

B. MATERIAL HARMS

The last section focused primarily on the subjective experience of contending with excessive micro-costs: the sense in which they make the world less pleasant and freight everyday life with more irritations than necessary. But the problem is not limited to subjective experience. It also impacts the quality of people's "performance" across a variety of domains—job duties, caretaking responsibilities, lifestyle decisions, etc.—as a consequence of the bandwidth-depletion that micro-costs occasion.[49] In other words, it would be one thing (and still a lamentable state of affairs) if excessive micro-costs meant that people were just as good at other attentional tasks but simply *experienced* those tasks less pleasantly. But that is not the case. Swarming micro-costs exert significant drag on the cognitive functions that actually matter.

Let us begin at the foundation. Choice is central to American society—and perhaps all liberal democracies.[50] The core idea is that individuals making informed, rational choices about their leaders, their jobs, their purchases, and their social

48. *See* THOMAS H. DAVENPORT & JOHN C. BECK, THE ATTENTION ECONOMY 1–3 (2001) (discussing the need to divert attention from tasks related to business in a world that is constantly demanding more of our attention); WU, *supra* note 2, at 343–44 (emphasizing the importance of focusing on what we want to focus on as opposed to what "attention merchants" aim to lure us into).

49. *See infra* note 56 and accompanying text.

50. *See* Hazel Rose Markus & Barry Schwartz, *Does Choice Mean Freedom and Well-Being?*, 37 J. CONSUMER RSCH. 344, 344–45 (2010).

relationships will maximize both individual and societal welfare.[51] And yet—whether with regard to matters of politics, labor, commerce, or social relationships—choice is not effortless, and that fact requires some interrogation.[52]

To oversimplify, making good choices requires time, energy, and faith. Time and energy are obvious. But what do we mean by faith? We mean faith in the system, that is, faith that society provides one with a reasonable opportunity to flourish. So we think it not unfair to say our system presumes citizens will have sufficient time, energy, and faith to make rational choices. Indeed, it is hard to construct a robust philosophical defense of the American project if we imagine people lack the time, energy, and goodwill to make rational choices.[53]

Unfortunately, that is exactly the direction in which excessive micro-costs press. They rob people of time and energy—depleting the pool of attention and goodwill that liberal democracies philosophically depend on as the engine of the system. To be clear, we are not suggesting that micro-costs have rendered the American citizenry exhausted to the point of being incapable of making decisions. What we are saying is that micro-costs—by distracting, tiring, confusing, and frustrating people—exert pressure in the direction of worse decisions.

Because the cognitive faculty is not a disembodied sage free from the limitations of the body, it has long been recognized that adverse stimuli and physiological states impede clear thinking. Nor do such impediments need to be acute. Minor hunger, minor tiredness, and minor frustrations, for example, have been shown to affect cognitive performance.[54] In a similar vein, there is evidence that cognitive discipline and performance generally degrades as a person makes more cognitive expenditures across a given period.[55] Micro-costs, by siphoning away cognitive energy and time in connection with superficial tasks, reduce a

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51. *See, e.g.*, Amartya Sen, *Freedom of Choice: Concept and Content*, 32 EURO. ECON. REV. 269, 269, 286 (1988); Barry Schwartz, *Choice, Freedom, and Autonomy*, *in* MEANING, MORTALITY, AND CHOICE: THE SOCIAL PSYCHOLOGY OF EXISTENTIAL CONCERNS 271, 272 (Phillip R. Shaver & Mario Mikulincer eds., 2012).

52. *See* Schwartz, *supra* note 51, at 273 (discussing how more choices can lead to difficulty and indecision); *see also* Eric J. Johnson & John W. Payne, *Effort and Accuracy in Choice*, 31 MGMT. SCI. 395, 405–07 (1985) (analyzing cognitive effort associated with decisionmaking in strategies).

53. *See generally* DAVID MOSCROP, TOO DUMB FOR DEMOCRACY? (2019) (discussing the role of the citizen decisionmaker and the process of participating in politics); *see also* JASON BRENNAN, AGAINST DEMOCRACY 3 (2016) (arguing that "[i]deally, politics would occupy only a small portion of the average person's attention").

54. *See, e.g.*, Vickie Li et al., *Gain Control Explains the Effect of Distraction in Human Perceptual, Cognitive, and Economic Decision Making*, 115 PROC. NAT'L ACAD. SCIS. E8825, E8825 (2018) (discussing a body of research that has found minor distractions to impair decisionmaking); *cf.* Daniel Read & Barbara van Leeuwen, *Predicting Hunger: The Effects of Appetite and Delay on Choice*, 76 ORGANIZATIONAL BEHAV. & HUM. DECISION PROCESSES 189, 201 (1998) (finding that hungry participants were more likely to choose an unhealthy snack than satisfied participants); Susan T. Charles et al., *The Wear and Tear of Daily Stressors on Mental Health*, 24 PSYCH. SCI. 733, 739 (2013) (observing that "the chronicity of constantly experiencing frequent negative affect and adjusting to minor problems also appears to take its toll on one's mental health").

55. *See, e.g.*, Roy F. Baumeister et al., *Ego Depletion: Is the Active Self a Limited Resource?*, 74 J. PERSONALITY & SOC. PSYCH. 1252, 1253, 1261 (1998) (theorizing willpower depletion). There are a number of theories why "willpower" decisions (which are a subset of cognitive exertions) may degrade.

person's capacity to engage with more significant ones, with a fairly straightforward negative: worse outcomes. Most directly, micro-costs often pop up when one is attempting to focus on a significant task, and they can serve as a distraction that either makes the task take longer or results in the task being done more poorly.[56] We doubt if a single reader has not experienced precisely that—and on countless occasions.

Micro-costs can be more indirectly deleterious as well. Consider a phenomenon called "revenge bedtime procrastination."[57] The idea is that people who do not experience sufficient time during the day to do things they enjoy compensate by staying up later (and thus getting worse and less sleep).[58] Getting less sleep is

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Baumeister's original 1998 work articulated the "strength model" of willpower depletion, similar to a muscle that tired with use. *See id.* at 1253, 1261. The "strength model," as described by Baumeister and others, connected willpower strength to fluctuations in glucose levels. *See, e.g.*, Robert D. Dvorak & Jeffrey S. Simons, *Moderation of Resource Depletion in the Self-Control Strength Model: Differing Effects of Two Modes of Self-Control*, 35 PERSONALITY & SOC. PSYCH. BULL. 572, 572, 581 (2009); Matthew T. Gailliot & Roy F. Baumeister, *The Physiology of Willpower: Linking Blood Glucose to Self-Control*, 11 PERSONALITY & SOC. PSYCH. REV. 303, 304 (2007). Baumeister's work has been subject to challenge. *See, e.g.*, Benjamin Y. Hayden, *Why Has Evolution Not Selected for Perfect Self-Control?*, PHIL. TRANSACTIONS ROYAL SOC'Y B, July 2018, at 1, 2–3 (surveying the scholarly response to Baumeister); Lee Anne Fennell, *Willpower Taxes*, 99 GEO. L.J. 1371, 1389–90 (2011) (acknowledging shortcomings of Baumeister's work but calling the overall literature "robust"); Veronika Job et al., *Ego Depletion—Is it All in Your Head? Implicit Theories About Willpower Affect Self-Regulation*, 21 PSYCH. SCI. 1686, 1692 (2010) (critiquing Baumeister and providing an alternate theory). A non-biological "time model" can additionally explain worse decisionmaking quality with greater decision volume. Decisions require a certain amount of time to produce a good outcome. A swarm of low importance decisions can reduce total available time left to make decisions generally, thereby reducing outcome quality. *See infra* note 56. Regardless of which model is applied, however, micro-costs corrode the decisionmaking process. Whether they drain the overall "strength" of the willpower muscle, displace proper homeostasis for important decisions, or simply reduce the available time to make any decision, micro-costs facilitate worse outcomes.

56. Research on work interruptions has found that interruptions negatively affect an employee's ability to work, their ability to get back on task, and the overall quality of their work product. *See, e.g.*, Gloria Mark et al., *No Task Left Behind? Examining the Nature of Fragmented Work*, *in* CHI '05: PROC. SIGCHI CONF. ON HUM. FACTORS IN COMPUTING SYS., 321, 326 (Ass. for Computing Mach., 2005) (finding that it took on average twenty-five minutes to resume work after an interruption); Gloria Mark et al., *The Cost of Interrupted Work: More Speed and Stress*, *in* CHI '08: PROC. SIGHI CONF. ON HUM. FACTORS IN COMPUTING SYS., 107, 110 (Ass. for Computing Mach., 2008) (suggesting that work interruptions lead to rushed and stressful work to compensate for time lost in reorienting); Harshad Puranik et al., *Pardon the Interruption: An Integrative Review and Future Research Agenda for Research on Work Interruptions*, 46 J. MGMT. 806, 808, 824 (2020) (reviewing 247 publications to find that "[p]ast research suggests that work interruptions tend to burden one's limited memory and attentional resources, impede goal progress on the interrupted task, and trigger affective reactions"); *cf.* Ray Gibney et al., *The Negative Aspects of Social Exchange: An Introduction to Perceive Organizational Obstruction*, 34 GRP. & ORG. MGMT. 665, 689–90 (2009) (suggesting that employees' perception of obstruction originating from a company's bureaucracy will lead them to "disidentify" with that company).

57. *See* Lu-Hai Lang, *The Psychology Behind 'Revenge Bedtime Procrastination'*, BBC (Nov. 25, 2020), https://www.bbc.com/worklife/article/20201123-the-psychology-behind-revenge-bedtime-procrastination (describing the popularization of the term); *see also* Floor M. Kroese et al., *Bedtime Procrastination: Introducing a New Era of Procrastination*, FRONTIERS PSYCH., June 2014, at 1, 2 (defining bedtime procrastination).

58. *See id.*; Kroese et al., *supra* note 57, at 2 (noting the phenomenon focuses on "going to bed later than intended while no external circumstances are accountable for doing so").

unhealthy, and yet people depleted by disappointment do it anyway.[59] While revenge bedtime procrastination can happen for reasons unrelated to micro-costs, it could also happen *because* of a particularly stormy day of micro-costs. Similar compensatory responses might involve eating junk food, not exercising, drinking, being short with family members, or various other mildly suboptimal things people do in response to a frustrating day.[60] (One imagines that the key players in the vignettes in Part I, for example, might do one of more of those things.).

Micro-costs likely also operate to reduce one's defenses against cognitive biases and opportunistic counterparties. The cognitive bias terrain is well-traveled, so we will keep our observations brief. Generally speaking, there are certain types of decisions (or decisions made in certain circumstances) that are routinely made sub-optimally, even when people are at their best.[61] Making choices in those tricky realms becomes even harder when a person's cognitive wherewithal has been sapped by micro-costs associated with a flurry of vastly less significant matters.[62] If one is poor at making a certain type of choice while in an ideal state of mind, one will do even worse with the added handicap of cognitive attrition occasioned by micro-costs.[63]

To be sure, we are not suggesting that a Doodle poll fiasco at work means a person will sign up for a usurious mortgage or neglect their child. What we are suggesting is that the chronic micro-cost depletion could have subtly detrimental effects with regard to hard (but not necessarily "major") cognitive activities, such as information evaluation. The following, for example, does not seem implausible: A generally sensible person finds herself routinely drained and frustrated at

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59. *See id.*

60. *See, e.g.*, Amy Marcus-Newhall et al., *Displaced Aggression is Alive and Well: A Meta-Analytic Review*, 78 J. PERSONALITY & SOC. PSYCH. 670, 670 (2000) (explaining that when "the source of frustration is intangible," aggression may be "redirected . . . onto . . . more available targets"); Matthew A. Stults-Kolehmainen & Rajita Sinha, *The Effects of Stress on Physical Activity and Exercise*, 44 SPORTS MED. 81, 106 (2014) (finding a majority of relevant studies support the hypothesis that higher stress results in less exercise); *cf.* Michael A. Sayette, *Does Drinking Reduce Stress*?, 23 ALCOHOL RSCH. & HEALTH 250, 250 (1999) (discussing humanity's history of using alcohol to cope with stressors); Yvonne H. C. Yau & Marc N. Potenza, *Stress and Eating Behaviors*, 38 MINERVA ENDOCRINOL. 255, 260–61 (2013) (suggesting that repeated daily stressors alter brain pathways to seek foods high in fat and sugar).

61. *See* Daniel Kahneman, *Maps of Bounded Rationality: Psychology for Behavioral Economics*, 93 AM. ECON. REV. 1449, 1469 (2003) (arguing that most judgments are made intuitively based on reactions to what is seen in a given moment). *See generally* RICHARD H. THALER & CASS R. SUNSTEIN, NUDGE (2008) (arguing that "choice architects" should nudge people towards decisions that improve their lives); DANIEL KAHNEMAN, THINKING, FAST AND SLOW (2011) (presenting a two-systems approach to human judgment and choice, one of which is controlled by instinctive impulses and more influential than previously thought).

62. *See* Kroese et al., *supra* note 57, at 5.

63. Indeed, cognitive biases can be and are used strategically (whether through the infliction of micro-costs or otherwise) by opportunistic counterparties to deter people from making choices and taking actions that disfavor the counterparty. *See* Cass R. Sunstein, *Sludge and Ordeals*, 68 DUKE L.J. 1843, 1850 (2019); Richard H. Thaler, *Nudge, Not Sludge*, 361 SCIENCE 431, 431 (2018); Oren Bar-Gill & Omri Ben-Shahar, *Rethinking* Nudge: *An Information-Costs Theory of Default Rules*, 88 U. CHI. L. REV. 531, 543 n.30 (2021) (describing "dark patterns" as elements designed to increase the difficulty of wise decisionmaking); *see also* Section III.C.2 (describing "exploitative" cognitive-asks).

the end of the day, in part because of micro-costs. She gets emotional satisfaction from following online sources that are on her "side" and confidently present information that confirm her beliefs about the misdeeds of the other "side."[64] More traditional sources of information—mainstream news outlets, the federal government, the local university—offer a version of things that is more complicated, a bit more challenging to digest, and presents the view of both "sides."[65] Even under an optimal set of cognitive circumstances, choosing the more traditional sources takes effort. Doing so after a challenging day of micro-costs seems meaningfully harder.

Information evaluation, in particular, seems a likely victim in a world of excessive micro-costs.[66] As countless scholars have noted, the American media environment has lost traditional gatekeepers, who used their status and market position to minimize the reach of entertaining but otherwise unserious or uninformed voices.[67] In a gatekept environment, a person drained by micro-costs lacked junk-food-type media to consume. In essence, the organizational structure of the media environment limited the downside of micro-costs. Today, the opposite is true; there is informational junk food everywhere.

C. SOCIETAL HARMS

But the problem is larger still. The previous two sections discussed exclusively *individual*-level harms—some large, some small—when, in fact, the most damaging aspect of excessive micro-costs is often structural and societal. Put simply, micro-costs make it even harder than it already is for the worse-off among us to navigate the world, and to counteract the intergenerational cycles of poverty and subordination that lead to the forms of stratification we are—sadly—quite familiar with today.[68] Micro-costs intensify the operation of already-punitive bureaucratic systems; they curb social mobility; and they push people toward fanatical movements, political, religious, or otherwise, that threaten the basic stability of the social world.

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64. *See, e.g.*, Paul Barrett et al., *How Tech Platforms Fuel U.S. Political Polarization and What Government Can Do About It*, BROOKINGS INST. (Sept. 27, 2021), https://www.brookings.edu/articles/how-tech-platforms-fuel-u-s-political-polarization-and-what-government-can-do-about-it [https://perma.cc/PA83-RDX4].

65. *See id.*

66. *Cf.* Stephan Lewandowsky et al., *Misinformation and Its Correction: Continued Influence and Successful Debiasing*, 13 PSYCH. SCI. PUB. INT. 106, 111–13 (2012) (describing the cognitive processes that give rise to supporting misinformation); Benjamin A. Lyons et al., *Overconfidence in News Judgments Is Associated with False News Susceptibility*, PROC. NAT'L ACAD. SCIS., May 2021, at 1, 7 (finding that people tend to see themselves as better than average at discerning misinformation, with the lowest "performers also being the most overconfident").

67. *See, e.g.*, *Section II: The Changing Media Environment*, PEW RSCH. CTR. (Mar. 17, 2008), https://www.pewresearch.org/politics/2008/03/17/section-ii-the-changing-media-environment [https://perma.cc/NZ7K-GEAU] (discussing the fading role of journalists as "gatekeepers"); Hunt Allcott & Matthew Gentzkow, *Social Media and Fake News in the 2016 Election*, 31 J. ECON. PERSPS. 211, 211 (2017) (noting the "dramatically different structure" of social media news platforms without "filtering, fact-checking, or editorial judgment").

68. *See infra* notes 76–79 and accompanying text.

To begin with, consider some obvious ways in which micro-costs "roll downhill," imposing asymmetrical and regressive burdens.[69] Start with firms and consumers. For most businesses, and certainly large ones, a major key to success is commodification and specialization.[70] Business owners benefit from recognizing which aspects of their business can be subject to processes and routines and which aspects of their business require the use of capable discretionary agents performing some reasonably specific set of functions, and then allocating resources and personnel accordingly.[71]

If a regular individual, for example, wanted to mail an object of a large size and unusual shape, successfully doing so would require considerable effort and time. In contrast, a business that routinely or even occasionally mails such items is highly likely to have established a process for, and/or dedicated personnel to, performing that function efficiently. In most cases of business-to-consumer interaction, the business actor will be the beneficiary of such commodification or specialization, and thus face little incremental burden in presenting options to consumers or responding to good-faith consumer inquiries.[72] In fact, once a business has streamlined its operations in this manner, it is in its interest to communicate cognitive-asks to as many potential consumers as possible, so as to capture the time and money invested in streamlining its operations.[73] The digital age compounds further this incentive, as the internet has given many businesses access to much larger markets but also more competitors—which means the returns to successful process and routinization are higher, and the competitive pressure to do so is fiercer.

A similar account can be offered to describe government actors—in particular law enforcement. As the amount of data explodes and the cost of analyzing such data declines, the government can monitor, summon, deter, and punish far more individuals.[74] Indeed, once initial investments have been made in setting up a system, the government can impose *vast* administrative burdens on targeted parties as a way of cheap social control.[75]

Indeed, as criminal law scholars have pointed out, precisely such a regressive distribution of micro-costs has arisen in the criminal law context, where low-level

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69. This is generally true of burdens that can be delegated away: they will always "find their way" to the most vulnerable counterparties. *See, e.g.*, Lowrey, *supra* note 23 (describing the difficulty of navigating bureaucratic paperwork by everyday citizens); Emens, *supra* note 2, at 1413–14 (describing the disproportionate effects of "admin" on specific marginalized groups).

70. *See How Does Specialization Help Companies Achieve Economies of Scale?*, INVESTOPEDIA (May 14, 2024), https://www.investopedia.com/ask/answers/051115/how-does-specialization-help-companies-achieve-economies-scale.asp [https://perma.cc/EK9P-8DD9].

71. *See id.*

72. *See* Graham Kenny, *Customer Surveys Are No Substitute for Actually Talking to Customers*, HARV. BUS. REV. (Jan. 17, 2019), https://hbr.org/2019/01/customers-surveys-are-no-substitute-for-actually-talking-to-customers ("When it comes to obtaining customer input, executives often think a multiple-choice survey will be the most cost-effective option.").

73. *Cf. id.* (noting that customer surveys are "ubiquitous").

74. *See, e.g.*, Rachel Levinson-Waldman et al., *Social Media Surveillance by the U.S. Government*, BRENNAN CTR. FOR JUST. (Jan. 7, 2022), https://www.brennancenter.org/our-work/research-reports/social-media-surveillance-us-government [https://perma.cc/6R7N-F6RH].

75. Lowrey, *supra* note 23.

offenders (and their families) are burdened with staggering amounts of surveillance, monitoring, and bureaucratic navigations that range from exhausting to Kafkaesque.[76] Those ensnared in the system constantly have to focus on compliance rather than on normal living.[77] For example, recipients of public assistance have to spend enormous amounts of time—sometimes the better part of days—figuring out how to navigate automated "portals" and the like, just to stay on top of (often minimal) benefits programs.[78] And if the issue relates to health benefits or insurance? Forget about it: navigation of the system can easily metastasize into a full-time job.[79]

Consider finally a phenomenon we call channel hijacking. Like having mailboxes long ago, having a phone, text capability, an email address, or a social media account confers certain serious benefits upon the owner: the increased ability to receive information that could likely *highly* benefit the owner in any number of ways, from communications from one's physician to more efficient bill payment to hearing from far-away loved ones.

Once such a channel is set up, however, it becomes difficult to easily police use of the channel such that the counterparties who use it are required or inclined to do so only in circumstances where the expected value of the communication is high *to the recipient*.[80] Methods that attempt to formally restrict use of such a channel, e.g., blocking numbers, are often both overbroad and underinclusive, as well as burdensome to update and manage.[81]

Indeed, the challenge of channel management is why high-status decision-makers in government and business have *human* gatekeeper agents whose job is to limit the times that use of the communication channels of the senator, CEO, movie star, or federal judge *actually* comes to the principal's attention.[82] Parties who lack the resources to pay another person to perform that function, however,

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76. *See, e.g.*, Alexandra Natapoff, *Misdemeanor Decriminalization*, 68 VAND. L. REV. 1055, 1103 (2015).

77. *See* KOHLER-HAUSMANN, *supra* note 15, at 10; Igor V. Bykov, Note, *Criminal Law—Give Me Freedom!: How Ambiguous Federal Supervised Release Conditions Undermine the Purpose of the Sentencing Reform Act*, 43 W. NEW ENG. L. REV. 189, 201–03 (2022) (discussing how those on supervised release subject to vague conditions are subjected to undue burdens in trying to navigate which behavior is permitted).

78. *See, e.g.*, Chavi Karkowsky, Opinion, *The Overlooked Reason Our Health Care System Crushes Patients*, N.Y. TIMES (July 20, 2023), https://www.nytimes.com/2023/07/20/opinion/healthcare-bureaucracy-medical-delays.html; *cf.* Danielle Keats Citron, *Technological Due Process*, 85 WASH. U. L. REV. 1249, 1276 (2008) (discussing errors in large, automated public benefit systems and burden on recipients to fix); Lowery, *supra* note 23.

79. Lowrey, *supra* note 23 (offering the example, based on firsthand research, of "[a] Colorado systems administrator with a chronic medical condition [who said that] switching jobs had caused an accidental lapse in his health coverage, which led to a cascade of paperwork . . . [that required] 100 hours" to resolve).

80. *See, e.g.*, Melissa J. Armstrong, *Improving Email Strategies to Target Stress and Productivity in Clinical Practice*, 7 NEUROLOGY: CLINICAL PRAC. 512, 513 (2017).

81. *See id.* at 514 (discussing the limits of unsubscribing from emails distribution lists).

82. *See, e.g.*, Stuart Macdonald & Christine Williams, *Beyond the Boundary: An Information Perspective on the Role of the Gatekeeper in the Organization*, 10 J. PROD. INNOVATION MGMT. 417, 420 (1993) (defining the role of a gatekeeper).

are highly likely to be subject to channel abuse. And because the cost of creating and communicating cognitive-asks is declining rapidly—while the cost of acquiring human gatekeepers is not—many people who are far below the elite tier of decisionmakers are going to experience their channels being abused by unstinting but unwanted consumptions of their attention.

What is more, the harm of these asymmetrical and regressive burdens is not limited to the mere entrenchment of inequality—though that is, of course, a serious harm as such. In a bigger-picture sense, these burdens also have a socially *destabilizing* effect. As much as they tend to further cement stratification in the near-term, they also tend to invite radical political movements—of exactly the kind we are currently witnessing on both the right and the left—in the long-term.[83]

In other words, a world that is (for all but an elite few) filled with relentless cognitive-asks and punishing micro-costs is a world where people can easily become frustrated through poor decisional outcomes, exhausted through a loss of eudaimonic space, and alienated because elite actors do nothing to help.[84] It is not difficult to see how people so aggrieved would lose faith in conventional behavior and be more susceptible to misinformation, demagoguery, and caustic foment.[85] Nor is it hard to see how opportunistic actors (both large and small) skilled in those artifices might turn such generalized disaffection into more acute rejections of bedrock norms (like commitment to the rule of law or democratic elections) in favor of tribal commitments.[86]

We understand that this argument is provocative, and that its full elaboration would require (at least) a whole other Article; we do not mean to overstate the point. We are not claiming that micro-costs are the "one secret explanation" behind the troubling contemporary phenomena of conspiratorial fanaticism,[87] proto-fascist movements,[88]

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83. *See, e.g.*, *A Growing Threat: How Disinformation Damages American Democracy Before the Subcomm. on Election Security of the H. Comm. on H. Admin.*, 117th Cong. (2022) [hereinafter Rothschild] (statement of Mike Rothschild, Journalist and Author).

84. *See id.* (discussing how disinformation and conspiracy theories have diminished faith in American elections); Ronald F. Inglehart & Pippa Norris, *Trump, Brexit, and the Rise of Populism: Economic Have-Nots and Cultural Backlash* 10–16 (Harv. Kennedy Sch., Working Paper No. RWP16-026, 2016) (discussing the role economic inequality and perceived value changes have played in the rise of populism in the West).

85. *Cf.* Zoe Sherman, *Commodified Attention, Commodified Speech, and the Rejection of Expertise*, 47 F. FOR SOC. ECON. 184, 188–90 (2018) (discussing how a loss of trust in traditional sources of information and the rise of disjointed media consumption has led groups to find their own experts). *See generally* MARTIN GURRI, THE REVOLT OF THE PUBLIC AND THE CRISIS OF AUTHORITY IN THE NEW MILLENIUM (2d ed. 2018).

86. *See* Rothschild, *supra* note 83; Inglehart & Norris, *supra* note 84, at 10.

87. *See, e.g.*, Christine Abdalla Mikhaeil, *The 4 Stages of Conspiracy Theory Escalation on Social Media*, SCI. AM. (Aug. 8, 2023), https://www.scientificamerican.com/article/conspiracy-theories-how-social-media-can-help-them-spread-and-even-spark-violence [https://perma.cc/LP73-5VBU] (discussing how social media allows conspiracy theories to spread).

88. *See* Thomas Palley, *Proto-Fascism Unleashed: How the Republican Party Sold Its Soul and Now Threatens Democracy*, 64 CHALLENGE 303, 303 (2021); Zeynep Tufekci, Opinion, *A Strongman President? These Voters Crave It*, N.Y. TIMES (Jan. 14, 2024), https://www.nytimes.com/2024/01/14/opinion/trump-voters-iowa-caucus.html.

democratic backsliding,[89] science denialism,[90] or the like. We are not even arguing that they are the primary factor. What we are suggesting is that *because* liberal democracy in a meaningful sense requires the citizenry to pay attention and make challenging choices, a widespread phenomenon that degrades that collective ability—such as micro-costs—has tremendously pernicious potential.[91] Disaffection, in short, can metastasize very quickly, in unpredictable directions, and in highly destructive ways.

III. WHY HAVE MICRO-COSTS PROLIFERATED?

The vignettes in Part I were fictional, of course. But they were not meant as hyperbole. Just the opposite: the idea was to capture, in snapshot form, the first-person experience of navigating a world of proliferated micro-costs—the world most of us are accustomed to. Here, we explore the broader patterns those vignettes instantiate. What are the qualities of today's informational ecosystem that have caused micro-costs to balloon? What fundamental forces drive these changes and account for their prevalence across otherwise-disparate domains?

In this Part, we offer a rich qualitative account built up from familiar microeconomic principles. Cognitive-asks are (from the perspective of the asking-party) a product; like any product, they have a cost, and they promise a return. Accordingly, we should roughly expect cognitive-asks to be produced until the marginal cost of production outstrips the marginal benefit to the asking-party.[92] This frame makes today's problem easy to introduce. Compared to yesteryear, cognitive-asks cost significantly less to produce and yield more in return.[93] Moreover, the two main functional constraints on return—the value of what the ask can yield and the ability of asked-parties to avoid engagement with the ask—have increased[94] and decreased,[95] respectively. The result is *far* more cognitive-asks than before.

As we argue below, in previous eras, there was at least a rough correlation between circumstances where cognitive-asks were made by the asker and circumstances where they were welcomed by the target.[96] That is because non-negligible resources were often necessary to produce cognitive-asks (deterring gratuitous asks), and asked-parties were typically able to avoid intrusive or otherwise vexatious cognitive-asks (which encouraged self-moderation on the part of asking-parties). Moreover, as we explain below, the value of successful asks has also

89. *See* Nancy Bermeo, *On Democratic Backsliding*, 27 J. DEMOCRACY 5, 5–6 (2016). *See generally* WILLIAM GALSTON, ANTI-PLURALISM: THE POPULIST THREAT TO LIBERAL DEMOCRACY (2018).

90. *See generally* PETER J. HOTEZ, THE DEADLY RISE OF ANTI-SCIENCE (2023).

91. The specific degree to which micro-costs may have contributed to various modern pathologies is a ripe subject for future examination.

92. *See, e.g.*, THOMAS SOWELL, BASIC ECONOMICS 99 (5th ed. 2015) (describing marginal cost/revenue equilibrium regarding business's acceptance of credit cards). The traditional formulation of the point uses "marginal revenue" rather than marginal benefit, but we use the latter term deliberately to encompass situations in which financial revenue is not strictly at issue.

93. *See supra* notes 70–73 and accompanying text.

94. *See infra* Section III.B.

95. *See infra* Section III.C.

96. *See infra* Section III.A.

increased.[97] As these natural constraints have unraveled, the marginal cost–benefit equilibrium—for virtually *every* actor interested in making cognitive-asks—obtains at a *much* greater volume than before, leading to the avalanche of micro-costs most of us now navigate day-to-day. In the rest of this Part, we draw on the vignettes in Part I, as well as other examples, to explore *why* these dynamics have set in. What combination of technological and cultural changes has opened the micro-cost floodgate?

A. COGNITIVE-ASKS ARE EASIER TO MAKE

Information processing is exponentially easier today, across domains, than in the past.[98] So it comes as little surprise that cognitive-asks, insofar as they rely on information processing, have become cheaper to produce. But a number of institutional and cultural changes have amplified this core dynamic. Changes to social and economic infrastructure have reduced the friction associated with cognitive-asks, causing the cost of production to plummet—even beyond what the fundamentals of information processing might suggest.

1. Lower Transmission Costs

The first set of infrastructural changes has to do with lower transmission costs. Communications (and thus cognitive-asks) are cheaper to send, cheaper to create, and cheaper to target. All three developments mutually reinforce each other and have had indirect cultural effects.

First, the *instruments* of transmission have become cheaper to produce.[99] Emails are cheaper, per unit, than letters. Text messages are cheaper, per unit, than phone calls. Instagram posts are cheaper, per unit, than discretely conveyed photographs. And all of the foregoing—emails, texts, social media posts—are much cheaper to *scale* than their historical counterparts.[100] If the savings associated with an email over a letter, a text message over a phone call, or an Instagram post over the discrete transmission of an individual photograph, is X, then the savings associated with bulk emailing over bulk mailing, a group text over many phone calls, or an Instagram post over lots of transmissions of an individual photograph, is far more than X*n. In many contexts, it is closer to X^n.

Imagine, for example, if the doctor's office in the Getting A Check-Up vignette had to print, distribute, and manually process a new form every time it asked patients to verify contact information, to enumerate symptoms, or anything else along those lines.[101] The office might still, of course, decide to collect such information. But it would be unlikely to do so at the same volume or frequency since

97. *See infra* Section III.B.

98. *See, e.g.*, Martin Hilbert & Priscila López, *The World's Technological Capacity to Store, Communicate, and Compute Information*, 332 SCIENCE 60, 62–64 (2011) (showing rapidly growing informational capacity at increasingly decreasing costs).

99. *See, e.g.*, Avi Goldfarb & Catherine Tucker, *Digital Economics*, 57 J. ECON. LITERATURE 3, 4 (2019) (observing how technological communication advances have changed financial incentives).

100. *Cf. id.* at 7 (describing how technological advances reduced prices by lowering search costs—enabling consumers to select cheapest of competing products).

101. *See supra* Section I.B.5.

the costs of doing so would be both vastly great in aggregate and likely to increase in roughly linear fashion as a function of volume. In other words, the office would incur a small-but-meaningful marginal cost with each form. In a world of push notifications and digital portals—the one on display in the vignette—that marginal cost has largely disappeared.

Second, the *contents* of transmission have become cheaper to produce. Not only are emails, text messages, and social media posts easier to convey, particularly en masse, than their historical counterparts, they are also more amenable to shortcut production, including partial or even full automation. To be sure, some techniques of shortcut production are crude and have, in some form, been around for a long time. Form letters come to mind. So do schedule-coordination tools. But even those techniques have become cheaper to wield, e.g., form emails are easier to modulate via mail merge than form letters, and Doodle polls make it easier to solicit granular information about a counterparty's schedule than shared calendars. Perhaps more fundamentally, genuinely automatic techniques of shortcut production are now becoming possible.[102] ChatGPT is only the most fashionable example.[103] Going forward, the automation of boilerplate content promises to become the norm, and—in some settings, at least—the marginal cost of producing boilerplate content will asymptotically approach zero.

Third, the *targets* of transmission are easier to locate (and thus reach). However easy it may be to produce and send an email compared to a letter, it still must be sent to *someone*. In the past, there were few or no readily available, pre-existing sets of targets; one had to spend time identifying and constructing a target audience for one's message.[104] That is not the case today. A staggering number of people are on multiple *networks* that, by dint of a few clicks or keystrokes, allow one to simply *broadcast* one's message to that network.[105]

Broadcasting is no more than mass communication of information with little or no marginal cost per target and has been around since the invention of the radio (and later television).[106] Yet traditional broadcasting (radio or television) has natural limitations: startup costs are high, and its targets are unidentifiable, undifferentiated, and unable to respond quickly to the broadcaster.[107] Modern developments—both technological and social—have dispensed with those limitations. Listservs, group emails and texts, social media, subscriber lists, and so forth all offer the opportunity to broadcast a message to an identifiable, differentiated, able-to-respond list of

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102. *Cf.* CARL BENEDIKT FREY, THE TECHNOLOGY TRAP: CAPITAL, LABOR, AND POWER IN THE AGE OF AUTOMATION 317–19 (2019) (considering AI professional impacts).

103. *See* ED FELTEN ET AL., HOW WILL LANGUAGE MODELERS LIKE CHATGPT AFFECT OCCUPATIONS AND INDUSTRIES? 2 (2023).

104. *Cf.* Amna Kirmani, *Advertising Repetition as a Signal of Quality: If It's Advertised So Much, Something Must Be Wrong*, 26 J. ADVERT. 77, 78 (1997) (discussing the cost–benefit analysis of advertising strategies).

105. *See* David A. Siegel, *Social Networks and the Mass Media*, 107 AM. POL. SCI. REV. 786, 797 (2013) (discussing ability of social network influencers to affect political discourse).

106. *See* Carl C. Greer, *The Commercial Broadcasting Industry*, 23 FIN. ANALYSTS J. 51, 51 (1967).

107. *See, e.g.*, *id.* at 56 (explaining costs and efficiencies of radio and television broadcast advertising).

targets, that is, to the network.[108] Moreover, in many cases, this power to broadcast to the network is granted to *every node on the network*. One readily sees the problem.

To be clear, network abundance and accessibility can certainly be beneficial. Accessibility enables forms of coordination that were previously near impossible. But this benefit only underscores the point. Today, the universe of "default recipients" for a given cognitive-ask—by virtue of mechanisms like team- and company-wide listservs, family- and neighborhood-wide text chains, social media groups, and so forth—is far more expansive than it used to be. And technological mediation has made exit from certain kinds of networks very difficult. Simply by joining a firm or club, for example, one is often inducted into forms of connectivity that, while often salutary, are difficult if not impossible to unwind. An employee does not typically get to decide, for example, whether to be part of her team's Slack channel.[109] The dynamic is even more pronounced in the consumer context. Businesses and service providers have strong incentives, which they frequently act on, to conscript as many consumers as possible into communication networks.[110] And while it is often possible to unsubscribe from these arrangements—though, as we all know, this possibility is often much harder to realize in practice than appearances imply—just as often, it is not. Conscription into a communication network is the antecedent cost of "doing business."[111]

What is more, communication norms have evolved in tandem with (and likely in response to) the ubiquity of networks, such that it has become typical for cognitive-askers to utilize them. Think, for example, in the Organizing A Panel vignette about the readiness with which Jordan, the panel organizer, solicited ex ante ideas and ex post feedback from the entire firm.[112] In a different world—and in some actual workplaces—this kind of broad-based cognitive-ask would be frowned on. The norm today, however, is the opposite; networks are there for the mining.[113] And the micro-economic effect of that norm is clear: Jordan needs to expend far less effort, across the board, to decide who, if anyone, is a worthwhile recipient of the solicitation for feedback. The norm is that everyone is—which represents a profound change of social mores.[114] It used to be uncomfortable—even rude—to commandeer the attention of strangers and outer-orbit acquaintances. And in some contexts, of course, it is still. In many contexts, however, norms have started to align the opposite way. The opprobrium associated with overly

108. *See* Siegel, *supra* note 105, at 787.

109. *See, e.g.*, Sean Hargrave, *How Slack Ruined Work*, WIRED (Jan. 13, 2020, 1:00 AM) https://www.wired.co.uk/article/slack-ruining-work [https://perma.cc/PH89-GWKF].

110. *Cf.* Stacy-Ann Elvy, *Paying for Privacy and the Personal Data Economy*, 117 COLUM. L. REV. 1369, 1371–74 (discussing the monetization of consumer data).

111. *Cf. id.* at 1383–84 (discussing the "data-as-payment" model in which consumers allow for data collection in exchange for "free" products).

112. *See supra* Section I.B.2.

113. *See* Hargrave, *supra* note 109.

114. *See id.* (discussing the "hit[s] of dopamine" and "fear[]" involved with constantly checking Slack messages).

broad or tenacious demands on attention—an important cost-constraint on cognitive-asks historically—has all but disappeared.

The commercial sphere is replete with examples of these changes: spam email advertisements, push notifications, undifferentiated promotional offers (as in the "rewards program" from the Booking A Flight vignette).[115] But the changes are equally prevalent in our private lives. Every time you send an email or text to a large group of friends, colleagues, neighbors, or family members, you are capitalizing on a shifted set of communication norms. Not always for bad, of course—in some circumstances, the ability to reach a larger population of recipients with virtually zero upfront effort has major benefits. (Imagine having to go door-to-door asking if anyone has seen your toddler's prized stuffed animal, rather than simply sending a neighborhood-wide text.) The point is that, for better or worse, the micro-economics of communication have changed. Today, it is far less costly to select recipients of communication—particularly large volumes of recipients—than it used to be.[116] Broadcasting, which used to be (relatively) costly, has become cheaper, sometimes to the point of functionally costless.[117] And network-wide communication has become widespread; in many contexts, it is now a background norm.

2. Lower Social Costs

Another development is that lower social costs attend behaviors that, in an analog age, might have been eschewed because of the social discomfort that previously accompanied them. We note this briefly here before explaining in more detail in Section III.C.1 how digitization has both freed askers from formerly-constraining social costs and empowered them to make asks harder to avoid.

We begin by borrowing an observation from political theorists. One argument commonly made in favor of federalism is that local decisionmakers are closer to their constituents than national decisionmakers, and that closeness is more likely to make local authorities responsive to their constituents' needs.[118] A local decisionmaker is likely to take more care in their decisions if they are likely to interact with dissatisfied constituents at the local church, bowling alley, or pub.[119]

The opposite is happening with regard to cognitive-asks. Digitization has delocalized the decision to make cognitive-asks. That delocalization matters because it separates the decision to make the cognitive-ask from the social discomfort of doing so. For example, the proprietors and employees of small analog businesses immediately incur a small social cost for being too aggressive with cognitive-asks, that is, the clerk personally feels weird trying to hassle the customer and thus declines to make cognitive-asks they felt crossed that line. And the

115. *See supra* Section I.B.4.

116. *See supra* notes 98–100.

117. *Supra* note 108 and accompanying text.

118. *See, e.g.*, PAUL E. PETERSON, THE PRICE OF FEDERALISM 18 (1995) (explaining local governments must be sensitive to constituent needs, lest those constituents choose to move to a locality more "attuned to their needs").

119. *See id.* at 19.

proprietor might hear complaints either on site or when running into customers in the town. But professionalized, centralized management is far away and has also judged, correctly, that the clerk's personal discomfort is mostly irrelevant; most customers will tolerate somewhat more cognitive-asks than individuals on the scene would be socially comfortable making.[120]

Indeed, at least one account of why private equity firms can deliver value to their shareholders incorporates this reality. Businesses previously thought to be chiefly local or artisanal (such as barber shops, gyms, restaurants, and health care providers) are now acquired and rolled into a larger corporate structure that, among other things, is more ruthless in generating returns for the private equity shareholders—whether using better access to capital to drive local competitors out of business, refining business practices to extract more value from existing customers, or otherwise.[121] Some of these practices are practically doable because the owner is no longer local and thus is far less constricted by social niceties than a small-town business owner is.[122] While the private equity model in essence generates returns by being more aggressive in imposing *macro*-costs upon competitors, labor, and consumers,[123] that aggressiveness suggests an almost complete indifference to imposing *micro*-costs. In addition, as we explain in Section III.C.1, digitization makes this form of aggressive management more implementable and likely to be successful.

3. Low Legal Costs

A final reason why cognitive-asks are so easy to make is because the law presumptively views them as non-remediable. Admittedly, that has been so for a long time, and is thus not technically something that has changed in a way that explains why there are more cognitive-asks today. The *absence* of law as an impediment, however, means the changes we discussed in Sections III.A.1 and III.A.2 are even more important.

For any legal remedy to lie, the defendant must have violated some obligation the law imposes upon him. For example, in contract, one has a performance obligation; in tort, a reasonable care obligation; in securities law, a disclosure obligation.[124] In those cases, a failure of performance, a lack of care, or a failure to

120. *See* Anthony K. Tjan, *Why Small Companies Are Better at Customer Service*, HARV. BUS. REV. (Sept. 21, 2009), https://hbr.org/2009/09/why-small-companies-are-better [https://perma.cc/4TEB-NESR] ("Too much customer service—especially in large companies—has devolved to standard operating procedures and scripted answers delivered with artificial calmness.").

121. *See, e.g.*, Alex Blasdel, *Slash and Burn: Is Private Equity Out of Control?*, GUARDIAN (Oct. 10, 2024, 12:00 AM), https://www.theguardian.com/business/2024/oct/10/slash-and-burn-is-private-equity-out-of-control [https://perma.cc/TG42-UV73].

122. *Cf.* Steven N. Kaplan & Per Strömberg, *Leveraged Buyouts and Private Equity*, 23 J. ECON. PERSPS. 121, 141 (2009) (noting that private equity owners are more free to pursue strategies incumbent management may be unwilling to implement).

123. *Cf.* Kevin Morrell & Ian Clark, *Private Equity and the Public Good*, 96 J. BUS. ETHICS 249, 253 (2010) (comparing public and private equity models).

124. RESTATEMENT (SECOND) OF CONTRACTS § 73 (AM. L. INST. 1981); RESTATEMENT (THIRD) OF TORTS: LIABILITY FOR PHYSICAL AND EMOTIONAL HARM § 7(a) (AM. L. INST. 2010); THOMAS LEE HAZEN & KRIS MARKARIAN, FEDERAL SECURITIES LAW § III.C.1 (4th ed. 2022).

disclose all respectively trigger a remedy. Yet essentially no existing doctrines of law—whether common, statutory, or constitutional—create a form of obligation in the offender that is transgressed by merely *making* a non-fraudulent cognitive-ask. If there is no legal obligation breached, there is no remedy at law.[125]

Moreover, even in cases where one could articulate some form of violated obligation, the immediate harm from an individual cognitive-ask is a micro-cost. That, by definition, is a very small waste of mental time and energy. The ability to recover for mental harm is very limited in law; in cases where it is allowed, the mental injuries generally must be quite severe.[126]

It is for the two reasons above—no breached obligation and no cognizable injury associated therewith—that micro-costs are not readily policed by traditional legal tools. And that includes legal tools intended to remediate minor violations that would be too costly to pursue on their own. Micro-costs are not remedial via class action because an individual cognitive-ask rarely in and of itself transgresses any legal right in a way that results in a remedy-triggering injury. There is therefore no injury to aggregate and seek a class-wide remedy *for*.

There is a further challenge. We are as sympathetic to the perils of micro-costs as anyone; indeed, we are writing an Article about how micro-costs are a profound problem. But even we are skeptical that a *single* unwanted consumption of someone's attention, that is, a one-off micro-cost, is meaningfully undesirable. Our case against micro-costs does not rest upon the view that any and all micro-costs are unacceptable; it rests upon the view that micro-costs are unacceptable in their *aggregation*.[127] Yet that view, while more reasonable than a quixotic campaign to demonize every single unwanted cognitive-ask, creates a causation puzzle.[128] If the infliction of one micro-cost is acceptable, but the infliction of some high sum of micro-costs is not, then who is to legally blame for the tipping micro-costs that put the sum over the edge into unacceptability? Each micro-cost infliction, in some sense, is responsible for the aggregate harm, but none alone is, and the tipping point cognitive-ask—that is, the particular cognitive-ask that made the overall micro-cost burden too high—is the injury-causing tipping point for reasons of circumstance rather than moral culpability. Punishing the party who *unknowingly* contributes the (mental) straw that breaks the camel's back does not seem equitable.[129]

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125. Common law trespass, perhaps the closest analog, only applies to *physical* property. *See* RESTATEMENT (SECOND) OF TORTS §§ 158, 217 cmt. e (AM. L. INST. 1965). Some observers have suggested a tort of cyber trespass. *See* Orin S. Kerr, *Norms of Computer Trespass*, 116 COLUM. L. REV. 1143, 1155–59 (2016) (advocating for judicial identification of cyber-trespass norms). Among other things, the trespass approach is in our case limited by the fact that digital ecosystems—and the attentional invasions that occur within them—do not readily map onto traditional property rights regimes (and might even empower the wrong parties).

126. *See* RESTATEMENT (SECOND) OF TORTS § 46 (AM. L. INST. 1965); John V. Thornton & Harold F. McNiece, *Torts*, 32 N.Y.U. L. REV. 312, 313–15 (1957).

127. *See supra* Part II.

128. *See* RESTATEMENT (THIRD) OF TORTS: LIABILITY FOR PHYSICAL AND EMOTIONAL HARM § 29 (AM. L. INST. 2010) (discussing legal causation).

129. *See id.* at cmt. m (discussing "cases in which the scope of liability would be too vast, in light of the circumstances of the tortious conduct").

Indeed, this causation puzzle explains more than why traditional legal tools have failed to constrain micro-costs. It almost certainly explains why individuals have been less likely to non-legally punish other parties who have collectively inflicted too many micro-costs: It is simply not clear who to blame, and thus who to take corrective action (such as shopping elsewhere) against. Thus, corrective action either (1) does not occur, because we intuitively know that lashing out at the straw that broke the camel's back is in some sense unfair to that last straw, or (2) occurs haphazardly, as the result of frustration directed against whomever had the misfortune of inflicting the back-breaking micro-cost late in the day.

B. COGNITIVE-ASKS HAVE A HIGHER VALUE

One consequence of the fact that grand fortunes have been built on information has been a new belief about the presumptive value of collecting information.[130] Vast amounts of information previously thought to be not valuable are now perceived to be either directly valuable to the asker (because data scientists or machine algorithms can analyze it in a way that will benefit the asker's organization) or indirectly valuable, because the asker can sell it to third parties.[131] Put in blunt terms, in the analog past a decisionmaker might decline to engage in cognitive-asks because it was not clear that the cognitive-ask would yield anything valuable. A salesman might use a cognitive-ask to pursue an upsell, but neither he nor his managers would see any presumptive value from routinely asking about the religion or educational attainment of the customer. The surveillance economy has inverted that presumption; virtually any type of routinized collection of information about customers is presumed to have some direct or indirect value.

A converse trend has arisen with respect to the negative value of *not* asking for certain information. As many scholars have noted, the trend in American law over the past several decades is to condition what is legally acceptable (and thus immune from liability) on disclosure and consent.[132] This presents a strong incentive to *verifiably* disclose information and seek consent using standardized forms and procedures for which both the conveyance of and response to is recorded digitally.[133] Nor, generally speaking, is excessive disclosure or consent-seeking legally punished.[134] When the legal incentive to do something is strong and a

130. *See, e.g.*, Jing Zeng & Keith W. Glaister, *Value Creation from Big Data: Looking Inside the Black Box*, 16 STRATEGIC ORG. 105, 105–06 (2018).

131. *See* Kate Crawford, *Big Data Stalking*, SCI. AM., Apr. 2014, at 14, 14; Theodore Rostow, Note, *What Happens when an Acquaintance Buys Your Data?: A New Privacy Harm in the Age of Data Brokers*, 34 YALE J. ON REG. 667, 674–76 (2017).

132. *See, e.g.*, M. Ryan Calo, *Against Notice Skepticism in Privacy (and Elsewhere)*, 87 NOTRE DAME L. REV. 1027, 1027–30 (2012); Ryan Calo & Alex Rosenblat, *The Taking Economy: Uber, Information, and Power*, 117 COLUM. L. REV. 1623, 1688 (2017); *cf.* George Lefcoe, *Property Condition Disclosure Forms: How the Real Estate Industry Eased the Transition from Caveat Emptor to "Seller Tell All"*, 39 REAL PROP. PROB. & TR. J. 193, 218–25 (2004) (discussing the history of disclosure requirements in real estate transactions).

133. *See* Calo & Rosenblat, *supra* note 132, at 1688.

134. *Cf.* Calo, *supra* note 132, at 1050 (noting regulators tend to "opt for notice" to enhance consumer privacy).

countervailing incentive to refrain is absent, the result is predictable: cognitive-asks will and do arise not only with respect to heartland examples of disclosure and/or consent (such as those that relate to the consequences of a serious medical procedure), but also with marginal instances of same (such as duplicative efforts to secure tangentially relevant background information).[135]

C. COGNITIVE-ASKS ARE HARDER TO AVOID

There is a third reason cognitive-asks have exploded. They have become harder to avoid. Historically, the ability of people to sidestep cognitive-asks—either by declining to engage with cognitive-asks, once made, or by deterring them in the first instance—was a major constraint on volume, because the possibility of avoidance decreases the marginal value of cognitive-asks.[136] A true option to disengage diminishes the projected value of the ask, which in turn constrains the enterprise by causing marginal cost to equal marginal benefit at lower quantities. And the obverse is also true. As people *lose* the ability to avoid cognitive-asks, their projected value goes up, causing the marginal cost–benefit equilibrium to obtain at greater quantities.

The rest of this Part explores *why* cognitive-asks have become so much harder to avoid today. For analytic purposes, we highlight three dynamics: (1) the increasingly compulsory nature of cognitive-asks, due to a combination of automation and vertical surveillance within counterparty organizations; (2) cognitive-asks pursued under conditions or in circumstances likely to exploit social norms or cognitive biases; and (3) the duplication of identical cognitive-asks, both across and within different organizations. With these categories, we do not mean to be overly formalistic. In practice, the three dynamics are often comorbid and mutually reinforcing. Indeed, that is a major reason the micro-cost problem feels so despairing.

1. Compulsory Asks

A growing share of cognitive-asks today have become compulsory. In past eras, many cognitive-asks were optional in the sense that an asked-party would be able, if strongly enough desired, to decline engagement. Of course, this kind of "optionality" would not always have felt optional in practice. And—as we all know from everyday life—people often elect to undertake (even genuinely) optional tasks they would, at some level, prefer not to do; avoidance can be more costly than performance, even when the latter is non-negligible. The important point, however, is that avoidance *used* to be a viable option.

Consider a trivial example: the ritual of having waitstaff recite "specials" at restaurants. This is certainly a cognitive-ask; the idea is to command patrons' attention while they sit, captive, listening to the specials' description. But the ritual is relatively easy to circumvent. A patron who does not wish to hear specials

135. In Section III.C.1 we explore how this dynamic meshes with cognitive-asks being much harder to avoid than in the past.

136. *See supra* Section II.B.

is at liberty, socially, to say so. This may not always be comfortable; sometimes, it might be actively uncomfortable. Many of us, presumably, have had the experience of sitting through specials when we would prefer to get right to ordering, or simply to be left alone. But it has rarely, if ever, been the case that patrons are *compelled* to hear specials. They simply acquiesce to the practice (or actively welcome it) as a matter of course.

In many domains today, by contrast, optionality has given way to compulsion—in a variety of guises. The simplest is automation. Most customer service departments, for example, now triage all incoming calls with automated menus.[137] In these arrangements, the ability of a given consumer to navigate to the relevant section (or, more commonly, navigate to a human interlocutor who can actually answer their question) depends on a number of variables: the menu's set-up, the specific issue, the consumer's level of patience and sophistication, and so on.[138] But *everyone*, regardless of the foregoing variables, has to incur the micro-costs imposed by the initial menu. Those cannot be avoided; they are compelled.

Nor is the "automation" dynamic isolated to domains—like byzantine customer service—that have long been associated with bureaucratic anguish. As a result of technological mediation, the same dynamic has increasingly come to define interactions that have historically been more amenable to streamlining.

Take, for example, the dynamic in Getting A Check-Up where a (nearly identical) portal is required each time Doug wishes to check his son in.[139] There is nothing novel about checking in for appointments—at a doctor's office or otherwise—requiring some degree of cognitive exertion. What is novel is that Doug can no longer communicate, informally, that a more elaborate check-in process is unwarranted; there is no opportunity, say, for him to tell the receptionist (who likely saw him recently) that he has no new medical information to provide, or to explain that the symptoms are difficult to describe and best suited for the doctor, or to simply brush the request off.[140] Instead—and perhaps for good overall reasons—the office has decided to use an automated system that makes check-in *impossible* without Doug incurring the micro-costs associated with logging symptoms, varying previously-collected information, and so forth.

This kind of micro-cost "gatekeeping" is increasingly the norm. Countless transactions require filling out forms with many "required" fields of information—transactions that, in the past, were performed at high volume without the need for such information, which is often, in any event, disconnected from the transaction's core purpose.[141] Furthermore, beyond literal automation, many settings today are beset

137. *See, e.g.*, Martin Adam et al., *AI-based Chatbots in Customer Service and Their Effects on User Compliance*, 31 ELEC. MKTS. 427, 427–28 (2021) (discussing the trend of replacing service agents with conversational software).

138. *Cf. id.* at 428 (discussing whether design cues of customer service chatbots affect customer responses).

139. *See supra* Section I.B.5.

140. *See id.*

141. *See* Anna Kaley, *User-Feedback Requests: 5 Guidelines*, NIELSON NORMAN GRP. (Mar. 26, 2023), https://www.nngroup.com/articles/user-feedback [https://perma.cc/6FYM-HR87].

by "functional automation," due to increased monitoring—training, surveillance, and metric-based evaluation—of asking-parties.[142] Corporate organizations, both public and private, have started to discipline the process of making cognitive-asks: pressing line-workers to make *more* asks, period, and also preventing them from indulging (or facilitating) case-by-case circumvention.[143]

This is of little surprise; it is virtually *always* in the interest of organizations to impose cognitive-asks on counterparties, which means, in turn, that it is likewise in the interest of organizations to have employees make cognitive-asks. This micro-economic reality is not new. In recent decades, however, two developments have increased the ability of organizations to *require* employees to make cognitive-asks of counterparties.

The first—as noted in Section III.A.2—are capitalization and management models,[144] such as private equity and franchising, that tend to eliminate social constraints—such as politeness, discomfort, and other-regard—on cognitive-asks.[145] The second is consumer and workplace technology that allows organizations to better document what employees are actually doing on the ground without active employer involvement.[146] In fact, these developments are intertwined. Surveillance techniques have enabled significant and rapid increases in surplus-extraction—an opportunity private equity firms (and other aggressive owners) have been extremely adept at exploiting.[147] One manifestation is the "compulsification" of cognitive-asks.

Consider, for instance, what happens in the Booking A Flight vignette when Ali calls the airline to see if she can change her itinerary after realizing that she no longer needs three seats together.[148] When she finally gets past the automatic cognitive-asks and reaches a human agent, Ali is immediately met with two sets of compulsory cognitive-asks from the agent himself.[149] The first is that the agent asks Ali to verify her identity via frequent flier number or, in the alternative, via two-factor authentication.[150] The second is that the agent runs through a script of questions regarding Ali's decision not to sign up for a rewards program.[151] Some aspects of these cognitive-asks are familiar—for example, airlines have long

142. *See* Ifeoma Ajunwa, Kate Crawford & Jason Schultz, *Limitless Worker Surveillance*, 105 CALIF. L. REV. 735, 743–44 (2017).

143. *See, e.g.*, Karkowsky, *supra* note 78.

144. *See supra* Section III.A.2.

145. *See* Blasdel, *supra* note 121.

146. *See* Laurel A. McNall & Jeffrey M. Stanton, *Private Eyes Are Watching You: Reactions to Location Sensing Technologies*, 26 J. BUS. & PSYCH. 299, 299–300 (2011); Adam D. Moore, *Employee Monitoring and Computer Technology: Evaluative Surveillance v. Privacy*, 10 BUS. ETHICS Q. 697, 697–98 (2000); Sam Gruet, *Amazon Fined for 'Excessive' Surveillance of Workers*, BBC (Jan. 23, 2024), https://www.bbc.com/news/business-68067022 [https://perma.cc/7SEB-28VA].

147. *See* Ajunwa et al., *supra* note 142, at 742–43; Erin C. Fuse Brown & Mark A. Hall, *Private Equity and the Corporatization of Health Care*, 76 STAN. L. REV. 527, 531 (2024).

148. *See supra* Section I.B.4.

149. *See id.*

150. *Id.*

151. *Id.*

required some form of identification at the outset of flight modification—whereas other aspects are relatively new. For immediate purposes, the point is that both asks are functionally unavoidable. If Ali said something like, "Can we jump to my question, because depending on the answer, this other information may not be necessary?", not only would she be unlikely to prevail; she would be unlikely to make any headway at all. The agent would almost certainly respond with some version of, "I'm sorry, I have to ask these questions." There would be no wiggle-room, regardless of the specific contours of Ali's question, because the agent *himself* would have no wiggle-room. The questions would be mandatory—driven by corporate policy—and the agent's compliance with the mandate would be a matter of digital record.

The same is also true of many organizations vis-à-vis their own employees. Part of the reason that Jordan, in the Organizing A Panel vignette, requires Abha and the other panelists to jump through so many hoops in advance of the panel is that *Jordan*'s evaluation likely depends, in part, on his (recordable) diligence in performing logistical labor.[152] This does not make Jordan's cognitive-asks as difficult to circumvent as those of the agent Ali encounters in the Booking A Flight vignette; it is still possible that Abha (or someone else on the panel) will simply tell Jordan no, wielding their relative authority within the organization to sidestep a micro-cost.[153] In practice, however, this is unlikely. And if it *does* transpire, Jordan is likely to respond by saying, in essence, that the upfront costs are not up to him; they are simply "company policy" or "best practices." Of course, Abha might then decide to simply forgo the panel, just as Ali, confronted with the agent's questions, may decide to give up on changing her reservation. But this only underscores the difficulty of more natural, low-stakes avoidance.

Further, nothing about such "compulsification" is limited to purely digital interactions. Consider how healthcare payers have influenced exchanges between doctors and patients.[154] Many of us have visited a provider who, in the course of rendering services, has expressed mild embarrassment at having to "ask questions required by the insurance company." At this moment, the provider is essentially confessing that *they* do not believe the burden of answering that question is worth the benefit of doing so, but that they are subject to larger—often far-away—economic forces that are easier to placate rather than confront, and perhaps impossible to confront.

Of course, there has long been some version of this "far-away economic forces" dynamic, giving rise to potential misalignment of incentives between owners—who are typically far-away, both literally and figuratively—and employees. That structural reality is endemic to the corporate form. Historically,

152. *See supra* Section I.B.2; Terry A. Beehr et al., *Evaluation of 360 Degree Feedback Ratings: Relationships with Each Other and with Performance and Selection Predictors*, 22 J. ORG. BEHAV. 775, 775–76 (2001); Henry M. Findley et al., *Performance Appraisal Process and System Facets: Relationships with Contextual Performance*, 85 J. APPLIED PSYCH. 634, 634 (2000).

153. *See supra* Section I.B.2; Section I.B.4.

154. *See, e.g.*, Karkowsky, *supra* note 78.

however, the equilibrium has been one in which owners sometimes get their way and employees sometimes get theirs, because owners have been unable to control much of what employees do on the ground.[155] Technological mediation—of interactions between employees and third parties, as well as interactions among employees—has utterly transformed these dynamics.[156] In the past, guidance from "corporate headquarters" about which and how many cognitive-asks to make might have been in the form of paper memos that branch employees ignored.[157] Today's interactions, by contrast, are often undertaken with use of a technology that (1) sidesteps the employee entirely, or (2) readily keeps track of the degree to which the employee follows the script of cognitive-asks and thus makes it simple to compare that employee's performance to other employees provided with the same script.[158] The social cost of potentially annoying the customer is either unbundled from the employee or outweighed by the employee's fear of directly displeasing the boss or comparing less favorably to more complaisant employees, or both.

2. Exploitative Asks

We next focus on "exploitative" cognitive-asks, which are those cognitive-asks constructed to exploit outdated social norms or the cognitive foibles of human decisionmaking. We use the word "exploitative" merely to convey how such cognitive-asks leverage the hidden features of human decisionmaking so as to make people less likely to avoid them. It may also be that some exploitative asks are immoral or even illegal. But that is not the chief signal we intend by use of the term.

Norms. We begin by discussing two norms that, if not unsound, certainly require substantial updating if they are to become as welfare enhancing as they were in the past. The first is the presumptive value of choice. The second is the presumptive value of communications from friends and acquaintances. Both norms are exploited today by institutional actors aiming to make their cognitive-asks harder to disregard.

One of America's most cherished norms is that choice is magnificent. As we noted in Section II.B above, the American project is openly based upon the notion that participants in the system will and should exercise choice.[159] Producers will choose what goods and services to produce and consumers what goods and services to buy; politicians will choose what policies to offer and voters what policies

155. *See* Ajunwa et al., *supra* note 142, at 737–39.

156. *See id*.

157. *Cf*. LAURA BENTON, LAW AND COLONIAL CULTURES: LEGAL REGIMES IN WORLD HISTORY, 1400–1900, at 28–29 (2002) (tracing similar dynamics in the context of nineteenth century imperial bureaucracy).

158. *See* Moore, *supra* note 146, at 697–98; Charles E. Frayer, *Employee Privacy and Internet Monitoring: Balancing Workers' Rights and Dignity with Legitimate Management Interests*, 57 BUS. LAW. 857, 858–59 (2002). *See generally* Lothar Determann & Robert Sprague, *Intrusive Monitoring: Employee Privacy Expectations Are Reasonable in Europe, Destroyed in the United States*, 26 BERKELEY TECH. L.J. 979 (2011).

159. *See supra* Section II.B.

to vote for; and so on.[160] In addition to choice being perceived as a key pillar of societal weal, it is also assumed to maximize individual welfare.[161] Having options to choose from is presumed to help one get what one prefers.[162]

That Americans are norm-wired to favor options is certainly not groundbreaking.[163] But analyzing how such a norm interacts with a largely digitized economy helps explain why cognitive-asks are so abundant today. In the analog past, the cost to the asker of producing cognitive-asks meant the asker was highly motivated to target individuals for whom the cognitive-ask was of high value (with respect to the opportunity the ask was offering).[164] Put slightly differently, when it is very costly for askers to engage in cognitive-asks, they will focus their efforts on targets likely to have genuine interest in engaging. That does not mean yesteryear was idyllic. It means that, in the past, the odds were meaningfully higher that a given cognitive-ask might actually present a meaningful welfare-enhancing option to the person being asked. A sensible intuition in those times would be to engage in the ask.

Today that intuition is far less sound. The cheapness of cognitive-asks means many asks offering options will have virtually no chance to be of meaningful value to the target.[165] Because digitization and cost declines have occurred very quickly, however, there is a mismatch between the old norm (of more ready engagement with an ask) and reality of today (of tiny ask value to the target).[166] So while it is still true that high-value cognitive-asks are norm-satisfying and welfare-enhancing in that they provide for choice, a much smaller percentage of asks fall in that category today.[167] Following the analog-era norm will accordingly lead to excessive engagement with cognitive-asks and welfare-diminishing micro-costs.[168] In addition to misalignment between norms and welfare causing psychological dissatisfaction,[169] it also means that—because norms are sticky—people are unlikely to take the optimal amount of evasive action.[170]

The second type of norm exploitation has to do with friendship and acquaintanceship. These are understudied concepts, at least among legal scholars,[171] but

160. *See* Markus & Schwartz, *supra* note 50, at 344.

161. *See id.*

162. *Cf.* Keith Dowding, *Choice: Its Increase and Its Value*, 22 BRIT. J. POL. SCI. 301, 302 (1992) (explaining that choice is desirable, intrinsically or instrumentally, because it "leads to other valuable things").

163. *See, e.g.*, Markus & Schwartz, *supra* note 50, at 344.

164. *See, e.g.*, ROY ALEXANDER, DIRECT SALESMAN'S HANDBOOK 20 (1958) (recommending door-to-door salesmen generate leads based on groups likely to need the product).

165. *See supra* Section III.A.1.

166. *Cf. supra* Section III.A.2 (noting the low social costs of making cognitive-asks).

167. *See* David S. Evans, *The Online Advertising Industry: Economics, Evolution, and Privacy*, 23 J. ECON. PERSPS. 37, at 37, 51 (discussing comparative value of reaching targeted versus broad audience).

168. *See* Lauren E. Willis, *Performance-Based Remedies: Ordering Firms to Eradicate Their Own Fraud*, 80 LAW & CONTEMP. PROBS. 7, 7 (2017) ("[T]echnology today allows firms to personalize their interactions with consumers in real time and at low cost.").

169. *See* LEON FESTINGER, A THEORY OF COGNITIVE DISSONANCE 2 (1957).

170. *Cf.* Evans, *supra* note 167, at 57 (noting that consumers incur costs by attempting to learn how their information is used by online advertisers).

171. *See* Ethan J. Leib, *Friendship & the Law*, 54 UCLA L. REV. 631, 635 (2007).

the key point is that they generally operate to push interactions outside the paradigm of arms-length treatment.[172] Friends and acquaintances owe their status as friends or acquaintances to *some* commonality with or solicitude for the preferences of the principal.[173] As a result, many people assume communications from friends are highly likely to be "worth" engaging with, at least compared to communications from strangers.[174]

This historical norm has been upended by modern developments. In the past, friends—like everyone else—had to expend more of their time and effort to convey information. There were in-person visits, a postal letter, and a phone call, in decreasing order of costliness. Today, with mass emails, group texts, and social media posts, it is trivially costly for friends to reach out.[175] That means even friends are less likely to forgo cognitive-asks that they would have foregone in the past.[176] That diminished constraint, combined with the norm presuming cognitive-asks from friends are welfare-enhancing engagements, is a key reason why social media companies exist.[177] Staggering fortunes have been built upon the realization that people are *far* more open to consuming (and crediting) information supplied by those within their friend and acquaintance network than by information supplied from a stranger, even one with objectively legitimate credentials.[178] These businesses have adroitly leveraged the friend norm to successfully encourage people to believe a huge number of cognitive-asks they see are individually "worth it," when in fact most of the cognitive-asks generated by the network have negative expected attentional value, that is, it is not worth it to read (let alone act upon) an overwhelming majority of cognitive-asks that one's networks generate.[179]

Cognitive biases. A different type of exploitative-ask targets predictable shortcomings in human reasoning—that is, cognitive biases—to frame, structure, or time cognitive-asks in a way likely to overstate their potential merit to the target. Indeed, the very premise of a classic work, *Nudge*, is that such biases can be

172. *See id.* at 643–44.

173. *See* Lois M. Verbrugge, *The Structure of Adult Friendship Choices*, 56 SOC. FORCES 576, 577 (1977).

174. *See* Leib, *supra* note 171, at 644; *see also* Daria J. Kuss & Mark D. Griffiths, *Online Social Networking and Addiction—A Review of the Psychological Literature*, 8 INT'L J. ENV'T. RSCH. & PUB. HEALTH 3528, 3533 (2011). This is essentially Facebook's core value proposition. *Cf.* James P. Gleeson et al., *A Simple Generative Model of Collective Online Behavior*, PROC. NAT'L ACAD. SCIS., May 2014, 10411, at 10415 (finding Facebook users attached heightened significance to recent information from friends).

175. *See* Derek Thompson, *The Social Century: 100 Years of Talking, Watching, Reading, and Writing in America*, ATLANTIC (Jul. 26, 2012), https://www.theatlantic.com/business/archive/2012/07/the-social-century-100-years-of-talking-watching-reading-and-writing-in-america/260372.

176. *See id.*

177. *See* Hunt Allcott et al., *The Welfare Effects of Social Media*, 110 AM. ECON. REV. 629, 629–30 (2020).

178. *See* David M.J. Lazer et al., *The Science of Fake News*, 359 SCI. MAG. 1094, 1095 (2018) (discussing "[h]omogenous social networks").

179. *See, e.g.*, Hunt Allcott et al., *supra* note 177, at 672 (finding that, in spite of participants' perceived benefits of Facebook, a four-week detox from the site improved well-being); Luca Braghieri et al., *Social Media and Mental Health*, 112 AM. ECON. REV. 3660, 3686–87 (2022) (suggesting that the proliferation of Facebook may lead to a decline in mental health and distorted beliefs of one's peers).

utilized by benevolent architects to promote welfare-enhancing outcomes without eliminating choice.[180] Of course, the positive work that can be done by kind-hearted use of cognitive biases to promote good choices is matched if not exceeded by the negative work that can be done by the strategic use of such biases to promote choices chiefly of value to the asker rather than the target.[181]

As this terrain is well-covered, we mostly refer the reader to illustrative works on the subject and do not engage in an extended exploration.[182] Instead we note two things. First, cognitive biases expose humans to poor decisionmaking on an acute, macro-level,[183] for example, agreeing to super-risky mortgages. That suggests individuals are even *more* susceptible to exploitative cognitive-asks that *only* inflict micro-costs; if macro-downsides are insufficient to prevent flawed decisionmaking, micro-costs will certainly not be.

Second, we focus on one particular exploitative strategy that has broad application in the social-media-dominated world: "dopamine chasing." Let's begin with an analog comparator. Notwithstanding the fact that virtually all games the casino offers statistically favor the house, millions upon millions of people gamble.[184] The core theory is simple: because gambling periodically returns wins, the emotional satisfaction (i.e., the dopamine surge) associated with those wins overshadows the losses, and indeed the negative expected value of any gambling effort on the part of the consumer.[185]

Scholars are beginning to recognize that similar dopamine chasing approaches account for the wide success and use of social media.[186] Producing and engaging with social media produces dopamine surges that result in far more engagement with technology than the expected value of doing so would predict.[187] Users

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180. *See* THALER & SUNSTEIN, *supra* note 61, at 11.

181. *See* sources cited *supra* note 63 (describing "sludge").

182. *See* sources cited *supra* note 61.

183. *See, e.g.*, Bar-Gill & Ben-Shahar, *supra* note 63, at 539.

184. *See* William R. Eadington, *The Economics of Casino Gambling*, 13 J. ECON. PERSPS. 173, 178–79 (1999); Will Yakowicz, *U.S. Set Gambling Record in 2022 with More than $54.9 Billion in Revenue*, FORBES (Jan. 13, 2023, 3:57 PM), https://www.forbes.com/sites/willyakowicz/2023/01/13/us-set-gambling-record-in-2022-with-more-than-549-billion-in-revenue [https://perma.cc/EK7P-YQ48].

185. *See* B.F. Skinner, *The Experimental Analysis of Behavior*, 45 AM. SCI. 343, 348 (1957); *cf.* Luke Clark et al., *Gambling Near-Misses Enhance Motivation to Gamble and Recruit Win-Related Brain Circuitry*, 61 NEURON 481, 481 (2009) (examining dopamine chasing in gambling).

186. *See* David Rock, *Your Brain on Facebook*, HARV. BUS. REV. (May 18, 2012), https://hbr.org/2012/05/your-brain-on-facebook [https://perma.cc/Z5CT-YDRC]; *see also* sources cited *infra* note 187.

187. *See* Kuss & Griffiths, *supra* note 174, at 3533–34 (discussing dopamine release and addictive behavior in social media settings); Matthew B. Lawrence, *Addiction and Liberty*, 108 CORNELL L. REV. 259, 290–92 (2023) (stating that social media has been designed to addict its user base). Numerous states have recently filed lawsuits alleging that the dopamine-chasing design of social media, when targeted at children, violates the law. *See* Jonathan Stempel et al., *Meta's Instagram Linked To Depression, Anxiety, Insomnia In Kids - US States' Lawsuit*, REUTERS (Oct. 25, 2023), https://www.reuters.com/legal/dozens-us-states-sue-meta-platforms-harming-mental-health-young-people-2023-10-24 (reporting that the states' complaint alleged "Meta did not disclose that its algorithms were designed to capitalize on young users' dopamine responses and create an addictive cycle of engagement" (quoting Complaint at 31, California v. Meta Platforms Inc., No. 23-CV-05448, 2024 WL 1253052 (N.D. Cal. 2024))).

remember the burst of joy upon seeing, say, a Twitter post and "liking" it, and therefore tolerate the wasted time associated with reading dozens of posts that produce no such effect, and indeed needlessly consume the user's time.[188] Whatever the other specific social ills associated with such behavior—such as the rapid spread of misinformation in ways that undermine fair elections, public health, or both[189]—our general point is that technological advancements in the form and manner of presenting information allow owners of such platforms to create products that use infrequent dopamine payoffs to essentially blind people to the actual micro-costs of extended engagement (thus reducing the odds of evasion).

3. Duplicative Asks

By duplicative asks, we refer to the well-known modern-day phenomenon of having to respond to the same cognitive-ask more than once. (In reality, this is an understatement: most duplicative asks are actually *multiplicative*.) A duplicative ask may also be a compulsory ask or an exploitative ask, but we specifically highlight duplicative asks as a phenomenon because they are a near perfect example of a micro-cost: something that on its own seems harmless or even helpful, but quickly becomes highly frustrating and draining when routinely imposed as a condition for navigating the most prosaic parts of everyday life.

The various phenomena discussed in this Part—that is, the presumptively high value of information; the liability-forestalling value of "disclosing" information or obtaining "consent"; the creation of systems that either dispense with or circumscribe a subordinate's discretion; and the use of psychological insights to "hack" human decisionmaking—all cut in favor of actors embedding duplicative asks in the firmament of daily living. When posing a cognitive-ask has a high(er) return, one is more likely to make it repeatedly.

Duplicative asks also likely proliferate as the result of a knock-on effect of creating systems to generate higher value (to the asker) cognitive-asks. Because in many instances important cognitive-asks are generated as a part of some entirely or mostly automated system of engagement, the creation and deployment of such a system quickly becomes a reason to use it more than is strictly necessary, because the marginal cost of doing so is so low.[190] The result will be to use the system not only to pose asks beyond those that are the most economically or legally valuable but also to deploy the system at a much higher *frequency* than human prudence would recommend (such as, to name one example, the default frequency of "notifications" for virtually any app).[191] Finally, to the extent compulsory asks are perceived to be too invasive or restrictive, the easy alternative is

188. *See* Lawrence, *supra* note 187, at 292; Kaitlin Wooley & Marissa A. Sharif, *Down a Rabbit Hole: How Prior Media Consumption Shapes Subsequent Media Consumption*, 59 J. MKTG. RSCH. 453, 466–67 (2022) (explaining the "rabbit hole" phenomenon in which consumers of social media sequentially view a countless stream of content focused on similar topics).

189. *See* Lazer et al., *supra* note 178, at 1095.

190. *See supra* Section III.A.

191. *See supra* Section III.C.

the duplicative ask, which does not formally abridge the choice of the subject, but may achieve the same end by sufficiently wearing down a nontrivial number of people.[192]

IV. MARKETS ARE NOT THE ANSWER

Suppose the argument so far is right, at least in its broad strokes: many of us would prefer (1) fewer cognitive-asks and (2) cognitive-asks that are easier to avoid. If that is true, the skeptical reader might wonder: why do markets fail to accommodate this preference? It is one thing for micro-costs to permeate interactions with government agencies; the state is (for our purposes) a monopolist. But what is happening in the private sector? Why do we see so few firms "competing on micro-cost" (or victims demanding they compete) in an effort to attract more consumers, better employees, or both? Certainly part of the answer is straightforward; the effort-cost of a consumer negotiating away a given individual micro-cost usually exceeds the micro-cost, and so generally consumer-initiated negotiation is a net loss for the consumer. But why don't *other* market mechanisms beyond ex ante negotiation operate to restrain micro-costs? Our answer comes back to two dynamics: one economic, and the other epistemic.[193]

The first dynamic concerns innovation. Rational firms only direct resources to recuperable investments, and recuperation requires that firms be capable, down the line, of capturing a portion of the surplus produced by innovation. When it comes to micro-costs, firms have good reason to doubt that such capture is possible, dampening their incentives to invest in micro-cost reductions. The second dynamic has to do with specification. Because of their "swarm-like" quality, micro-costs are not amenable—in the way other costs can be—to specific diagnosis and elimination. This means that even if firms *wished* to pursue micro-cost reductions, even if they overcame the economic hurdles described a moment ago, they would, so to speak, not know where to begin; it is inherently unclear which micro-costs, if any, the market "prefers to eliminate." These two dynamics both explain the stickiness of micro-costs and cast doubt on the idea that micro-costs are simply additional inconveniences borne for a reduced price. When the market is impaired in the ways we suggest, the latter assumption does not follow.

A. THE MONETIZATION HURDLE

For better or worse, firms only make investments that promise eventual returns.[194] In most contexts, the mere fact that an innovation creates surplus—

192. *See supra* Section I.B (vignettes of micro-costs).

193. As we discuss at length in this Part, the reasons why the market fails to police micro-costs are nuanced and complex. The scholarly power of our account—both in this Part standing alone and in conjunction with certain parts of Part III, e.g., Section III.C.2—lies in explaining the *specific* but heretofore unarticulated reasons for such market failure. Whether and how our work can be usefully fit within existing frameworks—such as where our analysis falls along the externality/internality spectrum, or how it fits into "new political economy" critiques—is a question that we deliberately leave to others. Our sole aim here is lucid articulation of *why* the market will not save us from micro-costs.

194. *See* LIDA R. WEINSTOCK, CONG. RSCH. SERV., IF11020, INTRODUCTION TO U.S. ECONOMY: BUSINESS INVESTMENT (2024).

even surplus enjoyed by others—satisfies this condition, because surplus can be monetized.[195] Yet there are, of course, exceptions. Non-rivalrous creative content is probably the best known; the point of intellectual property (IP) protections is to enable the "artificial" monetization of surplus that would otherwise be virtually impossible for creators to capture.[196]

Micro-costs are another such exception—another economic domain where, like non-rivalrous IP, firms have good reason to worry about "wasted investment." This is true for two reasons.

First, counterparties (consumers or employees) may simply not care enough about *individual* micro-cost reductions to alter their economic behavior. This can be for straightforward or more nuanced reasons. The reality is that for many of us, in many transactional settings, certain "details" don't matter sufficiently to submarine a deal that is otherwise attractive on a macro-level, and micro-costs are frequently among that set of details.[197] Furthermore, consumers are systematically bad at metabolizing (and updating) information about small-scale cost and benefit. People are prone, in all settings, to discount the costliness of later-in-time costs; and this dynamic only becomes more pronounced as costs become more amorphous and diffuse.[198]

It also becomes more pronounced when costs are opaque or "shrouded," which is almost invariably true of future micro-costs at the moment of initial transaction.[199] Shrouding is when the additional costs associated with a purchase beyond the nominal price are extremely difficult for the purchaser to learn.[200] One might think that shrouded pricing would deter consumers from making a purchase. Yet game theorists have demonstrated convincingly that, in general, firms have an incentive *not* to de-shroud prices, since doing so runs the risk of unduly giving an advantage to competitors who, by keeping their prices shrouded, are able to

195. *See, e.g.*, Guillermo Marshall & Álvaro Parra, *Innovation and Competition: The Role of the Product Market*, 65 INT'L. J. INDUS. ORG. 221, 222 (2019).

196. *See* Mark Anderson, *IP Monetization: A Primer*, MANAGING IP (June 17, 2021), https://www.managingip.com/article/2a5czbs6depyxpvgnfl6o/ip-monetisation-a-primer [https://perma.cc/RN39-BRXY].

197. *See* Bar-Gill, *supra* note 18, at 751 (discussing the tendency of consumers to make welfare-reducing choices and commit errors during purchasing decisions and explaining that it is not in the best interest of sellers to educate consumers about these misapprehensions when flaws are pervasive in an industry).

198. *See* Xavier Gabaix, *Behavioral Inattention* 13, 28 (Nat'l Bureau of Econ. Rsch., Working Paper No. 24096, 2018), https://www.nber.org/papers/w24096 [https://perma.cc/3JH4-FYWM] (exploring the ways consumers "discount" future costs, even when those costs are at some level foreseeable as of the initial transaction); Benjamin Enke & Thomas Graeber, *Cognitive Uncertainty*, 138 Q.J. ECON. 2021, 2025–27 (2023) (discussing the ways in which consumer uncertainty about *their own* utility functions can frustrate rational cost-accounting).

199. *See* Tanjim Hossain & John Morgan, *. . .Plus Shipping and Handling: Revenue (Non) Equivalence in Field Experiments on Ebay*, 6 B.E. J. ECON. ANALYSIS & POL'Y, Jan. 2006, at 1, 24; Jennifer Brown et al., *supra* note 17, at 875. The two foregoing papers are a pair of experiments conducted on eBay which find that higher shipping costs lead to larger revenues when these costs are shrouded. *See also* Gabaix & Laibson, *supra* note 17, at 507–09.

200. *See* Gabaix & Laibson, *supra* note 17, at 506–07.

charge an ostensibly "lower price" upfront.[201] How exactly this dynamic would play out in the context of micro-cost de-shrouding is beyond the scope of this Article. The easiest way to think about it is that it is costly for a merchant to de-shroud prices, and once he does so, there is very good reason to believe customers and competitors will use that information strategically to benefit themselves (as opposed to the de-shrouder).[202] Given that shrouding studies have focused on shrouded *macro*-costs, it suffices to say that game theory supplies no reason to think that *micro*-costs are likely to become more transparent over time—just the opposite.[203] (We further consider, in Section V.B., why real de-shrouding might be nearly impossible in practice.)

Second, there is a more fundamental problem: putting indifference, confusion, and opacity to one side, it may be *rational* for consumers to discount the value of individual micro-cost reductions. Micro-costs, as we have said, are swarm-like.[204] Part of their harm lies in sheer volume, the way micro-costs emanate from so many different sources and operate in so many different ways. This is what produces the feeling of micro-costs "taking over" everyday life.[205] The problem is not reducible to *this* set of duplicative cognitive-asks, or *that* expansion of transmission networks—or anything else describable in such individuated terms. It is inextricably linked to aggregation.

Given all this, it is very difficult—often to the point of practical impossibility—for individual firms to effect meaningful improvements on the micro-cost problem, which saps ex ante incentives for innovation. The problem here, to be clear, is not that firms are unable to meaningfully improve *their own* practices around cognitive-asks and micro-costs. In some settings, that might also be true.[206] But the larger problem is that improvements at the individual firm level, even if possible,

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201. *Id.* at 508–09. Game theorists have worked out this point with a degree of conceptual and mathematical sophistication we will not pretend to mimic here. But the upshot is simple. In a competitive market where multiple firms shroud costs in functionally equivalent ways, any firm—Firm A—that seeks to de-shroud prices in order to attract consumers away from competitor firms is likely, instead, to provide savvy consumers with information that allows those consumers to obtain greater transactional surplus with competitors, *instead of* enticing the consumers away. In other words, by de-shrouding its own prices, Firm A runs the risk of simply equipping consumers to *better navigate* the (shrouded) prices offered by Firms B, C, D, and so on—an outlay of resources that would certainly benefit consumers as a class, and might benefit the social world, but would not yield commensurate returns for Firm A. Given all of this, the logic goes, Firm A (and Firm B, C, D, et al.) will be unlikely, as individual firms, to incur the costs of de-shrouding; ex ante, it will not seem worth it. *See id.*

202. *See id.*

203. *See id.* at 511 (exploring the "curse of debiasing").

204. *Cf.* Jacob Jacoby et al., *Brand Choice Behavior as a Function of Information Load: Replication and Extension,* 1 J. CONSUMER RSCH. 33, 33 (1974) (showing that consumers are "confused and dysfunctional" when overloaded with information); Hal Berghel, *Cyberspace 2000: Dealing with Information Overload*, COMMC'NS ACM, Feb. 1997, at 19, 20 (discussing how the overwhelming nature of information on the internet reduces the effective utility of high-salience information).

205. *See supra* Section II.A.

206. In some contexts, for example, the imposition of certain kinds of micro-costs may be endemic to a business model. This does not make it "impossible" to eliminate such costs, but it does make it extremely unlikely. *See* ZUBOFF, *supra* note 12, at 8 (coining the term "behavioral futures markets" to describe such business models).

do not result in meaningful changes to the overall micro-cost landscape.[207] And this makes it difficult for individual firms to realize (or, ex ante, to anticipate) gains from micro-cost-reducing innovation of sufficient magnitude to justify the investment.

To illustrate the point, consider the following hypothetical. The City of Smartville is undergoing an air quality crisis: from May to September every year, the average daily air quality is 40, which is not dangerous (let alone life-threatening) in the course of ordinary life, but prolonged exposure raises public health concerns.[208] There are many outdoor businesses and municipal facilities in Smartville, and when the crisis began, there was a dip in demand for outdoor activities across the board. Over time, however, the local economy has re-equilibrated; aggregate supply retrenched to meet the lower aggregate demand, and the market for outdoor activities is generally vibrant.

Here is the question: would Firm X, operating an outdoor business in Smartville—a restaurant, a tennis club, a waterpark, whatever—have an incentive to invest in air-cleaning technology that makes its premises, and *only* its premises, healthier for consumers? For the answer to be "yes," Firm X would have to anticipate capturing sufficient return from its investment,[209] which would depend, in turn, on how responsive consumers are likely to be to the marginal change in the overall quality of air they breathe. This function is likely to be positive, and it is virtually certain not to be negative; all else equal, consumers *will* prefer marginally cleaner air while dining or playing outside. (Who wouldn't?) The question is whether that preference will be strong enough to boost demand for Firm X's goods, once "air quality" is bundled together with other considerations, most importantly the fact that the non-Firm-X-air they spend 99% of their time in will *still* be low quality (and thus still subject them, overall, to the health risks of prolonged exposure). This is an empirical question, obviously. But in the abstract, it seems highly plausible that firms in Smartville facing the decision to improve air quality—like firms in the real-world facing the decision to reduce micro-costs—would assume the answer is no; and they would decline, accordingly, to expend resources cleaning the air (or reducing micro-costs) relative to all other uses to which the same resources might be put.[210]

Consider a slightly different example. People pay mosquito exterminators to entirely or almost entirely exterminate mosquitoes from their backyards, because what they value is "solving the mosquito problem." Assume Mosquito Joe charges $100 a month and promises to eliminate 100% of all mosquitos. Mosquito Joe will get a great

207. *See* Gabaix & Laibson, *supra* note 17, at 509–10 (explaining firms' lack of market incentives).

208. *See Air Quality Index Basics*, AIRNOW, https://www.airnow.gov/aqi/aqi-basics [https://perma.cc/KMQ3-7BS4] (last visited Mar. 4, 2025) (explaining that 40 is within the "green" range indicating "satisfactory" air quality with little to no risk.).

209. *See* WEINSTOCK, *supra* note 194.

210. A version of this dynamic is already on display (in the real-world) with respect to online harassment prevention. *See* Woodrow Hartzog & Evan Selinger, *Increasing the Transaction Costs of Harassment*, 95 B.U. L. REV. ANNEX 47, 49–51 (2015) (arguing that even though companies should mitigate online abuse through "strategies that manipulate transaction costs," individual companies may not be incentivized to do so).

deal of business. Assume Mosquito Micro offers $1 a month and promises to eliminate 1% of mosquitoes. Mosquito Micro will get no business, because the value of eliminating 1% of mosquito bites is functionally worthless. Precisely that same conundrum faces micro-cost innovators whose innovations will not either entirely or meaningfully reduce the overall micro-cost burden a consumer faces. When a camel's back is broken by a million straws, offers to lighten the load by one straw will not be meaningful to the camel, and thus not worthwhile for merchants to offer.

Smartville, Mosquito Micro, and the proverbial camel all share a spirit with traditional "free-riding" dynamics, but with an important wrinkle. In traditional free-riding, one actor spends money to *solve* a collective problem that others benefit from without having paid their share of the solution; while the actor incurs all the cost, others parasitize the benefit, under-motivating the actor to take action.[211] In what we think of as "reverse free-riding," one actor's legitimate effort to solve a *small* portion of the problem (for example, to clean a little bit of air, to kill one mosquito, to remove one straw) is functionally *worthless*, because an insufficient number of *others* are willing to do likewise. As a result, the micro-cost innovator incurs a cost of innovation but no market benefit, while the innovator's competitors save money by doing nothing. The innovator's rational choice (and of everyone situated like them) is thus to not innovate, and simply "reverse free ride" on the suboptimal conduct of others.

B. THE EPISTEMIC HURDLE

But it gets worse. The barriers to micro-cost reduction are not simply economic; they are also epistemic. By their very nature, micro-costs are hard to describe with precision. We all "know them when we see them," especially in more excessive manifestations. But even in an Article like this, designed to theorize the problem of micro-costs head on, we find ourselves resorting to atmospheric devices—vignettes, stories, anecdotes—to bring the problem alive. This is not an accident. Micro-costs have an "everything and nothing" quality that makes it extremely difficult to specify which particular micro-costs, or genre of micro-costs, is causing the aggregate to register as excessive.

And that makes it difficult, *even in principle*, for firms to know which micro-cost reductions are worth pursuing—even setting monetization problems to one side. In other words, even if we assume (fancifully, for the sake of argument) that firms would face no special barriers to capturing the surplus produced by micro-cost reductions, the investment-worthiness of specific reductions might still be unclear; and firms would, accordingly, still have diminished incentives to pursue them.

Part of this is about informational "pollution."[212] An environment saturated with low-utility (or even negative-utility) signals will, by nature, tend to hamper

211. *The Free Rider Problem*, STAN. ENCYC. PHIL. (Oct. 13, 2020), https://plato.stanford.edu/entries/free-rider [https://perma.cc/J347-KAT3].

212. *See* Ramesh Pandita, *Information Pollution, a Mounting Threat: Internet a Major Casualty*, 2 J. INFO. SCI. THEORY & PRAC. 49, 51–54 (2014) (discussing the problem of intentional and unintentional

the transmission of high-utility signals.[213] For example, consumers are unlikely to voluntarily furnish firms with information about how they valuate micro-costs when the tools used to solicit that information—likely digital surveys—are themselves indistinguishable from others micro-costs.

But part of it goes deeper: running into well-known problems of semantic felicity and the limits of natural language.[214] In essence, it would be incredibly difficult for disgruntled cost-bearing parties to pinpoint exactly which micro-costs they most dislike, which they value most acutely, and which they would be willing to pay a premium (and how much premium) to see eliminated. And this makes it correspondingly difficult, *a fortiori*, for firms to know which micro-costs a counterparty would most willingly pay to avoid.

Consider a concrete example. Suppose Eric is frustrated with the day-to-day hassle—the micro-cost toll—of his job at Bank X, a large corporate employer. So Eric begins quietly interviewing for other jobs. When he sits down with Bank Y, a competitor firm, the interviewers ask him what he is looking for in a new place of work. He replies that, among other things, he is looking for a place where things "function better." The interviewers ask him to elaborate, which prompts the following list of grievances about Bank X: (1) the IT department is byzantine, and tech fixes are often much harder than it feels like they ought to be; (2) Eric's team at Bank X uses a workflow management system that requires everyone to constantly fill out surveys and respond to group messages, draining time for actual productive tasks; (3) Bank X uses a "hot desk" system that requires Eric (and other employees) to navigate a series of portals at the start of every workday (desk selection, log-in, security verification, etc.), which is always a minor headache and, not infrequently, an even greater drain.

It is easy to imagine Eric receiving (something like) the following response from the interviewers: *Great! We can fix all of those problems! Our IT department works well; we don't use a workflow management system; and we assign desks on a weekly basis without any need for a portal*. Now, here is the question: how much confidence should Eric have, based on this kind of response, that Bank Y is actually better than his current employer on the identified dimensions?

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information pollution in the form of fake news and plagiarism, which is often unstructured and has negative effects on decisionmaking).

213. *See* Sherman, *supra* note 85, 189–91 (discussing the impact of a fractured information landscape without clear barriers defining truth, and how this leads to the rejection of expert opinion in favor of the reigning opinion in your own "imagined community"); *see also* Kaitlin Kish, *Paying Attention: Big Data and Social Advertising as Barriers to Ecological Change*, SUSTAINABILITY, Dec. 2020, at 1, 8 (arguing that people are rarely able to tell whether the information they receive is trustworthy, which "suggests that for the billions of people using social media every day, their reality is no longer shaped by science or expert opinions, but rather by the information gathered online with little to no concern for accuracy").

214. *See* LUDWIG WITTGENSTEIN, TRACTATUS LOGICO-PHILOSOPHICUS 74 (C. K. Ogden trans., Project Gutenberg ed. 2010) (1921) (exploring why natural language runs into functional limits on the degree of semantic precision and felicity available to speakers). *See generally* DOUGLAS R. HOFSTADTER, GÖDEL, ESCHER, BACH: AN ETERNAL GOLDEN BRAID (1979) (discussing the limits of mathematics, and the problem of self-reference in the conveyance and understanding of ideas).

Although "zero confidence" would probably overstate the point, not by much: Eric would be rational to substantially discount the value of Bank Y's representations about its own micro-cost practices—in a way that he would *not* be rational to discount, say, Bank Y's offer of a 120% salary increase.

This is not because of anything specific to Bank Y; nor is it because of a generalized concern about deception or bullshit in this domain (though such concern might *also* be well-founded). Rather, discounting would be rational due to the conjoined—very low—likelihood that (1) Eric has described his preferences with sufficient precision that a counterparty could, in principle, understand and respond to them, and (2) the counterparty has implemented systems that *actually do* respond to his preferences.

To begin with, the likelihood that Eric's list of grievances captures the problem is low. The problem, as we have said, is swarm-like, which makes *any* discrete list of grievances, however well thought out, almost fated to be underinclusive.[215] Further, and perhaps more fundamentally, the likelihood that Bank Y's "fixes" actually fix anything is also low.[216] Take the components of Eric's grievance in turn. Most IT departments work well on paper; that representation is virtually meaningless. The elimination of a workflow management system is definitely an improvement, but what about the mechanisms Bank Y uses to track and coordinate work *without* a workflow management system? Unless Bank Y takes a totally hands-off approach to laborers in Eric's position, it is unlikely—given the realities of today's informational climate—that they eschew workflow management. They just do it by other, likely micro-costs-suffused, means. Finally, as for desk assignment, weekly rather than daily selection plausibly does represent an improvement over Bank X, but the improvement may be marginal rather than substantial; and in any case, it may prove chimerical, depending on how arduous the weekly system is.

The point here, to be clear, is not that Bank Y definitely *would not* yield significant improvements, from Eric's perspective, on the micro-cost dimension. The point is that accurate communication about *whether* Bank Y would yield significant improvements would be extremely difficult. To really know the answer to this question, Eric would need (the equivalent of) experience as an employee at Bank Y; which is, ex ante, precisely the information he cannot have.

V. LEGAL STRATEGIES TO CURB MICRO-COSTS

Given the very real barriers that traditional legal solutions to the micro-cost problem face, what might concerned reformers do? While we agree the reach of law is not unlimited, micro-costs are not categorically beyond the law's influence. Indeed, the conceptual fruits of our micro-cost theory can drive consideration of reform and what might be plausible.

More specifically, we have argued throughout that cognitive-asks are too prevalent and impose a volume of micro-costs that makes the world worse. We

215. *See supra* Section III.C.
216. *See supra* Section III.A.

explained that the deleterious overabundance of micro-costs is the result of some combination of the following: that cognitive-asks are cheaper, more valuable, and harder for targets to avoid than in the past.[217] Reformers should aim for the converse: to make it more costly to engage in cognitive-asks; to reduce the value of doing so; and to empower targets to avoid unwanted cognitive-asks. We accordingly organize our reform analysis along those lines.[218]

We nonetheless offer two caveats. First, the below is merely the starting point in a much more difficult project, namely, figuring out in which circumstances which brand of legal solution will be worthwhile to pursue.[219] That project will turn on value judgments as well as empirical research that has not yet been done. Second, the law cannot do this alone. Although the law can initiate and accelerate norm change, some of the micro-cost problem will need to be organically addressed. Older norms about the presumptive value of cognitive-asks will need to change.[220]

A. INCREASING ASK COSTS

There are a variety of ways a society can increase the cost of behaviors it has adjudged to be too prevalent. We consider several below, with an imagined application in the micro-cost context.

Taxes & Tolls. A time-honored way to reduce the production of something is to tax it.[221] In the consumer space, for example, one simple way to increase the cost of cognitive-asks is for the government to evaluate how much time a seller's cognitive-ask is demanding of the consumer, assign an economic value to that time (using any number of metrics), and then tax (at some modest rate) the seller accordingly. A more targeted tax might simply assign a fixed value (a "toll") to certain cognitive-asks.

Emails in the aftermath of an unsubscribe request, for example, might cost the vendor a small, fixed fee, payable to the state. Non-emergency inquiries from a large employer to hourly employees outside of work hours might incur a similar

217. *See supra* Part III.

218. While in some cases there will be overlap because a potential reform falls within more than one category, we think that category blurriness is not a serious impediment to the usefulness of our suggested framework.

219. A skeptic might worry that many processes laden with micro-costs are the result of a *successful* effort to improve things compared to how they were before. So, while a system whose bureaucratic formality exhausts public benefit recipients is not ideal, it is far preferable to no benefits at all or to a system in which an unconstrained authority can withhold or bestow benefits according to his personal idiosyncratic preference for indolence, incompetence, or corruption. It goes without saying that we agree with that. The mere *presence* of micro-costs does not mean we must fling the baby from the bathtub. Our analysis instead is trained on recognizing and explaining why micro-costs are a significant problem (instead of dismissing them), and imagining ways in which they can be reduced *other* than by returning unthinkingly to some previous *status quo ante* that was afflicted with negatives that far outweigh micro-costs. Our point is that micro-costs are not in many cases a *necessary* part of progress and that modern thinkers have erred in assuming otherwise.

220. *See supra* Section III.C.

221. *See, e.g.*, Julie Kagan, *Pigovian Tax: Definition, Purpose, Calculation, and Examples*, INVESTOPEDIA (Aug. 22, 2024), https://www.investopedia.com/terms/p/pigoviantax.asp [https://perma.cc/MRR5-NE7F].

modest fee. Uses of automated compulsory asks for non-essential information in consumer settings might likewise trigger a small tax obligation.

The goal here is not to fully force the asker to internalize the micro-costs of its asks. Instead, much like co-pays and deductibles in health insurance, the idea is to give the asker some "skin in the game" such that careless abuse of cognitive-asks is curbed.[222]

Quotas. A second way to increase the cost of cognitive-asks is to use quotas. While quotas are not practical in all settings, there are some circumstances where quotas could very well work, such as those involving very large organizations engaging in formal, transactional, and documented cognitive-asks. Quotas implicitly increase the price of a cognitive-ask, because each ask marginally depletes the quota, and thus the incentive is to only use cognitive-asks of high value to the asker. Cognitive-asks that are formal and documented are likewise plausibly subject to a quota, because they are readily susceptible to counting. For example, large vendors obviously have records of all manner of cognitive-asks they direct at consumers, from questions pertaining to a particular purchase to communications made post-purchase.[223] A quota would force the vendor to eliminate asks with lesser value, and the quota could easily be written to give consumers only a limited (or even no) ability to exempt certain asks from the quota.

Quotas would also induce parties to start measuring cognitive-asks in the first instance. One can imagine a regime, for example, that tells large employers "we will assume your organization sends X firm-wide emails per month (and toll that number against your overall quota) unless you furnish credible documentation to the contrary." The act of counting itself might serve as a modest deterrent to needless emails.[224] In the same way firms boast about attractive vacation day allotments as a part of the compensation package, they might likewise boast about lower-than-average email burdens.

Frictions. A final way to increase the cost of cognitive-asks is to impose "frictions" that serve as a countervailing force to digitization's ability to smooth out barriers that in the past served as costly practical impediments to excessive cognitive-asks.[225]

One example is tied to the social media context. Social media posts are in essence "READ ME" demands to all viewers. As argued above, such posts benefit from favorable presumptions about the worth of spending attention on cognitive-asks from friends and like-minded acquaintances (as opposed to strangers).[226] Yet

222. *Cf.* John Bronsteen, Brendan S. Maher & Peter K. Stris, *ERISA, Agency Costs, and the Future of Health Care in the United States*, 76 FORDHAM L. REV. 2297, 2329 (2008) (describing the theory behind co-pays).

223. *E.g.*, *Walmart Privacy Notice*, WALMART (Feb. 7, 2025), https://corporate.walmart.com/privacy-security/walmart-privacy-notice [https://perma.cc/BEJ5-YB9N] (last visited Mar. 5, 2025) (data collection and customer communication practices and policies).

224. *Cf.* Kiel Brennan-Marquez & Stephen E. Henderson, *Search and Seizure Budgets*, 13 U.C. IRVINE L. REV. 389, 391 (2023) (developing a similar argument in the context of police intrusions).

225. *See supra* Section III.A.

226. *See supra* notes 175–179 and accompanying text.

the volume of the cognitive-asks social media can generate is closely tied to the ease with which viewers (and secondary and tertiary viewers) can readily spread an original post, such that any number of posts can quickly reach a wide number of people (and thus quickly impose a large volume of micro-costs).

As other scholars have noted, making it slightly more difficult to spread social media posts—such as a numerical limit on retweets by a particular account, or making it such that a retweet cannot be done automatically, but instead requires the person to cut and paste the original post—will reduce the "viralness" of any given post.[227] While other scholars have focused on social media activity involving particular subjects—for example, posts that baselessly undermine confidence in vaccines or elections[228]—making it more difficult to spread posts by requiring some frictional step can be an effective way of reducing micro-costs regardless of subject.[229]

B. REDUCING ASK VALUE

A second set of legal mechanisms to address micro-costs is to take steps to reduce cognitive-ask value. Cognitive-asks are made because the asker believes doing so will yield a positive value to the asker. Costs are one side of that calculus, but *benefit* is the other.[230] In the analog world, this was why salespeople frequently asked questions of customers about their preferences and budget, and then followed-up with questions about product options that match those preferences and budget.[231] Asks like that may generate a deal that is more valuable to the seller than whatever the original deal was going to be.

In the digital world, however, the sheer number of ways that some type of cognitive-ask can yield *something* of value to the asker is vast; the possibilities for gain to the asker go far beyond the mere ability to sell a more expensive product at the moment. Merchants seek demographic information in the hopes that data scientists can use that information to improve the company's overall branding or

227. *See, e.g.*, Alex Hern, *WhatsApp to Impose New Limit on Forwarding to Fight Fake News*, GUARDIAN (Apr. 7, 2020, 3:00 PM), https://www.theguardian.com/technology/2020/apr/07/whatsapp-to-impose-new-limit-on-forwarding-to-fight-fake-news [https://perma.cc/S9QH-QHDH] ("[B]y inserting friction into the process, the company hopes to slow some of the most viral messages on its platform . . . ."); *cf.* Michal Lavi, *Publish, Share, Re-Tweet, and Repeat*, 54 U. MICH. J.L. REFORM 441, 497–504 (2021) (incorporating website design and features to influence the behavior of users without reducing functionality).

228. *See, e.g.*, Lazer et al., *supra* note 178, at 1094–96 (tracing the history, prevalence, and impact of mis- and dis-formation on topics such as economic, political, and medical knowledge among the general public).

229. We save for future work an analysis of the degree to which laws that create such friction would offend constitutional protections of free speech. It bears noting, however, that friction targeted toward micro-costs, by contrast to friction targeted toward mis- and dis-information, could easily be designed in a content-neutral fashion (indeed, part of our point here is that micro-costs become a problem, in aggregate, *regardless* of content). Although this observation does not, by itself, resolve the First Amendment question, it means that friction targeted at micro-costs, if properly designed, would trigger "time, place, and manner" scrutiny—a relatively permissive constitutional standard. *See* Cox v. New Hampshire, 312 U.S. 569, 576 (1941).

230. *See supra* Section III.B.

231. *See id.*

future pitches to certain populations (or at least sell it to data brokers).[232] Social media companies who collect every wisp of information about a person's online presence have made and will continue to make fortunes (that rival the railroad, automobile, and oil fortunes of earlier eras) taking that information and then selling access, advertising, and products to those very granularly-defined people.[233] Employers who ask employees to agree to arbitration or choice-of-law provisions have calculated that doing so vastly reduces litigation costs.[234]

Accordingly, one way to curb cognitive-asks is to reduce the value of the ask. Asks are valuable for different reasons, and that will drive what solutions may work. Some asks, for example, are valuable because they yield *information* that is itself valuable.[235] Other asks are valuable because of the *legal consequences* of asking.[236]

Information. When the value of the ask is keyed to the obtained information itself, two different types of reform suggest themselves. The first is an approach where the original owner of the information retains rights regarding that information. The exemplar is the European Union General Data Protection Regulation (GDPR) approach, where individuals, in most circumstances, have a right to erase any personally identifying information about themselves.[237] That right necessarily reduces the value of collecting information, because the information is subject to deletion by its subjects. As a result, the incentive to gather the information in the first place is somewhat reduced. And while scholars and regulators in favor of such a personal data privacy right have understandably focused on the *macro*-negative effects of a world where reams of information about a person exist and are held by entities that may not have that person's best interests at heart,[238] such policies would *also* have a salutary effect on micro-costs, by making it less worthwhile for businesses to collect information they know can be "removed" by people. A second approach would be a ban not on asking for, collecting, or keeping the data, but on *sharing* it.[239] In the past, specific information about customers was often contained only in the head of the salesman or in paper files that

232. *See* Elvy, *supra* note 110, at 1372–74 (describing the use and monetization of consumer data).

233. *See id.*

234. *See* Steven Shavell, *Alternative Dispute Resolution: An Economic Analysis*, 24 J. LEGAL STUD. 1, 3 (1995) (explaining why parties use alternative dispute resolution, including arbitration).

235. *See supra* Section III.B.

236. *See* Shavell, *supra* note 234, at 3.

237. *See* 2016 O.J. (L 119) 1; Meg Leta Jones & Margot E. Kaminski, *An American's Guide to the GDPR*, 98 DENVER L. REV. 93, 116 (2021); *see also* CAL. CIV. CODE § 1798.105 (California's analog to GDPR).

238. *See, e.g.*, DANIEL J. SOLOVE, UNDERSTANDING PRIVACY 92–93 (2008) (explaining that privacy has a "high social value"); Joshua A.T. Fairfield & Christoph Engel, *Privacy as a Public Good*, 65 DUKE L.J. 385, 423–25 (2015) (declaring the lack of privacy as a "public bad").

239. Of course, the GDPR and California Act already contain limits like this. *See* Jones & Kaminski, *supra* note 237, at 118 (noting GPDR's data processing requirements); CAL. CIV. CODE § 1798.115 (providing consumers with the right to know who their information is shared with). But they could certainly be further refined—and at present, they run the risk of *generating* micro-costs (e.g., more privacy disclosure notices), rather than, or in addition to, counteracting them. For general background on this point, see Jones & Kaminski, *supra* note 237.

were difficult to aggregate and transfer. Today, once the data is collected, sharing it (which includes selling it) is nearly costless.[240] One way to reduce cognitive-asks motivated by the pure value of the information obtained is to bar sharing it, because such a bar reduces the value of obtaining the information in the first place.[241]

Legal Consequences. Many cognitive-asks exist as part of an effort to obtain a legal result, e.g., to give notice, effect disclosure or obtain consent.[242] A desirable reform might be to alter the conditions under which the sought predicates of "notice," "disclosure," and "consent" can be obtained.

Plain language requirements in the insurance and employee-benefit world, for example, render unenforceable disclosures or terms that are not readily intelligible to the average person.[243] Similar requirements in consumer settings would immediately reduce the value of inserting prolix language in communications between the business and the consumer.[244] To the extent one fears such plain language requirements are difficult and costly to enforce, one could replace them (in some settings) with time-to-read requirements.

The value of plain language (or time-to-read) requirements would be two-fold. First, commercial actors often use language that is confusing, voluminous, or both. This is done to cloak departures from background law, with the motivating (and often correct) assumption being that counterparties will lack the energy or wherewithal to parse the implications.[245] A rule that barred acceptance of such terms prior to the elapse of some reasonable period of time would reduce the likelihood that merchants would employ such terms, as customers are psychologically unlikely to complete purchases that require waiting periods compared to those that do not.[246] Second, plainer language terms would likely stimulate competition among merchants to truly assess the value of including such terms in their offers and result in some merchants concluding that not inserting some cumbersome terms would be beneficial to their bottom lines.

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240. *See* Alan Lewis & Dan McKone, *To Get More Value from Your Data, Sell It*, HARV. BUS. REV. (Oct. 21, 2016), https://hbr.org/2016/10/to-get-more-value-from-your-data-sell-it.

241. *Cf. The World's Most Valuable Resource is No Longer Oil, but Data*, ECONOMIST (May 6, 2017), https://www.economist.com/leaders/2017/05/06/the-worlds-most-valuable-resource-is-no-longer-oil-but-data (noting the economic dominance of the entities that control and sell user data).

242. *See supra* Section III.B.

243. For example, ERISA requires that benefit plan administrators issue a summary plan description that "shall be written in a manner calculated to be understood by the average plan participant, and shall be sufficiently accurate and comprehensive to reasonably apprise such participants and beneficiaries of their rights and obligations under the plan." 29 U.S.C. § 1022(a) (2018); *see also* Brendan S. Maher, *Regulating Employment-Based Anything*, 100 MINN. L. REV. 1257, 1299 (2016).

244. *See* Alan Schwartz, *Regulating for Rationality*, 67 STAN. L. REV. 1373, 1385 (2015) (discussing how previously enacted plain-language laws have been used to protect consumers from being uninformed).

245. *Cf.* NANCY S. KIM, WRAP CONTRACTS: FOUNDATIONS AND RAMIFICATIONS 28 (2013) (identifying that "one-sided contracts," where the consumer does not understand the legal consequences of their actions, benefit the seller).

246. *See* Stephen M. Nowlis et al., *The Effect of a Delay Between Choice and Consumption on Consumption Enjoyment*, 31 J. CONSUMER RSCH. 502, 509 (2004) (finding that even when consumers experience greater consumption enjoyment from an imposed wait time, they may disregard or be unaware of this effect and choose not to wait again).

Other useful reforms might target the weight or materiality of disclosures effected or consent obtained in connection with cognitive-asks. Professor David Hoffman recently proposed doing roughly that in connection with form contracts, arguing for a "Statute of Forms" (in essence a reverse Statute of Frauds) that would render unenforceable certain low-stakes form contracts.[247] Another possibility in this vein would be to—as Professor Lauren Willis has suggested—render certain disclosures or consents inoperable absent some broad-based proof to regulators that they were *actually* effecting disclosure or consent.[248] In addition to other benefits of proposals like those of Hoffman and Willis, one obvious effect would be to reduce the volume of pro forma cognitive-asks being made (and thus micro-costs being imposed) generally because under regimes like those a meaningful percentage of status quo cognitive-asks gain the asker nothing.

Notably, judicial irritation with notice allegedly effected under circumstances by which the notice-giver was obviously indifferent to cognitive burdens has appeared in surprising quarters. Consider *Niz-Chavez v. Garland*.[249] At issue was the notice required to end an immigrant's "continuous presence" status (which is relevant to an immigrant's potential relief in removal proceedings).[250] The Government provided all the components of the statutorily required notice, but did so in *two* separate documents rather than one.[251] The Court, in an opinion by Justice Gorsuch, ruled that the law required the relevant notice be contained in *one* document.[252] During the course of ruling that Congress intended such notice to be contained in a single document rather than "2 or 20," Justice Gorsuch noted with disdain the "habits of American bureaucracies" to send "a series of letters" that "might trail in over the course of weeks, months, maybe years, each containing a new morsel of vital information. All of which the individual alien would have to save and compile in order to prepare for a removal hearing."[253] And while a removal proceeding is the type of high-salience matter that is not our chief analytical focus,[254] we nonetheless note *Niz-Chavez* for "signs of the times" reasons —it hints that courts are neither wholly indifferent to the idea that cognitive burdens are carelessly imposed by those with the power to readily do otherwise, nor entirely unwilling to construe the law with that in mind.[255]

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247. *See generally* David A. Hoffman, *Defeating the Empire of Forms*, 109 VA. L. REV. 1367 (2023). Hoffman's proposal (like those of Willis, see sources cited *infra* note 248) is very much worth reading even if one has no interest at all in micro-costs.

248. *See* Lauren E. Willis, *Performance-Based Consumer Law*, 82 U. CHI. L. REV. 1309, 1368–69 (2015); *see also* Wills, *supra* note 168, at 8; Lauren E. Willis, *Performance-Based Consumer and Investor Protection: Corporate Responsibility Without Blame*, *in* THE CULPABLE CORPORATE MIND 417, 418 (Elise Bant ed., 2023). Professor Willis imagines an outcome-centered regulatory regime, arguing that such an approach would serve multiple desirable goals.

249. 593 U.S. 155 (2021).

250. *Id.* at 158.

251. *Id.* at 159.

252. *Id.* at 170.

253. *Id.*

254. *See supra* Section I.A.

255. *See Niz-Chavez*, 593 U.S. at 169–70.

C. EMPOWERING AVOIDANCE

A final way to combat micro-costs is to empower avoidance. On our account, the micro-cost problem is meaningfully attributable to micro-costs being hard to recognize and hard to avoid.[256] The solutions we canvass below use the law to make micro-costs more salient and better empower victims to eliminate them.

Bans. A direct way to enable targets to avoid cognitive-asks that result in micro-costs is to ban the offending behavior. Of course, we are not suggesting that a global ban on micro-costs is plausible. It is not. But there might be some areas in which a ban makes sense. Most likely, that will be so in areas where a certain practice inflicts both micro-costs *and* a traditional macro-negative, that is, the behavior results in a victimized party not only wasting attentional resources but also being subjected to an action that significantly reduces that party's welfare.[257]

Ban proposals—such as those to ban various types of form contracts—generally include a desire to avoid undesirable macro-effects, namely that form contracts are generally "bad deals" for consumers.[258] But there is little question that proposals to ban certain form contracts that are very common would vastly reduce the micro-cost burden associated with consumer purchases.

Some bans take the form of a *substantive* prohibition, that is, a ban on activity of a certain type.[259] Other bans might combat micro-costs by focusing on *temporal* limits. Some lawmakers, for example, have urged a four-day workweek.[260] While this would not directly prevent employers from engaging in communications during the three-day off-period, it would reduce the overall number of cognitive-asks a given employer would be likely to make. Opponents may certainly object on a variety of grounds—reduced productivity, less flexibility for the business to meet the needs of its customers, and so on—but the key point is that in evaluating such a proposal, some value should be assigned to the micro-cost reduction. With the four-day workweek proposals, that is, in fact, being done—the rationales offered often *explicitly* claim policy benefits resembling improved cognitive performance and protecting eudaimonia.[261]

Required Negotiations. To the extent the problem with micro-costs is that they are not salient, one approach might be to require that certain parties negotiate

256. *See supra* Section IV.B.

257. *Cf.* Ian Ayres & Alan Schwartz, *The No-Reading Problem in Consumer Contract Law*, 66 STAN. L. REV. 545, 562 (2014) ("[W]e propose that 'invisible' terms of mass-market contracts be presumptively unenforceable.").

258. *See id.*; *see also* Todd D. Rakoff, *Contracts of Adhesion: An Essay in Reconstruction*, 96 HARV. L. REV. 1173, 1245 (1983) (proposing that form contracts should be unenforceable insofar as their terms are substantively unfair).

259. *See* Ayres & Schwartz, *supra* note 257, at 562.

260. Jack Turner, *These Are the U.S. States Moving Towards a 4-Day Work Week*, TECH.CO (Jan. 3, 2024), https://tech.co/news/us-states-4-day-week [https://perma.cc/T2PT-5JXV].

261. *See* Jaime Ducharme, *Four-Day Work Weeks are Good for Your Health, a Large Study Finds*, TIME (Feb. 20, 2023, 7:01 PM), https://time.com/6256741/four-day-work-week-benefits [https://perma.cc/YL5S-SWT3] ("A four-day work week improves employees' health in numerous ways, from reducing anxiety and stress to enabling better sleep and more time for exercise . . . .").

about micro-cost burdens. For example, because of concern about eroding boundaries between work and personal time, France recently passed a "right to disconnect" law.[262] That law requires companies with more than fifty employees to negotiate with their employees to establish guidelines for the use of digital communications outside of working hours.[263] While the law does not explicitly ban communications with workers outside of working hours, by creating a negotiation requirement to which all large employers are subject, it makes more salient the micro-cost issue and requires the discrete discussion of solutions.[264]

Micro-cost Disclosures. Another way to empower avoidance is to impose upon the makers of certain cognitive-asks a micro-cost disclosure statement obligation, consisting of the expected time it will take to consider the ask. Time estimates make it somewhat more likely a person will presumptively refuse to engage on a given cognitive-ask, but also, if required in a sufficient number of settings, would serve *generally* to make people more aware of how third parties are relentlessly consuming their time.[265]

A time estimate requirement also serves as a direct friction inflicted upon the asker,[266] because it makes certain asks more costly. It could result in an indirect social cost as well. If parties obligated to attach time estimates to their cognitive-asks were also required, for example, to produce a publicly available report about how much collective time their cognitive-asks consumed of their targets, extreme abusers might be shamed into changing their behavior.

Micro-cost disclosure requirements regarding time could serve as a legal predicate for remedial action.[267] While some might find it unpalatable to hold parties liable in tort for getting a time estimate wrong, a less aggressive reform might be to empower a civil agency to fine repeated offenders, that is, those whose collective estimates over some period do not match the reality of the time consumed. Another penalty for repeated offenders might be of the "bad grade" variety, for example, the regulator could require the offending merchant to publicly post that they have received an "F" for "consumer time-wasting."[268]

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262. Loi 2016-1088 du 8 août 2016 relative au travail, à la modernisation du dialogue social et à la sécurisation des parcours professionnels (1) [Law No. 2016-1088 of 8 August 2016 Regarding Labor, Modernizing Labor Relations, and Securing Career Tracks (1)], JOURNAL OFFICIEL DE LA RÉPUBLIQUE FRANÇAISE [J.O.] [Official Gazette of France], Aug. 9, 2016; *see* Nicolas Boring, *France: Right to Disconnect Takes Effect*, LIBR. OF CONG. (Jan. 13, 2017), https://www.loc.gov/item/global-legal-monitor/2017-01-13/france-right-to-disconnect-takes-effect [https://perma.cc/YNU7-MKQB].

263. Boring, *supra* note 262.

264. *See id.*

265. *See* THALER & SUNSTEIN, *supra* note 61, at 11.

266. *See supra* Section V.A.

267. Data privacy laws often utilize this framework. *See, e.g.*, sources cited *supra* note 237.

268. Health regulators often use grades to reduce complex information to a simple signal that is salient to consumers. *See, e.g.*, Daniel E. Ho, *Fudging the Nudge: Information Disclosure and Restaurant Grading*, 122 YALE L.J. 574, 622–26 (2012) (assessing the implementation of restaurant inspection letter grades in New York City). The motivation is similar here, but only for the worst offenders.

Mandatory Options. A more creative empowerment mechanism is what we call the "mandatory option." The conceptual conceit of the mandatory option is simple. In any setting in which society believes that socially desirable options are (for reasons of market failure or otherwise) insufficiently available to the weaker party, the law should require that party receive a nonwaivable option to choose between the status quo offering and a price-adjusted option that possesses the missing socially desirable feature. As a tool, the mandatory option could apply to any number of product features society has concluded are insufficiently available in the baseline world.[269] Here we focus on the use of a mandatory option to ensure that parties have an option that minimizes micro-costs.

Cognitive-asks are so abundant in our society, we frequently overlook the reality that millions upon millions of interactions in the past occurred and were consummated with the exchange of very little information. Only a few essential terms—the good or service sought, the price, and perhaps the payment method—were discussed and bargained over. Common sense and background law supplied all the other terms of the interaction. Put slightly differently, history shows us that only a few cognitive exchanges are necessary for interactions to be consummated or otherwise successful.[270] (One skeptical of this should go to the local grocery store and buy a carton of milk with cash.)

Consider, as an example, the vast number of legal terms one agrees to when buying a car: choice of law, forum selection, arbitration, use of buyer information, etc. The reason those terms are appended to the car deal is *not* that such terms are necessary. Millions of cars were sold without those terms being added; background law simply governed. Those terms were added on the theory that adding them allows the seller to, through disclosures and terms that legally advantage the seller, offer the car at a lower price.[271] As a part of the deal, so the traditional story goes, the consumer accepts those terms in return for the lower price.[272] Yet such terms are not at all psychologically salient to most consumers and are time-consuming to read and understand; the micro-costs associated with reviewing and consenting to those disclosures are particularly unpleasant.[273] As a result, one might reasonably worry the collective consumer engagement on that subject will be insufficient to generate the necessary market force to properly price those terms and offer alternatives. Micro-costs, in other words, may be operating to both (1) perpetuate welfare-reducing legal terms that are included without a corresponding reduction in price and (2) prevent the market from offering alternatives to those terms, other than not buying the car at all.

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269. The authors are working on a project discussing the mandatory option generally, that is, beyond an application to the micro-costs setting.

270. *See supra* Section III.C.

271. *See* Michael I. Meyerson, *The Efficient Consumer Form Contract: Law and Economics Meets the Real World*, 24 GA. L. REV. 583, 593 (1990).

272. *Id.*

273. *See id.* at 597–600; *see also* Sunstein, *supra* note 63, at 1848–51 (describing the difficulties of completing bureaucratic paperwork).

One form of mandatory option—we will call it the "background-law-only" option—could remedy that problem. Once the central terms of the car purchase are resolved—for example, the car the purchaser wished to buy and its price—the purchaser *must* be offered the option to buy that car without any deviation from the background law. To be clear: Sellers could quote whatever price for that background-law-only option, and they could also invite the consumer to consider a deal where the seller's additional proposed terms would drive down the price. But sellers must *offer* a background-law-only option.

This reform has several virtues. First, a background-law-only option is readily constructable because it is the default rule for American contracts: if a seller offers a specified good and a price, and a buyer accepts, the resulting deal is that plus background law.[274] Second, if merchants were obligated to price the difference between a product deal with special terms and a product deal governed by background law, consumers could more easily see whether or not the cognitive exertion involved in reviewing those terms was potentially worthwhile and decide accordingly. Third, purchasers would also have a *real* choice to bear micro-costs or not, without having to give up the actual product. There is extensive literature on how compelled price transparency improves market efficiency.[275] So too with respect to micro-costs. Fourth, a mandatory background-law-only option would provide empirical data with regard to (1) whether consumers in fact want such an option, (2) how costly it would be for merchants to provide it, and (3) how much consumers would pay for it. Put differently, if the background-law-only option were mandatory, it would create competitive pressure to offer and accurately price an option that would allow consumers to, among other things, straightforwardly adjust their own micro-cost burden.

We pause to emphasize that we do not imply that the background-law-only option would *always* result in only a modest increase in price. For some businesses, a background-law-only option *would* mean a considerably higher price would need to be charged. But it also seems likely such a reform would make it quickly apparent to many businesses that additional terms are worth little if anything to them, and worth slightly more to consumers to avoid, causing the reform to serve as a catalyst for creating a micro-cost-reducing option with only a minimal price increase.

Indeed, in some cases the requirement of a background-law-only option plausibly could lead some merchants to conclude that the juice of additional terms is not worth the squeeze, and simply *only* offer products under background law terms. Our own suspicion, candidly, is that many businesses add numerous legal terms because everyone else does, with little or no effort made to value those

274. *See* DAVID G. EPSTEIN, BRUCE A. MARKELL & LAWRENCE PONOROFF, CONTRACTS: MAKING AND DOING DEALS 514–17 (6th ed. 2022); *cf.* Mark A. Lemley, *The Benefit of the Bargain*, 2023 WIS. L. REV. 237, 239 (2023) (envisioning a mandatory option in form contract setting).

275. *See, e.g.*, D. ANDREW AUSTIN & JANE G. GRAVELLE, CONG. RSCH. SERV., RL34101, DOES PRICE TRANSPARENCY IMPROVE MARKET EFFICIENCY? IMPLICATIONS OF EMPIRICAL EVIDENCE IN OTHER MARKETS FOR THE HEALTH SECTOR 2–4 (2007).

terms and alter the price—because of existing market hurdles that leave consumers with no real option to demand otherwise.[276] Arming consumers by law with the latter could impel some meaningful set of merchants to do the pricing work they have to date avoided (perhaps rationally)[277] in favor of a blanket imposition of micro-costs.[278]

Certainly, like with all potential solutions, the devil is in the details. But there is little reason to believe that the digital interfaces that now mediate almost all transactions cannot in *some* way be modified to include an option to render modern transactions similar to the micro-cost light transactions of the near past.

AI Assistance Requirements. The final potential reform we advance for consideration is motivated by the idea that technological developments—including increasingly sophisticated AIs that can understand (and intelligibly respond in) human language[279]—might be deployed in a fashion that *increases* the individual's power to reduce micro-costs.

A nontrivial volume of micro-costs is attributable to having to understand and then navigate slightly different *interfaces* to provide very similar bits of information. Another quantum of micro-costs is attributable to having to slog through "fields" or "options" on forms regarding the provision of information that, upon inspection, is either completely unnecessary or marginally so. One example of both is that upon buying a good or service (or even signing up for an account or app), one must fill in many fields of information and spend considerable time wading through the sign-up pages to ensure, among other things, that one has opted-out of being on an advertising list or of having one's data shared with "business partners."[280]

Yet the rapid advance of AIs that can understand human language instructions, respond to natural language inquiries, and respond in human language—without getting tired or frustrated—suggest an intriguing possibility.[281] Regulators may soon plausibly require that certain automated asks be compatible with either a public or open-source AI agent such that users can simply give the AI instructions about what information they wish to provide.[282] When combined with a mandatory option (see above), the law could go further and require the vendor to provide the good/service in question if some minimum information is provided by the consumer, but at a heightened price that reflects the value of the information the

276. *See supra* Part IV.

277. *See id.*

278. Providing this option to consumers by law also makes de-shrouding prices more appealing to sellers, because *all* the sellers have to do it. *See supra* Section IV.A.

279. *See, e.g.*, *ChatGPT Capabilities Overview*, OPENAI, https://help.openai.com/en/articles/9260256-chatgpt-capabilities-overview [https://perma.cc/LP53-HUEN] (last visited Mar. 5, 2025).

280. *See supra* Section I.B.

281. *See, e.g.*, OPENAI, *supra* note 279.

282. *Cf.* Mauritz Kop, *AI & Intellectual Property: Towards an Articulated Public Domain*, 28 TEX. INTELL. PROP. L.J. 297, 314 (2020) (arguing in favor of making AI open source).

vendor has not been given by the consumer's AI agent.[283] Alternatively—or in addition—a sensible regime might add GDPR-like right of erasure rules,[284] such that users would feel free to be reasonably generous with the information the AI was authorized to give to consummate the transaction, knowing they could later make an erasure demand as necessary.

AI assistance requirements might be even more straightforward in government service settings, by which we mean those non-adversarial settings in which a member of the public is entitled to something upon the submission of the required information, for example, a license renewal or public assistance benefits. A regulation that government agencies providing certain services must offer a submission option in which an individual can utilize a free AI to convey the relevant information seems quite plausible, and the corresponding micro-cost reductions would flow to the very people many other reforms might overlook.

To be sure, just like with the mandatory option, a host of contextual and technological details will matter with respect to the actual promise and peril of user-side AI assistance in a given setting. And we are loath to fall into the bewitching trap of techno-utopianism. But the animating idea—however fanciful at first glance—is that by prudently leveraging open-source AIs on the user side, one might, in combination with other sensible regulations, permit a thick slice of the burdensome nature of digital-mediated life to be borne by nonhuman agents.

D. LAW, NORMS, AND REFORM

We have emphasized throughout that micro-costs appear across very different spheres of life.[285] Some spheres, such as consumer purchases, are inherently easier to regulate. Others, such as social relations, are more difficult. Yet, we do not think the existence of micro-costs in hard-to-regulate settings (like social relations) suggests any hope of solving the micro-cost problem is futile, for several reasons.

First, there are some areas that the law *can* squarely reach. In terms of ease of legal intervention, we loosely offer the following descending order of regulatory ease: consumer purchases, criminal enforcement, civil enforcement, employment, and social relations. Importantly, because micro-costs are a volume problem, reducing micro-costs in some settings will reduce the overall micro-cost burden, even if nothing is done regarding micro-cost burdens in other settings.

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283. This is essentially what was suggested (in a non-AI context) by the European Court of Justice last year when it ruled that Meta had violated European privacy law. *See* Case C-252/21, Meta Platforms Inc. v. Bundeskartellamt, ECLI:EU:C:2023:537, ¶ 150 (Jul. 4, 2023). In response, Meta obliged by offering a subscription model without personalized ads to protect consumer privacy. *Facebook and Instagram to Offer Subscription for No Ads in Europe*, META (Oct. 30, 2023), https://about.fb.com/news/2023/10/facebook-and-instagram-to-offer-subscription-for-no-ads-in-europe [https://perma.cc/BN45-VZ72]; *see also* Adam Satariano & Christine Hauser, *In Europe, Meta Offers Ad-Free Versions of Facebook and Instagram for First Time*, N.Y. TIMES (Oct. 30, 2023), https://www.nytimes.com/2023/10/30/technology/facebook-meta-subscription-europe.html.

284. *See* Jones & Kaminski, *supra* note 237, at 116.

285. *See, e.g.*, *supra* Section I.B.

Second, digitization allows regulators to reach otherwise hard-to-reach spheres of activity.[286] Because so many employment interactions and social relations now occur in online settings,[287] regulating the modality invoked can directly affect the activity that would otherwise be difficult to regulate. Company systems record texts and emails[288] and can thus be more plausibly subject to some form of regulation. Social relations—at least the part that is problematic in micro-cost terms—likewise occur through technological devices and media platforms that can be regulated in ways that increase frictions or make more salient micro-cost impositions that are now being overlooked.[289] Thus, the very thing that makes social relations more micro-cost encrusted is also susceptible to legal intervention in a way that oral, in-person social relations are not.

Third, micro-costs are remediable both by law and norms. Even where the law faces limits, if norms evolve, micro-costs will reduce in volume.[290] Sensible legal regulation of micro-costs in the lower hanging fruit settings will likely accelerate the growth of a slowly emerging norm against constant attentional invasions. There is an extensive literature on the relationship between law and norms, so we make only a simple version of the point here.[291]

The law's acknowledgement that micro-costs are a problem would constitute an expressive signal about the inherent importance of the cognitive and attentional resources of individuals.[292] Micro-cost focused laws will make it more likely that more people will begin to view the imposition of micro-costs as salient and take organic measures to not cooperate with an increasing number of cognitive-asks. Indeed, laws often contribute to the development of norms that align with or grow out of legal requirements. Drunk driving laws are a classic example. Prior to their enactment, many people were simply not aware of the dangers of drinking and driving.[293] The enactment of drunk driving laws raised the salience of the issue in the public consciousness and expressed a societal judgment about

286. *See, e.g.*, *Digital Regulation*, INT'L TELECOMM. UNION, https://www.itu.int/en/ITU-D/Regulatory-Market/Pages/DigiReg20.aspx [https://perma.cc/3YY2-HREZ] (last visited Mar. 5, 2024).

287. *See, e.g.*, Kim Parker, *About a Third of U.S. Workers Who Can Work From Home Now Do So All the Time*, PEW. RSCH. CTR. (Mar. 30, 2023), https://www.pewresearch.org/short-reads/2023/03/30/about-a-third-of-us-workers-who-can-work-from-home-do-so-all-the-time/ [https://perma.cc/Q9UA-HM42].

288. *How Much Employee Monitoring Is Too Much?*, AM. BAR ASS'N (Jan. 2018), https://www.americanbar.org/news/abanews/publications/youraba/2018/january-2018/how-much-employee-monitoring-is-too-much-/ [https://perma.cc/3F37-3KPN].

289. *See supra* notes 175–179 and accompanying text.

290. *See supra* Section III.A.2.

291. *See, e.g.*, Tom R. Tyler, *Procedural Justice, Legitimacy, and the Effective Rule of Law*, 30 CRIME & JUST. 283, 323 (2003) (suggesting that a self-regulating society requires its members to internalize values that promote appropriate behavior); Elizabeth S. Anderson & Richard H. Pildes, *Expressive Theories of Law: A General Restatement*, 148 U. PA. L. REV. 1503, 1525 (2000) (arguing that laws influence norms based on how they are interpreted by the society in which they are enacted).

292. *See* Cass R. Sunstein, *On the Expressive Function of Law*, 144 U. PA. L. REV. 2021, 2024 (1996) (discussing the law's ability to change social norms because laws "make a statement" rather than directly controlling behaviors).

293. *See* Allan F. Williams, *The 1980's Decline in Alcohol-Impaired Driving and Crashes and Why It Occurred*, 8 ALCOHOL, DRUGS & DRIVING 71, 71–76 (1992) [hereinafter Williams, *The 1980's*

the importance of not putting other drivers at risk. Today, many people do not drink and drive because of cultural norms—not because they fear getting caught.[294]

Fourth, there are good reasons to think the time is propitious to use the law to accelerate norm evolution such that many if not most cognitive-asks will be viewed more skeptically. The sheer number of observers expressing the feeling of being "overwhelmed" or "drowning" or "so tired" suggests an emerging collective intuition that the current state of affairs is intolerably burdensome and not sustainable in the long term.[295]

And so here we state perhaps our most provocative view: in settings where the law has not yet regulated—or might not be able to regulate—micro-costs, people should adopt the following presumption. Cognitive-asks that one did not actively and recently seek out are a presumptive waste of time to engage with, absent some meaningful and particular indication otherwise.

How might one act on that presumption? By using frictional measures to reduce the frequency and success of cognitive-asks.[296] Because social relations are where legal regulation is least likely to protect one's attentional resources, and where our natural inclinations are to prioritize social cognitive-asks, we recommend the following frictional measure: delay.

Delay is simple. Do not respond immediately to emails, texts, calls, or provocative social media posts.[297] Wait before engaging—maybe hours, maybe 24 hours, maybe more, maybe forever. It is unlikely that delay will result in meaningful negative consequences, because very few things are actually time sensitive. If they are, the asker will follow up with a specific explanation why, and at that point one can consider more carefully whether to engage. But many cognitive-asks not responded to will either be forgotten by the asker or addressed adequately after a delay. While this might not be as plausible in employment settings, where workers may fear displeasing managers with the power to affect wages or job status, it is more plausible in social settings. Though delay feels socially awkward because it feels akin to ignoring someone in an in-person setting (which *is* awkward), it is *much* easier for a person to initiate remote contact than to do so in person. Because the effort the asker expends in the former case is vastly less than in the latter,[298] the

Decline]; Allan F. Williams, *Alcohol-Impaired Driving and its Consequences in the United States: The Past 25 Years*, 37 J. SAFETY RSCH. 123, 128 (2006) [hereinafter Williams, *Alcohol-Impaired Driving*].

294. *See* Williams, *The 1980's Decline*, *supra* note 293, at 74; Williams, *Alcohol-Impaired Driving*, *supra* note 293, at 128.

295. *See, e.g.*, Richard E. Cytowic, *supra* note 3 (discussing the need to "start saying no" and reducing obligations due to cognitive overload).

296. *See supra* Section V.A. Delay is not the only imaginable friction, of course. But this Article is already long enough.

297. We are certainly not alone in making this suggestion. *See, e.g.*, Kostadin Kushlev & Elizabeth W. Dunn, *Checking Email Less Frequently Reduces Stress*, 43 COMPUTS. HUM. BEHAV. 220, 220, 226–27 (2015) (finding a reduction in stress when reducing the frequency of email responses); Jeffrey Lambert et al., *Taking a One-Week Break from Social Media Improves Well-Being, Depression, and Anxiety: A Randomized Controlled Trial*, 25 CYBERPSYCH. BEHAV. & SOC. NETWORKING 287, 292 (2022) (demonstrating that taking a break from social media improves mental health).

298. *See* discussion *supra* Section III.C.2 (discussing "friend norms").

target's responsive obligation is accordingly reduced. Thus, while one may very well "socially owe" an in-person request a prompt response (even if such response is a demurral), that same presumption should *not* apply with regard to remote, asynchronous, cheap-to-make cognitive-asks. The asker has expended very little effort and is entitled to correspondingly less social courtesy. Delay has the further benefit of not rewarding askers with immediate responses (and thus deterring future cognitive-asks of small value).[299]

CONCLUSION

Micro-costs are the small but ubiquitous cognitive drains that we all must endure to navigate today's world. Because of their ubiquity, micro-costs have mostly been ignored by the law and neglected by scholars. That is a profound mistake. Micro-costs are inflicting meaningful individual and societal harms, and market forces will not save us. Certainly, the problem is too complex to be solved with a one-size-fits-all legal intervention. But this Article—by theorizing micro-costs, explaining their growth and persistence, and framing how the law could respond—begins a long overdue conversation. Everyday life does not have to be an interminable morass of noise and nonsense. We can do better. The law can help.

299. Nor must delay be rudely done. At the convenience of the target, one can convey something to the effect of "I find it's better for my well-being to take a little longer to respond to things than do most people."