ANTITRUST IN ATTENTION MARKETS

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ABSTRACT

Despite its vital role in the modern marketplace, attention has largely escaped the notice of antitrust institutions and stakeholders. The scattered commentary that does exist is rife with misconceptions and misleading conjecture. One telling example is the widely held—but mistaken—notion that attention-seeking firms like Google, Facebook, Twitter, and the like are "two-sided platforms." Upon closer inspection, these firms are instead revealed to be distributors in a familiar vertical supply-chain structure. As a result, antitrust can avoid the unnecessary confusion and risk of error that would be entailed by two-sided analysis in these markets.

This Article describes the fundamentals of competition in markets for attention. It explains how best to define relevant markets, drawing lessons from the growing literature on labor-market concentration levels. It also debunks the popular misconceptions that currently permeate antitrust discourse and have begun to infect antitrust doctrine. Along with the "two-sided market" myth, these also include the mistaken conflation of increased choice with consumer welfare, the unwarranted legal immunity granted to suppliers of zero-price products, and an overemphasis on concerns about "Big Data." The Article also explores the dark side of markets for attention, which are prone to failure, and suggests granting leniency for certain restraints on advertising levels as a partial policy response. It concludes with a call to action: the antitrust enterprise must begin paying more attention to markets for attention.

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I. INTRODUCTION

Despite its vital role in society and the modern marketplace, attention remains rather shockingly unexamined and poorly understood.[1] The convergence of digital computing and networking, perhaps the single most important event in the history of information technology, has facilitated a massive growth in the amount and variety of available information, all of it vying for humans' attention.[2] As information becomes increasingly abundant, attention becomes increasingly scarce—and therefore more valuable. By one estimate, adults in the United States spent $7.1 trillion worth of their time on advertising-supported media in a single year.[3]

Attention is easily one of the most valuable resources in modern economies,[4] yet attention-based transactions lack a coherent legal or regulatory framework for analysis.[5] In the U.S. legal regime, attention-seeking activities are sometimes regulated directly, but are rarely prohibited outright. Advertisements for tobacco products, for example, are limited to certain venues and must be accompanied by public-health warnings—but they are not banned altogether.[6] This light-touch approach at the direct level of regulation thus allows a great deal of transactions comprising the exchange of attention to occur.

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[1] Tom Chatfield, *What Is the Real Cost of Your Online Attention?*, AEON (Oct. 7, 2013), http://aeon.co/magazine/world-views/does-each-click-of-attention-cost-a-bit-of-ourselves/ ("For all the sophistication of a world in which most of our waking hours are spent consuming or interacting with media, we have scarcely advanced in our understanding of what attention means.").

[2] *See, e.g.*, Jack M. Balkin, *Digital Speech and Democratic Culture: A Theory of Freedom of Expression for the Information Society*, 79 N.Y.U. L. REV. 1, 7 (2004) ("Before the Internet, free speech theorists worried about the scarcity of bandwidth for broadcast media. . . . The digital revolution made a different kind of scarcity salient. It is not the scarcity of bandwidth but the scarcity of audiences, and, in particular, scarcity of audience attention.").

[3] David S. Evans, "The Economics of Attention Markets" (Oct. 2, 2017), https://papers.ssrn.com/sol3/papers.cfm?abstract_id=3044858.

[4] *See, e.g.*, STATISTA, *Statistics & Facts on the U.S. Advertising Industry* ("In 2016, more than 190 billion U.S. dollars were spent on advertising in the United States."), https://www.statista.com/topics/979/advertising-in-the-us/.

[5] Legal scholars and economists have only recently begun to explore the area in earnest. *See* TIM WU, THE ATTENTION MERCHANTS (2016); David S. Evans, *Attention Platforms, the Value of Content, and Public Policy*, REV. INDUS. ORG. (forthcoming 2019) [hereinafter Evans, *Attention Platforms*]; Tim Wu, *Blind Spot: Attention Markets and the Law*, ANTITRUST L.J. (forthcoming 2018); John M. Newman, *The Myth of Free*, 86 GEO. WASH. L. REV. 513 (2018) [hereinafter Newman, *The Myth of Free*]; John M. Newman, *Antitrust in Zero-Price Markets: Applications*, 94 WASH. U. L. REV. 49 (2016) [hereinafter Newman, *Applications*]; John M. Newman, *Antitrust in Zero-Price Markets: Foundations*, 164 U. PA. L. REV. 149 (2015) [hereinafter Newman, *Foundations*]; *see also* David S. Evans, The Economics of Attention Markets, Oct. 29, 2017, *available at* https://papers.ssrn.com/sol3/papers.cfm?abstract_id=3044858 [hereinafter Evans, *Attention Markets*].

[6] *See, e.g.*, *Advertising and Promotion*, U.S. FOOD & DRUG ADMIN., https://www.fda.gov/tobacco-products/products-guidance-regulations/advertising-and-promotion (last visited June 14, 2019).

Because the scattered direct legal interventions generally allow attention exchange and extraction to occur, attention-based transactions and interactions implicate the entire panoply of business, commercial, and consumer laws—including antitrust law. Yet the modern antitrust enterprise continues to exhibit a near-total lack of attention to attention.[7]

This Article undertakes two foundational tasks: describing how markets for attention function and identifying the proper role of antitrust law within such markets. Part II situates attention as a scarce and tradeable asset, and therefore a proper subject for antitrust analysis. Part II also deconstructs the popular misconception that attention-seeking firms like Google, Facebook, Twitter, and the like are "two-sided platforms." Instead, these firms act primarily as distributors in a familiar vertical supply-chain structure. With that structure in place, Part II next turns to the particulars of antitrust market definition, explaining both the theoretical possibility of using the hypothetical-monopolist test and the advantages offered by the alternative practical-indicia test. As Part II explains, the picture that emerges is one of many markets for attention, rather than the single, massive, and unconcentrated market sometimes portrayed by industry insiders and anti-enforcement commentators. Part II concludes by drawing parallels between antitrust law's experience analyzing—and often failing to analyze—labor markets. The labor-market analogy is surprisingly apt and offers useful lessons for antitrust analysis of markets for attention.

Part III of this Article addresses two of the most salient enforcement failures in markets for attention. The first is conflating consumer "choice" and consumer "welfare." Mainstream antitrust stakeholders often equate greater choice with greater welfare (and vice versa). But a substantial body of research demonstrates that this relationship does not always hold—and, in fact, may sometimes be inverse. When consumers' scarce attention is overwhelmed by an excessive option set or depleted over time, the resulting decisions are often suboptimal. More choices can sometimes mean *less* welfare, a phenomenon known as the "Paradox of Choice." Part III also condemns the *de facto*, and sometimes *de jure*, antitrust immunity that has been given to providers of zero-price attention-consuming products. On this front, at least, recent statements by high-level agency enforcers give room for hope.

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[7] Legal institutions and analysts have, of course, paid attention to direct regulation and limitation on attention-gathering activities. This work is generally categorized under the heading of "advertising and marketing" law, which is recognized as a discrete legal discipline. *See, e.g.*, ERIC GOLDMAN & REBECCA TUSHNET, ADVERTISING & MARKETING LAW: CASES AND MATERIALS (2012) (law-school casebook); Rebecca Tushnet, *Attention Must Be Paid: Commercial Speech, User-Generated Ads, and the Challenge of Regulation*, 58 BUFF. L. REV. 72, 721 (2010) (arguing that the First Amendment permits restrictions on advertisements that "don't necessarily look like ads"); Eric Goldman, *A Coasean Analysis of Marketing*, 2006 WISC. L. REV. 1151. And because attention is the direct corollary—capturing it is the desired end—of speech, First Amendment theorists have similarly paid some attention to attention. *See, e.g.*, Balkin, *supra* note __, at 55–56 (arguing for a revised articulation of free-speech values and rights in response to the rise of digital technology).

Part IV turns to normative applications and implications for antitrust policy and discourse. First, it explains that the antitrust enterprise has paid far too much attention to data, the demand for which is largely derived from the more fundamental demand for attention. Second, it makes the case for granting a degree of leniency to marketplace conduct designed to reduce advertising levels, even when such conduct takes the form of a horizontal agreement among competitors. That said, contemporary antitrust law, its lens narrowed following the paradigm shift of the 1970s, should be viewed as a vital—but partial—policy response to the unique challenges posed by markets for attention. Part V briefly concludes.

II. DEFINING MARKETS FOR ATTENTION

A. Attention as a Scarce and Tradeable Resource

Human attention is scarce. It is, of course, limited by the amount of waking hours in a day. But its scarcity can also manifest due to two other causes. Available cognitive capacity can be either overloaded (presented with too heavy a cognitive load[8] at a given point in time) or depleted via use over time. Employing the commonly used metaphor of mind as engine, the engine can either overheat or run out of fuel. As an economist might put it, there is a "cost of thinking."[9]

Sheer volume or quantity of information can overwhelm our limited cognitive capacity. Thus, for example, most humans can receive, process, and remember no more than seven (plus or minus two) pieces of information at one time.[10] Moreover, under conditions of overload, our decision-making ability becomes degraded.[11] We tend to abandon slower, more deliberative thinking processes entirely, in favor of faster snap judgments.[12] As a result of this shift from analytic to purely associative cognition, individuals are more likely to engage in stereotyping, including racial stereotyping,[13] and also tend to reduce efforts to

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[8] Chandler and Sweller appear to have been the first to use the term "cognitive load" to refer to the burden a given mental task places on cognitive capacity. *See* Paul Chandler & John Sweller, *Cognitive Load Theory and the Format of Instruction*, 8 COGNITION & INSTRUCTION 293 (1991).

[9] *See, e.g.*, Jonathan Levav et al., *Order in Product Customization Decisions: Evidence from Field Experiments*, 118 J. POL. ECON. 274, 276 (2011).

[10] George A. Miller, *The Magical Number Seven, Plus or Minus Two: Some Limits on Our Capacity for Processing Information*, 63 PSYCH. REV. 81 (1956).

[11] *See, e.g.*, Andrew E. Taslitz, *Information Overload, Multi-Tasking, and the Socially Networked Jury: Why Prosecutors Should Approach the Media Gingerly*, 37 J. LEGAL PROF. 89, 95–96 (2013).

[12] Diana J. Burgess et al., *The Effect of Cognitive Load and Patient Race on Physicians' Decisions to Prescribe Opioids for Chronic Low Back Pain: A Randomized Trial*, 15 PAIN MED. 965, 966 (2014) ("Numerous experiments have shown that high levels of cognitive load affect decision making, reducing individuals' use of controlled (effortful, intentional, conscious) cognitive processes and increasing the use of automatic (effortless, unintentional, unconscious) processes.").

[13] *See* Marianne Bertrand et al., *Implicit Discrimination*, 95 AM. ECON. REV. 94, 94–95 (2005); Daniël H. J. Wigboldus et al., *Capacity and Comprehension: Spontaneous Stereotyping Under Cognitive Load*, 22 SOCIAL COGNITION 292 (2004); *see generally* Demetria D. Frank, *The Proof Is*

search out sufficient information in order to make optimal evaluations.[14] Self-control is weakened.[15] Individuals become more susceptible to priming,[16] and therefore to persuasion.[17] In general, decision quality is poorer under overload conditions.[18]

A substantial body of research indicates that cognitive capacity can also be depleted by overuse. Complex decisions that require sifting through and assessing large amounts of information deplete cognitive resources more quickly than decisions made in a low-information environment.[19] As with cognitive overload, the depletion of cognitive capacity negatively impacts decision-making. In psychology literature, "ego depletion" describes the theory, supported by empirical evidence, that exercising willpower eventually exhausts the available supply. As a result, individuals become more likely to make suboptimal choices.[20] Closely related is "decision fatigue," a phenomenon whereby the very act of making decisions, over time, reduces the quality of the decisions being made.[21] When cognitive capacity is depleted, individuals become more persuadable, more likely to rely on whatever default option has been preselected for us. Thus, for example, one field study involved subjecting actual car buyers to decision fatigue by presenting them with a vast number of options.[22] Buyers subjected to decision fatigue ultimately spent thousands of dollars more than non-fatigued buyers.[23] Thus, the quality of the attention individuals are able to pay to stimuli can become depleted over time via overexertion. Again, there is a cost entailed by thinking.[24]

Attention is not only scarce, but also tradeable. Every day, massive amounts of human attention are bought and sold across a wide variety of market settings. A great deal of the digital economy (and a substantial portion of the offline economy)

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in the Prejudice: A Proposal Confronting Implicit Racial Bias in Uncharged Act Evidence, 32 HARV. J. RACIAL & ETHNIC JUSTICE 1 (2016).

[14] *See* Omar Merlo et al., *Heuristics Revisited: Implications for Marketing Research and Practice*, 8 MARKETING THEORY 192 (2008).

[15] Haeran Jae, *Cognitive Load and Syntactic Complexity of Printed Advertisements: Effects on Consumers' Attitudes*, 21 MARKETING MGMT. J. 152, 154 (2011) ("For example, under cognitive-load versus low-load condition, chronic dieters could eat significantly more calories than they intend to consume because their attention is distracted from monitoring their intake.").

[16] Shira Baror & Moshe Bar, *Associative Activation and Its Relation to Exploration and Exploitation in the Brain*, 27 PSYCH. SCI. 776 (2016).

[17] Erin J. Strahan et al., *Subliminal Priming and Persuasion: Striking While the Iron Is Hot*, 38 J. EXPERIMENTAL SOC. PSYCH. 556 (2002).

[18] Maria Sicilia & Salvador Ruiz, *The Effects of the Amount of Information on Cognitive Responses in Online Purchasing Tasks*, 9 ELEC. COMMERCE RES. & APPLICATIONS 183 (2010).

[19] Levav et al., *supra* note 141.

[20] For the seminal article, see Roy F. Baumeister et al., *Ego Depletion: Is the Active Self a Limited Resource?*, 74 J. PERSONALITY & SOC. PSYCH. 1252 (1998).

[21] *See, e.g.*, John Tierney, *Do You Suffer from Decision Fatigue?*, N.Y. TIMES MAG. (Aug. 17, 2011).

[22] *Id.*

[23] *Id.*

[24] Levav et al., *supra* note __.

is centered on competition for scarce attention.[25] At the core of this attention rivalry lies the advertisement—the billboard on the side of the highway, the commercial jingle or political message on the radio, the display ad next to online search results. Understanding and responding to attention rivalry requires a foundational understanding of the ways in which market participants seek to gather and consume human attention.

It is useful to distinguish "unsolicited" from "solicited" advertisements. Some advertisements are unsolicited, and therefore of little interest to antitrust. Here, attention-seeking entities are engaged in attention *extraction*, rather than attention exchange. Though exact definitions vary, advertisements are generally considered "unsolicited" where they are transmitted to a person without that person's invitation or permission.[26] Common examples include email spam, junk faxes, and telemarketing calls.[27] Advertisements that are "given away, as those in . . . billboard advertisements"[28] may also be considered unsolicited for present purposes. Unsolicited advertisements impose costs but frequently yield no (or at best incommensurate) benefits.[29] As a result, unsolicited advertisements are often quite frustrating to their targets, who correctly perceive that they have been taken advantage of—they have incurred attention costs without obtaining commensurate value in exchange.[30] These attention costs are "non-market-signaling." The individuals who incur the costs are not exchanging their attention for something of value.[31] Without an exchange, there is no reason to assume economic gains from trade, and therefore no clear policy justification for antitrust intervention.[32]

Advertisements may, however, be "solicited"—delivered with the express or implied permission of their target audience. Here, individuals and attention-seeking firms engage in attention *exchange*. The relevant attention costs are therefore "market-signaling," and therefore a proper subject of antitrust oversight. Perhaps the most frequently occurring examples take place within advertising-supported zero-price markets. In this context, a business generally acts as an

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[25] *See, e.g.*, Janna Anderson & Lee Rainie, *The Future of Well-Being in a Tech-Saturated World*, PEW RESEARCH CTR. (Apr. 17, 2018) ("The digital economy is based upon competition to consume humans' attention. . . . [T]he current generation of tools for consuming attention is far more effective than previous generations." (quoting David S.H. Rosenthal, retired chief scientist of the LOCKSS Program at Stanford University) (internal quotation marks omitted))).

[26] *See, e.g.*, Communications Act of 1934, 47 U.S.C. § 227(a)(5) (2012) (requiring "prior express invitation or permission").

[27] *See* Dannielle Cisneros, *Do Not Advertise: The Current Fight Against Unsolicited Advertisements*, 2 DUKE L. & TECH. REV. 1 (2003).

[28] Gary S. Becker & Kevin M. Murphy, *A Simple Theory of Advertising as a Good or Bad*, 108 Q.J. ECON. 941, 942 (1993).

[29] *See* Cisneros, *supra* note __.

[30] Congress, perceiving this frustration on the part of email users, reacted by passing the CAN-SPAM Act. 15 U.S.C. § 7702 et seq. (2012).

[31] Becker and Murphy seem to recognize this point, though their choice of terminology is unusual—they state that "[a]ds may be given away . . . , or they may be sold jointly with programs, newspaper articles, comics, sports pages, etc."). Becker & Murphy, *supra* note 84.

[32] *See supra* notes __

intermediary between two distinct groups: humans (as listeners, viewers, users, etc.) and advertisers. For example, broadcast-television viewers—by virtue of choosing to view broadcast television—impliedly accept that broadcasters will subject the viewers to advertisements. Viewers do so in exchange for access to the content they ultimately desire.[33] The following statement by a television executive captures this dynamic quite well, albeit somewhat hyperbolically: "Your contract with the network when you get the show is you're going to watch the [advertising] spots. . . . Any time you skip a commercial . . . you're actually stealing the programming."[34] Television viewers—like Facebook users, Google searchers, and radio listeners—literally "pay attention" in order to obtain a desired product.[35]

Attention is most obviously at the core of purely advertising-supported business models, but it is also crucial to hybrid business models in which a supplier offers both zero-price and positive-price versions of the same basic product—the zero-price version typically features advertisements.[36] Even purely "freemium" business models that do not feature external advertisements can be viewed as attention-centric: offering the basic, zero-price version of the relevant product is itself a sort of "internal" advertisement for the premium, positive-price version offered by the same supplier.[37] Again, attention in this context is being exchanged, rather than nakedly extracted.

As a scarce, tradeable asset, attention is a proper subject of antitrust oversight. A massive amount of commercial activity in modern markets, and especially in digital markets, comprises attention exchange.[38] The 1890 Congress intended the Sherman Act to apply to the fullest extent of the Commerce Power,[39]

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[33] *See generally* Anderson & Coate, *supra* note __ (developing a model of broadcast markets that accounts for "nuisance costs" to consumers created by advertisements).

[34] Brad J. Sagarin et al., *Bartering Our Attention: The Distraction and Persuasion Effects of On-Line Advertisements*, COGNITIVE TECH., Fall 2003, at 4.

[35] Salil K. Mehra, *Competition Law for a Post-Scarcity World*, 4 TEX. A&M L. REV. 1, 3 (2016) (distinguishing truly "free" products from "the familiar world of nominally zero-dollar priced goods, in which users 'pay' with, for example, the yielding of their valuable private information"); Sagarin et al., *supra* note __ ("Consumers receive desired content (e.g., television programming, Internet web sites) in exchange for their attention to advertisements."); *cf. also* Chatfield, *What Is the Real Cost*, *supra* note __ ("If you're using a free online service, the adage goes, you are the product.").

[36] Even the paid versions often also include some (albeit relatively fewer) advertisements.

[37] In freemium contexts, profits may depend on using the zero-price product to increase sales of the positive-price product. Firms need to somehow make their zero-price customers aware of the latter. The advertisements used to do this may be less overt than the third-party ads featured in many two-sided platform or freemium markets—but they are advertisements, nonetheless. When they appeared, freemium services represented an advance over take-it-or-leave-it products that forced consumers into a Hobson's choice: either use the service and view the advertisements or do not use the service at all. Brad J. Sagarin et al., *Bartering Our Attention: The Distraction and Persuasion Effects of On-Line Advertisements*, 8 COGNITIVE TECH. 4, 4 (2003). Freemium offers a more sophisticated choice: "consumers can make individual decisions to pay money for a product or service or to barter their attention for an ad-supported version." *Id.* at 4.

[38] *See* Evans, *supra* note 5 (estimating the value of time spent by U.S. adults in a given year on advertising-supported media to be in the trillions of dollars).

[39] *See id.* at 558 ("Congress wanted to go to the utmost extent of its Constitutional power in restraining trust and monopoly agreements . . . .");

a near-universal scope under the Court's modern Constitutional jurisprudence.[40] As the U.S. Supreme Court has observed, "On its face [the Sherman Act] shows a carefully studied attempt to bring within the Act every person engaged in business whose activities might restrain or monopolize commercial intercourse . . . ."[41] It would bend the English language to the breaking point to try to label attention exchange "noncommercial" activity—attention exchange is the core business model of some of the largest, most profitable, and most powerful corporations in the world.

Moreover, when interpreting the scope of the antitrust laws, the Supreme Court has adopted a holistic and purposive approach:

> The purpose, the subject matter, the context, the legislative history, and the executive interpretation of the statute are aids to construction. . . . [W]e are to read the statutory language in its ordinary and natural sense, and if doubts remain, resolve them in the light . . . of the policy intended to be served by the enactment [and] by all other available aids to construction.[42]

Though somewhat contestable and inchoate, the purpose of the antitrust laws at minimum includes preventing dominant firms from eliminating their competitors in order to extract more from their customers or pay less to their suppliers. As discussed further *infra*, that type of harm can occur in markets for attention.[43] Thus, a purposive demarcation of antitrust's boundaries would include attention markets within its scope.

B. Distribution Chains, Not Multi-Sided Platforms

It is quite common—but misguided—to describe attention intermediaries as "multi-sided platforms" (or "two-sided platforms") that are situated horizontally between humans and advertisers.[44] A news story describing state antitrust

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[40] *See, e.g.*, Wickard v. Filburn, 317 U.S. 111, 127–29 (1942) (holding that the federal government may regulate a farmer's internal consumption of self-produced wheat under the Commerce Clause because, in the aggregate, such consumption had a substantial effect on interstate commerce).

[41] United States v. Se. Underwriters Ass'n, 322 U.S. 533, 553 (1944), *superseded by statute*, McCarran–Ferguson Act, 15 U.S.C. §§ 1011–1015 (2016) (clarifying that the insurance industry generally does not fall within the Sherman Act's ambit), *as recognized in* Barnett Bank of Marion Cnty. v. Nelson, 517 U.S. 25, 40 (1996).

[42] United States v. Cooper Corp., 442 U.S. 600, 605 (1941).

[43] *See infra* Part III.B (describing attention-cost overcharges in broadcast-radio markets); *see also* Gregory Day, *Monopolizing Free Speech*, __ FORDHAM L. REV. (forthcoming ____); Rory Van Loo, *The Missing Regulatory State: Monitoring Businesses in an Age of Surveillance*, 72 VAND. L. REV. 102, 123 (2019) (identifying a wide variety of harms that occur in digital markets); Spencer Weber Waller, *Antitrust and Social Networking*, 90 N.C. L. REV. 1771, 1798 (2012) (describing the possibility of harm to users stemming from exclusionary practices in social-networking markets).

[44] *See, e.g.*, Rob Frieden, *Two-Sided Internet Markets and the Need to Assess Both Upstream and Downstream* Impacts, 68 AM. U. L. REV. 713, 759 (2019) ("Even the most popular and trusted

authorities' investigation of Facebook is telling: both the lead prosecutor and Facebook's representative described the company as a "platform."[45] The Assistant Attorney General of the U.S. Department of Justice Antitrust Division similarly described Facebook and Google as "digital platforms."[46] Leading antitrust commentators across the ideological spectrum appear to agree that these firms operate two-sided platform business models.[47]

A multisided platform (or two-sided platform) business model is assumed to be different from traditional top-down distribution chains. Instead of featuring producers at the top of a chain and consumers at the bottom, a multisided market features a "platform" in the middle, connecting multiple customer groups with one another.

But it is not at all clear why so many observers have assumed that these attention intermediaries "platforms." In fact, there is a surprising lack of consensus about what makes *anything* a platform.[48] The classic definition from the

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platform operators, such as Facebook, Google, Yahoo, and Twitter, have become unintentional and unacceptably passive conduits for a toxic mix of "fake news," identity theft, disinformation, propaganda, defamation, extortion, and character assignation."); D. Daniel Sokol & Jingyuan (Mary) Ma, *Understanding Online Markets and Antitrust Analysis*, 15 NW. J. TECH. & INTELL. PROP. 43, 46 (2018) ("Competition in a multi-sided market may emerge not from one platform but across different types of platforms to attract users. For instance, Facebook competes with Google, Twitter and Apple for ad revenue, but it is also in direct competition with offline advertising such as TV and print ads."); Howard A. Shelanski, *Information, Innovation, and Competition Policy for the Internet*, 161 U. PA. L. REV. 1663, 1668 (2013) ("There is much at stake in designing good competition policy for digital platform markets."); David S. Evans, *Governing Bad Behavior by Users of Multi-Sided Platforms*, 27 BERKELEY TECH. L. J. 1201, 1241 (2012) ("However, the issue of exclusion is increasingly prominent as a result of several multi-sided platforms having created highly successful global businesses. These include Apple, eBay, Facebook, Google, Microsoft, NYSE/Euronext, and Visa."); Waller, *supra* note __, at 1773 ("[M]ost of the markets in question . . . exhibit features of what economists call two-sided markets."); David S. Evans, *Attention Rivalry Among Online Platforms and Its Implications for Antitrust Analysis* (U. Chi. L. Sch., Coase-Sandor Inst. L. & Econ., Working Paper No. 627, 2013).

[45] Taylor Telford & Tony Room, *New York, 7 Other States and D.C. Launch Antitrust Investigation into Facebook*, WASH. POST (Sept. 6, 2019), https://www.washingtonpost.com/business/2019/09/06/new-york-announces-antitrust-investigation-into-facebook-kicking-off-bipartisan-effort/.

[46] Press Release, U.S. Dep't of Justice, "Justice Department Reviewing the Practices of Market-Leading Online Platforms: Review Focuses on Practices That Create or Maintain Structural Impediments to Greater Competition and User Benefits" (July 23, 2019), https://www.justice.gov/opa/pr/justice-department-reviewing-practices-market-leading-online-platforms.

[47] *Compare, e.g.*, Lina Khan, *The Separation of Platforms and Commerce*, 119 COLUM. L. REV. 973 (2019), *with* Geoffrey A. Manne & Joshua D. Wright, *If Search Neutrality Is the Answer, What's the Question?*, 2012 COLUM. BUS. L. REV. 151, 166–67 ("[A] search engine operates as any other two-sided market platform, balancing asymmetrical incentives between consumers on one side and advertisers on the other.").

[48] *See* Michael Katz & Jonathan Sallet, *Multisided Platforms and Antitrust Enforcement*, 127 YALE L.J. 2142, 2148–50 (2018) ("The lack of consensus regarding the definition of a platform is important, because some commentators emphasize the distinction between single-sided businesses and multisided platforms and suggest that antitrust enforcement reflect this distinction. Yet, it is

economists who "discovered" multisided platforms is patently unfit for use in antitrust analysis.[49] It is both too broad (an automobile manufacturer might conceivably be labeled a "platform") and too unstable (whether a firm is a "platform" may depend on its behavior).[50] Analysts have applied the "platform" label to a dizzying array of seemingly quite different business models. Amazon sells goods to consumers.[51] Uber sells taxicab services to riders.[52] Netflix sells creative content to viewers.[53] Colleges,[54] newspapers, academic journals, county fairs,[55] bars, shopping malls,[56] and grocery stores,[57] operate wildly different businesses. Yet all of these, along with a host of others, have been labeled "platforms." Under current proposed definitions, it seems, nearly every market is at least arguably a "platform market."[58]

If true, this would be an unfortunate development for antitrust law and economics. Platform markets are relatively foreign to antitrust analysis. They are poorly understood, as evidenced by the lack of consensus regarding even basic definitional issues. As a result, labeling a market a "platform market" entails substantial costs for all stakeholders.[59] Litigants on both sides of a given case will be required to expend considerable time and expense in order to explain the relevant legal and economic issues to a judge or jury. The inherent uncertainty will increase the risk of costly decisional errors.[60]

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much harder to distinguish single-sided business from multi-sided ones than one might initially suspect . . . .").

[49] *Id.*

[50] *Id.*

[51] *See* Note, Derrian Smith, *Taming Sherman's Wilderness*, 94 IND. L.J. 1223, 1232 n. 70 (2019) ("Amazon provides a platform that connects buyers and sellers of goods . . . .").

[52] Katrina M. Wyman, *Taxi Regulation in the Age of Uber*, 20 N.Y.U. J. LEGIS. & PUB. POL'Y 1, 16 (2017) ("Uber is not the first two-sided market in the history of the taxi industry—taxi companies in many jurisdictions historically have operated as two-sided platforms, dispatching taxis by radio in response to calls from customers.").

[53] Juan Manuel Sanchez-Cartas & Gonzalo Leon, *Multi-Sided Platforms and Markets: A Literature Review* (Jan. 2019), https://www.researchgate.net/publication/325225786_Multisided_Platforms_and_Markets_A_Literature_Review.

[54] *In re* NCAA Athletic Grant-in-Aid Cap Antitrust Litig., 375 F. Supp. 3d 1058, 1066 n.8 ("Dr. Kenneth Elzinga[] discussed in his report[] a 'multi-sided market for college education in the United States' in which colleges operate as multi-sided platforms that balance their pricing to numerous constituencies.").

[55] Sanchez-Cartas & Leon, *supra* note __.

[56] Alexei Parakhonyak & Maria Titova, *Shopping Malls, Platforms and Consumer Search*, 58 INT'L J. INDUS. ORG. 183 (2018).

[57] Robin Lewis & Zia Daniell Wigder, *Grocery Store or Platform?*, ROBIN REPORT (Feb. 19, 2018), https://www.therobinreport.com/grocery-store-or-platform/.

[58] *See* Smith, *supra* note 45, at 1232 ("[N]early all markets can be understood as two-sided."); Erik Hovenkamp, *Platform Antitrust*, J. CORP. L. (forthcoming), manuscript at 48 ("[U]nder the *AmEx* standard, we can expect an outpouring of defendants emphatically claiming to be two-sided, and urging courts to consider the various types of actors with whom they deal.").

[59] *See* Hovenkamp, *Platform Antitrust*, *supra* note __, at 47 ("Everyone agrees that platform economics makes matters more complicated . . . .").

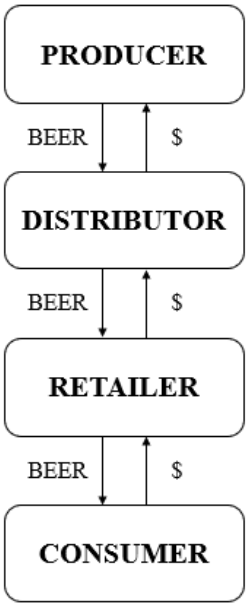
[60] *See generally* Frank H. Easterbrook, *The Limits of Antitrust*, 63 TEX. L. REV. 1 (1984) (developing the error-cost framework for antitrust analysis).

Thus, the antitrust enterprise should employ as its default presumption that a given market is a traditional, top-down distribution system rather than the ill-defined, poorly understood notion of a "multisided platform market." The burden is on those who would prefer the "platform" label to first advance a workable definition of what constitutes a platform, then demonstrate convincingly that the relevant market meets that definition.

As to markets for attention, that case has not been made. Instead, it is much more useful to employ a "basis-of-the-bargain" approach. Under this approach, developed herein, an analyst simply asks whether the same asset can be traced from its source, to an intermediary (or intermediaries), then to a final group of market participants. If so, the market can safely be treated as a traditional, top-down distribution system.

Let us first analyze an uncontroversial traditional market, the market for beer. In this market, a manufacturer (or "producer") produces beer by brewing it from a variety of input ingredients. The manufacturer then transfers the product to an intermediary (or "distributor"), typically in exchange for a price. The distributor then exchanges the product to retailers, again in exchange for a price. Finally, the retailers exchange it to consumers. This process can be simply visualized, as in Figure 1, below.

Fig. 1. Top-Down Distribution.



By way of contrast, let us now consider the only two-sided platform as to which an appreciable degree of consensus exists: payment-card networks. A

payment-card network provides merchants with the ability to accept its cards, typically in exchange for a price. The network also provides cardholders with the ability to pay using its cards, typically also in exchange for a price (although that price can be negative, as is sometimes the case with cardholder-rewards programs). Applying the basis-of-the-bargain approach, an analyst can quickly and easily conclude that something really *is* different about this business model. The difference is that an analyst cannot trace the same consideration from its source, to an intermediary, then to a final group of consumers. This structure is depicted in Figure 2, below.

Fig. 2. Payment-Card Networks.

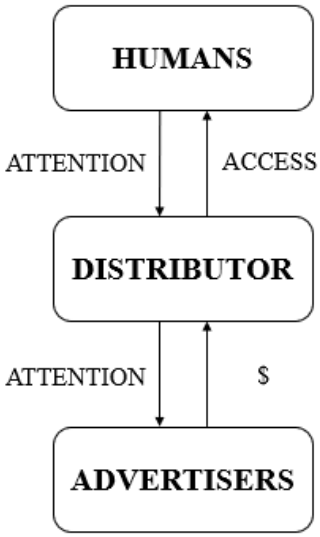
Of course, it would be a mistake to conclude—as did the conservative wing of the U.S. Supreme Court in *Ohio v. American Express Co.*—that payment-card networks necessarily operate in only one antitrust relevant market.[61] The basis-of-the-bargain approach also helps the analyst visualize immediately why there are most likely two discrete relevant markets at play here. Relevant markets comprise products that are "reasonable substitutes" for each other. But merchants' ability to accept is patently not a substitute for cardholders' ability to pay. A merchant fed up with high credit-card acceptance fees, for example, cannot solve the problem by signing up to carry a credit card. Nor can a cardholder seeking a lower interest rate obtain one by opening a store and signing up to accept credit cards.

This brings us to markets for attention, of the sort in which Google, Facebook, and similar firms operate. Attention is produced by natural persons. Thus, natural persons are the source—the producers—of the relevant asset. Using the basis-of-the-bargain approach, we can see that humans trade attention to intermediaries (like Google and Facebook) in exchange for access to valued

[61] For a small sample of the many academic articles pointing out the errors made by the *AmEx* Court, see Michael L. Katz, *Platform Economics and Antitrust Enforcement: A Little Knowledge Is a Dangerous Thing*, 28 J. ECON. & MGMT. STRATEGY 138 (2019); John B. Kirkwood, *Antitrust Policy for Two-Sided Platforms: The Failure of* American Express *and the Path Forward*, CARDOZO L. REV. (forthcoming); Hovenkamp, *Platform Antitrust*, *supra* note __; Herbert J. Hovenkamp, *Platforms and the Rule of Reason: The* American Express *Case*, COLUM. BUS. L. REV. (forthcoming); John M. Newman, *Procompetitive Justifications in Antitrust Law*, 94 IND. L.J. 501 (2019); Michael Katz & Jonathan Sallet, *Multisided Platforms and Antitrust Enforcement*, 127 YALE L.J. 1742 (2018); John B. Kirkwood, *Market Power and* American Express, 26 U. MIAMI BUS. L. REV. 17 (2018); Tim Wu, *The* American Express *Opinion, Tech Platforms & the Rule of Reason*, J. ANTITRUST ENFORCEMENT (forthcoming 2018).

products (like online search or social networking). The intermediaries then distribute the attention to its final consumers—advertisers—typically in exchange for a price. This familiar, vertical distribution system is depicted in Figure 3, below.

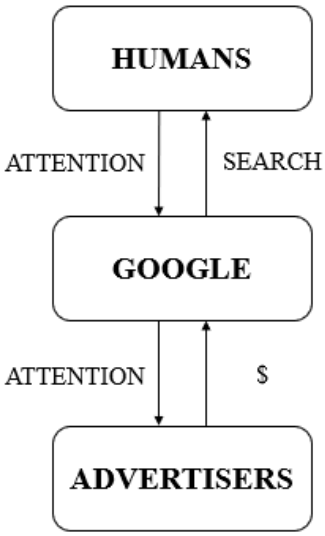
Fig. 3. Distribution System for Attention.



Thus, one can quickly and easily conclude that many of the so-called "digital platforms" are nothing of the sort. Instead, they operate within traditional, vertical distribution systems. An identifiable asset is being produced, exchanged to a downstream intermediary, then sold to a final consumer.[62] One can, of course, also use the basis-of-the-bargain approach to analyze a particular distribution system—for example, the one involving Google's near-ubiquitous online search engine. Figure 4 depicts this distribution system's structure.

Figure 4. General Search Results.

[62] Katherine J. Strandburg, *Free Fall: The Online Market's Consumer Preference Disconnect*, 2013 U. CHI. L. F. 95, 96 ("Advertisers, not users, are these [online] businesses' customers.").



The basis-of-the-bargain approach offers substantial advantages over alternative means of identifying two-sided platform markets.[63] It is clear, where other means are opaque. It also does not yield obviously incorrect answers—it would not, for example, identify an automobile manufacturer, college, grocery store, or bar as a "two-sided platform." In short, it produces better answers at a lower cost.[64]

Moreover, the basis-of-the-bargain approach is particularly well-suited for use in a legal setting. Most alternative definitions trace their roots to theoretical economics. For purposes of economic study, it may be sufficient to roughly identify a phenomenon (a two-sided market), then go about studying and discussing whatever facets of the new phenomenon seem most interesting to the theorist. But applying antitrust law to a given instance of marketplace conduct is an altogether different exercise. The ultimate decisionmaker will be a judge, trained in law, tasked with applying a generalizable rule to a discrete set of facts and issues. It follows that a test with its roots in *law*, rather than abstract academic economic theory, is particularly advantageous. The basis-of-the-bargain approach, which draws upon the centuries-old doctrine of "consideration" from contract law, is just such a test. Consequently, it is particularly well-suited for use by antitrust analysts.

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[63] *See, e.g.*, Harry First, American Express, *the Rule of Reason, and the Goals of Antitrust*, 98 NEB. L. REV. (forthcoming 2019) (concluding that the U.S. Supreme Court did an especially poor job of explicating and applying the rule of reason in the *AmEx* case).

[64] As Leslie notes, there are diminishing—and, at some point, negative—returns from simplicity when it comes to developing antitrust policy. *See* Christopher R. Leslie, *Antitrust Made (Too) Simple*, 79 ANTITRUST L.J. 917 (2014). But whereas many of the neoclassical assumptions espoused by Chicago School theorists were both simple—or, more accurately, simplistic—and wrong, the present test offers the twin advantages of easy administration and improved accuracy.

One might well wonder why, given the obvious advantages offered by this understanding of humans-as-producers, antitrust analysts and commentators did not seize onto it earlier. Orbach offers a compelling, if partial, explanation: far more often, we think of natural persons as "consumers," not producers.[65] Unsurprisingly, many analysts applied that label to the role of natural persons in content-related industries. Moreover, antitrust historically addressed itself exclusively to transactions involving fiat currency. At times, antitrust enforcers went so far as to explicitly ignore zero-price transactions and markets. The exchange of attention for access to a desired good or service is thus a relatively unfamiliar one to antitrust. Given the growing importance of such transactions to the modern economy, the time is past due for antitrust to develop a better understanding of markets for attention. Leaving the "two-sided platform" label behind is the first step in that direction.

C. Attention Market Definition in Practice

Much of the contemporary antitrust toolkit is organized around prices, a feature lacking in many markets for attention. But some of those tools can be modified for use in a zero-price context, and others are already supple enough to be applied in the absence of prices.

1. The SSNIC Test

In the merger context, the hypothetical-monopolist test has emerged as a focal point for most analyses. This test requires the analyst to envision a hypothetical world in which a hypothetical firm controls 100% of an artificially demarcated area of marketplace activity. If that hypothetical monopolist would possess market power, then the analyst has identified a "relevant market." The "SSNIP" approach has become the most common variant of the hypothetical-monopolist test. Under this approach, the analyst asks whether the hypothetical monopolist would likely impose a "Small but Significant and Non-Transitory Increase in Price" on its customers. The size of the hypothetical price increase is usually set at 5%. Thus, if a hypothetical monopolist would (hypothetically) raise the price of the candidate product by 5%, the analyst has identified a relevant market.[66]

The SSNIP test exhibits an obvious flaw in the face of zero-price transactions: as its name indicates, it requires prices in order to function. In a zero-price attention transaction, a natural person trades her attention to an intermediary

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[65] Barak Y. Orbach, *The Antitrust Consumer Welfare Paradox*, 7 J. COMP. L. & ECON. 133, 163 (2010) ("The term 'consumer' is conceptually confusing in various contexts. In many transactions, the identity of the parties as "consumers" is arbitrary and subject to social traditions and marketing strategies.").

[66] U.S. DEP'T OF JUSTICE & FED. TRADE COMM'N, 2010 HORIZONTAL MERGER GUIDELINES, https://www.justice.gov/atr/horizontal-merger-guidelines-08192010.

in exchange for access to a desired good or service. No fiat currency changes hands. As a result, the SSNIP test becomes unworkable: 5% of zero is still zero.[67]

But the hypothetical-monopolist test can be modified for use in such markets. Instead of asking whether a hypothetical monopolist would increase prices, one simply needs to ask whether the monopolist would increase attention costs. A "SSNIC" (small but significant and non-transitory increase in *cost*) test can replace the unworkable SSNIP test. The relevant cost increases can take the form of more time or space being devoted to advertisements, or the imposition of more intrusive or distracting advertisements.

Suppose, for example, the only two broadcast-radio stations in a metropolitan area announced plans to merge. While the SSNIP test may be appropriate for analyzing the downstream advertiser market, it is unworkable as to the upstream listener market. Instead, the antitrust analyst can ask whether a hypothetical monopolist would likely impose a SSNIC, i.e., whether it would likely raise listeners' attention costs by a small, but significant, amount. If so, the analyst has identified a relevant market. Real-world empirical research on broadcast-radio markets suggests that market power can be—and, unfortunately, has been—exercised via increased attention costs. Thus, the SSNIC test can help analysts identify the type of harm antitrust laws are meant to prevent.

Digital markets for attention, involving products like general search results, social networks, and the like, may be even better candidates for application of the SSNIC test. Such markets facilitate A/B testing (or "split testing"), in which two or more different versions of a product or webpage are made available at the same time for the purpose of testing and comparing user reactions. The results of an A/B test focused on changes in advertising loads could inform the application of the hypothetical-monopolist test for market definition.

2. The Advantages of Practical Indicia

Courts, including the U.S. Supreme Court, have long employed practical indicia as a flexible, workable means of defining relevant markets.[68] This approach considers real-world factors like products' functional characteristics, the presence or absence of substantial price differences between products, whether companies strategically consider and respond to each others' competitive conduct, and evidence that industry participants identify and refer to a grouping of activity as a discrete and identifiable sphere of competition.

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[67] *See, e.g.*, Daniel Mandrescu, *The SSNIP Test and Zero-Pricing Strategies: Considerations for Online Platforms*, 2 EUR. COMPETITION & REG. L. REV. 244 (2018) ("The SSNIP test simulates a theoretical nominal increase in the price of the product or service provided by the concerned undertaking. This exercise is however mathematically impossible when the price of the product or service is zero: an increase of 5–10% of zero is still zero.").

[68] *See, e.g.*, United States v. Grinnell Corp., 384 U.S. 563 (1966); United States v. Microsoft Corp., 253 F.3d 34 (D.C. Cir. 2001).

Practical indicia can—but do not necessarily—include price data, making this approach flexible enough for use in zero-price markets without any additional modification. Moreover, practical indicia can lessen the need to rely on so-called "quantitative" econometric data, which is often easier to massage and manipulate than real-world documents and testimony.[69] Numbers can be used to tell many stories. Contemporary antitrust litigation frequently features two superbly credentialed economists using the very same data to advocate for opposite viewpoints, each having somehow reached the conclusion that happens to favor his own client.[70] This is, as others have recognized, not an optimal state of affairs.[71] Thankfully, the antitrust toolkit is broader than price-centric tools like the SSNIP, which is simply unworkable in many markets for attention. The SSNIC test may sometimes be of value, but practical indicia will often be the best method for defining relevant markets for attention.

D. The Relevant Markets for Attention

It is not uncommon to encounter arguments to the effect that all attention-seeking firms compete with each other in one massive, unconcentrated market.[72] Under this view, Google, Facebook, CNN, Fox News, broadcast-radio stations, highway billboard owners, newspaper publishers, and even the Dallas Cowboys all compete with each other to attract our eyes and ears. And, *ipso facto*, they all must operate in the same antitrust relevant market.[73] The direct implication of such

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[69] *See, e.g.*, Jesse Eisinger & Justin Elliott, *These Professors Make More Than a Thousand Bucks an Hour Peddling Mega-Mergers*, PROPUBLICA (Nov. 16, 2016), https://www.propublica.org/article/these-professors-make-more-than-thousand-bucks-hour-peddling-mega-mergers. ("[A] ProPublica examination of several marquee deals found that economists sometimes salt away inconvenient data in footnotes and suppress negative findings, stretching the standards of intellectual honesty to promote their clients' interests.").

[70] *See id.* ("'This is not the scientific method,' said Orley Shenfelter, a Princeton economist known for analyzing the effects of mergers… 'The answer is known in advance, either because you created what the client wanted or the client selected you as the most favorable from whatever group was considered.'"). The author uses the masculine pronoun in this context advisedly—virtually all of the highly paid economists who regularly testify in antitrust trials appear to be men.

[71] *See, e.g.*, Rebecca Haw, *Adversarial Economics in Antitrust Litigation: Losing Academic Consensus in the Battle of the Experts*, 106 NW. U. L. REV. 1261 (2012).

[72] *See, e.g.*, David S. Evans, *Attention Rivalry Among Online Platforms* 1-2 (Univ. of Chi. Inst. for L. & Econ. Olin Res. Paper No. 627, 2013), https://papers.ssrn.com/sol3/papers.cfm?abstract_id=2195340 (arguing that "attention rivals" like search platforms, social networks, news providers, video hosts, etc., all "compete with each other for the limited time of consumers"); *Id.* at 3 (concluding that "[c]ompetition in fact appears to be quite robust 'in the market'"). As a policy matter, Evans urges a "strong presumption that attention seekers compete for procuring attention regardless of the products and services they offer for doing this." *Id.* This is supposedly warranted because "attention seekers are price takers in terms of what they pay to secure attention." *Id.*

[73] Facebook arguably impliedly made a similar argument in response to the Bundeskartellamt's recent decision prohibiting certain of its data-collection practices. In a blog post disagreeing with the decision, Facebook included a graphic that (again, arguably) implied that Facebook competes with Twitter, LinkedIn, TicketMaster, Airbnb, TripAdvisor, Tinder, Yelp, Reddit, and others. *See* John Newman, *The Bundeskartellamt's Facebook Decision: Good, Bad, and Ugly*, REVUE

arguments is that each rival's individual share of this massive "market" for attention is miniscule. With a lens that wide, even giants can appear tiny. With vanishingly small market shares (the argument runs), attention-seeking firms must lack market power. Thus, the practical upshot of this argument is *de facto* immunity for firms like Google and Facebook.

This argument rests on an obvious logical fallacy. Relevant markets consist not of all products that are "substitutes," but of all products that are "*reasonable* substitutes." With that in mind, the "single market for attention" argument can be formalized as follows:

1. If products are reasonable substitutes, they are in the same market.
2. Content-based products are substitutes.
3. Content-based products are in the same market.

The argument is essentially that because $A = B$, it is also true that $A = C$. It can therefore be rejected on formal grounds alone.

Moreover, this argument mistakes the medium of exchange for the metes and bounds of the market. One might just as well argue that theaters, grocery stores, nightclubs, and clothing designers all compete for money, and therefore must participate in the same relevant market. But no analyst—or at least no serious analyst—would make such a claim.[74]

E. The Labor-Market Analogy

A helpful analogy is to labor markets, another vertical distribution system in which natural persons are top-level producers. Antitrust historically paid no attention whatsoever to the problem of concentrated labor markets. This failure was likely caused by a variety of factors, including the inevitable emphasis on downstream effects prompted by the widespread rhetorical use of the term "consumer welfare." But it was also likely due in part to a faulty assumption: that labor markets were extremely broad, encompassing a variety of different occupations and wide swaths of geographic area. A growing body of economic research demonstrates, however, that labor markets are often much narrower—and much more highly concentrated—than the antitrust enterprise previously

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CONCURRENTIALISTE (Feb. 11, 2019), https://leconcurrentialiste.com/2019/02/11/bundeskartellamt-facebook/.

[74] Of course, defendants and defendant-friendly commentators often make claims that are only slightly less absurd. The Competitive Enterprise Institute, for example, argued recently that even a market definition as broad as "concerts" would be overly narrow because "[c]oncerts are one form of entertainment" that "compete[s] with movies, plays, ballgames, bars, restaurants, and countless other activities." Ryan Young, *Top Ten Antitrust Targets*, COMPETITIVE ENTER. INST. (Dec. 10, 2018), https://cei.org/blog/top-ten-antitrust-targets ("Not only are these [activities] fun, they also sap the strength of a possible antitrust case…").

assumed.[75] Incorrectly assuming that the relevant markets for labor are extremely broad would cause antitrust to overlook harmful conduct and effects.

Likewise, assuming that the relevant markets for attention are extremely broad would be a mistake. From a worker's perspective, there is an appreciable difference between an employer down the street in need of a fast-food line cook and an employer across the country seeking to hire a brain surgeon. Similarly, from a user's perspective, there is an appreciable difference between general-search results and a social-networking website. To their users, these products serve very different functions. The bare fact that their providers both seek "attention" does not dictate lumping them into the same market, just as the bare fact that two employers both seek "labor" does not mean that they compete in the same market.

The analogy to labor markets also helps clarify that upstream markets for attention may be much more highly concentrated than the downstream markets in the same distribution chain. The growing body of economic literature on labor-market concentration indicates that upstream labor markets may be concentrated even when downstream product markets are not. A factory may be the only realistic option for workers without college degrees in a remote area, making it a monopsonistic buyer—yet that same factory may simultaneously compete with hundreds of other factories to sell its widgets to consumers. Similarly, a market for attention may be highly concentrated on the upstream side, yet relatively less concentrated on the downstream side. Users may not have realistic substitutes for general online search. Yet a search engine may compete with other websites, and perhaps even offline advertising venues, to sell attention to advertisers.

III. FAILURES OF CURRENT ANTITRUST DOCTRINE AND PRACTICE

Antitrust law has largely failed to address adequately the unique challenges posed by attention-based exchanges. Though its shortcomings in this regard have manifested in a number of ways; the following discussion is confined to two particularly underexamined areas. The first is incorrectly equating consumer choice with consumer welfare. The second is the unjustified preferential treatment given to firms that employ attention-extracting business models.

A. Conflating Consumer Choice with Welfare

The most commonly cited unitary goal of orthodox antitrust law is protecting "consumer welfare."[76] Of course, there has always been disagreement

[75] *See, e.g.*, Ioana Marinescu & Roland Rathelot, *Mismatch Unemployment and the Geography of Job Search*, 10 Am. Econ. J. Macroecon. 42 (2018) (demonstrating that labor markets tend to be surprisingly localized); Jose A. Acar et al., Concentration in US Labor Markets: Evidence From Online Vacancy Data.

[76] *See, e.g.*, Reiter v. Sonotone Corp., 442 U.S. 330, 343 (1979) ("Congress designed the Sherman Act as a 'consumer welfare prescription.'" (quoting ROBERT BORK, THE ANTITRUST

about the means of achieving this (or any other) goal. A range of institutional actors and authors have espoused the view that maximizing consumer *choice* is an acceptable—or even optimal—means of promoting consumer welfare. Under this view, choice and welfare are directly correlated: as one increases, so does the other. The two concepts are interchangeable. As the following discussion explains, however, this view is mistaken.

"Consumer welfare" in the antitrust law-and-economics context means something rather less grand than a layperson might imagine—in fact, a better (less misleading) signifier would be "consumer surplus," the difference between what buyers would have hypothetically been willing to pay and what they actually paid for a given product.[77] The term derives from neoclassical economics, which relies on partial-equilibrium analysis: defining a discrete "market," arriving at some supposed equilibrium "solution" for how that market functions, and assessing the effects on market participants' surplus.[78] Normatively, maximizing surplus for either society or some favored subgroup is the stated policy goal.

Neoclassical price theorists purport to identify a number of conditions required for a state of "perfect" competition, an equilibrium that is supposed to maximize consumers' surplus.[79] These conditions include, but are not limited to, the absence of transaction costs,[80] no externalities,[81] the availability of perfect information,[82] and—most importantly for purposes of this discussion—the presence of many buyers and sellers,[83] each behaving selfishly (or, as neoclassical economists prefer, "rationally") so as to maximize their own surplus.[84]

PARADOX 66 (1978)); Kirkwood, *supra* note __, at 1174 n.15 (noting that, when asked to resolve tension between consumer welfare and some other goal, courts appear to prefer consumer welfare). *But see* C. Scott Hemphill & Nancy L. Rose, *Mergers That Harm Sellers*, 127 YALE L.J. 2078, 2080 (2018) (explaining that, although "courts and commentators often refer to the protection of 'consumer welfare,' actual decision-making is better explained by concern for "trading partner welfare"). For one of the many trenchant critiques of the paradigm shift to a "consumer welfare" conception of antitrust, see Barak Orbach, *How Antitrust Lost Its Goal*, 81 FORDHAM L. REV. 2253, 2253 (2013) ("[A]ntitrust has always been and will always be about the preservation of competition.").

[77] *See, e.g.*, HERBERT HOVENKAMP, FEDERAL ANTITRUST POLICY: THE LAW OF COMPETITION AND ITS PRACTICE 891–95 (5th ed. 2016).

[78] *Id.*; *see also* Alan J. Meese, *Price Theory, Competition, and the Rule of Reason*, 2003 U. ILL. L. REV. 77, 120 (describing the incorporation of price-theoretic models into antitrust law and economics).

[79] *See generally* FRANK H. KNIGHT, RISK, UNCERTAINTY, AND PROFIT 51–93 (1921) (listing requisite conditions for perfect competition).

[80] *Id.* t 116–17a.

[81] Herbert Hovenkamp, *Antitrust Policy After Chicago*, 84 MICH. L. REV. 213, 244 (1985).

[82] John M. Newman, *Procompetitive Justifications in Antitrust Law*, 94 IND. L.J. (forthcoming 2019).

[83] *E.g.*, DENNIS W. CARLTON & JEFFREY M. PERLOFF, MODERN INDUSTRIAL ORGANIZATION 67 (1990).

[84] Maurice E. Stucke, *Is Competition Always Good?*, 1 J. ANTITRUST ENFORCEMENT 162, 179 (2013).

Notably lacking from the perfect-competition model—and therefore from orthodox antitrust law and economics—is any attempt to account for the scarcity of human attention. Market actors are simply assumed to be capable of making perfectly self-interested decisions, so long as they are provided with enough information and a large enough array of market actors vying to attract their business.[85]

Under this view, the concept of "consumer choice" is assumed to be directly correlated with the normative goal of maximizing consumer surplus.[86] So long as perfectly rational consumers have the ability to choose among competing products, and have perfect information about which of those products offers the highest value-to-cost ratio, they will make optimal self-interested decisions. In other words, as *more* choices become available, consumers are better able to maximize their own surplus. If consumers have *less* ability to choose, they will have less ability to maximize their surplus.

Proceeding on these assumptions, the modern antitrust enterprise emphasizes and highly values "consumer choice." This veneration of choice manifests across a wide variety of institutional actors. A number of courts have posited that consumer choice is "the crux of the antitrust laws,"[87] a "traditional objective of the antitrust laws,"[88] and one of the "purposes of antitrust law."[89] Under this view, "The federal antitrust laws seek to maximize consumer choice in the marketplace."[90] Courts have explicitly held that a showing of reduced

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[85] Such creatures are, of course, unlikely to exist outside textbook models, earning them the pejorative sobriquet "homo economicus." *See, e.g.*, Joseph Henrich et al., *In Search of Homo Economicus: Behavioral Experiments in 15 Small-Scale Societies*, 91 AM. ECON. REV. 73 (2001). For the leading article urging antitrust stakeholders to move beyond the simplifying assumption of perfect rationality, see Amanda P. Reeves & Maurice E. Stucke, *Behavioral Antitrust*, 86 IND. L.J. 1527 (2011).

[86] As Mark Glick points out, Bork was equivocal on whether his definition of "consumer welfare" required ethical or normative judgments. Mark Glick, *The Unsound Theory Behind the Consumer (and Total) Welfare Goal in Antitrust*, 63 ANTITRUST BULLETIN 455, 486 (2018). When introducing his deeply flawed notion of "consumer welfare," Bork claimed that it "has no sumptuary or ethical component." *Id.* at 485 (quoting BORK, *supra* note __, at 90). In the very same chapter, however, Bork admitted that "[p]roductive efficiency, like allocative efficiency, is a normative concept and is defined and measured in terms of consumer welfare." *Id.* (quoting BORK, *supra* note __, at 105).

[87] Doron Precision Sys., Inc. v. FAAC, Inc., 423 F. Supp. 2d 173, 183 n.11 (S.D.N.Y. 2006).

[88] United States v. Brown Univ., 5 F.3d 658, 675 (3rd Cir. 1993).

[89] Cohlmia v. Ardent Health Servs., LLC, 448 F. Supp. 2d 1253, 1263 (N.D. Okla. 2006) (quoting 123 F.3d at 306) (internal quotation marks omitted)).

[90] Glendora v. Gannett Co., 858 F. Supp. 369, 371 (S.D.N.Y. 1994). If one were to conceive of "consumer choice" as being synonymous with "many small businesses competing vigorously," a fairly strong argument could be made that the 1890 Congress actually did intend choice to be a primary focus of the antitrust laws—in other words, that antitrust was meant to protect Justice Peckham's "small dealers and worthy men." United States v. Trans-Missouri Freight Ass'n, 166 U.S. 290, 323 (1897). But the modern courts who emphasize choice seem to equate it instead with consumer welfare. *See, e.g.*, 423 F. Supp. 2d at 184 ("[A]ntitrust laws are not intended to protect profit margins, but consumer welfare." (quoting Davray, Inc. v. City of Midlothian, No. 04 Civ. 539, 2005 WL 1586574, at *14 (N.D. Tex. 2005))).

consumer choice is enough to create standing to sue, demonstrate cognizable harm, and render a defendant's conduct violative of the antitrust laws.[91] Enforcement agencies also highly value "consumer choice." Assistant Attorney General Makan Delrahim, for example, has observed that "consumer choice can be an important metric for consumer welfare effects."[92] FTC Commissioners have made similar observations.[93] And scholars, most notably Lande and Averitt, propose using "consumer choice" as the optimal means for antitrust to maximize consumer welfare.[94] Even while disagreeing that choice is an optimal focal point, Judge Douglas Ginsburg and former FTC Commissioner Joshua Wright posit that

[91] *See, e.g.*, F.T.C. v. Ind. Fed'n of Dentists, 476 U.S. 447, 459 (1986) ("Absent some countervailing procompetitive virtue . . . an agreement limiting consumer choice . . . cannot be sustained under the Rule of Reason."); Doctor's Hosp. of Jefferson, Inc. v. Se. Med. Alliance, Inc., 123 F.3d 301, 306 (5th Cir. 1997); Laumann v. Nat'l Hockey League, 105 F. Supp. 3d 384, 397 (S.D.N.Y. 2015) ("[I]f banks were to decide, collusively, to include stringent arbitration clauses in all credit card contracts, this would be unlikely to affect the price of anything, but it would certainly diminish consumer choice—and constitute an antitrust injury on that basis alone."); Ginzburg v. Mem. Healthcare Sys., Inc., 993 F. Supp. 998, 1019–20 (S.D. Tex. 1997) ("Absent evidence that Defendants' conduct threatened competition or adversely affected consumer choice, [plaintiffs' losses] are not actionable under the antitrust laws." (quoting Purgess v. Sharrock, 806 F. Supp. 1102, 1106–07 (S.D.N.Y. 1992) (internal quotation marks omitted))); *see also* Ross v. Bank of Am., N.A. (USA), 524 F.3d 217, 226 (2d Cir. 2008) (holding that reduced consumer choice can satisfy the requirements for Article III standing, but reserving judgment on whether such harm can also satisfy the requirements for antitrust standing).

[92] Press Release, Assistant Attorney General Makan Delrahim Delivers Remarks at the Jevons Colloquium in Rome (May 22, 2018), https://www.justice.gov/opa/speech/assistant-attorney-general-makan-delrahim-delivers-remarks-jevons-colloquium-rome.

[93] *E.g.*, FTC Comm'r Thomas B. Leary, Freedom as the Core Value of Antitrust in the New Millennium, ABA Antitrust Section 48th Annual Meeting Chair's Showcase Program (Apr. 6, 2000), https://www.ftc.gov/es/public-statements/2000/04/freedom-core-value-antitrust-new-millennium ("I would like to advance the view that these two 'freedoms'—the freedom of producers to sell and the freedom of consumers to buy—are today's fundamental core values that inform antitrust law."). *But see* FTC Comm'r J. Thomas Rosch, Can Consumer Choice Promote Trans-Atlantic Convergence of Competition Law and Policy? (June 8, 2012), https://www.ftc.gov/sites/default/files/documents/public_statements/can-consumer-choice-promote-trans-atlantic-convergence-competition-law-and-policy/120608consumerchoice.pdf ("If consumers become overwhelmed by the choices they have and encounter difficulties in making a decision, then we have to wonder whether competition on the merits is really all that robust.").

[94] *See* Neil W. Averitt & Robert H. Lande, *Using the "Consumer Choice" Approach to Antitrust Law*, 74 ANTITRUST L.J. 175 (2007); Robert H. Lande, *Consumer Choice as the Ultimate Goal of Antitrust*, 62 U. PITT. L. REV. 503 (2001). Though Lande and Averitt prefer this path for a number of reasons, including increased transparency, predictability, and administrability, it appears to be the predicted benefits to consumer welfare that largely motivate their arguments. Thus, for example, building from the observation that "simple price analysis" will be useless in markets that exhibit "little or no price competition," they argue for a consumer-choice standard because "[t]here is no good way to assess consumer welfare in those markets without considering the nonprice choice issues." Averitt & Lande, *supra*, at 176. Interestingly, Averitt and Lande noted the potential problems of choice overload discussed *infra*, but simply suggested that a "free market" will make the "calculations" necessary to provide consumers with an optimal number of choices. *Id.* at 192–93.

"holding price, output, and quality constant, eliminating a choice valued by at least some consumers does reduce welfare."[95]

But, as behavioral economists have long recognized, it is far from clear that there is a direct positive correlation between consumer choice and consumer welfare.[96] The greater the number of choices, the greater the attention costs required to choose among them. As a result, excessive choice availability can produce "choice paralysis": faced with a decision among too many competing options, many individuals will simply choose not to decide at all.[97] For those who do take the plunge, increased choice availability can lead to decreased satisfaction with choices made.[98] In short, the relationship between consumer welfare and consumer choice is messy, complex, and often difficult to predict.[99] It is emphatically not the case that the two concepts share a direct, positive correlation.

Thus, the modern antitrust enterprise, operating largely from a set of textbook models that ignore the unique attributes of human attention, has embraced conflicting and often contradictory goals. Many within the antitrust community assume that consumer choice and consumer welfare are interchangeable, that an increase (or decrease) in one will increase (or decrease) the other. But in a given case, maximizing consumer choice may or may not promote consumer welfare.

This attempt by orthodox stakeholders to embrace both consumer choice and consumer welfare throws into particularly sharp relief the potential paradox presented by modern digital firms. Google, for example, has long sought to create an ecosystem around its core product, general search, in order to encourage users to navigate among Google's various products (Search, Maps, Gmail, etc.) without switching away to rivals' offerings.[100] Thus, an acquisition like Google's purchase of YouTube could be viewed as a boon to "welfare"—it could theoretically allow Google to lower the cognitive load (i.e., attention costs) required to use a suite of desired products.[101] Yet it decreases consumers' ability to "choose" a non-Google-owned video service. This is not to say that Google's acquisition was either

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[95] Joshua D. Wright & Douglas H. Ginsburg, *The Goals of Antitrust: Welfare Trumps Choice*, 81 FORDHAM L. REV. 2405, 2421 (2013).

[96] *E.g.*, DANIEL KAHNEMAN, THINKING, FAST & SLOW 59 (2011); BARRY SCHWARTZ, THE PARADOX OF CHOICE: WHY MORE IS LESS (2004); Alexander Chernov, *When More Is Less and Less Is More: The Role of Ideal Point Availability and Assortment in Consumer Choice*, 30 J. CONSUMER RES. 170 (2003).

[97] Barry Schwartz, *More Isn't Always Better*, HARV. BUS. REV., June 2006, https://hbr.org/2006/06/more-isnt-always-better.

[98] *Id.*

[99] *Id.*

[100] *See, e.g.*, Adam Candeub, *Behavioral Economics, Internet Search, and Antitrust*, 9 I/S: J. L. & POL'Y INFO. SOC'Y 407, 410 (2014) ("To adopt a metaphor from graph theory, a dominant search engine may constitute a 'minimum spanning tree.' . . . Google might serve as the internet's minimum spanning tree where the connection medium is not wire or pipe but cognitive cost or effort.").

[101] *See id.* at 423.

anticompetitive or procompetitive, only that concepts like "choice" and "welfare" are more often in tension than orthodox antitrust usually assumes.[102]

B. The Free Pass for "Free" Products

Attention is, as demonstrated more fully below, the single most important resource that is traded in zero-price markets. Though they are an ancient phenomenon,[103] zero-price markets have exploded in variety and popularity in recent years.[104] For decades, however, the antitrust enterprise issued a free pass to the suppliers of "free" products.[105] It did so despite the growing importance of attention exchange to the overall economy, and despite concrete empirical evidence of welfare harms in the form of supracompetitive attention costs.

This enforcement failure has manifest across a variety of institutional actors. Courts, federal agencies, and prominent antitrust scholars have all argued that zero-price markets are not, in fact "markets" at all. Under this view, antitrust law, which purports to safeguard marketplace competition and consumer welfare, has no role to play.

For an example of this mistaken view—and the very real harms it can inflict on market participants—consider the actions of the U.S. Department of Justice ("DOJ") in the wake of the Telecommunications Act of 1996. The Act relaxed longstanding limitations on radio-station ownership,[106] triggering a massive wave of industry consolidation. Prior to deregulation, a single company could own no more than forty radio stations.[107] By 2002, however, a single firm owned over 1,200 stations and allegedly dominated audience shares in 100 major markets.[108] Many of the mergers and acquisitions that led to these high concentration levels were reviewed by the DOJ Antitrust Division.[109] Yet the Division failed entirely

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[102] *See* John M. Newman, *Antitrust in Digital Markets*, 72 VAND. L. REV. __ (forthcoming 2019) (describing this as "Google's Antitrust Paradox").

[103] David S. Evans, *The Antitrust Economics of Free*, 7 COMPETITION POL'Y INT'L 71, 76 (2011). Common historical examples include village matchmakers, broadcast media, and newsweeklies like the *Village Voice*.

[104] *See, e.g.*, Michal Gal & Daniel Rubinfeld, *The Hidden Costs of Free Goods: Implications for Antitrust Enforcement*, 80 ANTITRUST L.J. 521 (2016); Magali Eben, *Market Definition and Free Online Services: The Prospect of Personal Data as Price*, 14 I/S: J. L. & POL'Y INFO. SOC'Y 221 (2018).

[105] Wu, *supra* note 5 (referring to this gap as antitrust's "blind spot"); Newman, *Applications*, *supra* note __; Newman, *Foundations*, *supra* note __.

[106] Telecommunications Act of 1996, Pub. L. No. 104-104, 110 Stat. 56 (codified in scattered sections of 47 U.S.C.).

[107] Bruce Houghton, "Why Radio Plays Same 20 Songs: The Sad Truth of Media Consolidation," HYPERBOT (May 23, 2012), http://www.hypebot.com/hypebot/2012/05/the-sad-truth-of-media-consolidation-infographic.html.

[108] That firm was Clear Channel Communications. Jeff Perlstein, *Clear Channel: The Media Mammoth That Stole the Airwaves*, RECLAIM DEMOCRACY (Nov. 2002), http://reclaimdemocracy.org/clear_channel_backlash/.

[109] *See, e.g.*, ROGER L. SADLER, ELECTRONIC MEDIA LAW 118-19 (2005) (describing the wave of media mergers in the 1990s).

to consider the implications for listeners,[110] and instead focused solely on whether the transactions would harm downstream advertisers.[111] For an agency that prides itself on safeguarding marketplace competition,[112] this was a strange approach. DOJ took the view that broadcast-radio markets simply do not include listeners. Unfortunately, that is where the harm from market consolidation was felt most strongly. Local broadcast-radio markets were allowed to reach previously unheard-of concentration levels. Subsequent empirical research confirms that this lessening of competition allowed radio stations to extract supracompetitive levels of attention from listeners.[113] The more concentrated markets became, the more advertisements listeners were forced to accept in exchange for the content they sought.[114]

In *Kinderstart.com v. Google, Inc.*, a U.S. district court similarly appeared to take the position that attention exchange is outside the scope of antitrust.[115] KinderStart, the plaintiff, operated a childcare-focused website. In its complaint, KinderStart alleged that Google anticompetitively manipulated search results in a scheme to monopolize the "Search Market."[116] En route to dismissing the plaintiff's claim, the court placed weight on the fact that the plaintiff had failed to cite any authority "indicating that antitrust law concerns itself with competition in the provision of free services."[117] But Google does not offer access to its core search product without getting anything of value from its counterparties—it collects attention (and personal information). Its service is not "free" at all.[118] A variety of courts upholding contracts between users and Google (or Google-owned subsidiaries like YouTube) have recognized as much. If Google were truly "free,"

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[110] Maurice E. Stucke & Allen P. Grunes, *Why More Antitrust Immunity for the Media Is a Bad Idea*, 105 NW. U. L. REV. 1399, 1411 (2011).

[111] Stucke & Grunes, *supra* note __, at 1411. In a speech to a group of radio-industry stakeholders, then-Acting Assistant Attorney General Joel Klein carefully outlined the DOJ's analytical process regarding radio mergers. Joel I. Klein, Acting Ass't Atty. Gen., Dep't of Justice, Speech at the ANA Hotel: DOJ Analysis of Radio Mergers (Feb. 19, 1997), *available at* http://www.justice.gov/atr/public/speeches/1055.pdf. DOJ's analyses of both market definition and market power dealt solely with prices to advertisers. *Id.* at 7–19. Harm to consumers was not considered.

[112] *See, e.g.*, THOMAS O. BARNETT & HILL B. WELLFORD, THE DOJ'S SINGLE-FIRM CONDUCT REPORT: PROMOTING CONSUMER WELFARE THROUGH CLEARER STANDARDS FOR SECTION 2 OF THE SHERMAN ACT (2009), http://www.justice.gov/atr/public/articles/238599.htm

[113] *See generally, e.g.*, Catherine Tyler Mooney, Market Power and Audience Segmentation Drive Radio Advertising Levels (Apr. 14, 2010) (unpublished manuscript), https://editorialexpress.com/cgibin/conference/download.cgi?db_name=IIOC2010&paper_id=203 [https://perma.cc/YF98-TDGG] (finding that increased market concentration is associated with increased advertising loads, i.e., attention costs to listeners).

[114] *Id.*

[115] Kinderstart.com LLC v. Google, Inc., No. C 06-3057 JF(RS), 2007 WL 831806 (N.D. Cal. 2007).

[116] *Id.* at *4.

[117] *Id.* at *5. It is possible that, had KinderStart alleged a market comprising both search results and all Internet advertising, the court would have allowed the claim to proceed. *See id.* at *6.

[118] *See* Brad J. Sagarin et al., *Bartering Our Attention: The Distraction and Persuasion Effects of On-Line Advertisements*, COGNITIVE TECH., Fall 2003, at 4, 4 ("Consumers receive desired content (e.g., television programming, Internet web sites) in exchange for their attention to advertisements.").

its user contracts would of course be unenforceable for lack of consideration. Yet Google itself strenuously advocates for enforcement of those contracts, and multiple courts have agreed that they are, in fact, enforceable.

Eminent legal scholars and enforcers have similarly espoused the mistaken belief that zero-price products are "free." In a 2012 opinion-editorial, Robert Bork claimed that antitrust complaints against search engines are "unsupportable," because "a search engine, like Google, is free to consumers."[119] Former FTC Commissioner Joshua Wright and co-author Geoffrey Manne have argued that "monopolists" in online markets "are really pathetic at extracting profits, as most of them give away their products for free."[120]

Prominent economists have also made such claims. Catherine Tucker, for example, has posited that users "do not pay for using . . . services on most social networking sites," and called into question the appropriateness of antitrust oversight of these markets for attention.[121] Tyler Cowen, author of perhaps the world's most widely read blog on economics, has taken a similar position: "The major internet companies are a new target of antitrust attention, yet most of them give their main product away for free."[122]

This position is incorrect. As a starting point, the scope of the antitrust laws is exceedingly broad: subject to a few narrow exceptions,[123] it extends across all "trade or commerce" in the United States.[124] The 1890 Congress intended the Sherman Act to apply to the fullest extent of the Commerce Power,[125] a near-universal scope under the Court's modern Constitutional jurisprudence.[126] As the U.S. Supreme Court has observed, "On its face [the Sherman Act] shows a carefully

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[119] Op-ed., Robert Bork, *Antitrust and Google*, CHI. TRIB. (Apr. 6, 2012), http://articles.chicagotribune.com/2012-04-06/opinion/ct-perspec-0405-bork-20120406_1_unpaid-search-results-search-engines-search-algorithms (emphasis added).

[120] Geoffrey Manne & Joshua Wright, *What's an Internet Monopolist? A Reply to Professor Wu*, TRUTH ON THE MARKET (Nov. 22, 2010), http://truthonthemarket.com/2010/11/22/whats-an-internet-monopolist-a-reply-to-professor-wu/ (emphasis added).

[121] Catherine Tucker & Alexander Marthews, *Social Networks, Advertising, and Antitrust*, 19 Geo. Mason L. Rev. 1211, 1211 (2012) (emphasis added).

[122] Tyler Cowen, *Yesterday's Antitrust Laws Can't Solve Today's Problems*, BLOOMBERG (Oct. 5, 2016), https://www.bloomberg.com/view/articles/2016-10-05/yesterday-s-antitrust-laws-can-t-solve-today-s-problems.

[123] *See, e.g.*, Gary R. Roberts, *The Case for Baseball's Special Antitrust Immunity*, 4 J. SPORTS ECON. 302 (2003) (describing and advocating for the continuation of the antitrust exemption for major-league baseball).

[124] *See* 15 U.S.C. § 1 ("Every contract, combination . . . , or conspiracy, in restraint of trade or commerce . . . is declared to be illegal."); *id.* § 2 ("Every person who shall monopolize, or attempt to monopolize . . . any part of . . . trade or commerce . . . .").

[125] *See id.* at 558 ("Congress wanted to go to the utmost extent of its Constitutional power in restraining trust and monopoly agreements . . . .");

[126] *See, e.g.*, Wickard v. Filburn, 317 U.S. 111, 127–29 (1942) (holding that the federal government may regulate a farmer's internal consumption of self-produced wheat under the Commerce Clause because, in the aggregate, such consumption had a substantial effect on interstate commerce).

studied attempt to bring within the Act every person engaged in business whose activities might restrain or monopolize commercial intercourse . . . ."[127]

Nothing in the text or history of the Sherman Act suggests that the presence of prices is a requisite element for applicability. Markets involving attention exchanges are—like their more familiar currency-based counterparts—susceptible to monopolization and the exercise of market power.[128] Thus, the antitrust laws impose a congressional mandate upon courts and enforcers to protect competition in markets for attention.[129]

Comparing antitrust law's treatment of a positive-price market with a zero-price market is instructive. Unlike broadcast radio, satellite radio is typically distributed using a positive-price business model. In 2008, Sirius and XM, the two largest satellite-radio providers, merged.[130] A class action comprising individual listeners sued the merged firm under Clayton Act § 7 and Sherman Act § 2.[131] The defendant conceded that the plaintiffs had standing to file suit under—i.e., were protected by—the antitrust laws.[132] After the court certified the class, the defendant settled out of court for a package valued at $193 million.[133]

Yet, as noted above, the DOJ at least implicitly took the position that broadcast-radio listeners are not similarly protected. Like satellite-radio listeners, broadcast-radio listeners exchange something of value in order to receive desired content.[134] The sole distinction between the two groups is the asset being exchanged—a distinction without a difference, according to the text and judicial interpretation of the Sherman Act.

The stark difference in treatment accorded to these two similar markets represents an antitrust paradox: a body of law that allows—even blesses—harm to the very individuals it purports to protect.[135] It is, of course, impossible to diagnose with absolute certainty how this anomaly came to be, but modern antitrust law's heavy reliance on price theory is a particularly likely culprit.[136]

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[127] United States v. Se. Underwriters Ass'n, 322 U.S. 533, 553 (1944), *superseded by statute*, McCarran–Ferguson Act, 15 U.S.C. §§ 1011–1015 (2016) (clarifying that the insurance industry generally does not fall within the Sherman Act's ambit), *as recognized in* Barnett Bank of Marion Cnty. v. Nelson, 517 U.S. 25, 40 (1996).

[128] *See* Gal & Rubinfeld, *supra* note __; Mooney, *supra* note __.

[129] *See, e.g.*, Newman, *Foundations*, *supra* note __.

[130] Blessing v. Sirius XM Radio Inc., 756 F. Supp. 2d 445, 449 (S.D.N.Y. 2010).

[131] *Id.*

[132] *Id.*

[133] M. Sean Royall & Adam J. Di Vincenzo, *When Mergers Become a Private Matter: An Updated Antitrust Primer*, 26 ANTITRUST 41, 42 (2012).

[134] *Cf.* Sagarin, *supra* note __.

[135] *Cf.* ROBERT H. BORK, THE ANTITRUST PARADOX: A POLICY AT WAR WITH ITSELF (1978) (arguing that contemporary antitrust enforcers had used the laws to harm that which they were meant to protect).

[136] *See generally* Lina M. Khan, Note, *Amazon's Antitrust Paradox*, 126 YALE L.J. 710, 710 (2017) ("[T]he current framework in antitrust—specifically its pegging competition to 'consumer

Attention-based exchanges, which often lack obvious prices, do not map neatly onto the price-theoretic framework that underlies much of orthodox antitrust law and economics. Foundational elements of antitrust doctrine are frequently explained or defined using price as the focal point. Thus, for example, "market power" is often said to be "the power to control prices,"[137] or, more specifically, "to raise price above the competitive level."[138] This price-centric definition is so commonly used, in fact, that one commentator rightly deems it "canonical."[139] Price remains the focal point of formal agency guidelines,[140] judicial opinions, and a great deal of scholarly work in the field. Attention-based exchanges, which often lack obvious prices, may simply go unnoticed. Unfortunately, this omission—inadvertent though it may have been—has allowed harms to competition and welfare. As attention-extracting firms continue to grow in size and power, the costs of this error are likely compounding. Google and Facebook have each dominated their respective attention-based markets for more than a decade.[141]

There is increasing recognition that the free pass formerly granted to "free" products was incorrect. Assistant Attorney General Makan Delrahim, in particular, has demonstrated a keen understanding of the nature of zero-price markets.[142] This is a welcome development. With mounting evidence of high concentration levels

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welfare,' defined as short-term price effects—is unequipped to capture the architecture of market power in the modern economy.").

[137] *See, e.g.*, United States v. E.I. du Pont de Nemours & Co., 351 U.S. 377, 391 (1956) (Sherman Act § 2); FTC v. Cardinal Health, Inc., 12 F. Supp. 2d 34, 52 (D.D.C. 1998) ("Generally, under Section 7 of the Clayton Act, a prima facie case can be made if the government establishes that the merged entities will have a significant percentage of the relevant market—enabling them to raise prices above competitive levels.").

[138] *See* John B. Kirkwood, *Market Power and Antitrust Enforcement*, 98 B.U. L. REV. 1170, 1172 & n.12 (2018) (collecting sources).

[139] *Id.*

[140] *See, e.g.*, U.S. DEP'T OF JUSTICE & FED. TRADE COMM'N, HORIZONTAL MERGER GUIDELINES § 4 (2010) (describing demand substitution as "customers' ability and willingness to substitute away from one product to another in response to a price increase or a corresponding non-price change such as a reduction in product quality or service," but going on to identify the "small but significant and non-transitory increase in price" test as the touchstone for analysis).

[141] Newman, *Antitrust in Digital Markets*, *supra* note __.

[142] Press Release, U.S. Dep't of Justice, Assistant Attorney General Makan Delrahim Delivers Keynote Address at Silicon Flatirons Annual Technology Policy Conference at the University of Colorado Law School, Feb. 11, 2019, https://www.justice.gov/opa/speech/assistant-attorney-general-makan-delrahim-delivers-keynote-address-silicon-flatirons ("In today's digital economy, consumers . . . can choose and do an increasing number of things for 'free' . . . . Yet are these services really 'free'? As an aphorism often associated with Milton Friedman goes, 'there's no such thing as a free lunch.' Most firms that provide goods at a price of zero are making money somewhere else, either through different products, different consumers, or at a different point in time. Consumers also typically exchange something of value, such as their attention to advertising or their personal or usage data, for these free services. So when we talk about digital platforms providing 'free' services, we are really talking about business strategies where zero is the chosen profit-maximizing price.").

and harmful conduct in markets for attention, the antitrust enterprise would do well to move beyond the naïve belief that prices are all that matters.[143]

IV. APPLICATIONS AND IMPLICATIONS

A. Paying More Attention to Attention—and Less to Data

Antitrust has paid far too much attention to data, and far too little attention to attention. Perhaps the single most striking aspect of competition in digital markets is the shift away from transacting in fiat currency and toward zero-price transactions. In digital markets, users frequently exchange attention (to advertisements) and personal information in order to receive access to desired products.[144] Curiously, the antitrust enterprise has had a great deal to say about data—but almost nothing to say about attention. Yet, given their relative importance, attention deserves significantly more attention than data. The demand for data is, in large part, merely derived from the more fundamental demand for attention.

Much of the ongoing debate over the current state of antitrust and competition policy in digital markets has centered on so-called "Big Data." Conferences,[145] symposia,[146] panel discussions,[147] client alerts,[148] and dozens of books and articles[149] all focus on data-related practices and their implications for

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[143] For evidence that anticompetitive conduct has occurred in digital markets for attention, see Dina Srinivasan, *The Antitrust Case Against Facebook: A Monopolist's Journey Towards Pervasive Surveillance in Spite of Consumers' Preference for Privacy*, 16 BERKELEY BUS. L.J. 39 (2019); Russell Brandom, *The Monopoly-Busting Case Against Google, Amazon, Uber, and Facebook*, THE VERGE (Sept. 5, 2018), https://www.theverge.com/2018/9/5/17805162/monopoly-antitrust-regulation-google-amazon-uber-facebook; Greg Ip, *The Antitrust Case Against Facebook, Google, and Amazon*, WALL ST. J. (Jan. 16, 2018), https://www.wsj.com/articles/the-antitrust-case-against-facebook-google-amazon-and-apple-1516121561; *The FTC Report on Google's Business* Practices, Wall ST. J. (Mar. 24, 2015), http://graphics.wsj.com/google-ftc-report/ (leaked FTC Staff report recommending a lawsuit challenging practices by Google).

[144] *See, e.g.*, Press Release, U.S. Dep't of Justice, *supra* note __ (remarks of Makan Delrahim).

[145] Conference on Antitrust, Privacy, and Big Data, Brussels (Feb. 3, 2015), https://www.concurrences.com/en/conferences/antitrust-privacy-big-data-82922.

[146] Symposium, *Privacy Regulation and Antitrust*, 20 GEO. MASON L. REV. (Jan. 17, 2013), http://georgemasonlawreview.org/archives/vol-20-no-4-summer-2013/.

[147] *2018 Antitrust and Competition Conference—Digital Platforms and Concentration* (Apr. 19–20, 2018), https://research.chicagobooth.edu/stigler/events/single-events/antitrust-competition-conference-digital-platforms-concentration.

[148] *Exploring the Contrasting Views About Antitrust and Big Data in the U.S. and E.U.*, HOGAN LOVELLS (Sept. 27, 2018), https://www.hoganlovells.com/en/publications/exploring-the-contrasting-views-about-antitrust-and-big-data-in-the-us-and-eu.

[149] *See, e.g.*, MAURICE E. STUCKE & ALLEN P. GRUNES, BIG DATA AND COMPETITION POLICY (2016); Daniel L. Rubinfeld & Michal S. Gal, *Access Barriers to Big Data*, 59 ARIZ. L. REV. 339 (2017); Ramsi A. Woodcock, *Big Data, Price Discrimination, and Antitrust*, 68 HASTINGS L.J. 2017); D. Daniel Sokol & Roison Comerford, *Antitrust and Regulating Big Data*, 23 GEO. MASON L. REV. 2016); Inge Graef, *Market Definition and Market Power in Data: The Case of Online Platforms*, 38 WORLD COMPETITION: L. & ECON. REV. 473 (2015); Nathan Newman, *Search,*

antitrust law. Pro-interventionists point to Big Data as a crucial competitive advantage and barrier to entry.[150] Anti-enforcement commentators argue in response that data is nonrivalrous and that its collection and exploitation is generally efficient.[151]

This outpouring of intellectual effort stands in stark contrast to the near-total silence regarding attention. Only a tiny handful of legal scholars and economists have weighed in on the role of antitrust in attention-centric markets.[152] Enforcement agencies have initiated little to no meaningful activity focused on attention rivalry, even in jurisdictions (like the EU) that have taken action in zero-price digital markets.[153] This author is not aware of a single academic panel discussion, let alone conference or symposium, that has been devoted to antitrust's

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Antitrust, and the Economics of the Control of User Data, 31 YALE J. ON REG. 401 (2014); James C. Cooper, *Privacy and Antitrust: Underpants Gnomes, the First Amendment, and Subjectivity*, 20 GEO. MASON L. REV. 1129 (2013); Geoffrey A. Manne & Ben Sperry, *The Problems and Perils of Bootstrapping Privacy and Data into an Antitrust Framework*, ANTITRUST CHRON. (May 2015); Maurice E. Stucke & Allen P. Grunes, *No Mistake About It: The Important Role of Antitrust in the Era of Big Data*, ANTITRUST SOURCE (Apr. 2015); Darren S. Tucker & Hill B. Wellford, *Big Mistakes Regarding Big Data*, ANTITRUST SOURCE (Dec. 2014); Jens Prufer & Christoph Schottmüller, "Competing with Big Data," Feb. 16, 2017, https://papers.ssrn.com/sol3/papers.cfm?abstract_id=2918726; David A. Balto & Matthew Lane, "Monopolizing Water in a Tsunami: Finding Sensible Antitrust Rules for Big Data," Mar. 23, 2016, https://papers.ssrn.com/sol3/papers.cfm?abstract_id=2753249; Anja Lambrecht & Catherine E. Tucker, "Can Big Data Protect a Firm from Competition?," Dec. 18, 2015, https://papers.ssrn.com/sol3/papers.cfm?abstract_id=2705530; Andres V. Lerner, "The Role of 'Big Data' in Online Platform Competition," Aug. 27, 2014, https://papers.ssrn.com/sol3/papers.cfm?abstract_id=2482780; .

[150] Stucke & Grunes, *supra* note 204.

[151] Manne & Sperry, *supra* note 204. In the European Union, regulators have already recognized that consumers frequently pay with their personal data, *see* http://ec.europa.eu/competition/antitrust/cases/dec_docs/39740/39740_14996_3.pdf, § 5.2.1, ¶ 158 ("[E]ven though users do not pay a monetary consideration for the use of general search services, they contribute to the monetization of the service by providing data with each query."); that such data can be used for product improvements, *id.*; that such data can be used for targeted advertising, *id.* at ¶ 204 n. 129; that the need to amass data can serve as a barrier to entry, *id.* at ¶ 286; and that a monopolist might extract supracompetitive levels of personal information instead of raising prices to users. Press Release, Bundeskartellamt, "Bundeskartellamt Forbids Facebook to Merge User Data from Various Sources," Feb. 7, 2019, https://www.bundeskartellamt.de/SharedDocs/Meldung/DE/Meldungen%20News%20Karussell/2019/07_02_2019_Facebook.html.

[152] *See* Gieuseppe Colangelo & Mariateresa Maggiolino, *Data Protection in Attention Markets: Protecting Privacy Through Competition?*, 8 J. EUR. COMPETITION L. & PRAC. 363 (2017); Wu, *Blind Spot*, *supra* note 40; Newman, *Applications*, *supra* note 40; Newman, *Foundations*, *supra* note 40; David S. Evans, "The Economics of Attention markets," Oct. 31, 2017, https://papers.ssrn.com/sol3/papers.cfm?abstract_id=3044858; David S. Evans, "Attention Rivalry Among Online Platforms," Jan. 2, 2013, https://papers.ssrn.com/sol3/papers.cfm?abstract_id=2195340.

[153] *See* Newman, *Foundations*, *supra* note __ (describing the Agencies' history of nonaction in attention markets). *But see* Press Release, U.S. Dep't of Justice, Department of Justice to hold Workshop on Competition in Television and Digital Advertising (Apr. 11, 2019). Assistant Attorney General Makan Delrahim is to be commended for the Antitrust Division's increased interest in zero-price markets during his tenure.

role (or lack thereof) regarding competition for attention—in stark contrast to the dozens of events that have explicitly focused on antitrust and data issues.

The antitrust enterprise's blindered focus on Big Data implies that data is far more important to competition analysis than attention. Thus, for example, one state attorney general has suggested, in a comment to the U.S. Federal Trade Commission:

> [C]ompanies like Google and Facebook have very quickly grown from tiny startups to some of the biggest companies in the world. . . . And their fortunes are built on the data they collect. They get data from users, they get data from other internet service providers, and they collate and analyze the data to improve their processes for obtaining yet even more data. They share the data and sell it to advertisers . . . . This is their business model.[154]

This is, to put it mildly, a very data-centric conception of competition in digital markets. Similarly, another commentator suggests that although firms like Google, Facebook, and others do "capture our attention," the true business model "isn't merely selling ads. Rather, by capturing our attention they manage to accumulate immense amounts of data about us, which are worth more than any advertising revenue.[155] Under this view, digital-technology companies seek to acquire attention only in order to capture more data.

But this view gets it backwards: firms generally do not seek attention in order to acquire data; instead, they generally seek data in order to acquire attention. In economic lingo, much of the recent uptick in demand for personal data represents "derived demand."[156] Focusing narrowly on Big Data ignores the more fundamental—and therefore more important—market forces at play.[157]

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[154] Press Release, Tennessee Att'y Gen., AG Slattery's Comments to the FTC on Data and Privacy, June 12, 2019, https://www.tn.gov/attorneygeneral/news/2019/6/12/pr19-19.html.

[155] Yuval Noah Harari, *Why Technology Favors Tyranny*, ATLANTIC, Oct. 2018, https://www.theatlantic.com/magazine/archive/2018/10/yuval-noah-harari-technology-tyranny/568330/.

[156] For an example of a resource as to which demand is derived from demand for some other resource, consider urban residential land: buyers' demand for such land is derived from their demand for housing. *See* Richard F. Muth, *The Derived Demand for Urban Residential Land*, 8 URBAN STUDIES 243 (1971).

[157] Cooper amusingly compares this misguided vision to that of the "Underpants Gnomes" in an eponymous episode of the TV show *South Park*. James C. Cooper, *Privacy and Antitrust: Underpants Gnomes, the First Amendment, and Subjectivity*, 20 GEO. MASON L. REV. 1129 (2013).

In the marketplace, personal data is primarily harvested for two reasons.[158] First, firms collect data to satiate advertisers' desire to deliver personalized ads.[159] Such ads are more effective than generalized ads at driving consumer behavior; thus, they tend to be more valuable to advertisers. Here, the demand for personal data is obviously derived from the demand for attention to advertisements. Second, firms collect data to improve the quality of their own products.[160] To the extent a quality increase allows a firm to charge higher prices for its product, this second use of data can be an end in itself. But if the firm employs the zero-price, ad-supported business model that is ubiquitous across business-to-consumer digital markets, then even this second use represents derived demand—it is derived from the incentive to attract more attention in order to sell more ads.

To get a rough sense of the relative importance of attention-seeking and pure data-harvesting, consider the annual revenues of each industry's largest players. Acxiom, a data broker, is (or at least was at one time) generally regarded as having the largest commercial collection of consumer data in the world.[161] Its annual revenues during the 2017–18 fiscal year were just over $900 million.[162] While not inconsiderable, Acxiom's haul pales in comparison to Google's ad revenue in 2017, which totaled more than $95 billion,[163] a figure more than 100 times larger than Acxiom's. Google does collect a great deal of data about its users, but its business model entails selling access to attention ("eyeballs," in common parlance[164]), not access to its proprietary datasets. Like Facebook, Google is an

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[158] There are scattered other uses, of course—data is valuable to many entities, including governments, financial institutions attempting to assess credit or insurance risk, and political parties. [cites]

[159] *See* Cooper, *supra* note __, at 1136 ("The publisher hopes to enhance its revenue by using the additional data to . . . sell[] more finely targeted ads."). *See generally* Catherine E. Tucker, *The Economics of Advertising and Privacy*, 30 INT'L J. INDUS. ORG. 326 (2012) (discussing the attractiveness of personalization to advertisers). Increased ability to target advertisements was a key part of the defendants' claimed efficiencies in *United States v. AT & T, Inc.*, 310 F. Supp. 3d 161 (D.D.C. 2018), *aff'd*, 2019 WL 921544, No. 18-5214 (2d Cir. Feb. 26, 2019).

[160] As early as the 1950s, consumer research was identifiable as a distinct scholarly field, with about ten academic articles on the topic being published each year. James G. Helgeson et al., *Consumer Research: Some History, Trends, and Thoughts*, *in* HISTORICAL PERSPECTIVE IN CONSUMER RESEARCH: NATIONAL AND INTERNATIONAL PERSPECTIVES (Jagdish N. Sheth & Chin Tiong Tan eds., 1985).

[161] Natasha Singer, *Mapping, and Sharing, the Consumer Genome*, N.Y. TIMES, June 16, 2012, https://www.nytimes.com/2012/06/17/technology/acxiom-the-quiet-giant-of-consumer-database-marketing.html.

[162] Acxiom Corp. (ACXM) SEC Filing 10-K Annual Report for the Fiscal Year Ending Saturday, Mr. 31, 2018, Last10k, https://www.last10k.com/sec-filings/acxm/0000733269-18-000016.htm.

[163] *Google's Ad Revenue from 2001 to 2017 (in Billion U.S. Dollars)*, STATISTA, https://www.statista.com/statistics/266249/advertising-revenue-of-google/. Facebook raked in another $39.9 billion during the same period. *Facebook's Advertising Revenue Worldwide from 2009 to 2018 (in Million U.S. Dollars)*, STATISTA, https://www.statista.com/statistics/271258/facebooks-advertising-revenue-worldwide/.

[164] *See, e.g.*, Shira Ovide, *Google and Facebook Divide Up Your Eyeballs*, BLOOMBERG (Nov. 21, 2016), https://www.bloomberg.com/opinion/articles/2016-11-21/google-and-facebook-divide-up-your-advertising-viewing.

attention merchant, not a data broker.[165] And, of course, even a "data broker" like Acxiom generates much of its income from sales to attention-seeking advertisers—it, too, is spurred (at least in part) by demand for attention.

The disparity between the relative real-world importance of attention and information and the amount of scholarly ink and speech-making that has been devoted to each is quite striking. Attention and information sometimes play the same structural role—serving as the consideration underlying a mutual exchange—in modern markets.[166] Yet one would expect a much heavier focus on attention, rather than information. Attention, not information, serves as the primary catalyst for marketplace activity. Firms generally seek personal information in order to target advertisements—i.e., exploit attention—more effectively. They do not, however, seek attention in order to exploit personal information.

The demand for data is merely derived from the demand for attention, suggesting the primacy of the latter. Yet the antitrust enterprise has focused nearly all of its considerable attention toward data and information. It is as if analysts confronted by the explosion in popularity of personal computers during the 1980s and 1990s had decided to focus only on the demand for ancillary products like mousepads, while ignoring the world-altering implications of PCs and the applications that run on them.[167]

Focusing exclusively—or even primarily—on data concerns is just such a mistake. From an institutional-design perspective, the collective attention of the antitrust enterprise ought to be allocated in rough proportion to the importance of the relevant sectors to the overall economy. This is so because the risk and cost of errors in institutional decision-making will tend to increase along with the relative importance of a given sector.

Moreover, a blindered focus on the derived-demand resource is especially likely to produce false negatives. Focusing solely on mousepads—and ignoring PCs and apps—would have allowed real harms to go unchecked in the late 1990s. Enforcers would have overlooked Microsoft's monopolistic, innovation-stifling conduct involving operating systems and Internet browsers.[168] Today, focusing exclusively on data will similarly tend to cause false negatives.[169] To correct this course, antitrust must devote less of its scarce attention to data—and far more of its attention to attention.

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[165] *See generally* WU, *supra* note __.

[166] [Cite to Cooper re: data having multiple potential uses.]

[167] *See* John M. Newman, *Antitrust in Attention Markets: Objections and Responses*, SANTA CLARA L. REV. (forthcoming) (invited symposium contribution).

[168] *See generally* United States v. Microsoft Corp., 253 F.3d 34 (D.C. Cir. 2001).

[169] U.S. enforcers' failure to act to protect attention markets has already caused measurable welfare harms. Newman, *Foundations*, *supra* note __; *see also* Maurice E. Stucke & Allen P. Grunes, *Why More Antitrust Immunity for the Media Is a Bad Idea*, 105 NW. U. L. REV. 1399, 1411–12 (2011).

B. Attention Consumption as Market Failure: Causes and Solutions

At present, the antitrust enterprise generally continues to endorse a unitary standard focused on economic welfare,[170] typically either "consumer welfare"[171] or "trading-partner welfare."[172] It recognizes that marketplace conduct may be harmful or beneficial. As to the latter, conduct is most often deemed beneficial where it alleviates some source of market failure.[173] Antitrust enforcers and courts have repeatedly found themselves confronted by agreements to limit advertising,[174] raising the question: are such limitations harmful and anticompetitive, or are they potentially justifiable on the grounds that they can alleviate market failures?

Excessive attention consumption causes a variety of suboptimal behavior by the producers of attention—i.e., humans. Cognitive overload and cognitive depletion can reduce the quality of decision-making, reduce self-control,[175] increase persuadability, and foster socially harmful biases.[176] As a result, attention consumption can contribute to market failure.

First, excessive attention consumption can cause natural persons to make suboptimal decisions going forward. Suppose, for example, a social-media user binge views a never-ending stream of content and advertisements. As a consequence of doing so, that user may make suboptimal real-world consumption decisions—eating at a fast-food restaurant instead of maintaining her diet regimen, perhaps. This is a type of externality, or spillover effect: the first series of

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[170] This standard is increasingly under assault from both internal and external critiques. *See, e.g.*, BARRY C. LYNN, CORNERED: THE NEW MONOPOLY CAPITALISM AND THE ECONOMICS OF DESTRUCTION (2011); Lina M. Khan, Note, *Amazon's Antitrust Paradox*, 126 YALE L.J. 710 (2017); Sally Hubbard, *Why Fake News Is an Antitrust Problem*, FORBES (Jan. 10, 2017), https://www.forbes.com/sites/washingtonbytes/2017/01/10/why-fake-news-is-an-antitrust-problem/#469f4b3a30f1; MARSHALL STEINBAUM & MAURICE E. STUCKE, THE EFFECTIVE COMPETITION STANDARD: A NEW STANDARD FOR ANTITRUST 1 (2018), http://rooseveltinstitute.org/wp-content/uploads/2018/09/The-Effective-Competition-Standard-FINAL.pdf; Tim Wu, *After Consumer Welfare, Now What? The 'Protection of Competition' Standard in Practice*, COMPETITION POL'Y INT'L, Apr. 2018; Rebecca Haw Allensworth, *The Commensurability Myth in Antitrust*, 69 VAND. L. REV. 1 2016); Barak Y. Orbach, *The Antitrust Consumer Welfare Paradox*, 7 J. COMPETITION L. & ECON. 133 (2010).

[171] Joshua D. Wright et al., *Requiem for a Paradox: The Dubious Rise and Inevitable Fall of Hipster Antitrust*, 51 ARIZ. ST. L.J. 293, 296 (2019) (rejecting calls for the "consumer welfare standard to take into account effects on . . . wages").

[172] C. Scott Hemphill & Nancy L. Rose, *Mergers That Harm Sellers*, 127 YALE L.J. 2078 (2018).

[173] Newman, *supra* note __ (identifying the "market failure" approach to procompetitive-justification analysis as doctrinally correct).

[174] *See infra* notes __ and accompanying text.

[175] Jae, *supra* note __; Baumeister et al., *supra* note __.

[176] As to racial bias, see Bertrand et al., *supra* note __; Frank, *supra* note __. On gender bias, see Bettina Nyeste, Influence of Cognitive Capacity on Stereotyping and Discrimination (2016) (Master thesis).

interactions affects the second, third, etc. The spillover effect is not only welfare-reducing for the individual, but also allocatively inefficient.

Second, excessive attention consumption can increase racial and gender bias,[177] reduce information-gathering efforts,[178] and weaken self-control.[179] It thus leaves attention producers—humans—in a mental state that is likely to produce negative interactions with society at large. This is another type of negative externality. The relevant harms may be foreign to neoclassical economic orthodoxy, and may not be as easily quantifiable as the price increases and output reductions that occupy the focus of neoclassical antitrust—but they are harms nonetheless. And they are almost certainly more threatening to our democratic society than the deadweight-loss triangles featured in introductory textbooks.

1. Leniency for Restraints on Advertising

With the foregoing in mind, how should antitrust enforcers and courts respond to marketplace conduct that has the purpose and effect of limiting advertising loads? Historically, the antitrust enterprise has been quite hostile to such restraints. In 1951, the National Association of Broadcasters ("NAB") adopted its first "Code of Practices for Television Broadcasters."[180] Adherence to the NAB Code was voluntary, but the majority of commercial broadcast station owners agreed to abide by it.[181] Among the Code's various provisions was a limit on the amount of time to be devoted to advertisements.[182] In 1979, the U.S. Department of Justice sued the NAB, alleging that its ad-limiting provision violated Sherman Act § 1.[183] The Government's theory was straightforward: the Code was an agreement among horizontal competitors, and it reduced the supply of airtime available to advertisers.[184] This horizontal agreement to restrict output was so

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[177] As to racial bias, see Bertrand et al., *supra* note __; Frank, *supra* note __. On gender bias, see Bettina Nyeste, Influence of Cognitive Capacity on Stereotyping and Discrimination (2016) (Master thesis).

[178] Merlo et al., *supra* note __.

[179] Jae, *supra* note __; Baumeister et al., *supra* note __.

[180] CODE OF PRACTICES FOR TELEVISION BROADCASTERS, TELEVISION BD. OF NAT'L ASS'N OF RADIO & TELEVISION BROADCASTERS 1 (1951), *available at* http://www.tvhistory.tv/SEAL-Good-Practice1.JPG.

[181] Complaint, United States v. Nat'l Ass'n of Broadcasters, No. 79-1549, at 4 (June 14, 1979, D.D.C.).

[182] *Id.* at 4, *available at* http://www.tvhistory.tv/SEAL-Good-Practice4.JPG. Under the original Code, broadcasters were to devote no more than seven minutes per hour of airtime to displaying advertisements. *Id.* This was eventually expanded to 9.5 minutes per hour of prime time, and 16 minutes per hour at all other times. United States v. Nat'l Ass'n of Broadcasters, 536 F. Supp. 149, 153 (D.D.C. 1982).

[183] Complaint, No. 79-1549, at 4.

[184] *Id.* at 6. The Government also challenged the NAB's "consecutive announcement" and "multiple-product" rules. The consecutive-announcement rules limited the number of back-to-back commercials that stations could air. The district court declined to apply the *per se* illegality rule to these rules, treating them instead like the ad-time-limiting rules. 536 F. Supp., at 155. The multiple-product rules prohibited advertising more than one product in a commercial less than

obviously harmful, according to the Government, that it was *per se* illegal—a classification usually reserved for hardcore antitrust violations that lack any redeeming qualities.[185] The district court declined to apply the *per se* rule, but warned that it would condemn the advertising limit if the Government could demonstrate a "more than de minimis" effect on market prices.[186] Shortly afterward, the NAB agreed to revoke the challenged provisions.[187]

Was such a harsh response warranted? Decades later, the U.S. Supreme Court applied a far more lenient approach to another horizontal agreement to limit advertisements. *California Dental Association v. FTC* involved a trade association rule prohibiting its members from sponsoring false or misleading advertisements.[188] Both an FTC administrative law judge and the Ninth Circuit Court of Appeals condemned the rule after a truncated "quick look," a category of analysis reserved for obviously suspicious conduct that does not quite rise to the level of *per se* illegality.[189] But the Supreme Court reversed, noting that restrictions on false or misleading advertisements can alleviate information asymmetries—a textbook cause of market failure.[190] The Court also implied that such restrictions may be warranted in the face of irrational consumer behavior, another well-accepted source of market failure.[191] In antitrust parlance, the defendant trade association had offered plausible "procompetitive justifications" for its advertising restrictions.[192] As a result, the Court concluded that the more searching "rule of reason" ought to apply.[193]

Restrictions on advertising may also be justifiable on the analogous grounds that they alleviate the market failures caused by cognitive overload and depletion described above.[194] As we have seen, excessive attention consumption can cause suboptimal decision-making, as well as a variety of other welfare-reducing societal

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sixty seconds long. 536 F. Supp., at 159. These rules, which lacked any valid procompetitive explanation, were condemned as *per se* illegal. *Id.* at 163.

[185] *See, e.g.*, Maurice Stucke, *Does the Rule of Reason Violate the Rule of Law*, U.C. DAVIS L. REV. 1378–79 (2009 ("Under the Court's per se illegal rule, certain restraints of trade are deemed illegal without consideration of any defenses. These restraints are so likely to harm competition and to lack any significant procompetitive benefits that, in the Court's estimation, 'they do not warrant the time and expense required for particularized inquiry into their effects.'" (quoting FED. TRADE COMM'N & U.S. DEP'T OF JUSTICE, ANTITRUST GUIDELINES FOR COLLABORATIONS AMONG COMPETITORS § 1.2, at 3 (2000)).

[186] *Id.* at 158.

[187] Competitive Impact Statement, United States v. Nat'l Ass'n of Broadcasters, No. 79-1549 (July 16, 1982).

[188] Calif. Dental Ass'n v. FTC, 526 U.S. 756 (1999).

[189] *Id.* at 762.

[190] *Id.* at 771–72 (citing George A. Akerlof, *The Market for "Lemons": Quality Uncertainty and the Market Mechanism*, 84 Q.J. ECON. 488 (1970)).

[191] *Id.* at 772 ("Patients' attachments to particular professionals, the rationality of which is difficult to assess, complicate the picture even further.").

[192] *See* John M. Newman, *Procompetitive Justifications in Antitrust Law*, 94 IND. L.J. 501, 534 (2019).

[193] 526 U.S., at 772.

[194] *See supra* Part IV.B.

interactions that can be viewed as a type of negative externality.[195] Agreements to to limit advertising loads—like the NAB Code provision challenged by the Justice Department—at least potentially alleviate market failures. Thus, the *per se* illegality rule urged by the Justice Department in *NAB* was inappropriate. Such agreements can more helpfully be analyzed under the Rule of Reason.

It bears emphasizing that antitrust law does not forbid every single form of marketplace coordination.[196] Not all inter-firm conduct is intended to enrich firms at the expense of their customers or workers. The Preamble to the original NAB Code offered the following explanation for establishing voluntary limits on advertising:

> The American businesses which utilize television for conveying their advertising messages to the home . . . are reminded that their responsibilities are not limited to the sale of goods and the creation of a favorable attitude toward the sponsor . . . . Television, and all who participate in it, are jointly accountable to the American public for respect for the special needs of children, for community responsibility, [and] for the advancement of education and culture . . . .[197]

Of course, in some cases, restraints on advertising may prove on balance to be anticompetitive.[198] But where defendants can factually demonstrate that their agreement corrected a real-world market failure, current antitrust doctrine appropriately favors treating their conduct as benign.[199]

Finally, a word on prosecutorial discretion: antitrust enforcement agencies must be both thoughtful and strategic as they marshal their limited resources. Recent actions by federal enforcers have drawn sharp criticism for their choice of targets.[200] Given the massively high levels of concentrated power present in many

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[195] *See supra* notes __ and accompanying text.

[196] *See* Sanjukta Paul, *Antitrust as Allocator of Coordination Rights*, 67 UCLA L. REV. (forthcoming) (arguing that antitrust purports to value "competition while in practice serving as a way to allocate economic coordination rights amongst various actors in society); *see also, e.g.*, Broadcast Music, Inc. v. CBS, Inc., 441 U.S. 1 (1979) (refusing to condemn a horizontal joint-licensing arrangement that, in part, constituted price-fixing).

[197] *Id.* at 1, *available at* http://www.tvhistory.tv/SEAL-Good-Practice1.JPG.

[198] *Cf.* FTC v. Ind. Fed'n of Dentists, 476 U.S. 447 (1986) (holding that an agreement to withhold information from insurers was *per se* illegal).

[199] Newman, *Procompetitive Justifications*, *supra* note __. *See generally* Paul, *supra* note __, at 58 ("[T]here is no good reason that the law should not consider a wider range of social and economic benefits that flow from horizontal coordination . . . .").

[200] Both the U.S. DOJ and the FTC have, for example, recently taken steps to prevent collective bargaining by Uber and Lyft drivers. *See, e.g.*, John M. Newman, *Antitrust in Digital Markets*, 72 VAND. L. REV. 1497, 1551 (2019). To some observers, this choice was quite puzzling. At the time, Uber and Lyft operated as a near-total duopoly, controlling 96% of the U.S. market. *Id.* Uber alone enjoyed a monopoly-level 74% share. *Id.* Their drivers, meanwhile, earned about $9 per hour on average—lower than the minimum wage in some states. *See* Eric Reed, *How Much Do Uber and Lyft Drivers Make in 2019?*, THESTREET, Oct. 24, 2019,

modern markets,[201] antitrust enforcers face far more pressing concerns than agreements—even horizontal agreements—that have obvious pro-social potential.[202] Voluntary limits on advertising levels ought to be at or near the bottom of agencies' priority lists.[203]

2. Antitrust as Incomplete Policy Response

Antitrust should maintain a healthy awareness of its own institutional limitations.[204] Normatively, antitrust at least purports to prefer competition over concentrated power.[205] But competition does not necessarily produce an optimal state of well-being in all circumstances. Firms may compete to devise ever-more-effective ways to exploit individuals' bounded rationality and willpower.[206] Firms themselves may enter into a wasteful bidding war for a "hot" property or takeover target.[207] And firms may compete to better evade socially beneficial regulations,[208]

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https://www.thestreet.com/personal-finance/education/how-much-do-uber-lyft-drivers-make-14804869. As one commentator put it, "the idea that collective bargaining by ridesharing drivers is a grave threat to competition is, quite frankly, mind-boggling." Marshall Steinbaum, "The Feds Side Against Alt-Labor," ROOSEVELT INSTITUTE (Nov. 16, 2017), https://rooseveltinstitute.org/feds-side-against-alt-labor/.

[201] *See, e.g.*, Adil Abdela & Marshall Steinbaum, "The United States Has a Market Concentration Problem: Reviewing Concentration Estimates in Antitrust Markets, 2000–Present," ROOSEVELT INST., Sept. 2018, https://rooseveltinstitute.org/wp-content/uploads/2018/09/The-United-States-has-a-market-concentration-problem-brief-final.pdf.

[202] *See* John Newman, *The U.S. Forgot What Antitrust Is For*, THE ATLANTIC, Sept. 11, 2019, https://www.theatlantic.com/ideas/archive/2019/09/how-antitrust-became-pro-pollution-tool/597712/ ("President Donald Trump's Justice Department has reportedly launched an antitrust investigation into four automakers—Ford, Honda, BMW, and Volkswagen. Their supposed offense? Agreeing with one another, and with the state of California, to develop vehicles that are more fuel-efficient and have lower emissions than federal standards require. . . . [T]his is a very strange choice of target for an antitrust-enforcement agency.").

[203] Having agreed to repeal its rules in the wake of the Justice Department's lawsuit, NAB President Edward Fritts decried what he perceived to be an inappropriate ordering of priorities: "This is a sad day for the American public. [This] action means that the Government does not want television broadcasters to attempt to govern themselves by voluntarily limiting the amount of advertising broadcast into the public's homes." Ernest Holsendolph, *Limits on Duration and Frequency of TV Commercials Are Dropped*, N.Y. TIMES, Nov. 24, 1982, at A1.

[204] *Compare* Frank H. Easterbrook, *The Limits of Antitrust*, 63 TEX. L. REV. 1 (1984) (arguing, without much empirical support, that "bias in favor of business practices is appropriate"), *with* Jonathan B. Baker, *Taking the Error Out of "Error Cost" Analysis: What's Wrong with Antitrust's Right*, 80 ANTITRUST L.J. 1 (2015) (summarizing the substantial empirical evidence that suggests many of Easterbrook's core claims were overstated and unfounded).

[205] Of course, as Paul points out, antitrust's exemption for intrafirm coordination may subvert its stated preference. *See* Paul, *supra* note __.

[206] *See* Maurice E. Stucke, *Is Competition Always Good?*, 1 J. ANTITRUST ENFORCEMENT 162, 174 (2013).

[207] *Id.* at 179.

[208] *See, e.g.*, Statement of Commissioner Rohit Chopra Regarding the Request for Comment on Vertical Merger Guidelines, at 6 (Jan. 10, 2010), https://www.ftc.gov/system/files/documents/public_statements/1561727/p810034chopravmgabstain.pdf ("Does the new firm's structure allow it to evade regulatory requirements that their competitors must follow?").

better externalize the costs of production via environmental pollution,[209] and otherwise engage in a variety of other competitive-but-harmful practices.

In markets for attention, as more and more firms consume more and more attention, the decision-making ability of attention producers—humans—becomes further and further degraded.[210] As noted above, individuals in this state are more easily distracted and persuaded.[211] To at least some advertisers, such a state is desirable, for fairly obvious reasons.[212] Under what may appear to be "competitive" conditions, firms may face an ever-increasing incentive to bombard individuals with content and advertisements.[213] The greater the competition for attention, the more degraded—and therefore more valuable to certain advertisers—the remaining stock of attention can become.[214] Contrary to the static models employed by neoclassical microeconomics, even "competitive" attention markets may not have a particularly healthy equilibrium point.[215]

Competition can, and in fact has, helped to reduce the amount of attention consumed by advertisers in a given market. The more salient attention costs are as an aspect of competition, the more effective competition will be. Thus, in the context of relatively homogeneous zero-price product markets like broadcast radio, competition can help keep attention costs low.[216] But the more differentiated the product(s), the less competition will be able to keep such costs low.

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[209] *See, e.g.*, Jeffrey L. Harrison, *Other Markets, Other Costs: Modernizing Antitrust*, 27 U. FLA. J. L. & PUB. POL'Y 373 (2016).

[210] *See supra* notes __ and accompanying text.

[211] *See supra* notes __ and accompanying text.

[212] *See generally* Ramsi A. Woodcock, *The Obsolescence of Advertising in the Information Age*, 127 YALE L.J. 2270 (2018) (arguing that, in an age of information abundance, advertising has lost its informative justification and is now useful to firms only for persuasive purposes).

[213] Tushnet describes something along these lines: "As we are exposed to more and more [advertisements], it becomes harder to get our attention, so promoters are forced to further extremes." Tushnet, *supra* note __, at 725. But Tushnet proposes our own responsive efforts to avoid ads as a check on this behavior. *Id.* at 725–26. In light of the literature on humans' overestimation of their ability to resist or ignore ads, *see supra* notes __ and accompanying text, this check will not serve to avoid the market failure described herein.

[214] Lianos uses the term "self-reinforcing" to describe yet another unusual aspect of attention markets: the product desired by natural persons (attention producers) often contributes further to attention scarcity, making the product desired by advertisers (attention consumers) more valuable—and presumably therefore spurring further competitive efforts by attention intermediaries. *See* Ioannis Lianos, Digital Value Chains and Capital Accumulation in 21st Century Digital Capitalism: A Legal Institutionalism Perspective and Implications for Competition Law at 40–41 (unpublished manuscript, on file with author).

[215] *See generally* Strandburg, *Free Fall*, *supra* note __ (arguing that zero-price markets are prone to failure). To be sure, the definition of "competitive" is contestable and unsettled. *See* Stucke, *Is Competition Always Good?*, *supra* note __, at 164 ("Part of competition's appeal is that no consensus exists on its meaning.").

[216] Catherine Tyler Mooney, Market Power and Audience Segmentation Drive Radio Advertising Levels (Apr. 14, 2010) (unpublished manuscript), https://editorialexpress.com/cgibin/conference/download.cgi?db_name=IIOC2010&paper_id=203 [https://perma.cc/YF98-TDGG].

On the whole, competition should be preferred to monopoly. That being said, antitrust law is likely to be only a partial solution for excessive attention consumption. Thus, from a macro policy perspective, antitrust should be viewed as one tool in a broader toolkit that should potentially include caps on attention consumption and Pigouvian taxes. Attention-consumption limits may take the form of limitations on the time or space that can be devoted to attention-grabbing advertisements.[217] Alternatively, such limits may take the form of prohibitions on particular product features (infinitely scrolling content feeds, autoplaying videos, and the like[218]) that have allowed market actors to extract vast amounts of attention.[219] And Pigouvian taxes are a well-accepted policy response to conduct that produces negative externalities.[220] In the present context, a tax could be levied on advertising, for example.[221] Such policy action would be complementary to antitrust law's competition-protecting role. As such, it should be welcomed by the existing antitrust enterprise. Federal enforcement agencies have, of late, opposed seemingly prosocial regulatory activity on the grounds that it would interfere with "competition."[222] But it is high time for antitrust insiders to recognize that their narrow conception of "competition" as atomistic rivalry must occasionally give way to alternative, more beneficial, means of ordering society.

V. CONCLUSION

For too long, antitrust and attention have had only a passing acquaintance. Attention is fast becoming one of the most valuable resources in modern economies. Yet it has remained underexamined and poorly understood by most antitrust institutions and stakeholders. Antitrust law and economics may well be "supple enough"[223] to address anticompetitive conduct in markets for attention. The history of antitrust is one of constant, dynamic evolution to meet new

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[217] *See, e.g.*, https://www.ofcom.org.uk/__data/assets/pdf_file/0020/16328/rules.pdf.

[218] *See, e.g.*, Press Release, Sen. Hawley Introduces Legislation to Curb Social Media Addiction (July 30, 2019), https://www.hawley.senate.gov/sen-hawley-introduces-legislation-curb-social-media-addiction.

[219] *See, e.g.*, *The Evil List: Which Tech Companies Are Really Doing the Most Harm?*, SLATE, Jan. 15, 2020, https://slate.com/technology/2020/01/evil-list-tech-companies-dangerous-amazon-facebook-google-palantir.html ("TikTok is the closest that the world has ever come to 'the Entertainment' of *Infinite Jest*, an immersive experience that's so addictive that its users forget to eat or drink or sleep." (quoting Felix Salmon) (internal quotation marks omitted)).

[220] *See, e.g.*, Christopher R. Knittel & Ryan Sandler, The Welfare Impact of Indirect Pigouvian Taxation: Evidence from Transportation, NBER Working Paper No. 18849 (2013) ("A basic tenet of economics posits that when consumers or firms do not face the true social cost of their actions, market outcomes are inefficient. In the case of externalities, Pigouvian taxes provide one way to correct this market failure, and the optimal tax or subsidy leads agents to internalize the true cost of their actions.").

[221] *Cf.* Paul Romer, *A Tax That Could Fix Big Tech*, N.Y. TIMES (May 6, 2019), https://www.nytimes.com/2019/05/06/opinion/tax-facebook-google.html.

[222] *See supra* notes __ and accompanying text (discussing the DOJ and FTC efforts to prevent collective bargaining by Uber and Lyft drivers).

[223] Richard A. Posner, *Antitrust in the New Economy*, 68 ANTITRUST L.J. 925 (2001) (arguing that antitrust's basic doctrines are "supple enough" to address conduct in Internet-based markets).

challenges and incorporate new ideas. As a first step in the right direction, the antitrust enterprise must begin to pay more attention to attention.