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Taking Behavioralism Seriously in Digital Markets

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Over the past decade, we have seen large digital platforms like Amazon and Google maintain their dominance by exploiting the cognitive biases of consumers. Claims regarding such anticompetitive behavior, however, face difficulties because of the high bar plaintiffs must meet to succeed in court in antitrust cases and due to the lack of direct empirical evidence on the effects of the specific behavior in question. Similarly, policymakers are sorely lacking empirical evidence to effectively make decisions on competition in digital markets. While conventional research methods are severely limited in their ability to collect data on user behavior online, novel methods such as browser-based crowdsourced research offer a promising avenue for such collection. It is vital that researchers continue developing factual evidence in this domain and that policymakers take seriously the issue of behavioralism on digital platforms.

I. Digital Market Consolidation Through Behavioralism

Decades of findings from behavioral economics have found that consumers are susceptible to a host of cognitive biases. For instance, individuals' mental accounting of consequences can be influenced by whether the consequences are framed in a positive or negative light.¹

Professors Hanson and Kysar argued that cognitive biases should not be considered an exogenous influence on individual behavior, but rather as endogenous factors that influence the incentives of market actors.² They claim that “manipulation of consumers by manufacturers is not simply a possibility in light of the behavioral research but that it is an inevitable result of the competitive market.”³ In a subsequent paper, Hanson and Kysar substantiated this assertion by examining how the cigarette industry had exploited these cognitive biases through marketing efforts to artificially heighten consumer demand and lower consumer risk perceptions.⁴

Building off the work of Hanson and Kysar, Ryan Calo has demonstrated how the problem of market manipulation is especially concerning in digital markets.⁵ Online platforms record consumer interactions in meticulous detail, generating large swaths of data.⁶ The granularity, frequency, and scale of data can be used to mass produce bias, compel consumers to surrender increasing amounts of information, and mold online experiences to maximize influence on individuals.⁷

¹ See Beth E. Meyerowitz & Shelly Chaiken, *The Effect of Message Framing on Breast Self-Examination: Attitudes, Intentions, and Behavior*, 52 J. PERSONALITY & SOC. PSYCHOL. 500, 505 (1987); Daniel Kahneman & Amos Tversky, *Choices, Values, and Frames*, 39 Am. Psychologist 341, 343 (1984).

² See Jon D. Hanson & Douglas A. Kysar, *Taking Behavioralism Seriously: The Problem of Market Manipulation*, 74 N.Y.U. L. REV. 630 (1999).

³ *The Problem* at 726.

⁴ See Jon D. Hanson & Douglas A. Kysar, *Taking Behavioralism Seriously: Some Evidence of Market Manipulation*, 112 HARV. L. REV. 1420 (1999).

⁵ See Ryan Calo, *Digital Market Manipulation*, 82 GEO. WASH. L. REV. 995 (2014).

⁶ *Id.* at 1006-18.

⁷ *Id.*

The logical extension of digital market manipulation is that digital platforms will manipulate markets to gain advantage not only over consumers, but also over competitors. Through a series of nudges and behavioral interventions, dominant platforms are able to enclose consumers in their ecosystems and make it difficult for other ecosystems to attract consumers. These types of nudges are an alternative to more explicit anticompetitive conduct that dominant digital platforms have adopted to evade antitrust scrutiny.

A. *Examples of Anticompetitive Conduct Exploiting Cognitive Biases*

One example of anticompetitive behavior made possible by the exploitation of cognitive biases is the basis for the Department of Justice’s lawsuit against Google. The DOJ has accused Google of maintaining monopoly by locking up default status on search access points and thereby foreclosing the market to competitor search engines.⁸ The theory behind the Department of Justice’s case is very similar to a theory brought against Microsoft in *United States v. Microsoft Corp.*⁹ There, Microsoft was accused of foreclosing competition in the browser market by locking up distribution through Internet access providers (“IAPs”) and PC manufacturers (“OEMs”). The D.C. Circuit affirmed the trial court’s finding that such conduct violated Section 2 of the Sherman Act, despite there being existing alternative, albeit less efficient, means of distribution¹⁰:

[T]he Court concludes that Microsoft's multiple agreements with distributors did not ultimately deprive Netscape of the ability to have access to every PC user worldwide to offer an opportunity to install Navigator. Navigator can be downloaded from the Internet. It is available through myriad retail channels. It can (and has been) mailed directly to an unlimited number of households.¹¹

A key difference between *Microsoft* and the ongoing litigation against Google is the difference between a consumer’s ability to switch browsers versus search engines. Switching search engines does not require installation of any new software. Instead, it can be done in just a few clicks through a browser’s settings. The behavioral economics literature, however, has shown that consumers routinely over-respond to defaults.¹² If the Justice Department is to prevail in its case, it is vital that the court recognizes the cognitive hurdles that defaults raise as real barriers.

More recently, Amazon has come under fire for its maintenance of relatively low prices through its inflation of prices on competing platforms.¹³ For a third-party merchant, selling on Amazon is dependent on winning the Buy Box, a box on Amazon product pages that effectively

⁸ See Complaint ¶ 4, *United States v. Google LLC*, No.1:20-cv-03010 (D.D.C. Oct. 20, 2020).

⁹ 253 F.3d 34 (D.C. Cir. 2001).

¹⁰ *Id.* at 70-71.

¹¹ 87 F. Supp. 2d 30, 53 (D.D.C. 2000).

¹² See Daniel Kahneman et al., *Anomalies: The Endowment Effect, Loss Aversion, and Status Quo Bias*, 5 J. ECON. PERSP. 193 (1991); William Samuelson & Richard Zeckhauser, *Status Quo Bias in Decision Making*, 1 J. RISK & UNCERTAINTY 7 (1988).

¹³ See Complaint, *District of Columbia v. Amazon.com, Inc.*, No. 2021-CA-001775-B (Sup. Ct. D.C. May 25, 2021), <https://oag.dc.gov/sites/default/files/2021-05/Amazon-Complaint-.pdf> [hereinafter Amazon Complaint].

makes the chosen merchant the default seller of a product.¹⁴ Critics claim that Amazon leverages Buy Box access to charge large commissions and prevent merchants from charging higher prices on other platforms.¹⁵

Another dramatic example is Apple's introduction of App Tracking Transparency (ATT) in early 2021.¹⁶ ATT was a change to the choice architecture for opting out of tracking across apps and websites. iOS users had been able to opt out of such tracking, but the introduction of ATT flipped the default preference and compelled users to make an affirmative choice. Despite ATT being a simple design change meant to reduce cognitive barriers for users making decisions regarding their privacy, rival tech companies were aware of the impact this could have on their ability to gather data. Notably, Facebook launched an aggressive campaign against Apple, claiming that ATT would devastate small businesses.¹⁷ The German competition watchdog recently launched an investigation into ATT over concerns that it is being used by Apple to gain an unfair competitive advantage in the advertising market.¹⁸

B. *The Persistence of Neoclassical Assumptions in Competition Law*

While findings from behavioral economics have come to be widely accepted in consumer protection law, they are yet to make a palpable impression in antitrust law.¹⁹ The issue of dark patterns is an especially illustrative example of the acceptance of behavioralism in consumer protection law but not antitrust law. Dark patterns are user interface designs that attempt to steer consumer decisions, oftentimes by exploiting cognitive biases.²⁰ For instance, when a user installs an extension on Google Chrome that changes their default search engine, a modal dialog

¹⁴ *Id.* ¶ 20.

¹⁵ Matt Stoller, *Amazon Prime Is an Economy-Distorting Lie*, BIG (May 30, 2021), at <https://mattstoller.substack.com/p/amazon-primers-free-shipping-promise/>.

¹⁶ See Chaim Gartenberg, *Why Apple's New Privacy Feature is Such a Big Deal*, THE VERGE (Apr. 27, 2021, 10:30 AM), <https://www.theverge.com/2021/4/27/22405474/apple-app-tracking-transparency-ios-14-5-privacy-update-facebook-data>.

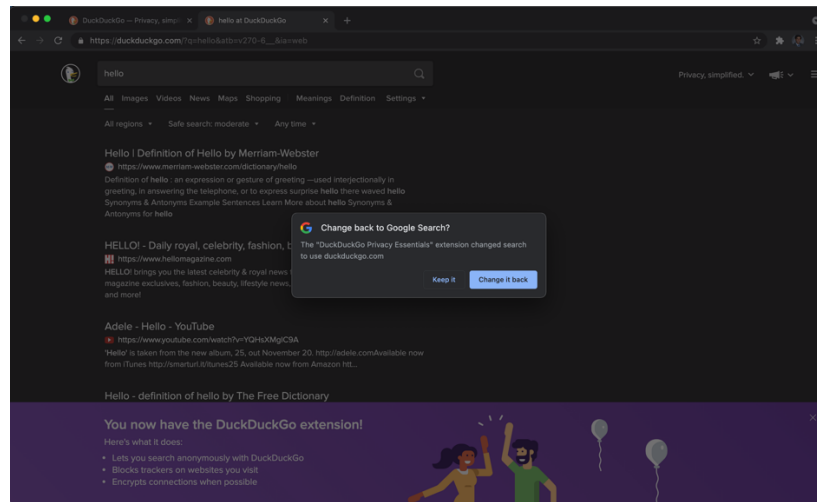
¹⁷ See *Personalized Ads Help Small Businesses Like Yours Get Found*, FACEBOOK, <https://www.facebook.com/business/small-business/personalized-ads> (last visited July 31, 2022); *Facebook Hits Back at Apple with Second Critical Newspaper*, THE VERGE (Dec. 17, 2020), <https://www.theverge.com/2020/12/17/22180102/facebook-new-newspaper-ad-apple-ios-14-privacy-prompt>; Brian X. Chen, *To Be Tracked or Not? Apple Is Now Giving Us the Choice*, N.Y. TIMES (April 26, 2021), <https://www.nytimes.com/2021/04/26/technology/personaltech/apple-app-tracking-transparency.html> (“Most notably, Facebook has gone on the warpath. Last year, the social network created a website and took out full-page ads in newspapers denouncing Apple's privacy feature as harmful to small businesses.”).

¹⁸ Samuel Stolton, *Apple's Privacy Rules Targeted by German Competition Watchdog*, POLITICO (June 14, 2022, 11:39 AM), <https://www.politico.eu/article/apples-privacy-rules-targeted-by-german-competition-watchdog/>.

¹⁹ See Joshua D. Wright, *The Antitrust-Consumer Protection Paradox: Two Policies at War with Each Other*, 121 YALE L.J. 2216 (2012).

²⁰ See Arunesh Mathur, Mihir Kshirsagar, and Jonathan Mayer, *What Makes a Dark Pattern... Dark? Design Attributes, Normative Considerations, and Measurement Methods*, PROC. 2021 CHI CONFERENCE ON HUMAN FACTORS IN COMPUTING SYSTEMS 1 (May 2021), <https://dl.acm.org/doi/10.1145/3411764.3445610>; Rebecca Kelly Slaughter, Janice Kopec & Mohammad Batal, *Algorithms and Economic Justice: A Taxonomy of Harms and a Path Forward for the Federal Trade Commission*, 23 YALE J. L. TECH. 1, 14 n.39 (2021), https://law.yale.edu/sites/default/files/area/center/isp/documents/algorithms_and_economic_justice_master_final.pdf.

is displayed upon the user's first search prompting them to reverse the change. Not only does this dialog hijack the browser and force the user to reconsider their decision just after they already affirmatively decided to install an extension, but the "Change it back" option on the dialog is highlighted as the default option to users. The following image is a screenshot of this dialog following installation of the DuckDuckGo Privacy Essentials extension.



In recent years, dark patterns have become a notable consumer protection issue, one that the FTC is making significant efforts to address.²¹ While dark patterns undoubtedly fall within the FTC's consumer protection authority, it is clear from the example above that they are also a competition issue.

The apparent dichotomy between consumer protection law and competition law can be explained by the assumption of rationality that permeates modern antitrust doctrine. This enduring assumption of rational actors owes largely to the early influence of neoclassical economic theory.²² Even though the antitrust laws were drafted to accommodate advancements in our understanding of what constitutes unfair competition,²³ many are hesitant to incorporate behavioral economics into antitrust.

²¹ See Fed. Trade Comm'n, *Enforcement Policy Statement Regarding Negative Option Marketing* (Oct. 28, 2021); Fed. Trade Comm'n, *Bringing Dark Patterns to Light: An FTC Workshop*, FTC (Apr. 29, 2021), <https://www.ftc.gov/newsevents/events-calendar/bringing-dark-patterns-light-ftc-workshop>.

²² See Amanda P. Reeves & Maurice E. Stucke, *Behavioral Antitrust*, 86 IND. L.J. 1527, 1545-53 (2011); James C. Cooper & William E. Kovacic, *Behavioral Economics and Its Meaning for Antitrust Agency Decision Making*, 8 J.L. ECON. & POL'Y 779, 779 (2012) ("Of all fields of regulation in the United States, antitrust law relies most heavily on economics to inform the design and application of legal rules."); Maurice E. Stucke, *Behavioral Economists at the Gate: Antitrust in the Twenty-First Century*, 38 LOY. U. CHI. L.J. 513, 514 (2007) ("While tossed against the rocks elsewhere, within the quiet waters of antitrust these rational choice theories stand largely unchallenged."). See generally William E. Kovacic, *The Influence of Economics on Antitrust Law*, 30 ECON. INQUIRY 294 (1992).

²³ See Cooper & Kovacic, *supra* note 11.

C. The “Closure” Problem in Digital Platform Antitrust

Although the empirical literature from behavioral economics is extensive, many scholars claim that findings from the field are not dispositive of antitrust issues. They remark that findings from behavioral economics are notoriously ungeneralizable.²⁴ One contributing factor to this phenomenon is that laboratory experiments are designed specifically to reveal cognitive biases.

The leading proponents of the heuristic and bias view of cognitive error, Daniel Kahneman and Amos Tversky, forthrightly acknowledged that in their study of the conjunction fallacy, for example, they used word problems that they believed would elicit error regardless of whether the features of such problems were representative of problems in the real world: "Our problems, of course, were constructed to elicit conjunction errors, and they do not provide an unbiased estimate of the prevalence of these errors."²⁵

In the view of these scholars, limitations of laboratory experiments entail that findings from these settings do not necessarily extend to real market environments. While, partly in response to the criticism, there is a large and growing literature studying field experiments and natural experiments, the progress of such studies has been limited in the context of digital platforms due to challenges involved in gathering data on user behavior in these environments.

Another persistent criticism of incorporating behavioral economics into law centers on the lack of a theoretical framework of cognitive bias.

[Jolls, Sunstein, and Thaler] don't actually tell us what "behavioral economics" means. But implicitly they define it negatively: It is economics minus the assumption that people are rational maximizers of their satisfactions. Its relation to standard economics is thus a bit like the relation of non-Euclidean to Euclidean geometry, though with the important difference that non-Euclidean geometry is as theoretically rigorous as Euclidean geometry, whereas behavioral economics is, as we shall see, antitheoretical.²⁶

Because there is no theoretical framework for what makes a cognitive bias arise, critics of behavioral economics assert that incorporating behavioral economics into antitrust would be

²⁴ Joshua D. Wright & Douglas H. Ginsburg, *Behavioral Law and Economics: Its Origins, Fatal Flaws, and Implications for Liberty*, 106 NW. U. L. REV. 1033, 1044 (2012).

²⁵ Gregory Mitchell, *Taking Behavioralism Too Seriously? The Unwarranted Pessimism of the New Behavioral Analysis of Law*, 43 Wm. & Mary L. Rev. 1907, 1972 (2002).

²⁶ Richard A. Posner, *Rational Choice, Behavioral Economics, and the Law*, 50 STAN. L. REV. 1551, 1552 (1998); see also Jonathan Klick & Gregory Mitchell, *Government Regulation of Irrationality: Moral and Cognitive Hazards*, 90 MINN. L. REV. 1620, 1627–28 n.20 (2006) (“The dominant research program within behavioral decision theory, the heuristics and biases program, consists of a collection of robust empirical findings bound together by high-level concepts rather than an integrative theory that can predict how particular features of the mind and environment are likely to interact in particular cases . . .”).

unmanageable because of its failure to articulate a general standard.²⁷ In such an environment, it is challenging to refute claims casting doubt on the effectiveness of nudges. For instance, claims about the ineffectiveness of search engine defaults as an exclusionary mechanism abound.²⁸ This is even though the impact of default preferences has been shown to be enormous in real world empirical settings.

Many of the questions at the heart of these debates over the effects of cognitive nudges appear to be simple. For instance, how does choice architecture, such as a default setting, influence a user's choice of search engine? While these questions are seemingly simple, resolving them is anything but. Despite these problems playing a central role in prominent cases of today, there is almost no direct empirical evidence as to the effects of the specific conduct in the complaints. To borrow from the field of statutory interpretation, these problems are resistant to closure.²⁹

This is problematic for several reasons. First, the emergence of a “rule-of-reason regime” has rendered antitrust law “unpredictable and indeterminate.”³⁰ Combined with heightened pleading standards and excessive concern with the risk of false positives, this has stacked the deck against plaintiffs in antitrust cases.³¹ This is further exacerbated in digital platform antitrust. Believing that digital markets were uniquely dynamic and competitive, courts granted digital platforms special carveouts to antitrust rules.³² Additionally, much of the anticompetitive conduct on digital platforms is realized through product design decisions, which

²⁷ See Douglas H. Ginsburg & Derek W. Moore, *The Future of Behavioral Economics in Antitrust Jurisprudence*, 6 COMPETITION POL'Y INT'L 89, 97 (2010) (“[Behavioral economics] does not—at least not yet—provide or even promise to provide a general standard by which to decide any particular type of case.”); Alan Devlin & Michael Jacobs, *The Empty Promise of Behavioral Antitrust*, 37 Harv. J.L. & Pub. Pol'y 1009, 1051 (2014) (“What antitrust law requires, however, is not subjective post hoc descriptions, but ex ante predictions. Rational choice theory answers this call; behavioral economics does not.”).

²⁸ See Kent Walker, *A Deeply Flawed Lawsuit That Would Do Nothing to Help Consumers*, GOOGLE: THE KEYWORD (Oct. 20, 2020), <https://blog.google/outreach-initiatives/public-policy/response-doj/> (“But let's be clear—our competitors are readily available too, if you want to use them.”); Robert H. Bork & J. Gregory Sidak, *What Does the Chicago School Teach About Internet Search and the Antitrust Treatment of Google*, 8 J. COMPETITION L. & ECON. 663, 697–98 (2012) (“If consumers do not want to use Google search, though, they can download Bing or a different search engine in less than 30 seconds, at a price of zero. Google's default agreements with OEMs therefore do not reduce competition in mobile search by excluding other search applications.”).

²⁹ Adrian Vermeule, *Interpretation, Empiricism, and the Closure Problem*, 66 U. Chi. L. Rev. 698, 701-02 (1999) (“This is the *closure problem*: Empirical arguments relevant to the choice between formalist and nonformalist interpretive doctrines may often reduce to a contest of plausible but unconfirmable empirical assertions, with neither side able to close the question out at acceptable cost within a usefully short period of time.”).

³⁰ See Lina M. Khan, *The Ideological Roots of America's Market Power Problem*, 127 YALE L.J. F. 960, 973 (2018); see also Maurice Stucke, *Does the Rule of Reason Violate the Rule of Law?*, 42 U.C. DAVIS L. REV. 1375, 1421 (2009) (“[T]he rule of reason has been criticized for its inaccuracy, its poor administrability, its subjectivity, its lack of transparency, and its yielding inconsistent results.”).

³¹ See Frank H. Easterbrook, *The Limits of Antitrust*, 63 TEX. L. REV. 1, 2 (1984) (“If the court errs by condemning a beneficial practice, the benefits may be lost for good. . . . If the court errs by permitting a deleterious practice, though, the welfare loss decreases over time.”).

³² See Rebecca Haw Allensworth, *Antitrust's High-Tech Exceptionalism*, 130 YALE L.J. 588, 601-07 (2021).

courts have been hesitant to interfere with.³³

D. *Addressing Behavioralism in Antitrust Through Browser-Based Crowdsourced Research*

The lack of direct evidence against digital platforms is not a problem unique to antitrust. Study of the intersection of technology and society more broadly has been described as a “crisis discipline” because of the lack of empirical evidence available to policymakers and regulators.³⁴ A principal cause of this is the lack of incentive for platforms to provide researchers access for data collection. This issue has been exacerbated by the push for privacy reform in recent years, which platforms have taken as further incentive to limit transparency.

The alternative to relying on authorized platform access is to circumvent platform access restrictions. Here too, however, researchers face many obstacles. For instance, Facebook disabled the accounts of researchers at New York University’s Ad Observatory over privacy concerns regarding a tool the group had developed to study advertisements on the platform.³⁵ Facebook claimed that this action was taken to comply with an FTC consent order, but the then Acting Director of the Bureau of Consumer Protection stated that the FTC consent order in question did not necessitate such an action.³⁶

Additionally, conventional research methods such as web scraping have severe limitations. While web scraping allows for data collection on online content from the vantage point of the crawler, it does not allow for capturing how individuals interact with platforms.

Recently, however, a new avenue for the collection of such behavioral data is showing promise: browser-based crowdsourced research. Researchers can develop web browser extensions that are then distributed to participants and allow for collection of individualized content and individual behavior. A research group at Northeastern University was recently awarded a \$15.7 million grant to develop exactly such instrumentation.³⁷ In a similar effort, I am part of a team of researchers at Princeton University that has developed a platform, Rally, in collaboration with Mozilla to enable browser-based crowdsourced research and facilitate participant recruitment.³⁸

³³ See *United States v. Microsoft Corp.*, 253 F.3d 34, 65 (D.C. Cir. 2001) (“As a general rule, courts are properly very skeptical about claims that competition has been harmed by a dominant firm’s product design changes.”); *Berkey Photo, Inc. v. Eastman Kodak Co.*, 603 F.2d 263 (2d Cir. 1979).

³⁴ See Joseph B. Bak-Coleman et al., *Stewardship of Global Collective Behavior*. 118 PNAS, 27 (2021).

³⁵ See Laura Edelson & Damon McCoy, *We Research Misinformation on Facebook. It Just Disabled Our Accounts*, N.Y. TIMES (Aug. 10, 2021), <https://www.nytimes.com/2021/08/10/opinion/facebook-misinformation.html>.

³⁶ See Samuel Levine, *Letter from Acting Director of the Bureau of Consumer Protection Samuel Levine to Facebook*, FTC CONSUMER BLOG (Aug. 5, 2021), <https://www.ftc.gov/blog-posts/2021/08/letter-acting-director-bureau-consumer-protection-samuel-levine-facebook>.

³⁷ See Tanner Stening, *Unprecedented Data Collection Project, ‘A Huge Missing Piece of the Study of the Internet,’ Now Underway*, NEWS@NORTHEASTERN (Sept. 1, 2022), <https://news.northeastern.edu/2022/09/01/national-internet-observatory-data-collection-online-privac/>.

³⁸ This research platform will be utilized for forthcoming research on digital platform competition by Jonathan Mayer, Shaanan Cohney, and myself.

To elucidate the potential of such research, let us go back to the question of search engine competition: how does choice architecture, such as a default setting, influence a user's choice of search engine? Through a study on Rally, researchers could assign participants to a control group and various experimental groups to assess the effects of various search engine choice architectures. For instance, one subset of participants could be assigned to a group in which their browser's default search engine is changed and they are notified of the change. Through monitoring of participant search engine usage following such an intervention and observing if they change their default back to the search engine it was changed from, researchers could quantify the stickiness of search engine defaults. Similarly, other participants could be assigned to a group in which they are presented with a search engine ballot and asked to affirmatively choose their default search engine. Regulators have suggested that user choice ballots could be an effective response to online service monopolies. There is, however, little evidence to affirm the effectiveness of such interventions. An intervention as described would provide the first independent quantitative evidence on the efficacy of user choice ballots.³⁹

II. Conclusion

In the digital economy, we are witnessing dominant platforms exploit cognitive biases to effectuate anticompetitive conduct. While these types of behavioralism-based methods are the evolution of more conventional anticompetitive conduct, the difficulties of measuring the effects of such conduct have led to a dearth of factual evidence that has severely hindered regulation and enforcement. A concerted effort from researchers and policymakers is necessary to address this issue.

³⁹ Google recently introduced search engine choice ballot on Android devices in the EU following a \$5 billion fine by the European Commission. See *Google Reveals its Android Browser Ballot Screens for Europe*, THE VERGE (April 18, 2019), <https://www.theverge.com/2019/4/18/18484796/google-android-browser-ballot-screen-europe-screenshots>.