Before the

HOUSE COMMITTEE ON ENERGY & COMMERCE
PRIVACY WORKING GROUP

Privacy Working Group Request for Information

Comments of

Program on Economics & Privacy
George Mason University, Antonin Scalia Law School

April 7, 2025

I. Introduction

The Program on Economics & Privacy (PEP) at George Mason Antonin Scalia Law School welcomes this opportunity to provide comments to the House Committee on Energy and Commerce Privacy Working Group (PWG) to help inform its efforts to explore the parameters of a comprehensive federal data privacy framework. This Comment urges the PWG to consider the rich economic literature that examines the tradeoffs inherent to the regulation of consumer information flows.

II. The Economics of Online Personalization

Personalization, both in terms of content and ads, is a driving force behind the online ecosystem. A large proportion of online content is monetized from advertising, and the consensus in the empirical literature is that personalized advertisements enabled by identifiers such as cookies provide approximately two to three times more revenue on average than those based on context alone.[1] Further, online content providers use identifiers to tailor user content through, for example, curated play lists or recommendations. Finally, identifiers also enable more accurate search, which allows platforms to better match content with user preferences.

By design, privacy regulations target technologies that enable personalization by limiting the collection, use, and sharing of consumer information. A growing empirical literature finds a causal link between reductions in personalization due to privacy regulations and lower levels of output and quality. For example, Johnson et al. and Kircher & Foerderer both study the impact of YouTube's 2019 consent decree with the Federal Trade Commission (FTC) to resolve COPPA charges, in which YouTube agreed to bar all use of persistent identifiers for made-for-kids programming.[2] Both studies find a reduction in content production and quality.[3] Several empirical papers have used the EU's GDPR to estimate the causal impact of a reduced ability to track customers—and the concomitantly reduced capability to tailor ads— on economic outcomes for firms. For example, Goldberg et al., estimated lower-bound reductions in real (as opposed to

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[1] *See*, *e.g.*, COMPETITION & MARKETS AUTHORITY, ONLINE PLATFORMS AND DIGITAL ADVERTISING, Appendix F, at F31-32, F36 (2020) (70% lower without identifier), at https://assets.publishing.service.gov.uk/media/5fe495438fa8f56af97b1e6c/Appendix_F_-_role_of_data_in_digital_advertising_v.4_WEB.pdf; Garrett A. Johnson et al., *Consumer Privacy Choice in Online Advertising: Who Opts Out and at what Cost to Industry*, 36 MARKETING SCI. 33 (2020) (52% lower without identifier); Avi Goldfarb & Catherine Tucker, *Privacy Regulation and Online Advertising*, 57 MGM'T SCI. 57 (2011) (65% lower without identifier). *But see* Veronica Marotta, Vibhanshu Abhishek, & Alessandro Acquisti, *Online Tracking and Publishers' Revenues: An Empirical Analysis* at 6-7, 14-16, 27 (2019) (finding a statistically insignificant 4% reduction in the value of an impression without an identifier), *at* https://weis2017.econinfosec.org/wp-content/uploads/sites/6/2019/05/WEIS_2019_paper_38.pdf. This premium reflects higher conversion rates—that is, there is a higher probability that a voluntary value-enhancing exchange will occur in response to advertising served on consumer interests rather than on context alone.

[2] Garrett Johnson, Tesary Lin, James C. Cooper, and Liang Zhong, *COPPAcalypse? The YouTube Settlement's Impact on Kids Content* (May 24, 2024), at https://papers.ssrn.com/sol3/papers.cfm?abstract_id=4430334; Tobias Kircher & Jens Foerderer, *Does Privacy Undermine Content Provision and Consumption? Evidence from Educational YouTube Channels* (Jan. 19, 2024), at https://papers.ssrn.com/sol3/papers.cfm?abstract_id=4473538.

[3] *See also* Tobias Kircher & Jens Foerderer, *Ban Targeted Advertising? An Empirical Investigation of the Consequences for App Development*, 70 MGM'T SCI. 1070 (2024) (finding ban on the collection of persistent identifiers for children's apps in the Google Play store reduced updates and new releases, and increased exit for kids' games).

recorded) pageviews and online purchasing of 7 percent and 4.6 percent, respectively.[4] Likewise, Aridor et al. examine the impact of the GDPR on online travel websites and search engines and find a statistically and economically significant reduction in advertising clicks and a short-term reduction in advertising revenues.[5] Research from Janssen et al. finds that the restrictions on data collection and use in the GDPR have increased exit and reduced entry of Android apps, which they estimate lowered consumer surplus by 32 percent.[6] Several papers have examined the impact of Apple's implementation of its App Tracking Transparency (ATT) policy and generally have found evidence of a negative impact on app downloads and incentives to develop new apps.[7] In another relevant study, Shiller et al. find a causal relationship between the intensity of users employing ad-blocking technology and various metrics of website quality, suggesting that reduced ad revenue is a key mechanism.[8]

In sum, any legislation that would reduce the ability to engage in personalization is likely to reduce the revenue available to creators of online services. Given the negative relationship between revenue and the quantity and quality of online services, any such legislation is likely to lead to fewer and lower-quality online services. Further, lack of personalization can limit the ability of platforms to match consumers with their preferred content, which again reduces the quality that consumers experience. A basic economic principle is that any reduction in the quantity or quality of a normal good reduces consumer surplus.[9] Online products appear to be normal goods, generating a large amount of surplus for consumers. Brynjolffson, Collins, & Eggers, for example,

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[4] *See* Goldberg et al., *Regulating Privacy Online: An Economic Evaluation of the GDPR*, 16 AM. ECON. J.: ECON. POL'Y 325 (2024).

[5] Guy Aridor, Yeon-Koo Che, & Tobias Salz, *The Effect of Privacy Regulation on the Data Industry: Empirical Evidence from the GDPR*, 54 RAND J. ECON 695 (2023). The reduction in advertising revenue falls by (as statistically significant) 25 percent initially, but while the point estimate for the entire post-GDPR period suggests an economically significant decline (-16.8%), it is not statistically significant. As the authors note, this is likely due to a gradual 12% increase in the average bid, likely due to the fact that post-GDPR observable consumers have more observable conversion rates. *Id.*; s*ee also* Christian Peukert et al., *Regulatory Spillovers and Data Governance: Evidence From the GDPR*, 41 MARKETING SCI. 746, 754-61 (2022) (finding substantial reductions in interactions with third-party data vendors after GDPR).

[6] Rebecca Janssen et al*., GDPR and the Lost Generation of Innovative Apps*, NBER Working Paper at 2, 14 (May 2022). Also suggesting a positive relationship between data use and content quality, recent research finds that users' ratings of Google Play Store apps are inversely related to their privacy grades. James C. Cooper & John M. Yun*, Privacy & Antitrust: It's Complicated*, 2022 ILL. J.L. TECH & POL'Y 382, 393 (2022). Other works examining the effect of the GDPR on content have found more mixed results. For example, Lefrere et al. find a small decrease in page views for EU news and media publishers relative to their US counterparts after the GDPR, but they find no statistically measurable impact in other dimensions, such as social media engagement with content or page rank, and suggest that these null results might reflect firms' continuing access to consumer data through GDPR exceptions. V. Lefrere et al., *Does Privacy Regulation Harm Content Providers? A Longitudinal Analysis of the Impact of the GDPR,* at 7, 48 (2022), *at* https://papers.ssrn.com/sol3/papers.cfm?abstract_id=4239013; *see also* Miguel Godinho de Matos & Idris Adjerid, *Consumer Consent and Firm Targeting After GDPR: The Case of a Large Telecom Provider*, 68 MGM'T SCI. 3330 (2022) (finding that opt-in for different data types increased after GDPR-compliant consent forms were re-solicited, resulting in increased sales to those who were treated with the GDPR-compliant consent).

[7] *See*, *e.g.*, Guy Aridor et al., *Evaluating the Impact of Privacy Regulation on E-Commerce Firms: Evidence from Apple's App Tracking Transparency*, 4 (Dec. 2024), at https://papers.ssrn.com/sol3/papers.cfm?abstract_id=4698374.

[8] Benjamin Shiller et al., *The Effect of Ad Blocking on Website Traffic & Quality*, 49 RAND J. ECON. 43, 51-58 (2018).

[9] A reduction in output results in a movement up a demand curve, reducing surplus. A reduction in quality results in the demand curve shifting in, also reducing surplus. Typically measuring changes in surplus due to changes in (or movements along) demand curves requires price variation.

find that the median consumer would need to be compensated $1,818 to forgo online videos, social media, messaging, and music for a year.[10] In other words, consumers appear to highly value online services that personalize content with user data.[11]

Another factor for the PWG to consider is that in addition to the potential loss in surplus from lower levels of quality and output, research suggests that privacy regulation can negatively impact competition. For example, several studies find that the GDPR is associated with increases in the market shares of large third-party data vendors.[12] Further, recent research on Apple's ATT has also found evidence of downstream negative impacts on firms that relied on Meta-based advertisements to generate sales; the impact was disproportionately felt by smaller firms.[13] Relatedly, Jia et al. find that the GDPR, by increasing compliance costs and reducing the expected revenue streams from consumer data, significantly reduced venture capital investment in EU technology startups—a result that appears to be persistent.[14]

III. Measuring Benefits from Privacy Regulation

Regulating firms' ability to collect and use consumer data is also likely to provide benefits from increased privacy. When estimating privacy benefits from any legislative framework, we urge the PWG to rely on revealed preferences (RP)—actual choices in the face of constraints—rather than stated preferences (SP)—e.g., surveys and polls—where possible. In what has come to be known as the "privacy paradox," SP tend to show that consumers care deeply about privacy, but RP suggest that they are willing to share personal information for relatively modest compensation or to obtain free content or services.[15]

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[10] Brynjolfsson et al., *Using Massive Online Choice Experiments to Measure Changes in Well-being*, 116 PROCEEDINGS OF THE NAT'L ACADEMY OF SCIENCES 7250 (2019).

[11] The marginal value of lost content from reduced personalization is uncertain. It could be that lost content is of low value (because it was at the margin of creation), or quality might be stochastic, so that some or much of the lost content would have been quite valuable *ex post*.

[12] *See* Garrett A. Johnson, Scott K. Shriver, & Samuel G. Goldberg, *Privacy & Market Concentration: Intended & Unintended Consequences of the GDPR*, 69 MGM'T SCI. 5695 (2023); s*ee also* Christian Peukert et al., *Regulatory Spillovers and Data Governance: Evidence From the GDPR*, 41 MARKETING SCI. 746 (2022). In related research, both Johnson et al., *supra* note 2, and Kircher & Foederer, *supra* note 2, find that negative impacts are concentrated in smaller content providers.

[13] Guy Aridor et al., *Evaluating the Impact of Privacy Regulation on E-Commerce Firms: Evidence from Apple's App Tracking Transparency* (Dec. 2024), at https://papers.ssrn.com/sol3/papers.cfm?abstract_id=4698374.

[14] *See* Jia et al., *The Short-Run Effects of GDPR on Technology Venture Investment*, 40 MARKETING SCI. 661, 667-80 (2021); Jian Jia, et al., *The Persisting Effects of the EU General Data Protection Regulation on Technology Venture Investment*, THE ANTITRUST SOURCE (Jun. 2021).

[15] *See, e.g.*, CMA Report, *supra* note 1, *Appendix F*, at ¶ 82 ("In surveys consumers will say that they are very concerned about their privacy, but they then behave in a way that contradicts this clearly stated preference eg by not taking advantage of privacy controls that are available to them."); Acquisti, Taylor, & Wagman, *The Economics of Privacy*, 54 J. ECON. LIT. 442, 476-478 (2016). For examples of research on consumer value of privacy *see*, e.g., Tesary Lin, *Valuing Intrinsic and Instrumental Preferences for Privacy*, 41 MARKETING SCI. 663, 674 (2022) 674 (in an experimental setting, estimated that on average consumers would be willing to accept $10.34 to reveal income, gender, age, education, relationship status, information about children, zip code, and race); Jeffrey T. Prince & Scott Wallsten, *How Much is Privacy Worth Around the World and Across Platforms?* 31 J. ECON. MGMT & STRATEGY 841, 852-53 (2022) (finding that, on average, US consumers are only willing to pay a monthly fee of $1.82 to avoid location tracking and $3.75 for browsing across different platforms) ; Susan Athey et al., *The Digital Privacy Paradox: Small Money, Small Costs, Small Talk*, NBER Working Paper at 8-14 (Sept. 27, 2017) (finding that sophisticated undergraduate students were willing to trade personal information when presented with small

There are several possible, and non-mutually exclusive explanations for this observation. For example, because the online data ecosystem is opaque and complex, it is likely that consumers lack perfect knowledge to make tradeoffs.[16] At the same time, the gap between RP and SP could be explained by rational choice. As noted, research shows that free online content and services generate tremendous amounts of consumer surplus. Thus, consumers could place a high value on privacy but willingly share information in return for online content or services they value more.

In sum, despite potential limitations, by focusing on consumers' actual choices rather than abstract beliefs, RP studies are likely to provide more accurate information than SP about consumer value of enhanced privacy protections.[17]

IV. Market Provision of Privacy

Another factor the PWG should consider is the extent to which competition over privacy can help ameliorate any failure of the market to provide optimal levels of privacy for consumers. While most firms list their data practices in privacy policies, these disclosures are designed to comply with various legal requirements, not to attract consumers. Nonetheless, under certain general conditions, firms have strong incentives to make data practices that make them more competitive in the marketplace salient to consumers.[18]

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costs to protect (or small incentives to reveal) this information regardless of a student's stated privacy preferences); Michael Kummer & Patrick Schulte, *When Private Information Settles the Bill: Money and Privacy in Google's Market for Smartphone Applications*, 65 MGMT. SCI. 3470, 3477 (2019) (finding implied estimates that consumers are willing to pay .02-.03 Euros to avoid apps with sensitive permissions, and suppliers willing to reduce their prices by .24 Euros for an app with sensitive permissions); Lior Strahilevitz & Matthew B. Kugler, *Is Privacy Policy Language Irrelevant to Consumers?,* 45 J. LEG. STUD. S69, S77-80 (2016) (finding that only 35 percent of fully-informed Gmail users would be willing to pay any amount for a version of Gmail that did not use email content analysis to serve ads, and of this minority, the median willingness to pay was $15); Scott J. Savage & Donald M. Waldman, *Privacy Tradeoffs in Smartphone Applications*, 137 ECONOMIC LETTERS 171, 173-74 (2015) (consumers are willing to pay a one-time fee of $2.28 for an app that does not track browsing and $1.19 for an app that does not track location); Alessandro Acquisti et al, *What is Privacy Worth?*, 42 J. LEG. STUD. 249, 267 (2013) (finding evidence that consumers placed a higher value on privacy when endowed with a privacy-enhancing payment card, and that overwhelming majority of consumers willing to accept $2 to have their gift card purchases tracked); Janice Y. Tsai et al., *The Effect of Online Privacy Information on Purchasing Behavior: An Experimental Study*, 22 INFO. SYS. RES. 254, 264-65 (2011) (in an experimental setting finding that consumers were willing to pay approximately $0.60 more to purchase batteries and sex toys from merchants with better and more salient privacy policies); see *also* Jane Bambauer et al., *A Bad Education,* 2017 IL. L. REV. 109 (2017); Adam S. Chilton & Omri Ben-Shahar, *Simplification of Privacy Disclosures: An Experimental Test,* 45 J. LEG. STUD. 41 (2016).

[16] Further, some authors have explained how cognitive biases may also limit the ability of consumers to make tradeoffs involving privacy. *See, e.g*., Acquisti, Taylor, & Wagman, *supra* note 15.

[17] To be clear, the comment makes no claim that the revealed preference studies provide evidence that consumers do not value privacy. Rather, these studies provide empirical evidence that when faced with a trade-off in the specific context of personal information flows related to commonplace online commercial uses, consumers do not seem to demand large payments to permit such flows.

[18] The so-called "unravelling" hypothesis suggest that market forces can cause firms to disclose all the private information they possess that is valuable to consumer decision-making if costs are sufficiently low, and consumers believe the disclosure. This is because consumers interpret non-disclosing firms as equivalent, which provides incentives for the best among non-disclosing firms to disclose lest they forego a valuable competitive advantage. Through an iterative process, all but the firms who are worst along the relevant quality dimension disclose. The seminal work in developing the unraveling result can be traced to W. Kip Viscusi, *A Note on 'Lemons' Markets with Quality Certification*, 9 BELL J. ECON. 277 (1978); *see generally* Sanford J. Grossman & Oliver D. Hart, *Disclosure Laws and Takeover Bids*, 35 J. FIN. 323 (1980) (describing how when transaction costs are zero, it is optimal for the seller to

The extent to which firms compete over privacy is unclear. While some firms highlight their data practices as a central quality of their product, such claims are absent in most marketing.[19] The relative absence of competition over privacy is likely the result of a lack of consumer demand for privacy relative to other product attributes, coupled with asymmetric information.

Almost all consumers are likely to prefer more privacy to less. But if privacy is negatively correlated with other quality dimensions — for instance, if data collection and use enable personalization, or enhanced monetization from tailored advertisements leads developers to provide richer content and features at lower prices — consumer demand may not respond to increases in privacy. If consumers are not likely to respond to privacy commitments, even if perfectly comprehensible and enforceable, firms rationally will not provide this information, and no amount of forced disclosure will change privacy levels.

At the same time, informational asymmetries may render privacy promises credence attributes, meaning that firms may have difficulty convincing consumers that their claims of superior data practices are valid. While public or private enforcement against companies that misrepresent their privacy policies can help make representations more credible, consumer difficulty detecting lies coupled with the FTC's lack of monetary remedies for most first-time deceptive practices mean that a large portion of deception may go unpunished. This suggests a role for a robust FTC to police fraudulent promises around privacy, especially if such enforcement helps consumers to believe firms' privacy representations, thus facilitating competition over this dimension of quality.

V. Conclusion

The Program on Economics & Privacy believes that empirical evidence is crucial to sound policy making. As the PWG explores a framework for potential privacy legislation, we urge it to consider the large body of economic literature examining the tradeoffs inherent in any regulation of consumer information flows.

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disclose the product's quality); Sanford J. Grossman, *The Informational Role of Warranties and Private Disclosure about Product Quality*, 24 J.L. & ECON. 461 (1981) (describing situations where sellers have an incentive to share information about their products' quality); Paul R. Milgrom, *Good News and Bad News: Representation Theorems and Applications*, 12 BELL J. ECON. 380 (1981) (describing models for how markets respond to "favorableness" news). For a review of the conditions under which unraveling is likely to happen and the empirical literature on unraveling *see* David Dranove & Ginger Zhe Jin, *Quality Disclosure and Certification: Theory and Practice*, 48 J. ECON. LIT. 935 (2010). For empirical studies of unravelling *see, e.g*., Ginger Zhe Jin, Michael Luca & Daniel J. Martin, *Complex Disclosure*, 68 MGMT. SCI. 3236 (2022) (finding experimental evidence that sellers with intermediate qualities tend to send obscure rather than simple disclosures based on a belief — which is confirmed — that consumers will not punish them); Erica Myers, Steven L. Puller & Jeremy West, *Mandatory Energy Efficiency Disclosure in Housing Markets*, 14 AM. ECON. J.: ECON. POL'Y 453, 483 (2022) (finding evidence that the lack of voluntary disclosure of energy audits by home sellers is due to uncertainty about the relative energy efficiency of their homes); Ginger Zhe Jin, Michael Luca & Daniel J. Martin, *Is No News (Perceived as) Bad News?,* 13 AM. ECON. J. MICRO 141, 142–43 (2021) (finding evidence consistent with unraveling theory for the highest-quality sellers but that intermediate-quality sellers fail to disclose due to beliefs that buyers will overestimate the quality of non-disclosing sellers); David Butler & Daniel Read, *Unravelling Theory: Strategic (Non-) Disclosure of Online Ratings*, 12 GAMES 73 (2021) (finding evidence of partial unraveling for hotels); Pauline M. Ippolito & Alan D. Mathios, *Information, Advertising and Health Choices: A Study of the Cereal Market*, 21 RAND J. ECON. 459 (1990) (finding evidence to support unraveling on fiber content in the breakfast cereal market).

[19] *See* James C. Cooper, *Does Privacy Want to Unravel?*, 37 HARV. J.L. & TECH. 1039, 1050-52 (2023).