COMMENT OF THE GLOBAL ANTITRUST INSTITUTE, GEORGE MASON UNIVERSITY SCHOOL OF LAW, ON THE EUROPEAN COMMISSION'S PUBLIC CONSULTATION ON THE REGULATORY ENVIRONMENT FOR PLATFORMS

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This comment is submitted in response to the European Commission's (EC's) public consultation on the Regulatory Environment for Platforms, Online Intermediaries, Data, Cloud Computing, and the Collaborative Economy (the Consultation). We appreciate the opportunity to comment and commend the EC for its commitment to transparency. We submit this comment based upon our extensive experience and expertise in antitrust law, regulation, privacy, and economics.[1]

This comment, which is submitted in conjunction with our response to the EC's online survey, addresses: (1) concerns that the EC's survey methodology and design is not conducive to generating reliable and policy-relevant data; (2) the economic analysis of platforms and multi-sided markets; (3) the dangers to competition and consumers of new ex ante regulation designed to regulate platforms, as opposed to relying upon existing European competition and consumer protection laws to address any potential anticompetitive effects or consumer harm arising from conduct by platform owners; and (4) the economic analysis of privacy and data security and its implications for new regulation.[2]

I. Concerns That the EC's Survey Methodology and Design is Not Conducive to Generating Reliable and Policy-Relevant Data

The usefulness of the information obtained from a survey, as with any scientific

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[1] The Global Antitrust Institute (GAI) at George Mason University School of Law is a leading international platform for research and education that focuses on the legal and economic analysis of key antitrust issues confronting competition agencies and courts around the world. Professor of Law Joshua D. Wright, Ph.D. (economics), is the Executive Director of the GAI and a former U.S. Federal Trade Commissioner. Koren W. Wong-Ervin is the Director of the GAI and former Counsel for Intellectual Property and International Antitrust at the U.S. Federal Trade Commission. Professor of Law Douglas H. Ginsburg is a Senior Judge, United States Court of Appeals for the District of Columbia Circuit, Chairman of the GAI's International Board of Advisors, and a former Assistant Attorney General in charge of the Antitrust Division of the U.S. Department of Justice. Professor of Law Bruce H. Kobayashi, Ph.D. (economics), is a GAI Senior Scholar and Founding Director. Associate Professor of Law James C. Cooper, Ph.D. (economics), is the Director of the Program on Economics and Privacy at the Law & Economics Center, George Mason University School of Law.

[2] The online survey is available at http://ec.europa.eu/digital-agenda/en/news/public-consultation-regulatory-environment-platforms-online-intermediaries-data-and-cloud.

research, depends on the quality of the research design underlying the survey. As explained below, there are several problems with the EC's survey, including its use of "yes/no" questions, a self-select Internet survey approach (with its inherent selection bias), closed-ended questions that do not provide an exhaustive list of response options, and ambiguous and potentially prejudicial questions.

Several common flaws in survey design limit the value of survey results for policy-relevant research; these include flaws in defining the relevant target population, identifying an appropriate sampling framework, and a failure to ask questions that objectively assess opinions on the relevant issues.[3] In addition, online surveys in particular have limitations, including potential problems with the representativeness of the respondents as a sample of the target population.[4] For example, with self-selected Internet surveys, such as the EC's, "participants are very likely to self-select on the basis of the nature of the topic. These self-selected pseudosurveys resemble reader polls published in magazines and do not meet standard criteria for legitimate surveys admissible in [U.S.] courts."[5] Even when there are a large number or respondents, the size of the sample cannot cure the likely participation bias in such voluntary polls.[6] There is also a growing body of research indicating that the format of the survey can significantly affect the quality of survey responses.[7] Lastly, a survey designed to test a causal proposition should include an appropriate control group or question.[8]

The U.S. Federal Judiciary's *Reference Manual on Scientific Evidence* explains that survey questions must be framed in a manner that is clear, precise, and unbiased.[9] For example, some respondents may have no opinion on a particular question and thus it is important to include options for respondents such as "don't know" or "no opinion." By signaling to the respondent that it is appropriate not to have an opinion, the question

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[3] *See* Shari Seidman Diamond, *Reference Guide on Survey Research*, *in* REFERENCE MANUAL ON SCIENTIFIC EVIDENCE 359, 367 (3d ed. 2011), http://www.fjc.gov/public/pdf.nsf/lookup/SciMan3D01.pdf/$file/SciMan3D01.pdf.

[4] *See id.* at 406-09.

[5] *Id.* at 407-08 (citation omitted).

[6] For example, a self-selected Internet survey conducted by the National Geographic Society through its website attracted 50,000 responses; a comparison of the Canadian respondents with data from the Canadian General Society Survey telephone survey conducted using random digital dialing showed marked differences on a variety of response measures. *See* MICK P. COUPER, *Web Surveys: A Review of Issues and Approaches*, 64 PUB. OPINION Q. 464, 480-81 (2000).

[7] *See, e.g.*, Mick P. Couper et al., *What They See Is What We Get: Response Options for Web Surveys*, 22 SOC. SCI. COMPUTER REV. 111 (2004) (comparing order effects with radio button and drop-box formats); Andy Petychev et al., *Web Survey Design: Paging Versus Scrolling*, 70 PUB. OP. Q. 596 (2006) (comparing the effects of presenting survey questions in a multitude of short pages or in long scrollable pages).

[8] Diamond, *supra* note 3, at 397-401.

[9] *Id.* at 387.

reduces the demand for an answer and, as a result, the inclination to hazard a guess just to comply. Failure to do so can result in significant distortions in survey results. "Studies indicate that, although the relative distribution of the respondents selecting the listed choices is unlikely to change dramatically, presentation of an explicit "don't know" or "no opinion" alternative commonly leads to a 20-25% increase in the proportion of respondents selecting that response."[10] In the EC's survey, some of the questions include such options, but many questions do not.

Open-ended and closed-ended questions may also elicit very different responses.[11] Open-ended questions give respondents fewer hints about expected or preferred answers, and pre-coded responses on a closed-ended question (i.e., when the possible answers are defined in advance and given a corresponding number or letter code) may direct the respondent away from or toward a particular response. Furthermore, "[i]f the respondent is asked to choose one response from among several choices, the response chosen will be meaningful only if the list of choices is exhaustive . . . . If the list of possible choices is incomplete, a respondent may be forced to choose one that does not express his or her opinion."[12]

One particular form of closed-ended question that typically produces some distortion in results is the yes/no question, which is the form of many of the questions in the EC's survey. "'The tendency to endorse any assertion made in a question, regardless of its content,' is a systematic source of bias that has produced an inflation effect of 10% across a number of studies."[13] Only when control groups or control questions are added to the survey design can this question format provide reasonably reliable responses.[14]

Some of the problematic questions in the EC's survey include:

- A question on online platforms that asks how problems faced by consumers or suppliers when dealing with online platforms can be addressed, and then provides the following response options: "market dynamics"/"regulatory measures"/"self-regulatory,"/"a combination of the above." The fourth response option is unclear and therefore unlikely to yield meaningful responses. Any particular respondent choosing the fourth response may favor a combination of the first and second,

[10] *Id.* at 390 (citing HOWARD SCHUMAN & STANLEY PRESSER, QUESTIONS AND ANSWERS IN ATTITUDE SURVEYS: EXPERIMENTS ON QUESTION FORM, WORDING AND CONTEXT 113-146 (1981) [hereinafter SCHUMAN & PRESSER]).

[11] Howard Schuman & Stanley Presser, *Question Wording as an Independent Variable in Survey Analysis*, 6 SOC. METHODS & RES. 151 (1977); SCHUMAN & PRESSER, *supra* note 10 at 79-112.

[12] Diamond, *supra* note 3, at 393 (citing American Home Prods. Corp. v. Johnson & Johnson, 654 F. *Supp*. 568, 581 (S.D.N.Y 1987)).

[13] *Id.* at 394 (quoting Jon A. Krosnick, *Survey Research*, 50 ANN. REV. PSYCHOL. 537, 552 (1999)).

[14] *Id.*

first and third, second and third, or first, second, and third options.

- The questions on the transparency of online platforms ask whether respondents think online platforms should "ensure . . . more transparency" in relation to information required by consumer law, information in response to a search query by the user, information on who the supplier is, and/or "information to discourage misleading marketing by professional suppliers." These questions are not likely to yield meaningful responses because, among other things, they do not include any reference to the value consumers place on additional transparency, whether and how much consumers might be willing to pay for additional information, or the likely costs to consumers of requiring platforms to provide these additional benefits.

- One question on the transparency of online platforms asks respondents to "[p]lease explain how the transparency of reputation systems and other trust mechanisms could be improved?" The question assumes, without asking whether, the respondent believes such services are in need of improvement.

- One question on the ability of consumers and traders to move from one platform to another asks, "[s]hould there be a mandatory requirement allowing non-personal data to be easily extracted and moved between comparable online services? Yes/No." As with the numerous other questions in the survey that do not offer a "don't know" or "no opinion" option, this question is likely to bias the responses by, among other things, demanding an answer and, as a result, encouraging the respondent to hazard a guess in order to comply. For example, a respondent may want to select "don't know" because he requires additional information, such as the costs and benefits of the requirement in question.

- One question on data access and transfer asks, "[i]n order to ensure the free flow of data within the European Union, in your opinion, regulating access to, transfer and the use of non-personal data at European level is: Necessary/Not Necessary." For the reasons set forth immediately above, this question is also likely to bias the responses of persons who have a more nuanced view.

II. The Economics of Platforms and Multi-Sided Markets

To better understand the economic impact of the regulation of platforms, regulators need to recognize the complexities of and relationships between various entities affecting their operation, success, and ultimate viability. An important economic feature of these complexities and interdependencies is that even relatively small changes can hinder the efficient operation of platforms and negatively affect innovation.[15]

[15] Joshua D. Wright & John Yun, *Stop Chug-a-lug-a-lugin 5 Miles an Hour on Your International Harvester: How Modern Economics Brings the FTC's Unfairness Analysis Up to Speed with Digital Platforms*, GEO. WASH. L. REV. (forthcoming 2016).

Although there is no canonical definition of a platform, Andrei Hagiu and Julian Wright offer a useful starting point in their paper, *Multi-Sided Platforms*.[16] First, platforms "enable *direct* interactions between" two or more groups, e.g., buyers and sellers of used goods.[17] Second, each group is *affiliated* with the platform in some manner—typically through "platform-specific investments."[18] Jean-Charles Rochet and Jean Tirole further explain that "a market is two-sided if the platform can affect the volume of transactions by charging more to one side of the market and reducing the price paid by the other side by an equal amount; in other words, the price structure matters, and platforms must design it so as to bring both sides on board."[19]

A defining feature of platforms is the interrelationship among the various groups—e.g., suppliers and customers—with each other and with the platform.[20] These relationships and interactions often result in platform-specific investments.[21] The same interdependencies also prompt platforms to balance the needs of the various groups when making pricing and design decisions. For example, Spotify's free version (which includes advertisements) offers millions of digital songs and a variety of features in order to attract users, who, in turn, attracts advertisers. Spotify's business decisions must balance the preferences of these two groups. More ads increase short-run revenue but likely decrease the value of the service to users. Fewer ads increase the value for users but may lower the value of the platform to advertisers. A more attractive design and higher quality streaming increase the quality of the platform to both users and advertisers.

The relationships of various groups to the platform and to each other can create pricing incentives that differ markedly from nonplatform markets. For instance, profit-maximization may involve charging one group less than the marginal cost to serve that group, e.g., by giving them free access or even a subsidy to participate.[22] For example, Spotify's basic version is offered free of charge to end-user consumers despite the fact that it is likely costly to operate. Yet, free access is perfectly consistent with the incentives of the platform because if Spotify were to charge all users to access the platform, then there would be fewer users, which would mean fewer advertisers. With fewer advertisers, the platform's revenues would fall. Therefore, it is reasonable to infer

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[16] *See* Andrei Hagiu & Julian Wright, *Multi-Sided Platforms* 4–7 (Harvard Bus. Sch., Working Paper No. 15-037, 2015), http://www.hbs.edu/faculty/Pages/download.aspx?name=15-037.pdf.

[17] *Id.* at 5 (emphasis added).

[18] *Id.*

[19] Jean-Charles Rochet & Jean Tirole, *Two-Sided Markets: A Progress Report*, 37 RAND J. ECON. 645, 664-65 (2006).

[20] Hagiu & Wright, *supra* note 16, at 5.

[21] *See id.*

[22] *See* David S. Evans & Michael Noel, *Defining Antitrust Markets When Firms Operate Two-Sided Platforms*, 2005 COLUM. BUS. L. REV. 667, 668, 681–82 (2005).

that the revenue gain from charging for access would not compensate for the loss from lower ad revenue.[23]

Similarly, when a platform implements a design change, it affects demand *across the entire platform.*[24] Suppose a platform introduces a design feature—for example, fingerprint technology to "verify" purchases—that reduces overall transaction costs. The design change makes the platform company better off while also increasing consumer welfare through improving the user experience and increasing market output through greater app purchases. One fundamental insight from basic platform economics—and in particular, interdependent demand—is that consumer welfare depends upon aggregating effects across different sides of the platform. The critical point is that, when a product design change is made, the benefits and costs of the change are felt throughout the entire platform.[25] Focusing on only a certain segment of the platform, e.g., disregarding the inherent complementarity between Apple's hardware sales and its operating system design, ignores the various relationships, how the platform monetizes its services, and how these interactions ultimately affect consumers.

In contrast, firms making pricing and design decisions in nonplatform markets generally need not consider differential impacts of those decisions on various market participants.[26] Below-cost pricing of a tractor, for example, cannot be offset through increased participation from the tractor's input suppliers, as this idea is effectively meaningless in a nonplatform setting. Thus, when a tractor manufacturer makes pricing or product design decisions, including disclosure decisions, it bases those decisions solely upon its own input costs and the direct effect on its consumers.

The economics of platforms and multi-sided markets implies that application of many of the standard regulatory principles applied in the nonplatform setting are likely to lead to perverse results. Indeed, "[t]he economic literature that has developed since 2000 shows robustly that many results derived from models of one-sided businesses generally do not apply to multi-sided platforms that serve different interdependent customer groups."[27]

For example, the existence of demand interdependencies in multi-sided platforms affects commonly used approaches to assessing market power.[28] It is worth noting that

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[23] *See id.* at 675–76 (describing "advertising-supported media").

[24] *See id.* at 669.

[25] *See id.* at 684.

[26] *See id.* at 668.

[27] *See, e.g.*, David S. Evans & Richard Schmalensee, *The Antitrust Analysis of Multi-Sided Platform Businesses* 4 (Chicago Inst. for L. & Econ., Working Paper No. 623, 2013), http://papers.ssrn.com/sol3/papers.cfm?abstract_id=2185373 (surveying the economic literature).

[28] *See, e.g.*, *id.* at 19-20.

there has been a movement in the United States away from focusing upon market definition and market power to infer competitive effects. In particular, the agencies increasingly have shifted their focus to a direct assessment of incentives and competitive effects, as evidenced by the 2010 Horizontal Merger Guidelines, and away from using market shares to predict whether a firm has market power or is likely to increase prices. This is no difference for multi-sided markets. However, multi-sided platforms do raise additional issues. As David Evans and Richard Schmalensee explain:

> [I]t is not always clear how to compute "share" for multi-sided firms. Consider a software platform. One of the main "products" that software developers get from the platform is access to users; one of the main "products" that users get is the access to software developers. One could compare shares of each sides across platforms and then make a judgment about market power based on looking at the shares for both sides, but there is no reason to expect those shares to be equal.[29]

In addition, multi-sided platforms often provide one of their products free of charge or at a subsidized price, which would make it impossible to calculate a value-based market share, as is ordinarily recommended, since the price does not reflect the value received by the user.[30]

Several authors have warned against basing judgments about market power on analysis of only a single side of a multi-sided platform.[31] It is empirically common for platforms to have prices that are significantly above marginal cost on one side and at or below marginal cost on the other side.[32] A platform could have a monopoly in which it earns significantly more than a competitive rate of return yet price at or below marginal cost on the other side of the platform. Examining price on that side alone would result in a false negative test result for market power. Conversely, a platform could earn only a competitive rate of return even while pricing significantly above marginal cost on one side. Examining price on that side alone would result in a false positive test result for market power.[33]

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[29] *Id.* at 20.

[30] *Id.*

[31] Elena Argentesi & Lapo Filistrucchi, *Estimating Market Power in a Two-Sided Market: The Case of Newspapers,* 22 J. APPL. ECON. 1247 (2007); David S. Evans, *The Antitrust Economics of Multi-Sided Platform Markets,* 20 YALE J. ON REG. 325 (2003); Minjae Song, *Estimating Platform Market Power in Two-Sided Markets with an Application to Magazine Advertising,* (Simon Sch. of Bus. Admin., Univ. of Rochester, Working Paper No. FR 11-22, 2011), http://papers.ssrn.com/sol3/papers.cfm?abstract_id=1908621; E. Glen Weyl, *A Price Theory of Multi-Sided Platforms*, 100 AM. ECON. R. 1642 (2010); Julian Wright, *One-Sided Logic in Two-Sided Markets*, 3 REV. NETWORK ECON. 44 (2004).

[32] Evans & Schmalensee, *supra* note 27 at 20.

[33] *Id.*

Another example involves market definition, namely the consequences of applying analytical tools that were developed for single-sided firms to defining a product offered on one side of a multi-sided platform. For instance, David Evans and Michael Noel demonstrated that the failure to consider positive feedback effects in demand can result in significantly overstating or understating the breadth of the market, depending on the analytical approach.[34]

> Consider the case of a merger between two symmetric MSPs [multi-sided platforms] that serve the same customer groups A and B. To define the market an analyst proceeds by starting with the merger of the products that serve demand for, say, side A because that is the focus of the competition concern. The set of products is expanded until a hypothetical monopolist over that set of products could raise price by, say, five percent or more on each of those products. That set of products then defines the market for analysis.
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> However, by ignoring side B the analyst fails to consider that the hypothetical price increase reduces the number of side A customers available to side B, which thereby reduces the prices that side B customers will pay, and furthermore reduces the number of side B customers available to side A, which in turn reduces the prices that side A customers will pay. The link between sides A and B reduces the profitability of any price increase. Therefore, the market would be drawn too narrowly and estimates of market concentration too high, because the standard approach fails to consider the tempering effects on price coming from the other side.
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> The mistake though is more profound. . . . Failure to consider those multi-sided relationships can result in Type I and Type II errors.[35]

Other examples involve mergers and exclusionary conduct. Economists have developed a variety of analytical tools and models to help analyze whether mergers and particular business practices are likely to harm consumers, and the results of these analytical tools and models change when the assumptions used change.[36] With respect to exclusionary conduct in particular, most of the theoretical models used in antitrust analysis assume, explicitly or implicitly, that the businesses considered are single-sided. A relatively small number of authors have extended some of these models to the multi-sided platform context. David Evans & Richard Schmalensee surveyed this work and

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[34] David S. Evans & Michael Noel, *Defining Antitrust Markets When Firms Operate Two-Sided Platforms,* 3 COLUMBIA BUS. L. REV. 101 (2005); David S. Evans & Michael D. Noel, *The Analysis of Mergers that Involve Multisided Platform Businesses*, 4 J. COMP. L. & ECON. 663 (2008) [hereinafter Evans & Noel (2008)].

[35] Evans & Noel (2008), *supra* note 34 at 672.

[36] Evans & Schmalensee, *supra* note 27 at 23-35 (collecting studies).

found that, overall, the work to date shows "that one-sided results generally do not apply to multi-sided firms."[37]

Lastly, when it comes to efficiencies, the main takeaway is that by increasing demand on one side a platform can increase its value to agents on the other sides through indirect network externalities, which "is a real social benefit, and the platform is unlikely to be able to capture it all."[38] Furthermore, a platform could increase overall consumer welfare if it increased the value it delivered by more than it increased the prices it charged. In evaluating changes, regulators should consider overall consumer welfare as opposed to focusing solely on losses to one group of consumers while ignoring gains by another group.[39]

III. The Dangers of Ex Post Regulation and the Benefits of Relying on Existing European Competition and Consumer Protection Laws

Creating ex ante regulation to prevent undesirable conduct by platforms risks sacrificing the efficiencies and other benefits of platforms by imposing potentially rigid rules that lack the flexibility of existing European competition and consumer protection laws. One of the main benefits of relying on existing competition and consumer protection laws is that they proceed primarily through fact-specific case-by-case analyses, which are more likely to maximize consumer welfare than are ex ante regulations.

In discussing this topic, it is worthwhile to consider generally the economics of regulation, including the theoretical basis for economic regulation, and the problems of regulatory capture and of "public choice," as explained below.

The theoretical basis for economic regulation rests on the idea that regulation *may* serve to improve the allocation of resources in a particular industry compared to the outcome in the absence of regulation. Successful identification of a market imperfection, or an allocation that differs from the "first-best" allocation of resources under ideal conditions, is a necessary but not a sufficient condition to justify regulation on economic grounds. Once a potential market imperfection has been identified, the proposed regulatory solution must itself survive a rigorous economic cost-benefit analysis, one that factors in the potential for imperfect regulation and unintended consequences as well as the effect of alternative solutions based on private ordering.[40] Evaluating the costs and

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[37] *Id.* at 4.

[38] *Id.* at 35.

[39] *See id.*

[40] *See* Joshua D. Wright, Comm'r, Fed. Trade Comm'n, Regulation in High-Tech Markets: Public Choice, Regulatory Capture, and the FTC, Remarks at the Big Ideas about Information Lecture (Apr. 2, 2015), https://www.ftc.gov/system/files/documents/public_statements/634631/150402clemson.pdf [hereinafter Remarks of Federal Trade Commissioner Wright]. *See also* Harold Demsetz, *Information and Efficiency: Another Viewpoint*, 12 J. L. & ECON. 1, 1-22 (1969).

benefits of regulatory alternatives requires a solid understanding of the market imperfection to be solved as well as mechanisms used by market participants to mitigate the effects of those imperfections.

In general, the economic literature on regulation has focused on three primary sources of market imperfections: externalities, asymmetric information, and monopolization.

An externality occurs when the parties to a market transaction do not internalize all the costs and benefits associated with their transaction. In other words, an externality occurs when the activities of one party impose uncompensated benefits or costs on other parties. When negative externalities are present, a free market results in overproduction. When positive externalities are present, a free market results in underproduction. As such, there may be some rational economic basis for government intervention to encourage certain behavior or transactions. Of course, while spillover effects of economic activity are ubiquitous in the modern economy, most do not require any sort of regulation, either because they do not generate externalities when private actors can internalize the externalities at relatively low cost or, even if they cannot, because the cost of regulation would exceed the social cost imposed by the externality.[41]

A second source of market imperfections involves the existence of asymmetric information. For example, market imperfections may arise because sellers have more information than buyers. The efficient level of information is not necessarily perfect or "total" information because information is costly to supply. In markets for goods and services, market imperfections associated with inadequate or asymmetric information are often handled without government intervention, for example, through firms' strategies to credibly signal information to consumers, the rise of review sites that collect information about the quality of goods and service, and firms own investments in reputation. Consumer protection laws also generally prohibit deceptive statements and omissions that induce transactions that would not have occurred in the absence of market imperfection.

The third source of market imperfection involves monopoly power. Although a firm's acquisition of monopoly power is often temporary because new firms enter the market over time, reducing the incumbent's power, economic welfare nevertheless suffers when a firm or firms exercise market power and increase the market price beyond what they would obtain in a competitive market. Competition laws prohibit the unlawful acquisition of market power that harms competition, and are sufficient to address any harms associated with monopoly power (or abuse of a dominant market position).

In general, none of the market imperfections described above appear to exist in the platform sector. Instead, this sector appears to be characterized by a wealth of competitive high-tech markets and platforms, with a plethora of new entry and innovation, all signs of competitive markets. Thus, the necessary condition needed to

[41] *See* Dave D. Haddock, *Irrelevant Externality Angst*, 19 J. INTERDISC. ECON. 3 (2007).

justify regulation is generally absent. Moreover, we argue below that the imposition of regulation is likely to make things worse for at least two reasons.

The first reason is that an ex ante system of regulation for complicated platform markets is likely to harm competition and consumers by chilling procompetitive and otherwise beneficial conduct. Relying on existing European competition and consumer protection laws can solve this problem because they serve to identify problematic conduct on a case-by-case basis, and their analysis is sufficiently flexible to take into consideration the unique characteristics and the economics of platform markets.

Any legal framework that seeks to maximize consumer welfare must include an assessment of: (1) the probability that its application will result in errors, either false positives in which arrangements that benefit consumers are prohibited, or false negatives in which arrangements that harm consumers are allowed; and (2) the administrative costs of implementing the system.[42] A framework that focuses upon minimizing the social costs of false positives, false negatives, and administrative costs is most likely to generate the highest rate of return for consumers.

The second reason to be concerned involves public choice concerns. In other words, in the context of potentially disruptive forms of competition through new technologies or business models (which can spur economic growth and generate enormous benefits to consumers), we should generally be skeptical of regulatory efforts that have the effect of favoring incumbent industry participants.[43]

In general, incumbent firms (such as taxicab companies) can respond to disruptive forms of competition from a new market entrant (such as Uber) in one of three ways: (1) compete on the merits, i.e., on price, quality, efficiency in operations, further innovation, and so on; (2) engage in exclusionary conduct that raises the entrant's cost of competing in the marketplace in order to stave off the new competition and maintain the incumbent's monopoly power; and (3) attempt to raise rivals' costs by influencing the

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[42] *See* Thomas W. Hazlett & Joshua D. Wright, *The Law and Economics of Network Neutrality*, 45 IND. L. REV. 767, 798 (2012).

[43] Remarks of Federal Trade Commissioner Wright, *supra* note 40; *see also generally* FED. TRADE COMM'N, PREPARED STATEMENT OF THE FEDERAL TRADE COMMISSION ON COMPETITION AND THE POTENTIAL COSTS AND BENEFITS OF PROFESSIONAL LICENSURE BEFORE THE COMMITTEE ON SMALL BUSINESS, U.S. HOUSE OF REPRESENTATIVES 2 (2014) (raising concerns about "regulatory choices that favor incumbents at the expense of competition and the public"), https://www.ftc.gov/system/files/documents/public_statements/568171/140716professionallicensurehouse.pdf; Edith Ramirez, Chairwoman, Fed. Trade Comm'n, Keynote Remarks at the 42nd Annual Conference on International Antitrust Law and Policy 7 (Oct. 2, 2015) ("A related concern is that existing regulatory bodies may be controlled or influenced by the very interests they regulate, and that incumbents will use the existing regulatory structure to deter new, potentially disruptive entry."), https://www.ftc.gov/system/files/documents/public_statements/810851/151002fordhamremarks.pdf.

public sector, for example, by influencing lawmakers and regulators to act in ways that inhibit new competition in the marketplace.[44]

In general, the threat to competition posed by attempts to use public restraints to raise rivals' costs and harm competition are more pernicious than their private sector counterparts because this form of rent-seeking does not have offsetting procompetitive virtues, and regulations that distort (or even destroy) competition are more insulated from market forces that would otherwise protect consumers.[45] Pubic choice economists main observation is that "[r]egulation is likely to be biased toward benefitting interest groups that are better organized . . . and gain more from favorable legislation[, and] is likely to benefit small interest groups with strongly felt preferences at the cost of large interest groups with weakly felt preferences."[46]

Public choice and regulatory economics provide insights into the causes of the observed fact that regulation often favors producers rather than consumers. Public choice economics, regulatory economics, and the history of regulation in the United States also offer many lessens to the modern regulator. First, absent a significant and identifiable market imperfection, there is no valid basis for an economic regulation. Second, an identifiable market imperfection is a necessary, but not sufficient basis for economic regulation. Other solutions, including private ordering or reliance on existing and more flexible laws, may be preferred options. Third, there should be a strong but rebuttable presumption against regulation favoring incumbents over new entrants or accepting invitations from disgruntled firms to have the competition agencies sue their rivals.

IV. The Economic Analysis of Privacy and Data Security and Its Implications for New Regulation

A central feature of many online platforms is the collection and use of consumer data. For example, some platforms request personal information to use their services, fulfill orders, keep track of consumer inputs, or track browsing and purchasing behavior. These data are used to target advertisements and to customize content. More recently, with the rise of "big data," algorithms also are using large and diverse datasets of consumer information to predict propensities. These practices all create benefits for consumers, but also can give rise to privacy concerns. This section discusses the role of economics in the analysis of these tradeoffs, as well as concerns over the use of big data to engage in differential pricing.

A. Benefit-Cost Framework

As a threshold matter, it is important to note that online platforms (and other actors in the online ecosystem) do not directly benefit from the collection of consumer

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[44] *Id.* at 2-7.

[45] *See, e.g.*, Gordon Tullock, *The Welfare Costs of Tariffs, Monopolies, and Theft*, 5 W. ECON. J. 224 (1967).

[46] W. KIP VISCUSI ET AL., ECONOMICS OF REGULATION AND ANTITRUST 382 (4th ed. 2005).

data. Rather, these data can be monetized only when they are used to provide something of value.[47] For example, richer online profiles mean that consumers receive more relevant offers, which are more likely to lead to a value-creating exchange.[48] Further, as online platforms learn more about their customers, they can personalize content accordingly (e.g., book or movie suggestions, or geographically relevant information) again providing value by making experiences quicker and more seamless. The value consumers derive from these activities is likely to vary; some may derive great value from algorithmic recommendations or targeted ads, while other do not.

The collection and use of personal data creates benefits, but also implicates privacy. Although there are many different definitions and views of privacy, a core element of privacy as it relates to online platforms is the ability to control the amount of personal information that is available to others.[49] Privacy clearly is something of value to most consumers. But this value varies across the population and with context. For example, some people feel no intrusions from collection of their online browsing habits, while others do. The same people who care little about online tracking, however, may derive great value from keeping details about their health conditions, real time location, or children private.

As the discussion above suggests, there is an inherent tradeoff when regulating data flows. Some segments of the population may derive privacy benefits, but retarding firms' ability to collect and use data also results in fewer transactions and a lower quality platform experience, both of which lower consumer welfare. What is more, in light of the recent advent of the "Internet of things" and of big data, restrictions on the collection and use of data can deprive society of benefits outside of the commercial sphere, such as discovering more effective medical treatments, policing strategies, or farming techniques.[50] Accordingly, regulators should employ a benefit-cost framework focused on consumer welfare, and rooted in economic analysis, to guide privacy policy. Such an approach would minimize the ability of regulators to rely on their own subjective notions of privacy, which will increase predictability for businesses and also reduce the gains from—and hence wasteful expenditures on—rent seeking.[51] Further, a focus on consumer welfare will help regulators avoid policies that, although facially appealing, would be detrimental to consumers. There is widespread agreement that the adoption of an economically-grounded consumer welfare standard in competition law has been

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[47] *See* James C. Cooper, *Antitrust and Privacy: Underpants Gnomes, the First Amendment, and Subjectivity*, 20 GEO. MASON L. REV. 1129, 1130 (2013).

[48] *See generally* Howard Beales, *The Value of Behavioral Targeting*, NETWORK ADVER. INITIATIVE (2010), http://www.networkadvertising.org/pdfs/Beales_NAI_Study.pdf; Avi Goldfarb & Catherine E. Tucker, *Privacy Regulation and Online Advertising*, 57 MGMT. SCI. 57 (2011).

[49] *See* Daniel J. Solove, *Conceptualizing Privacy*, 90 CAL. L. REV. 1087, 1109 (2002).

[50] SeeVIKTOR MAYER-SCHONEBERGER & KENNETH CUKIER, BIG DATA (2013).

[51] *See* James C. Cooper, *The Perils of Excessive Discretion: The Elusive Meaning of Unfairness in Section 5 of the FTC Act*, 3 J. ANTITRUST ENFORCEMENT 87 (2015).

extremely beneficial to consumers.[52] A consumer welfare approach to privacy regulation—in contrast to the current approach, which too often relies on surveys, anecdotes, and hypotheticals—similarly would provide benefits to consumers..

In this vein, regulators should avoid relying on survey data ("stated preference") and instead focus to the extent possible on actual tradeoffs made by consumers ("revealed preference"). For example, survey data show that consumers care about privacy, yet revealed preferences suggest their stated concerns may be exaggerated.[53] For example, consumers increasingly participate in online activities that reveal personal data to known and unknown third parties—the percentage on online adults engaging in social media rose from 8 percent in 2005 to 72 percent in 2013,[54] and the health tracking market has exploded in recent years.[55] Although marketplace options exist for those who are privacy-sensitive, we see very meager use of these tools; few bother to opt-out of online tracking or adopt privacy-protecting technology, like the TOR browser or searching via Duck, Duck, Go![56] And the health tracking market has exploded in recent years.[57] Indeed, a recent survey of the privacy literature concludes that the adoption of privacy enhancing technologies has lagged substantially behind the use of information sharing technologies.[58] Researchers who have attempted to measure revealed preferences tend to find that consumers would be willing to accept small discounts and purchase recommendations in exchange for personal data,[59] and that they exhibit little willingness

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[52] *See*, *e.g.*, Joshua D. Wright & Douglas H. Ginsburg, *The Goals of Antitrust: Welfare Trumps Choice*, 81 FORDHAM L. REV. 2405 (2013); Douglas H. Ginsburg, *Judge Bork, Consumer Welfare, and Antitrust Law*, 31 HARV. J.L. & PUB. POL'Y 449 (2008).

[53] MARY MADDEN & LEE RAINIE, PEW RESEARCH CENTER, AMERICANS' ATTITUDES ABOUT PRIVACY, SECURITY, AND SURVEILLANCE 4 (2015) (In a recent Pew Poll, 65 percent of respondents say that "controlling what information is collected about you" is "very important."), http://www.pewinternet.org/2015/05/20/americans-attitudes-about-privacy-security-and-surveillance/.

[54] JOANNA BRENNER & AARON SMITH, PEW RESEARCH CENTER, 72% OF ONLINE ADULTS ARE SOCIAL NETWORKING SITE USERS 2-3 (2013), http://www.pewinternet.org/2013/08/05/72-of-online-adults-are-social-networking-site-users/.

[55] Susannah Fox, *The Self-Tracking Data Explosion*, PEW RESEARCH CENTER (June 4, 2013), http://www.pewinternet.org/2013/06/04/the-self-tracking-data-explosion/.

[56] *See* Allen P. Grunes & Maurice E. Stucke, *No Mistake About It: The Important Role of Antitrust in the Era of Big Data*, ANTITRUST SOURCE, Apr. 2015, at 8-9, http://www.americanbar.org/content/dam/aba/publishing/antitrust_source/apr15_grunes_4_22f.authcheckdam.pdf.

[57] Susannah Fox, *The Self-Tracking Data Explosion*, PEW RESEARCH CENTER (June 4, 2013), http://www.pewinternet.org/2013/06/04/the-self-tracking-data-explosion/.

[58] *See* Alessandro Acquisti et al., *The Economics of Privacy* 37-38, http://papers.ssrn.com/sol3/Papers.cfm?abstract_id=2580411.

[59] *See* Dan Cvrecek, Marek Kumpost, Vashek Matyas & George Danezis, *A Study on the Value of Location Privacy*, Proceedings of the 5th ACM Workshop on Privacy in the Electronic Society (2006). For a review of the empirical literature see Acquisti et al., *supra* note 58, at 39.

to pay to for protection from telemarketers.[60] For example, one study finds that consumers are willing to pay only $1-$4 for a hypothetical smartphone app that conceals location, contacts, text content, or browser history from third-party collectors.[61] Recent work, moreover, suggests that people are more concerned about privacy with respect to proximate observation by individuals than distant observation by computers.[62]

Thus, although consumers tell survey-takers that they are concerned about privacy, consumers' marketplace behavior suggests that their concerns are not sufficient to slow the adoption of services that rely on the collection and use of their data. Consequently, regulatory responses that fail to consider revealed preference, and instead rely on hypotheticals or survey data, i.e., stated preference, may unnecessarily restrict beneficial uses of consumer data.

B. Differential Pricing

Much recent discussion in privacy policy has focused on big data, the general catchall term for the analysis of enormous datasets to tease out correlations and relationships that could not be seen with small data sets.[63] Big data stands to provide tremendous marketplace benefits by reducing asymmetric information; problems of "adverse selection" and "moral hazard" impose real costs on the economy.[64] One area of specific interest has been the use of big data to engage in differential pricing, or what is

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[60] *See* Hal R.Varian, Fredrik Wallenburg & Glenn Woroch, Who Signed Up for the Do Not Call List? (June 15, 2004) (unpublished manuscript), http://eml.berkeley.edu/~woroch/do-not-call.pdf (2004); Ivan P. L. Png, On the Value of Privacy from Telemarketing: Evidence from the "Do Not Call' Registry (June 2007) (unpublished manuscript), http://papers.ssrn.com/sol3/papers.cfm?abstract_id=1000533.

[61] Scott Savage & Donald M. Waldman, The Value of Online Privacy 3 (Oct. 16, 2013) (unpublished manuscript), http://papers.ssrn.com/sol3/papers.cfm?abstract_id=2341311.

[62] Benjamin Wittes & Jodie C. Liu, *The Privacy Paradox: The Privacy Benefits of Privacy Threats* 3, CENTER FOR TECHNOLOGY INNOVATION AT BROOKINGS (2015), http://www.brookings.edu/~/media/research/files/papers/2015/05/21-privacy-paradox-wittes-liu/wittes-and-liu_privacy-paradox_v10.pdf. *See also* Stephanie Mathson & Jeffry Hancks, *Privacy Please? A Comparison Between Self-Checkout and Book Checkout Desk Circulation Rates for LGBT and Other Books*, 4 J. ACCESS SERVS. 27, 28, 33-34 (2007) (finding that self-checkout in libraries has increased the number of LGBT books checked out by students, again suggesting that privacy concerns are reduced when human interaction is removed from the situation).

[63] VIKTOR MAYER-SCHONEBERGER & KENNETH CUKIER, BIG DATA 26 (2013). In addition, big data refers to "things that one can do at a large scale that cannot be done at a smaller one, to extract new insights or create new forms of value." *Id*. at 6.

[64] *See* James C. Cooper, *Separation, Pooling, and Predictive Privacy Harms from Big Data: Confusing Benefits for Costs?* 15-32 (Geo. Mason L. & Econ., Res. Paper No. 15-32, 2015) http://papers.ssrn.com/sol3/papers.cfm?abstract_id=2655794.

also referred to as differential pricing.[65] As discussed in detail below, economic analysis suggests that restrictions on the ability of firms to use big data to tailor consumer prices are likely to reduce welfare.

Differential pricing comes in three varieties: first-, second-, and third-degree. First-degree differential pricing is often referred to as "perfect" differential pricing, as it involves a firm charging each consumer his or her exact willingness to pay. Given the large data demands of engaging in first-degree discrimination, firms instead rely chiefly on less fine market segmentations, either by allowing consumers to self-select based on non-linear pricing schemes or product attributes (second-degree), or by segmenting markets using observable characteristics, such as age, as proxies for willingness to pay (third-degree).

First-degree differential pricing unambiguously increases total welfare because it expands output; consumers whose willingness to pay fell below the uniform price, but above the marginal cost of production, were priced out of the market but are able to participate at lower prices.[66] Although the welfare effects of second- and third-degree differential pricing are indeterminate theoretically, empirical evidence suggests that their use can be welfare-enhancing.[67] The U.S. antitrust authorities have taken the position that differential pricing is unlikely to pose a threat to consumer welfare. For example, neither the Federal Trade Commission nor the Department of Justice's Antitrust Division (DOJ) has challenged differential pricing in decades,[68] and the DOJ sided with the defendant in the most recent antitrust case heard by the Supreme Court that concerned differential pricing, arguing that a ban on differential pricing was likely to harm competition.[69] Indeed, the bi-partisan Antitrust Modernization Commission concluded

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[65] *See, e.g.*, Ryan Calo, *Digital Market Manipulation*, 82 GEO. WASH. L. REV. 995, 1029-30 (2014) (firms will use big data to charge consumers "as much as possible" and to manipulate them to buy products and services that they "[do] not need or need[] less of."); Jennifer Valentino-DeVries et al., *Websites Vary Prices, Deals Based on Users' Information*, WALL ST. J. (Dec. 24, 2012), http://www.wsj.com/articles/SB10001424127887323777204578189391813881534 (finding that differential online pricing based on zip code leads to those in relatively poorer zip codes to pay more).

[66] First-degree differential pricing is welfare-reducing only if the welfare gains from increased output are less than the informational and implementation costs associated with differential pricing. *See*, *e.g.*, Jack Hirshleifer, *The Private and Social Value of Information and the Reward to Inventive Activity*, 61 AM. ECON. REV. 561 (1971).

[67] *See, e.g.,* Igal Hendel & Aviv Nevo, *Intertemporal Differential pricing in Storable Goods Markets*, 103 AM. ECON. REV. 2722 (2013); Phillip Leslie, *Differential pricing in Broadway Theatre*, 35 RAND J. ECON. 520 (2004); Andrew Cohen, *Package Size and differential pricing in the Paper Towel Market*, 26 INT. J. INDUS. ORG. 502 (2008).

[68] *See* ANTITRUST MODERNIZATION COMMISSION, REPORT & RECOMMENDATIONS 318 (2007).

[69] *See* Brief for the United States as Amicus Curiae Supporting Petitioner at 27 & n.15, Volvo Trucks N. Am., Inc. v. Reeder-Simco GMC, Inc., 544 U.S. 164 (2006) (No. 04-905) ("Imposing

that the U.S. law prohibiting differential pricing (the Robinson-Patman Act) should be repealed because it could not be reconciled "with the basic purpose of antitrust laws to protect competition and consumer welfare."[70]

When considering regulation of the ability of firms to use consumer data to charge consumers different prices, four points deserve consideration. First, to the extent that big data-driven differential pricing allows firms to dispense with crude proxies for willingness to pay—age, income, purchase of complementary goods etc.—for more granular targeted pricing, we begin to move toward a world of first-degree differential pricing, which, as discussed above, unambiguously expands the number of consumers who can participate in the market.[71]

Second, there are likely to be improvements in income distribution from more granular dynamic pricing. If a firm can segment markets, optimal pricing requires the market with the most elastic demand to pay the lowest prices.[72] Because price elasticity of demand is a negative function of income, a firm that segments its market into rich and poor consumers would charge a higher price to the former and lower one to the latter.[73] Indeed, one of the few public attempts at dynamic pricing involved Orbitz placing higher-priced hotels more prominently in search results for Mac users under the assumption that Mac users typically are wealthier than PC users.[74]

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liability for differences in concessions offered to dealers bidding on different sales would limit suppliers' ability to tailor prices to the competitive situation, and thus diminish the vigor of interbrand price competition.").

[70] ANTITRUST MODERNIZATION, *supra* note 68, at 322.

[71] This effect is analogous to that recognized by Strahilevitz in conjunction with statistical discrimination. Lior Jacob Strahilevitz, *Privacy versus Antidiscrimination*, 75 U. CHI. L. REV. 363 (2008). Strahelivitz argues that as we move from a world in which parties use protected classes as crude proxies for undesirable economic characteristics to one in which they can measure undesirable economic characteristics directly, statistical discrimination is likely to decline. *Id.* at 364, 371.

[72] This is called Ramsey pricing, and formally requires: $\frac{P_A}{P_B} = \frac{1+\frac{1}{\varepsilon_A}}{1+\frac{1}{\varepsilon_B}}$, where ε_i is the own-price elasticity of demand for good *i*.).

[73] For example, students and the elderly are often offered discounts at movies and restaurants. Further, studies show that the poor respond to excise taxes on cigarettes and alcohol by curtailing their consumption more than the rich. *See, e.g.*, Michael Grossman, Frank J. Chaloupka & Richard Anderson, *A Survey of Economic Models of Addictive Behavior*, 28 J. DRUG ISSUES 631, 635 (1998).

[74] This instance was not really differential pricing because the Mac users were charged the same prices as PC users for the same hotel. More expensive hotels were just more prominently placed for the Mac users. Dana Mattioli, *On Orbitz, Mac Users Steered to Pricier Hotels*, WALL ST. J. (Aug, 23, 2012), http://www.wsj.com/articles/SB10001424052702304458604577488822667325882.

Finally, it is important to note that differential pricing does not occur in a vacuum. Although firms rationally may seek to extract as much surplus as they can from consumers, they are limited in this quest by the fact that in most markets several other firms are trying to accomplish the same thing. To the extent that big data allows firms in a market to target their rivals' customers, it can intensify competition by allowing firms to compete for *each* consumer. In this manner, differential pricing can lead to lower prices for *all* consumers.[75] As such, restrictions on the ability to tailor prices to consumer demand actually would deprive consumers of the benefits of more robust competition.

Finally, any restrictions on differential pricing would be premature. As a recent White House report noted, there is little evidence to suggest that firms are engaging in the practice.[76] Any regulatory response should wait until there is evidence to suggest that differential pricing is actually harmful to consumers.

V. Conclusion

We appreciate the opportunity to comment and would be happy to respond to any questions the EC may have regarding this comment.

[75] *See* Lars A. Stole, *Differential pricing & Competition*, *in* 3 HANDBOOK OF INDUSTRIAL ORGANIZATION 2221 (2007); Kenneth S. Corts, *Third Degree Differential pricing in Oligopoly: All-Out Competition and Strategic Commitment*, 29 RAND J. ECON. 306 (1998); Jacques-Francois Thisse & Xavier Vives, *On the Strategic Choice of Spatial Price Policy*, 78 AM. ECON. REV. 122 (1988). *See also* James C. Cooper et al., *Does Differential pricing Intensify Competition? Implications for Antitrust*, 72 ANTITRUST L.J. 327 (2005).

[76] Executive office of the President, Differential Pricing at 10 (Feb. 2015), at https://www.whitehouse.gov/sites/default/files/whitehouse_files/docs/Big_Data_Report_Nonembargo_v2.pdf.