RESPONSES TO QUESTIONS FOR THE RECORD

SENATE COMMITTEE ON THE JUDICIARY:

HEARING ON UNDERSTANDING THE DIGITAL ADVERTISING ECOSYSTEM AND THE IMPACT OF DATA PRIVACY AND COMPETITION POLICY

AVI GOLDFARB

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Responses provided in *Italics.*

**Senate Judiciary Committee Hearing on
"Understanding the Digital Advertising Ecosystem and the Impact of Data Privacy and
Competition Policy"
Questions for the Record
May 29, 2019
Senator Amy Klobuchar**

Questions for Professor Avi Goldfarb, University of Toronto

Some have argued that the European General Data Protection Regulation will entrench the dominance of large digital platforms like Google and Facebook because they have the resources to adapt to the new rules, while start-ups and smaller rivals will struggle to comply.

- Do you agree?

RESPONSE: *Yes, I agree. This is consistent with some hypotheses I put forward with Catherine Tucker in 2015 and with the early evidence from the GDPR.[1]*

- What can Congress learn from the regulatory activity in Europe as we consider federal data privacy legislation?

RESPONSE: *There is likely to be a tradeoff between privacy regulation and competition. Stricter privacy regulation should help the companies with larger customer bases, more data, and deeper pockets. Importantly, some regulations are more likely to affect competition than others, and so regulation does not necessarily lead to a substantial decrease in competition.*

The regulatory burden is particularly high for small firms and startups in these instances: (1) if the compliance costs are high, (2) if there is no way for smaller firms to combine different data sources, and (3) if regulation means that new customers need to go through additional steps when signing up for a digital service.

I suggest two ways to reduce the burden on small firms and startups:

1) *Regulatory consistency: If regulation is different across jurisdictions, then the compliance costs rise. Deep-pocketed firms will be able to pay these costs while smaller firms may struggle. By "consistency", I do not mean that every jurisdiction needs to have the same rules. Instead, I mean that a company that is compliant in the strictest jurisdiction should be compliant in other jurisdictions.*

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[1] *Campbell, Goldfarb, and Tucker. 2015. Privacy Regulation and Market Structure. Journal of Economics and Management Strategy 24(1), 47-73.*
Jia, Jin, and Wagman. 2018. The short-run effects of GDPR on technology venture investments. Working paper. University of Maryland.
Goldberg, Johnson, and Shriver. 2019. Regulating privacy online: An early look at Europe's GDPR. Working paper. Boston University.

2) *Data portability: Many proposed privacy regulations would restrict the ability to pool data across firms. This advantages large firms that can collect data on consumers in a wide variety of settings. GDPR has a provision on data portability, allowing individuals to download data from one firm and provide it to another. To the extent that smaller firms and startups take advantage of data portability, it could provide a path through which smaller companies could access the data required for innovation.*

One example of the usefulness of data portability comes from the Instagram sign-up process. It is possible to give Instagram (which is owned by Facebook) access to your Facebook contact list. This makes Instagram much more useful to new customers, as they can easily connect with their existing Facebook contacts when they join Instagram. Access to this information is also useful for other companies, as well as consumers who could benefit from having the choice to provide their contact list. While in some cases such information is already available, clear rules on data portability would force large companies to provide individual consumers with the ability to take data (about that individual collected by the large company) and to provide it to a potential competitor.

I want to note one important caveat to the potential for data portability to reduce the burden on smaller firms and startups: So far, I have not seen evidence that this is working in Europe. In particular, for data portability to work, individuals need to be able to download the data from one company and then give it to another. Currently, this requires some technical skills. With time, standards or intermediaries may arise that facilitate data portability. In the absence of such changes to the market, it will be difficult for startups to take advantage of this.

The above discussion might suggest that the advantage for large firms from data could be solved by restricting data flows within large companies. For example, the law could restrict the ability of Google to use search data to provide YouTube recommendations or improve maps. While this would help address some domestic competition issues, it would do so at the cost of innovation. Much innovation by digital platform companies such as Google, Facebook, Tencent, and Alibaba arises through the combination of different types of data.[2] For example, search technology makes YouTube easier to navigate. Addressing the competition issue by forcing the leading American companies to silo the data they collect would limit their ability to innovate. In my opinion, regulation that helps small and startup firms compete by giving customers the choice of data portability or reducing the regulatory burden is preferable to regulation that limits what the larger companies can do with data.

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[2] Goldfarb and Tucker. 2012. Privacy and Innovation. Innovation Policy and the Economy 12(1), 65-90.

"Understanding The Digital Advertising Ecosystem And The Impact Of Data Privacy And Competition Policy"
Questions for the Record
Submitted May 28, 2019

QUESTIONS FROM SENATOR WHITEHOUSE

Questions for All Witnesses. Avi Goldfarb Response.

1. As we consider federal legislation regulating online data collection, data privacy, and data security, what are the most exploitative practices used to coerce consumers into granting consent that federal law should prohibit?

   RESPONSE: Before responding, I want to note that I have not researched the details of different forms of consent-based privacy regulation. The ideas in this response therefore come from my understanding of the work of other scholars.

   Consent-based privacy regulations are flawed in the sense that few consumers read the privacy policies, and even those that read the privacy policies are likely to struggle to understand them.[3] As such, regulations that mandate consent can be misleading if they are not readily understood. When consumers perceive that they have control over how data is used, they provide more personal information.[4] Practices that falsely give consumers the illusion of control therefore have potential to cause harm. Despite this harm, I struggled to identify a specific practice that should be prohibited that is not already illegal under current consumer protection law.

2. Are there best practices with respect to customer consent that we should use to model federal legislation?

   RESPONSE: Effective consent-based policies should be readily understood by individuals. It should be clear what kind of data is being used (e.g. location data, photo data, etc.), and there should be some standardization across contexts (so that the definition of location data is consistent across companies).

   More generally, past federal privacy regulation may provide a good starting point for future regulation. Two regulations that I believe were particularly effective are the Do-Not-Call Implementation Act and the Fair Credit Reporting Act.

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[3] *For discussions of the challenges of consent-based policies see, for example, the work of Lorrie Cranor (http://lorrie.cranor.org/) or Lisa Austin (https://www.law.utoronto.ca/faculty-staff/full-time-faculty/lisa-austin/publications).*
[4] *E.g. Tucker. 2014. Social networks, personalized advertising, and privacy controls. Journal of Marketing Research 51(5), 546-562.*

The Do-Not-Call Implementation Act allows individuals to opt out of being contacted without permission. It has substantially reduced the number of unwanted phone calls and enabled consumer choice. While the digital advertising context has more players and less transparency, the principles of clear consumer opt-out rules could apply.

The Fair Credit Reporting Act gave consumers the right to see the data being used for credit decisions. It also gave consumers the right to check for accuracy. In addition, it had a version of data portability in the sense that many companies could use the credit reports to assess whether to extend credit to new customers. This likely increased competition in credit markets.

Avi Goldfarb
Ellison Professor of Marketing
Rotman School of Management
University of Toronto
Questions for the Record
Submitted May 28, 2019

QUESTIONS FROM SENATOR BOOKER

1. The German Bundeskartellamt now prohibits Facebook from combining data gathered from WhatsApp or Instagram and assigning those data to a Facebook user account without a user's voluntary consent.

    a. Is this the most effective remedy available to address consolidation in the advertising technology market?

RESPONSE: While this remedy may address consolidation, it likely comes at a cost. Much innovation by digital platform companies such as Google, Facebook, Tencent, and Alibaba arises through the combination of different types of data.[5] Addressing the competition issue by forcing the leading American companies to silo the data they collect would limit their ability to innovate. I believe that the best tool for addressing harm from consolidation is antitrust enforcement rather than restrictions on data flows.

    b. Does this one decision in Europe open opportunities for new entrants into the market? Or are the major platforms still too large to compete with?

RESPONSE: I have not seen evidence on the effect of this policy. Given the other changes in European privacy policy, I expect that European innovation in the future will be in industries in which the collection and parsing of consumer data provides little advantage. This is likely to be true of both large and small European companies. In the United States, there continues to be innovation in data-driven advertising technology, both by established players and startups.

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[5] *Goldfarb and Tucker. 2012. Privacy and Innovation. Innovation Policy and the Economy 12(1), 65-90.*

2. The Microsoft, IBM, and AT&T antitrust cases each took the better part of a decade and were prohibitively expensive. However, Professor Tim Wu of Columbia Law School has argued that the IBM case was worth bringing because—despite the costs and delays—the litigation immediately caused IBM to change some of its anticompetitive conduct. Others have made similar claims about Microsoft.

   Do you believe that society and industry can benefit from enforcement agencies simply commencing antitrust litigation?

RESPONSE: *In my opinion, the enforcement agencies should only bring cases for which they believe the law has been broken and for which they believe they can win. In all of the above-mentioned cases, there were good arguments supporting the enforcement agency positions.[6]*

3. Apple dominates podcast listening via its podcast app. However, because of Apple's privacy policies, podcast advertisers complain that they receive almost no data from Apple beyond anonymized user statistics. For example, a brand purchasing a web ad can tell how many people viewed it, how many people clicked on it, and, with cookies, possibly how many people visited the website without clicking through. However, generally speaking, when a brand purchases a podcast ad, they cannot even be certain about how many people listened to the ad.

   Furthermore, a recent PricewaterhouseCoopers analysis of the media marketplace predicts that increased consolidation is a foregone conclusion in the podcast industry: "The podcast market is ripe for M&A activity, as potential targets in the space include content networks, hosting services, distribution platforms, and advertising and analytics services."[3] Indeed, Spotify recently purchased the podcasting firms Gimlet and Anchor for a combined $340 million.

   a. Do you believe that a wave of consolidation in the podcast market is inevitable?

   b. Why did this consolidation not take place earlier? Did Apple's focus on privacy change the way the podcast advertising market developed?

RESPONSE: *While shakeouts are common in new industries, it is possible that privacy policy has led to a consolidation. Such an effect would be consistent with research showing that access to data confers advantage. For example, the book* Streaming, Sharing, Stealing *argues that Netflix, Apple, Spotify, and Amazon have an advantage over the older television, music, and movie studios because the technology companies systematically collect and analyze data about consumer preferences.[7] Put differently, there are likely many factors behind any consolidation of the podcast market. One important factor is likely the ability of companies like Spotify to access and analyze data.*

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[6] *For example, Bresnahan. 2002.* [The Economics of the Microsoft Case](#). *Stanford Law and Economics Olin Working Paper No. 232.*

[7] *Smith and Telang. 2016. Streaming, Sharing, Stealing: Big Data and the Future of Entertainment. The MIT Press, Cambridge MA.*

4. The major digital advertising markets essentially operate as black-box auctions. Each platform runs its own internal exchange and, in the milliseconds required to load a page, makes decisions about the ads you will be served. At the same time, advertising fraud is rampant, with computer programs (bots) either creating fake traffic on websites with embedded ads or automatically generating clicks on banners. One research firm estimated that ad fraud cost advertisers $19 billion in 2018,[4] the same year in which Facebook, for example, shut down 583 million fake accounts in the first quarter alone.[5] Google recently agreed to refund advertisers for ads purchased on its ad marketplaces that ran on websites with fake traffic.[6] In addition to the trackers meant to follow us from site to site and from device to device, there are also trackers set up simply for verifying ad fraud. Thus, in effect, the watchers themselves are being watched, as companies resist paying for the delivery of ads that never reach the intended audience.

Given the lack of transparency about this process, how confident are you that this is a functioning market? How do we know that it is competitive? How do we know whether it is efficiency enhancing?

RESPONSE: It should be in the interest of the largest technology companies to overcome such fraud and some industry initiatives such as ads.txt have had some success in this direction. Nevertheless, it is clear that advertising fraud persists. The problem of advertising fraud (online or offline) is best-addressed by enforcement of existing laws against fraud.

With respect to advertising efficiency, it is important to recognize that companies have many options for advertising, including television, radio, and billboards. By the revealed preference of companies continuing to advertise online, it suggests online advertising is a relatively efficient form of advertising. This argument does not imply that online advertising is a competitive market, and so it does not answer the slightly different question of whether online advertising could be more efficient through an increase in competition.

Overall, while I am comfortable asserting that this is a broadly functioning market and that it provides an effective way for companies to reach consumers that is distinct from other advertising methods, I do not have enough information to assess whether it is broadly competitive and whether some regulatory action related to transparency or antitrust could make the market more efficient.

5. Last fall, at an FTC hearing on the economics of Big Data and personal information, Professor Alessandro Acquisti of Carnegie Mellon University previewed findings from his research indicating that targeted advertising increases revenue, but only by approximately 4 percent.[7] Meanwhile, purchasing behaviorally targeted ads versus nontargeted ads is orders of magnitude more expensive.

    If ultimately proven true, what should advertisers do with this information?

    RESPONSE: This paper was recently released and has not been peer-reviewed. The findings are in many ways in direct contrast to other work.[8] A discussion of the relative merits of the various methodologies is beyond the scope of this response.

    Should this result prove true, there are several possible explanations that require a recognition of three types of firms in this industry, broadly advertising networks, advertisers, and publishers. First, it could be that the advertising networks capture most of the profits from targeted advertising. While this is in contrast to the findings of Johnson, Shriver, and Du, it would suggest a lack of competition in ad networks. Second, it could be that advertisers benefit from targeted advertising even if publishers do not. Targeted advertising could increase competition among publishers.[9] This leads to more effective and less expensive advertising, thereby benefiting advertisers and hurting publishers. Third, it could be that targeted advertising is not effective. While this interpretation is implied in much of the media discussion of Acquisti's paper, I believe this third possibility is unlikely because it is inconsistent with existing research, including my own.

    Thus, one possibility is that advertisers have benefited and they should invest even more in targeted advertising because the effective cost of such advertising has fallen. Another possibility is that advertising networks have benefited and publishers have been hurt. This does not suggest any particular new strategy for the advertisers beyond a recognition that it is worthwhile to invest in measuring advertising effectiveness.

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[8] *Sahni, Narayanan, and Kalyanam. 2019. An Experimental Investigation of the Effects of Retargeted Advertising: The Role of Frequency and Timing. Journal of Marketing Research 56(3), 401-418.*
Johnson, Shriver, and Du. 2018. Consumer privacy choice in online advertising: Who opts out and at what cost to industry? Working paper, Boston University.
Bleier and Eisenbeisss. 2015. Personalized Online Advertising Effectiveness: The Interplay of What, When, and Where. Marketing Science 34(5), 669-688.
[9] *Athey and Gans. 2010. The Impact of Targeting Technology on Advertising Markets and Media Competition. American Economic Review Papers & Proceedings 100(2), 608-613.*

6. Earlier this year, rather than running the risk of incurring the large maximum fines set forth in the European Union's General Data Protection Regulation (GDPR), the *New York Times* decided it would simply block all open-exchange ad buying on its European pages. What this means is that the *Times* completely eliminated behavioral targeting on its European sites and focused entirely on contextual and geographical targeting. Surprisingly, the *Times* saw no ad revenue drop as a result; in fact, quite the opposite happened—it was able to increase its ad revenue even after cutting itself off from ad exchanges in Europe. Does this episode tell us anything at all about the efficacy of behavioral targeting? Or can this outcome simply be attributed to the strength of certain brands?

   This warrants further study. The possible explanations relate to my response to the previous question: (1) The advertising networks receive the benefit, (2) the advertisers receive the benefit, or (3) behavioral targeting is ineffective. As mentioned above, a variety of research suggests that behavioral targeting works and therefore I expect one of the other explanations to be more likely. Given the context of the distinct readership of the New York Times, the explanation that targeted advertising increases competition among publishers seems particularly likely to apply.[10]

   For example, suppose a visitor to the New York Times website also visits three other websites. With behavioral targeting, all four websites compete to attract advertisers for that individual's attention. If the New York Times shuts off behavioral targeting then the advertisers are uncertain whether they can target the same customer on a different website. The New York Times may therefore face less competition and be able to benefit from higher advertising prices. This could increase revenue at the New York Times through a decrease in competition between publishers that hurts advertisers.

   In summary, while the lack of a revenue drop at the New York Times after the GDPR implementation could signal that behavioral advertising is not effective, I believe a more likely explanation relates to the strength of the New York Times brand and the impact of targeted advertising on competition between publishers.

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[10] *Athey and Gans. 2010. The Impact of Targeting Technology on Advertising Markets and Media Competition. American Economic Review Papers & Proceedings 100(2), 608-613.*