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Advanced Notice of Proposed Rulemaking on commercial surveillance and data security
16 CFR chapter undefined, 87 FR 51273

Comments of

U.S. Public Interest Research Group (PIRG)

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Executive Summary

This comment speaks to question numbers 1, 3, 4, 5, 6, 8, 10, 37, 38 and 43.

Section 1. "Practices that companies use to surveil consumers", addressing questions 1 and 10.
This section focuses on recent changes to the AdTech industry's business model and the emergence of first party data-driven advertising. It gives an in-depth look at two particular technologies: retail media networks, and data clean rooms. It also mentions identity solutions offered by companies like LiveRamp and industry groups like the Trade Desk.

Section 2. Prevalence of commercial surveillance practices - addressing question 3.
This section offers one possible measure for prevalence: the amount of data that data brokers advertise having collected on American consumers.
- For example, the Nielsen Company, a large information, data and measurement firm, claims to have behavioral data "covering 90% of the U.S. population".
We provide seven such examples.

Section 3. Harms to individuals and society - addressing questions 4, 5, 6, and 8.
This section explores how today's targeted advertising system is the result of 100 years of modern advertising practices becoming more invasive and personally targeted. It recounts how the goals of advertising have historically shifted from alerting consumers about the existence of products to inducing consumers to want things they wouldn't have wanted if left to their own devices, and how this impacts society and the health of the environment broadly.

This section then explores the harms of today's data-driven targeted advertising specifically:
- Predatory and invasive advertising enabled by increasingly personal data collection that allows ads to target individual vulnerabilities.
  - Targeting based on addictions, including how the AdTech company Oracle advertisers beverage producers can target "lapsed shoppers".
  - Targeting based on emotional states;
  - Targeting that could adversely affect those with mental health disorders that feature low impulse control, a potential new area of enforcement for the FTC; and
  - Targeting by scammers.
- Financial harms exaggerated by data-driven advertising.
  - Increases impulse shopping, particularly, an issue for those that struggle with impulsivity;
  - The use of data by Buy Now, Pay Later companies that could cause users to take on unsustainable amounts of debt;
  - Targeted marketing of financial products.

Section 4. Biometrics - addressing questions 37 and 38.

This section looks at different kinds of biometric data collection. It catalogs the increasing interest of advertisers in the amount of data generated by Internet of Things devices and includes quotes from a recent book written by Mastercard's Chief Marketing & Communications Officer about the opportunities of IoT data collection and 5G networks. This section also looks at some of the potential perils of AR/VR goggles.

Section 5. Regulation and data minimization - addressing question 43.
The final section of this comment focuses on the importance of data minimization as the appropriate regulatory approach given the harms perpetuated by data-driven advertising. It includes 9,364 petition signatures from the general public asking the FTC to write data minimization rules.

Section 1. Practices that companies use to surveil consumers - addressing questions 1 and 10.

Question 1: Which practices do companies use to surveil consumers?
Question 10: Which kinds of data should be subject to a potential trade regulation rule? Should it be limited to, for example, personally identifiable data, sensitive data, data about protected categories and their proxies, data that is linkable to a device, or non-aggregated data? Or should a potential rule be agnostic about kinds of data?

An investigation into "commercial surveillance" practices must include a close look at online targeted advertising. Delivering personalized ads on the internet is the purpose for which the majority of modern commercial surveillance infrastructure has been built.

The AdTech industry's business model is changing.

Since its inception, the advertising technology industry (also known as AdTech, or the online, digital or targeted advertising industry) has relied heavily on surveillance technologies and pervasive tracking of millions of Americans as a part of its business model.

Up until recently, these targeted advertising systems have relied on "third party data" - information collected, purchased or used by an entity with which the consumer has no direct relationship. This model of targeted advertising has been largely driven by the use of tracking technologies such as cookies, software development kits, and pixels to gather information about people online and sell it in rapid data exchanges happening behind the scenes every time a consumer loads a web page or app in order to target them with ads designed to be the most enticing for that individual. Sometimes the information gathered, sold and used is demographic - age, gender and race - and sometimes it is behavioral - a consumer's web search and purchase history, frequency of app usage, or inferred characteristics about their personality. Much has been written about this model of targeted advertising.[1] The FTC itself has explored the role of

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[1] For example: Forbrukerradet (Norwegian Consumer Council), *Out of Control: How consumers are exploited by the online advertising industry*, Jan. 14, 2020, available at: https://fil.forbrukerradet.no/wp-content/uploads/2020/01/2020-01-14-out-of-control-final-version.pdf; R.J. Cross, *U.S. PIRG*, "Cookie pop-ups: why you should think twice before hitting 'accept'", 19 July 2022, available at: https://pirg.org/articles/cookie-pop-ups-why-you-should-think-twice-hitting-accept/; Steven Englehardt and Arvind Narayanan, *Online Tracking: a 1-million-site Measurement and Analysis*, Princeton University's WebTAP project, 2016, available at: https://webtransparency.cs.princeton.edu/webcensus/; New America's Open Technology Institute, *Special Delivery: the role of data in the targeted advertising industry*, available at: https://www.newamerica.org/oti/reports/special-delivery/the-role-of-data-in-the-targeted-advertising-industry/.

data brokers in facilitating the buying, selling and combining of personal data across disparate sources that has been key for the third party model's implementation.[2]

Because of the extent of the literature on the third party data advertising system, PIRG will be focusing our comment on the emerging models of data collection and use that the AdTech industry is moving towards. This new system is centered around the use of "first party" data - that is, data collected by a company that a customer has a direct relationship with[3] - and new technologies to facilitate the sharing of first party data across entities in ways that purport to comply with existing privacy regulations, while largely serving to continue the surveillance advertising model.

Why the AdTech industry is changing

A set of converging factors has forced the AdTech industry to begin moving beyond the "tracking cookies" model driven by third party data. This is in part response to the passage and implementation of regulations in Europe (GDPR) and California (CCPA), and in part a response to a public becoming more unnerved by being watched so closely with no power to stop it. Another big reason for the shift is in response to recent changes made by Apple and Google.[4] Apple released a new iOS feature in 2021 to cut down on the harvesting of user data on iPhones[5], and Google has announced it will phase third party tracking cookies out of Chrome by a date that keeps getting pushed back, but most recently was set for late 2024.[6] These changes have forced other AdTech companies to reconsider how they will gather data on people, and how they will sell and use it to target ads.

Where AdTech is headed: first party data

Today, many companies are working to figure out a new "first party" data model. Exploring this emerging advertising model that's centered on first party data is essential for understanding the future of the targeted advertising industry, and how regulations should be shaped to address it.

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[2] Federal Trade Commission, *Data brokers: A Call for Transparency and Accountability,* May 2014, available at: https://www.ftc.gov/system/files/documents/reports/data-brokers-call-transparency-accountability-report-federal-trade-commission-may-2014/140527databrokerreport.pdf.

[3] John McDermott, "What the Tech are clean rooms?", *The Current* by TradeDesk, 8 June 2022. Available at: https://www.thetradedesk.com/us/news/what-the-tech-are-clean-rooms

[4] Many AdTech industry reports and blogs have discussed the difficulties the industry faces in light of "the death of cookies". For example, a study by the data broker Epsilon found that 69% of respondents in a survey of online marketers believed that changes made by Apple and Google "will have a greater impact than GDPR and CCPA". Source: "Epsilon Study Finds Marketers Disappointed, Frustrated and Overwhelmed Ahead of Third-Party Cookie Deprecation" *(press release)*, Epsilon, 27 October 2020, archived on 20 September 2022 at https://web.archive.org/web/20220920165846/https://www.epsilon.com/us/about-us/pressroom/epsilon-study-finds-marketers-disappointed-frustrated-and-overwhelmed-ahead-of-third-party-cookie-deprecation

[5] Brian X. Chen, "To Be Tracked or Not? Apple Is Now Giving Us the Choice", *The New York Times*, 26 April 2021, available at: https://www.nytimes.com/2021/04/26/technology/personaltech/apple-app-tracking-transparency.html

[6] Jennifer Elias, "Google delays cookie-cutting to 2024", *CNBC*, 27 July 2022, available at: https://www.cnbc.com/2022/07/27/google-delays-cookie-cutting-to-2024.html.

First party data is information collected by a company that has a direct relationship with a consumer.[7] For a retailer collecting first party data, this could include things like a customer's purchase history, or loyalty program information such as email address or phone number. For an app, first party data can include metrics like how many times someone logs into an app and the duration of each use, and what actions that person takes once logged in. For Google, first party data can include browsing done on the Chrome browser, or searches conducted in its search engine.

The end result of an advertising apparatus based on first party data is largely the same as today's cookie-driven third party targeted advertising systems: companies collect and share data about individual consumers in order to understand as much of each consumer's behavior as possible, and target them with ads on a one-to-one basis in an effort to alter that consumer's behavior.

As a CEO of an AdTech company told *Digiday* in a 2021 interview: "First-party relationships are on the cusp of becoming the most valuable data source."[8]

First party data marketing: retail media networks and clean rooms

The AdTech industry is currently innovating new methods of targeted advertising that rely on first party data. These include alternative identities (such as identity graphs), retail media networks, and data clean rooms. We'll cover these here.

Retail media networks

Many consumer-facing companies have recently begun exploiting their first party data. Companies with direct relationships with customers have realized they're sitting on valuable troves of information.[9] As the data broker Epsilon puts it in a blog post, this demise of third party data "presents a timely opportunity for retailers: an increase in value for first-party data".[10]

In order to capitalize on first party data, a significant number of consumer-facing companies are blending the role of retailer, data broker and advertising platform ("media publisher") all in one, by establishing what's called retail media networks. Retail media networks are advertising platforms owned by a retailer with first party relationships with its customers. Here, retailers can

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[7] Anthony Vargas, "AdExplainer: What IS First-Party Data?", *Ad Exchanger*, 2 June 2022, available at: https://www.adexchanger.com/adexplainer/adexplainer-what-is-first-party-data/.
[8]

[9] R.J. Cross, U.S. PIRG, "The new data brokers: retailers, rewards apps & streaming services are selling your data", 19 August 2022, available at: https://pirg.org/articles/the-new-data-brokers-retailers-rewards-apps-streaming-services-are-selling-your-data/.
[10] "The rise of the retail media network" (*blog*), Epsilon, 24 June 2021, available at: https://www.epsilon.com/us/insights/core-content/the-rise-of-the-retail-media-network.

sell or otherwise make available their customers' first party data to advertisers for targeting ads on the channels that the retailer owns[11], or on other channels across the web.[12]

For example, an advertiser using Best Buy's retail media network, Best Buy Ads,[13] gets access to the information Best Buy has on its customers, like what an individual has searched for on its site, pages they've viewed, carts they've abandoned, reviews they've written, emails they've opened, service appointments they've scheduled, and purchases they've made. As the company puts it, "these inputs create a rich profile of audiences' objectives, interests and intent".[14] There might be other inputs the company makes available as well.

Best Buy makes this data available to advertisers to place targeted ads on Best Buy's channels, like the homepage of the store's website or the search results inside the store's app. There's also "proximity messaging", an offering that allows advertisers to use a target customer's location harvested by the Best Buy app to target them with ads on nearby TV and PC screens inside a physical Best Buy store.[15]

Many consumer-facing businesses have established retail media networks. In addition to Best Buy, Target[16], WalMart[17], Lowe's[18], Kohl's[19], Kroger[20], Dollar Tree[21], Marriott,[22] CVS[23], Macy's[24],

[11] "Retail media networks: Co-op advertising gets smarter" (*blog*), Epsilon, 29 January 2021, available at: https://www.epsilon.com/us/insights/blog/retail-media-networks-co-op-advertising-gets-smarter.

[12] Criteo, "The all-in-one self-service platform for buying retail media at scale" *(web page)*. Accessed on 21 October 2022 at: https://www.criteo.com/products/retail-media-for-brands/

[13] BestBuy Ads *(webpage)*, archived on 16 August 2022: https://web.archive.org/web/20220816160225/https://www.bestbuyads.com/meet.html

[14] Ibid.

[15] BestBuy Ads "Solutions" *(webpage)*. Archived on 16 August 2022: https://web.archive.org/web/20220816160329/https://www.bestbuyads.com/solutions.html

[16] David Doty, "Walmart, Target, And Other Mega Retailers Leverage First-Party Data to Become New Media Giants", *Forbes*, 26 April 2022, available at: https://www.forbes.com/sites/daviddoty/2022/04/26/walmart-target-and-other-mega-retailers-leverage-first-party-data-to-become-new-media-giants/

[17] Ibid.

[18] Ibid.

[19] "Kohl's Expands Advertising Opportunities with Kohl's Media Network" *(press release)*, Kohl's, 21 July 2022, available at: https://investors.kohls.com/news-releases/news-details/2022/Kohls-Expands-Advertising-Opportunities-with-Kohls-Media-Network/default.aspx.

[20] See note 16.

[21] Shoshana Wodinsky, "Why Every Company Is an Ad Company Now", *Gizmodo*, 17 May 2022, available at: https://gizmodo.com/why-every-company-ad-network-now-1848936157

[22] Ibid.

[23] Ibid.

[24] Peter Adams, "Inside Macy's plan to scale its budding retail media business", *MarketingDive*, 21 March 2022, available at: https://www.marketingdive.com/news/inside-macys-plan-to-scale-its-budding-retail-media-business/620648/

Albertsons[25], Sam's Club[26] and Walgreens[27] have all started leveraging their customers' data through retail media networks.

Sometimes a retailer's first party data can be used to target its customers on channels that the retail does *not* own. For example, a company partnering with the AdTech company Criteo can engage in "offsite ads" to target a retailer's customers with ads on other sites.[28]

The administration of many retail media networks - and first-party data targeted advertising - relies on another feature of the emerging AdTech model: data clean rooms.

Data clean rooms

Data clean rooms are a new development in AdTech technology that allows companies to share their first party data sets with one another for targeted advertising.[29] It's particularly important to understand and monitor the development of clean rooms. For one, they advertise themselves as evading existing privacy regulations. They're also growing in popularity.[30] And they can utilize machine learning (ML) techniques less familiar to many regulators; companies are continuously developing ML capabilities to increase the effectiveness of their operations in ways that may obviate traditional concepts of privacy, such as personally identifying information (PII). Clean rooms are a space where this development is happening now.

Indeed many of the marketing materials for clean rooms advertise that they are "privacy-conscious"[31] and enable companies to share data "without risking data privacy violations."[32] As described by clean room company AppFlyer, "Data clean rooms allow marketers to harness the power of the combined data set while adhering to privacy regulations."[33] In particular, clean rooms seem to have been able to subvert Europe's GDPR.[34]

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[25] See note 16.

[26] Lex Josephs, "Introducing Sam's Club Member Access Platform" *(blog)*, 15 June 2022. Available at: https://corporate.samsclub.com/newsroom/2022/06/15/introducing-sams-club-member-access-platform

[27] See note 16.

[28] See note 12.

[29] John McDermott, "What the Tech are clean rooms?", *The Current* by TradeDesk, 8 June 2022. Available at: https://www.thetradedesk.com/us/news/what-the-tech-are-clean-rooms

[30] A post on the industry blog AdExchanger calls clean rooms "one of the hottest technologies in marketing when it comes to secure, modern data collection." Source: St. Clair McLean, "Third-Party, Direct Or In-House: Which Clean Room is Right For You?", 28 June 2022. Available at: https://www.adexchanger.com/data-driven-thinking/third-party-direct-or-in-house-which-clean-room-is-right-for-you/?

[31] See note 29.

[32] Gartner, *Brands Retreat Behind Walled Gardens as Data Privacy Efforts Take Root,* 2021. Available at: https://emtemp.gcom.cloud/ngw/globalassets/en/marketing/documents/brands-retreat-behind-walled-gardens-as-data-privacy-efforts-take-root-research.pdf

[33] AppFlyer, "It's time to come clean - the complete data clean rooms guide", available at: https://www.appsflyer.com/resources/guides/data-clean-rooms/

[34] A customer testimonial found on clean room company InfoSum's website states: "Post-GDPR it's been difficult to find technology that enables you to collaborate with other parties to share data insights and intelligence, as well as to build out custom audiences. The InfoSum decentralised [clean room]

There are different kinds of clean rooms run by different kinds of companies. Some belong to industry giants, such as Google's Ads Data Hub[35], Amazon Marketing Cloud[36] and Facebook Advanced Analytics.[37] These platforms are sometimes called "walled gardens" as they provide data about users targeted inside each of the respective companies' AdTech stack.[38]

Others are "third party clean rooms" run by companies like Snowflake, Karlsgate, LiveRamp[39], InfoSum and AppFlyer that specialize in providing a clean room platform to companies wanting to share data with one another.

The technology of clean rooms
Clean rooms are data platforms that allow companies to share first party data with one another without giving the other party full access to the underlying, user-level data. This ability to set controls on who has access to granular information about consumers is the primary reason that data clean rooms are able to subvert current privacy regulations.

The specific technology and processes of every clean room can vary. In general, many clean rooms are relational database management systems, providing cloud-based platforms where client companies can upload databases of their customers (using their first party data) or prospective customers (using third party data) to an independent server maintained by the clean room company. For example, let's say two companies, Company A and Company B, want to use each other's data. They contract with the clean room company InfoSum, which calls its technology a "decentralized multi-party" clean room. Company A and Company B connect their respective first party datasets to two of InfoSum's "bunkers", which, as the company explains, are "standalone, private cloud instances". According to InfoSum, "[e]ach Bunker is unique to a single company, and only the data owner ever has access to the Bunker."[40]

Once each client company's data is uploaded, user permissions can be set for each of the databases to control who has access to view or modify the user-level data in a given database. This is what allows for clean rooms to be "privacy compliant", as technically, Company A and Company B can set their permissions such that they can't see each other's underlying data. It is possible, however, for companies using a clean room to share the totality of their data with one

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infrastructure allows just that." Source: InfoSum, *Breakdown service provider unlocks enhanced targeting with Regit*. Available at:
https://hello.infosum.com/hubfs/resources/infosum-case-study-regit-breakdown-recovery.pdf
[35] "Ads Data Hub" *(web page)*, Google, accessed on 11 October 2022 at:
https://developers.google.com/ads-data-hub
[36] "What is Amazon Marketing Cloud" *(web page)*, Amazon Ads, accessed on 11 October 2022 at:
https://advertising.amazon.com/solutions/products/amazon-marketing-cloud
[37] See note 33.
[38] "What are the different types of data clean rooms?", Habu, accessed on 29 September 2022.
https://habu.com/resources/common-questions/what-are-the-different-types-of-data-clean-rooms
[39] The data broker LiveRamp runs a platform called Safe Haven that they refer to as a "data collaboration platform", but carries out clean room capabilities. See: https://liveramp.com/data-collaboration/
[40] *The ultimate guide to Data Clean Rooms*, InfoSum, 2022, made accessible at:
https://acrobat.adobe.com/link/track?uri=urn%3Aaaid%3Ascds%3AUS%3A779609af-82af-3b07-93d9-8f979fad81c9&viewer%21megaVerb=group-discover

another - using a clean room does not guarantee that sharing of PII or other sensitive data is not happening.

Once Company A and Company B's data is uploaded into their respective servers, the data sets are then joined together, usually by the clean room company or an automated process the company has designed. This step seeks to identify what customers the first party data sets have in common, and what the other company knows about these shared audiences, like demographic information or past purchasing behavior, that can be shared to augment the other company's data.[41] This process of finding shared customers in both data sets is often known as "identity resolution". This match can be done using a number of unique identifiers that may exist in both data sets, such as advertising IDs, IP addresses, hashed emails, or device IDs.[42] Clean room companies purport to enable this matching process without exposing the underlying data to any company involved in the process, including the clean room company itself, though it's likely not all clean rooms actually maintain this capability.[43] (This identity resolution step is a particular sticking point for "privacy compliant" clean rooms. As the clean room company InfoSum writes on its blog: "The 'dirty' element of these solutions is that they often still require data to be moved and matched against a centralized identity spine."[44] InfoSum, for its part, claims to get around this problem by having even its data matching capabilities occur in "decentralized infrastructure", allowing for the "non-movement" of data.)

If there is not a shared attribute that data sets can be matched on, clean room companies offer other identity resolution solutions. Sometimes clean rooms include third party integrations - allowing third party, purchased data to be combined with a company's first party data. This third party data - often supplied by data brokers - can help with the matching process. As the data clean room platform Snowflake explains in some of its marketing materials:

> "There will invariably be cases where two parties lack a common identifier, which can make joining the data and finding overlaps on a single key such as email address less able to match all the possible data between the parties. In extreme cases, the marketer might have only email addresses, while the publisher has only IP addresses, but they still want to join their data together for allowed analyses. When Snowflake customers find themselves in this position, they can leverage identity enrichment providers on

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[41] See note 33.

[42] "Snowflake data clean rooms allow for sensitive data derived from unique identifiers, such as emails, hashed emails, names, device IDs, and IP addresses, to be leveraged while preserving privacy. From there, marketers can segment and target existing customers by finding overlaps with a publisher's audience without ETL (that is, without having to move or copy the data)." From: *How Snowflake's Data Clean Rooms Help Publisheres and Marketers Improve Ad Effectiveness*, Snowflake, 2021, accessible at: https://landing.martechtracker.com/Whitepaper-Attachments---MTT-V4/how-snowflake-s-data-clean-rooms-help-publishers-and-marketers-improve-ad-effectiveness%20(1).pdf. *(If at any point this report is taken offline, a PDF is available from this comment's authors by request).*

[43] See: source cited in note 42. Or, see*:* "Build your own Data Clean Room" *(web page)*, InfoSum, accessed on 13 October 2022 at: https://www.infosum.com/platform/secure-data-clean-room

[44] Devon DeBlasio, "The Secure Data Clean Room: Unfettered Match Rates" *(blog)*, InfoSum, 16 February 2022. Available at: https://www.infosum.com/blog/the-secure-data-clean-room-unfettered-match-rates

Snowflake Data Marketplace such as Acxiom, Epsilon, and Neustar for data enrichment and identity joining. These providers have vast troves of third party customer data that marketers and publishers can use to refine and activate their audiences and boost their join and match rates. The data enrichment step occurs only in the data clean room and third party data does not get populated into either party's Snowflake account."[45]

(The use of supplementary third party data is, of course, not limited to identity resolution in some clean room platforms. Some offer third party integrations primarily for the purpose of augmenting a company's data about its customers, like demographics, preferences and past behavior.)

There are additional identity resolution tools clean room companies use to match data sets that are missing a shared identifier. As clean room company AppFlyer explains of its offerings: "If such identifiers do not exist, advanced tools such as machine learning and probabilistic modeling could be applied to enhance matching capabilities".[46] (There are different definitions of probabilistic modeling, but it typically refers to "fingerprinting" - assigning probabilities about someone's identity based on the triangulation of data points like time stamp, screen resolution or IP address.[47] More sophisticated modeling, however, is likely to emerge in the future.)

Sometimes clean room companies have extensive identity resolution solutions themselves - such as LiveRamp's Safe Haven that includes the "RampID". Some clean room companies will partner with outside firms that specialize in identity resolution. The Trade Desk Unified ID 2.0 is one option that's been gaining traction in AdTech networks.[48] Some clean rooms may utilize the Internet Advertising Bureau's identity solution, "seller defined audiences" (SDAs).[49]

Once Company A and Company B have joined their data, they begin using what they learn. Their disparate databases can be connected or used in tandem to conduct various analyses, often using SQL queries to do so.[50] Examples of analyses may include building a "360 view" of

[45] See source cited in note 42.
[46] See note 33.
[47] Kate Kaye, "As ad tech firms test ways to connect Google's' FLoC to other data, privacy advocates see fears coming true", *Digiday*, 10 June 2021 available at:
https://digiday.com/marketing/as-ad-tech-firms-test-ways-to-connect-googles-floc-to-other-data-privacy-watchers-see-fears-coming-true/
[48] For more on identity resolution, see: Ido Sivan-Sevilla and Patrick T. Parham, *Toward (Greater) Consumer Surveillance in a "Cookie-less" World: A Comparative Analysis of Current and Future Web Tracking Mechanisms*, UMD, available at:
https://www.ftc.gov/system/files/ftc_gov/pdf/PrivacyCon-2022-Parham-Toward-Greater-Consumer-Surveillance-in-a-Cookie-less-World.pdf
[49] A full taxonomy of IAB's SDA attributes - over 1,600 tags publishers can assign - is available for download here: https://iabtechlab.com/standards/audience-taxonomy/. Vlad Stesin, "Seller Defined Audiences and Data Clean Rooms Will Solve The Identity Problem", *AdExchanger*, 1 June 2022. Available at:
https://www.adexchanger.com/the-sell-sider/seller-defined-audiences-and-data-clean-rooms-will-solve-the-identity-problem/?
[50] See for example: "What is Amazon Marketing Cloud" *(web page)*, Amazon Ads, accessed on 11 October 2022 at: https://advertising.amazon.com/solutions/products/amazon-marketing-cloud

customers made possible by comparing the two companies' first party data. For example, a bank partnering with an online radio platform may gain intel about what kinds of radio stations its customers listen to and what ads they've responded to in the past, while the radio platform learns about the financial demographics of its listeners.[51] Depending on how much data each company has harvested on its customers, the shared insights can be expansive and fall far outside the bounds of what's most useful for their immediate goals.

The joined data can then also be activated to place targeted ads. Use cases of clean rooms can include a company that is a publisher (Company A) airing targeted ads on behalf of a retailer (Company B).

In some cases, clean room companies are integrated with ad delivery networks, as is the case with LiveRamp[52], allowing combined datasets to be used in real-time bidding networks or sell side platforms to achieve the same ends of broader targeted advertising happening all over the web. This version, in particular, is indistinguishable from third party AdTech systems.

Another common clean room use case is the construction of lookalike audiences - often called "cohorts" or just "audiences". Using the demographic and behavioral profiles of Company B's current clientele, Company A - a publisher - can locate amongst its users those with a similar profile, allowing for the targeting of ads based on shared characteristics.[53] A use case Google provides is using its clean room "to build an audience of high-value users" for targeted advertising based on its data.[54] The concept of "high-value users" may expose vulnerable people to increased risk of harm (see page 22). Google also advertises the ability to "enrich audiences and gather insights".[55]

Clean rooms are also used to measure the effectiveness of ads. Using Google Ads Data Hub, companies can upload first party data sets and cross reference with Google data, allowing marketing departments to measure impressions and conversions happening on ads delivered inside Google's platforms, like YouTube.[56]

Larger clean rooms can also provide more sophisticated levers. For example, companies can use Google's clean room to conduct A/B testing on customers.[57]

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[51] *Case Study: TSB increase account applications by 31% using InfoSum*, InfoSum, accessed on 18 September 2022 at: https://hello.infosum.com/hubfs/resources/infosum-case-study-global-tsb.pdf
[52] "Data Activation" *(web page)*, LiveRamp, archived on 21 November 2022 at: https://web.archive.org/web/20221121163547/https://liveramp.com/data-activation/
[53] For a helpful use case, see this InfoSum case study report: *Case Study: TSB increase account applications by 31% using InfoSum*, InfoSum, accessed on 18 September 2022 at: https://hello.infosum.com/hubfs/resources/infosum-case-study-global-tsb.pdf
[54] "Custom Floodlight variable matching - Long-haul elite-status fliers" *(web page)*, Google Ads Data Hub, accessed on 18 October 2022 at: https://developers.google.com/ads-data-hub/guides/cfv-matching#long-haul_elite_status_fliers
[55] "Join first-party data" (web page), Google Ads Data Hub, accessed on 18 October 2022 at: https://developers.google.com/ads-data-hub/guides/join-your-data
[56] Ibid.
[57] Ibid.

Regulating clean rooms

Clean rooms are troubling. These companies purport to have privacy-centric solutions that enable much of the extensive tracking of consumers and the same targeted advertising outcomes as today's system - if not worse.[58] They are structured to get around some of the more obvious routes for privacy regulation.

One of the primary arguments clean rooms make about their legality is that PII doesn't necessarily exchange hands.[59] Other clean rooms emphasize that the data is, in effect, anonymous, as Company A and Company B don't necessarily get raw, individual-level data from one another.[60] Others emphasize the non-movement of data.

For example, the clean room company InfoSum relies on the creation of mathematical models of individuals to match and activate data across clients. As it writes: "Within a decentralized multi-party clean room the data processing takes place where the data itself is located, eliminating the need for the data itself to move. Instead, *a mathematical model of the individuals in each dataset is generated which is anonymous and contains no personal data (PII).* It is the mathematical model that moves not the underlying protected data during computation resulting in faster results with greater privacy protection" (emphasis added).[61]

The results of these technologies - as privacy preserving as they may be - are largely the same, if not worse. For example, clean room companies, touting their privacy credentials, are equally touting their ability to use sensitive data in the course of their business. InfoSum states that its "patented decentralization and non-movement of data technology" enables companies to "*analyze, enrich, and activate sensitive data*" (emphasis added).[62] Snowflake says its "data clean rooms allow for *sensitive data derived from unique identifiers*, such as emails, hashed emails, names, device IDs, and IP addresses, *to be leveraged while preserving privacy*" (emphasis added).[63]

For this reason, regulating the AdTech systems of tomorrow must not rely on concepts of privacy that are becoming rapidly outdated, like PII, and it must not focus on regulating particular technologies. Good regulation should focus primarily on the outcomes. There should be no ads targeted to individuals on a one-to-one basis, period.

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[58] See, for example, source cited in note 48.
[59] Again, it's worth noting that the individual-level data may not be exchanged between Company A and Company B, but may in fact be revealed to the clean room company itself.
[60] It's also worth reemphasizing that companies using a clean room service may still elect to share their entire datasets with one another, and just use a clean room's platform as the mechanism for doing so.
[61] See note 40.
[62] Ibid.
[63] See source cited in note 42.

Section 2. Prevalence of commercial surveillance practices - addressing question 3.

Question 3: Which of these measures or practices are prevalent? Are some practices more prevalent in some sectors than in others?

There are multiple ways of proving the prevalence of commercial surveillance. We focus on one possibility here.

Data brokers

The collection of personal data by data brokers - key industry players in the commercial surveillance ecosystem providing third party data - is prevalent in the United States.

There are at least 540 unique data brokers doing business in the U.S., according to a 2021 report by Privacy Rights Clearinghouse that examined the data broker databases maintained by the states California and Vermont.[64] The true number of active brokers is likely much, much higher.

Furthermore, many data brokers boast of having massive databases containing the personal information of millions of Americans. Judging by their claims, virtually no American is untouched. For example:

- The Nielsen Company, a large information, data and measurement firm, claims to have behavioral data "covering 90% of the U.S. population".[65]
- The computer technology company Oracle's Oracle Data Marketplace - "the world's largest third-party data marketplace", according to its materials - advertises that clients can "access actionable audience data on more than 300 million users. That's over 80% of the entire US internet population at your fingertips."[66]
- The health-focused AdTech company PulsePoint - owned by the same parent company that owns WebMD - claims to "see 91% of the US population".[67]
- The data broker Epsilon claims to have 200 million consumer profiles "anchored in deterministic transactional data and built from years of historical and real-time data

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[64] *Registered Data Brokers in the United States: 2021*, Privacy Rights Clearinghouse, 22 February 2022, available at: https://privacyrights.org/resources/registered-data-brokers-united-states-2021

[65] "Audience Segments" (*webpage*), Nielsen, archived on 8 November 2022 at: https://web.archive.org/web/20221108213655/https://www.nielsen.com/solutions/media-planning/audience-segments/

[66] "Oracle Data Marketplace" *(webpage)*, Oracle, available at: https://docs.oracle.com/en/cloud/saas/data-cloud/data-cloud-help-center/Help/AudienceDataMarketplace/AudienceDataMarketplace.html. *(If needed, screenshot of this source available upon request.)*

[67] "Platforms - Know Where and How to Activate Your Audience the Exact Moment Intent is Signaled" *(webpage)*, PulsePoint, archived on 20 September 2022 at https://web.archive.org/web/20220920150638/https://www.pulsepoint.com/healthcare-marketing-activation.

across more than 7,000 attributes."[68] As discussed in the scammers section on page 25, Epsilon - which a Department of Justice court filing referred to as "one of the largest marketing companies in the world"[69] - provided the private information of 30 million Americans to scammers.

- According to filings by the U.S. Department of Justice, the data broker KBM Group has developed "iBehavior" databases housing data on over 100 million U.S. households.[70]
- According to a 2021 industry report on data privacy and financial app usage, "one data aggregator alone stores the banking data of 25% of U.S. bank accounts (more than the top two U.S. banks combined)."[71]
- Credit card companies are known suppliers of data. According to one data exchange posting: "The world's largest retail electronic payments network is now at your fingertips. Visa Audiences powered by DLX provide audiences based on $1.4 trillion of annual U.S. credit card spend. They are uniquely built from Visa-purchase data combined with Oracle Data Cloud known demographic, financial, purchase and other data on more than 110 million U.S. households."[72]

Section 3. Harms to individuals and society - addressing questions 4, 5, 6, and 8.

Question 4: How, if at all, do these commercial surveillance practices harm consumers or increase the risk of harm to consumers?
Question 5: Are there some harms that consumers may not easily discern or identify? Which are they?
Question 6: Are there some harms that consumers may not easily quantify or measure? Which are they?
Question 8: Which areas or kinds of harm, if any, has the Commission failed to address through its enforcement actions?

The harms perpetuated by the data-driven behavioral targeted advertising system are physical, environmental, psychological, and financial, frustrating Americans' sense of wellbeing, self-confidence, satisfaction with their lives, and financial and savings goals. Today's targeted

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[68] See source cited in note 4.
[69] *U.S.A v. Epsilon Data Management,* U.S. Department of Justice, available at: https://www.justice.gov/opa/press-release/file/1360881/download
[70] *U.S.A v. KBM Group, LLC*, U.S. Department of Justice, available at: https://www.justice.gov/civil/case/file/1404091/download
[71] *2021 Consumer Survey: Data Privacy and Financial App Usage*, The Clearing House, December 2021, available at: https://www.theclearinghouse.org/-/media/New/TCH/Documents/Data-Privacy/2021-TCH-ConsumerSurveyReport_Final.
[72] "Visa Audiences powered by Oracle" *(web page)*, Clear Segment, archived on 21 November 2022 at: https://web.archive.org/web/20221121164045/https://www.clearsegment.com/data-providers/visa-audiences-powered-by-oracle

advertising systems are a continuation of over a century of commercial use of communication technologies to stoke consumption. In the aggregate, this has had harmful impacts on grand scales, impacting consumers' internal lives, the very shape of society and the health of the planet we inhabit.

Before 1910, ads in the U.S. were primarily a way to inform customers about the existence of products. After 1910, however, the primary objective shifted, becoming the creation of material desires that consumers didn't have previously.[73] By the 1920s, this approach was widely adopted by marketing executives.[74] It was at this same time that the concept of Americans as "consumers", as opposed to merely workers or citizens, became prevalent across all sectors of business.[75] The age of persuasive marketing to increase consumption began.

Modern mass communication technologies - radio, TV and, finally, the internet - served as invaluable platforms for advertising, and the advertising industry returned in the favor in kind. When each of the modern mass communication technologies got its footing in America, each lacked an obvious business model.[76] And so shortly after their introduction, advertising followed, turning each into a commercial medium almost immediately. The first ad hit radio airwaves on AT&T's station in 1922.[77] The first TV ad was run in 1941.[78] The first internet ad appeared on a banner in 1994.[79]

Each new medium brought with it new tools enabling advertising to become progressively more powerful, more intrusive, and more individually targeted. With radio, advertisers for the first time could deliver a message across the country simultaneously. They could use spoken word, music, jingles - tools that were attention-grabbing in new ways and no longer required consumers to be able to read in order to be advertised to.[80] In a 1955 essay, marketing consultant Victor Lebow identified that "television achieves three results to an extent no other advertising medium has ever approached. First, it creates a captive audience. Second, it submits that audience to the most intensive indoctrination. Third, it operates on the entire

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[73] Mansel G. Blackford, *Business Enterprise in American History*, Houghton Mifflin, 1986, excerpted chapter "The Rise of Marketing and Advertising" available at: https://faculty.atu.edu/cbrucker/engl5383/Marketing.htm

[74] Ibid.

[75] Kerryn Higgs, "A Brief History of Consumer Culture", *The MIT Press Reader,* 11 January 2021. Available at: https://thereader.mitpress.mit.edu/a-brief-history-of-consumer-culture/

[76] John McDonough, "First Radio Commercial Hit Airwaves 90 Years Ago", *NPR: All Things Considered*, 29 Aug, 2012, available at: https://www.npr.org/2012/08/29/160265990/first-radio-commercial-hit-airwaves-90-years-ago

[77] Ibid.

[78] David Choi, "The first television commercial ever aired 75 years ago today", *Business Insider,* 1 July 2016, available at: https://www.businessinsider.com/first-television-commercial-ever-2016-6

[79] This too was purchased by AT&T, incidentally. Source; Adrienne LaFrance, "The First-Ever Banner Ad on the Web", *The Atlantic*, 21 April 2017, available at: https://www.theatlantic.com/technology/archive/2017/04/the-first-ever-banner-ad-on-the-web/523728

[80] William M. O'Barr, "A Brief History of Advertising in America", *Advertising & Society Review*, vol. 6 issue 3, 2005. Available at: https://muse.jhu.edu/article/193868

family."[81] Indeed, the arrival of television was the first time advertisers had reliable access to children. Then in the 1980s, cable television and its proliferation of channels enabled advertisers to begin segmenting ads to cohorts of consumers more narrowly defined than ever before[82] - something imagined by marketers in 1956.[83] With the internet, advertisers can reach individuals with tailored messages delivered at precise times.

Regardless of the delivery mechanism, discontent is always the emotional engine at the core of the advertising machine.

In 1929, Charles Kettering, the Head of Research at GM, authored the essay "Keep the Consumer Dissatisfied".[84] In 1955, 26 years later, Lebow echoed the need to "create and maintain the multiplicity and intensity of wants" in the American people. "A specific advertising and promotional campaign, for a particular product at a particular time, has no automatic guarantee of success," he wrote, "yet it may contribute to the general pressure by which wants are stimulated and maintained."[85]

As advertising became more pervasive, intrusive and individually targeted, new consumer debt products emerged to enable consumers to instantaneously act on the desires advertising had stoked. In the 20s, it was retail installment loans, and in the 40s the rise of credit cards.[86] In the 21st century, a computerized financial sector has extended credit even to those unable to pay, as in the subprime mortgage crisis, and has now begun to provide near instantaneous loans embedded in every checkout page, enabling people to "buy now, pay later" in easy installments that, in the words of one TikTok fashion influencer, make purchases feel "technically free".[87]

For over 100 years, Americans have been subjected to a steady beat of advertisements instructing them to want. And it's demanded something more profound from us, too. It has demanded "that we make consumption our way of life, that we convert the buying and use of goods into rituals, that we seek our spiritual satisfaction, our ego satisfaction, in consumption" as Lebow wrote in 1955.[88]

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[81] Victor Lebow (marketing consultant), "Price Competition in 1955", *Journal of Retailing*, spring 1955. Available at: https://hundredgoals.files.wordpress.com/2009/05/journal-of-retailing.pdf

[82] See note 80.

[83] John A. Quelch and Katherine E. Jocz, Milestones in Marketing, *Business History Review* 82, no. 4, 2008. Made available by Harvard Business School at: http://www.hbs.edu/research/RePEc/hbs/journl/2008Q4quelch.pdf

[84] Charles F. Kettering, "Keep the Consumer Dissatisfied" 1929, made available by W.W. Norton & Company publishing house at: https://wwnorton.com/college/history/archive/resources/documents/ch27_02.htm

[85] See note 81.

[86] Brian Roach, Neva Goodwin and Julie Nelson, *Consumption and the Consumer Society*, Global Development and Environment Institute at Tufts University, based on portions of Chapter 8 from: *Microeconomics in Context, Fourth Edition*, Copyright Routledge, 2019. Available at: https://www.bu.edu/eci/files/2019/10/Consumption_and_Consumer_Society.pdf

[87] Joshua Bote, "'Buy now, pay later' is ascending the TikTok generation spiraling into debt, popularized by San Francisco tech firms", *SF Gate*, 4 May 2022. Available at: https://www.sfgate.com/news/article/influencers-lead-Gen-Z-into-debt-17142294.php

[88] See note 75.

"Human identity is no longer defined by what one does, but by what one owns," President Jimmy Carter said in a 1979 speech. "But we've discovered that owning things and consuming things does not satisfy our longing for meaning. We've learned that piling up material goods cannot fill the emptiness of lives which have no confidence or purpose."[89]

This regime of constant advertising and easy credit has been remarkably successful. Today, the average American household contains 300,000 items.[90] Our homes are not always enough to hold all that we acquire; one out of every 10 Americans rents a storage unit[91] which, according to the Self Storage Association, comes out to 2.3 billion square feet of self-storage space in the United States, enough that it has made it "physically possible that every American could stand — all at the same time — under the total canopy of self-storage roofing."[92]

Every manufactured product we buy comes with environmental costs - from the very beginning of a product's life with the extraction of raw materials, to the very end, when the finished product is thrown away. Roughly 42% of all U.S. greenhouse gas emissions are created in the process of extracting resources, producing goods, disposing of waste, and transporting materials at every stage of that process.[93]

Every product produced requires resource use. Growing enough cotton to produce a just a single cotton t-shirt, for example, requires 400 gallons of water[94], and maintaining such cotton crops are worsening the droughts in the West.[95] Drought is making it harder to raise livestock or maintain crops of any kind in vast stretches of the United States, contributing to an increase in mental health difficulties and suicides amongst farmers.[96] Water shortages threaten to make

[89] Jimmy Carter, "Crisis of Confidence" *(speech)*, 15 July 1979. Made available by PBS at: https://www.pbs.org/wgbh/americanexperience/features/carter-crisis/

[90] Mary Macvean, "For many people, gathering possessions is just the stuff of life", *LA Times,* 21 March 2014. Available at: https://www.latimes.com/health/la-xpm-2014-mar-21-la-he-keeping-stuff-20140322-story.html

[91] Jon Mooallem, "The Self-Storage Self," *The New York Times Magazine,* 2 September 2009. Available at: https://www.nytimes.com/2009/09/06/magazine/06self-storage-t.html?em&_r=0.

[92] Ibid.

[93] Adrian Pforzheimer, Frontier Group, and Alexander Truelove, U.S. PIRG Education Fund, *Trash in America: Moving from destructive consumption towards a zero-waste system*, September 2021. Available at: https://publicinterestnetwork.org/wp-content/uploads/2021/09/US_Trash-in-America-2021-SCRN.pdf

[94] "Industrial Water Usage - What Does It Take to Make These Items", National Association of Water Companies, available at: https://www.the71percent.org/industrial-water-usage/

[95] Abraham Lustgarten and Naveena Sadasivam, "Holy Crop: how federal dollars are financing the water crisis in the West," *ProPublica*, 27 May 2015, available at: https://projects.propublica.org/killing-the-colorado/story/arizona-cotton-drought-crisis/

[96] See: Lucy Brady Woods, "The Devastating Drought Across The West Could Mean An Increase In Farmer Suicides", *NPR*, 2 July 2021, available at: https://www.npr.org/2021/07/02/1011330302/the-devastating-drought-across-the-west-could-mean-an-increase-in-farmer-suicide; and Cassidy Rosenblum, "Do You Look After Your Neighbors as Close as Your Crop or Herd?", *The New York Times*, October 2022. Available at: https://www.nytimes.com/2022/10/06/opinion/colorado-farmer-suicides.html

wildfires and dust storms worse over time[97] - events that have already been disruptive to the lives of hundreds of thousands of Americans.[98]

Every package shipped exacts environmental costs. Container ships alone emit 1 billion tons of carbon dioxide each year - 3% of all greenhouse gas emissions globally.[99] The final leg of home delivery has additional environmental costs; in a single year, millions of U.S. delivery vans dropping off packages on doorsteps emit an additional 4.5 million tonnes of CO2.[100] Shipping comes with public health costs, too. In Southern California in 2021, "the pandemic-fueled boom in shipping activity" contributed to a 40% jump in fine particulate pollution.[101] Breathing particulate matter has been linked to premature death, damage to the respiratory and cardiovascular systems, worsened mental health and neural functioning, problems with fertility, conception, pregnancy and birth, an increased risk of many types of cancer, and harm to children.[102] According to the logistics firm Pitney Bowes' shipping index, Americans received 21.5 billion parcels in 2021 alone - 2.6 million every hour, or 684 every second.[103]

Every product we consume is eventually discarded, and this exacts costs, too. Americans throw out 4.9 pounds of trash per person every day.[104] Some products are recycled, but nearly two-thirds of garbage thrown out in the U.S. is ultimately dumped into landfills or burned in incinerators.[105]

Incineration is harmful; its emissions include heavy metals and mercury, a neurotoxin that impairs brain function, as well as cancer-causing pollutants like dioxin, one of the most toxic substances known to humanity.[106] Landfills are harmful; they produce leachate, liquid waste that can threaten drinking water supplies, even when landfills are protected with modern plastic

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[97] Center for Disease Control and Prevention, "Drought and Your Health" *(web page)*, last updated July 2022, available at: https://www.cdc.gov/nceh/features/drought/index.html

[98] Jackie Northam, "Shipping industry is pressured to cut pollution caused by merchant fleet", *NPR*, 1 December 2021. Available at: https://www.npr.org/2021/12/01/1060382176/shipping-industry-is-pressured-to-cut-pollution-caused-by-merchant-fleethttps://www.internal-displacement.org/sites/default/files/publications/documents/2019-IDMC-GRID-spotlight-united-states.pdf

[99] See note 93.

[100] Greg Higgs, *Revealing the Secret Emissions of E-Commerce, Hint: It's All in the Delivery*, Clean Mobility Collective and Stand.earth, 2022, available at: https://clean-mobility.org/wp-content/uploads/2022/07/SRG_Last_Mile-FINAL.pdf.

[101] L.A. Times Editorial Board, Editorial: "Port pollution is surging. Let regulators do their job to protect public health" 28 January 2022. Available at: https://www.latimes.com/opinion/story/2022-01-28/port-pollution

[102] Bryn Huxley-Reicher at Frontier Group and Matt Casale at U.S. PIRG Education Fund,, *Trouble in the Air: Millions of Americans breathed polluted air in 2020,* Fall 2021. Available at: https://publicinterestnetwork.org/wp-content/uploads/2021/11/US-Trouble-in-the-Air-Web-1_0.pdf

[103] "Pitney Bowes Parcel Shipping Index Finds US Parcel Volume Reached Record High of 21.5 Billion in 2021" *(press release)*, Business Wire, 23 May 2022. Available at: https://www.businesswire.com/news/home/20220523005364/en/Pitney-Bowes-Parcel-Shipping-Index-Finds-US-Parcel-Volume-Reached-Record-High-of-21.5-Billion-in-2021

[104] See note 93.

[105] Ibid.

[106] Ibid.

liners.[107] The town of Lewisville, Texas alleged in a 2012 federal lawsuit that the Camelot Landfill posed "an imminent and substantial endangerment" to its drinking water supply.[108] Monitoring wells outside the landfill near the Elm Fork of the Trinity River were found to be contaminated with heavy metals and chlorinated hydrocarbons, which can impact central nervous system function and cause kidney damage.[109] The groundwater at Lees Lane Landfill in Louisville, KY, was found in 2012 to contain arsenic levels up to 38 times the federal limit for drinking water, and lead contamination levels as high as 130 parts per billion, nearly nine times the federal action level.[110]

Not all consumption is bad; people need food, clothing and shelter after all. And many often want to consume additional stuff beyond the necessities. However, the marginal additional consumption driven by advertising adds to the harms, and not necessarily to the benefits. Every single step of consumption contributes to harms that are hard for us to see. They make our air less safe to breathe, our water less safe to drink, the climate a more unpredictable place to live and more prone to inflicting widespread suffering. "We need things consumed, burned up, replaced and discarded at an ever-accelerating rate", marketing consultant Lebow wrote.[111]

Policymakers have taken action to regulate advertising before.

Over the late 19th and 20th century, the U.S. imposed regulations to curb the most obvious and dramatic abuses of the power of advertising. These regulations have evolved even as advertising itself evolved.

In the early decades of advertising, when ads mostly alerted consumers to the existence of products, policy-makers adopted rules regulating fraudulent products. The U.S. Postal Service was the first agency authorized to act on deceptive advertising via its mail fraud statute in 1872, going after products ordered over mail that were not as advertised, or were never sent in the first place.[112] Public outcry over unregulated advertising began to grow around the turn of the

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[107] Ibid.

[108] City of Lewisville, *Lewisville Reaches Agreement in Federal Lawsuit Against Camelot Landfill*, 10 March 2015, archived at http://web.archive.org/web/20171020151109/https://www.cityoflewisville.com/Home/Components/News/News/1234/710?arch=1&npage=26

[109] Ibid; and: ReedGroup, MDGuidelines, *Toxic Effects, Chlorinated Hydrocarbon Solvents*, archived at http://web. archive.org/web/20180214011409/http://www.mdguidelines.com/toxic-effects-chlorinatedhydrocarbon-solvents .

[110] Ryan Van Velzer, "Louisville hazardous waste site still leaking pollution into Ohio River," *WPFL*, 26 April 2019, available at https://wfpl.org/louisville-hazardous-waste-site-stillleaking-pollution-into-ohio-river/ 15 ppb: EPA, *Basic Information about Lead in Drinking Water*, 9 December 2020, available at https://www.epa.gov/ground-water-and-drinking-water/basicinformation-about-lead-drinking-water#regs .

[111] See note 81.

[112] According to the article's author, the mail fraud statute established "the legality of national regulation to deal with the problems of a national market, thereby paving the way for future national advertising laws." Ross D. Petty, "The historic development of modern US advertising regulation", *Journal of Historical Research Marketing*, Vol.7(4)L25, 16 November 2015. Available (behind paywall) at:

20th century, helping spur further action.[113] Congress passed the Newspaper Publicity Act of 1912 requiring the labeling of ads in periodicals identifying them as such, a regulation that was later echoed in the 1927 Radio Act.[114] States began passing laws to regulate untrue and deceptive advertising claims in 1913; by the end of the decade, 37 states had adopted such laws.[115] Federally, concerns about advertising helped prompt the creation of agencies including the Federal Drug Administration, the Federal Communications Commission, and the Federal Trade Commission.

As advertising shifted from informing consumers about products and toward the creation of wants, regulation evolved further., Government acted to protect children from advertisements for inappropriate products and restricted the unfair use of games of chance to sell products.[116] The nation's policymakers in particular regulated ads for addictive products. Spurred on by FTC actions from 1964-1969, the U.S. banned radio and TV ads for cigarettes in 1970.[117] Advertisements for cigarettes, a notoriously harmful product, have significant consequences; tobacco marketing has been shown to increase youth smoking rates and make it harder for smokers to quit.[118]

Now we face an advertising industry with unparalleled access to the eyes, minds and psyches of American consumers. The machinery of today's targeted advertising is the most intrusive form yet. With the internet, much of our lives are mediated digitally, giving the advertising industry access to unprecedented amounts of granular information about who we are, what we like, and what we might be made to buy. When we look at today's advertising, it looks back at us.

It merits a new era of regulation.

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https://www.deepdyve.com/lp/emerald-publishing/the-historic-development-of-modern-us-advertising-regulation-r05yAPoMRx?

[113] See note 80.

[114] See source cited in note 112.

[115] Ibid.

[116] FTC, "Trade Regulation Rule Concerning Games of Chance in the Food Retailing and Gasoline Industries - 16 CFR Part 419", 27 December 1996. Available at: https://www.ftc.gov/legal-library/browse/federal-register-notices/trade-regulation-rule-concerning-games-chance-food-retailing-gasoline-industries-16-cfr-part-419

[117] John E. Calfee, FTC Bureau of Economics, *Cigarette Advertising, Health Information and Regulatoin Before 1970*, December 1985. Available at: https://www.ftc.gov/sites/default/files/documents/reports/cigarette-advertising-health-information-and-regulation-1970/wp134.pdf

[118] See, e.g., *Tobacco Control Legal Consortium, Cause and Effect: Tobacco Marketing Increases Youth Tobacco Use: Findings from the 2012 Surgeon General's Report on Youth and Young Adult Tobacco Use*, 2012, https://publichealthlawcenter.org/sites/default/files/resources/tclc-guide-SGReport-Findings-Youth-Marketing-2012.pdf

Harms of data-driven advertising

Predatory and invasive advertising

Today's surveillance advertising system relies on the collection of detailed data about consumers. Companies know more about the demographics of every American, and their professional and socioeconomic lives, than at any other point in history.

One of the most disturbing trends in targeted advertising is the growing interest in understanding consumers' internal lives - cataloging weaknesses, insecurities and emotional patterns - all so it can be leveraged for commercial gain. Taking advantage of someone's vulnerabilities or emotional state should be considered unfair practices.

Today, harmful advertising is poised to find its way to exactly the most susceptible users. An online casino targeted ads to problem gamblers offering free spins on its site.[119] Instagram has promoted diet and weight loss content to users with eating disorders.[120] The AdTech giant Oracle includes a beverage industry vertical in its targeting offerings, advertising companies can use its "beverage-centric target audiences" to "recapture lapsed shoppers".[121] "Lapsed shoppers" may, of course, include those looking to stop drinking.

One lucrative audience found in many data broker and AdTech targeting offerings is "high spenders".[122] These could be wealthy individuals with plenty of money to spare, or they could be those with particularly harmful spending habits - not unlike the high-spending "whales" that

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[119] Rob Davies, "Online casino advert banned for targeting problem gamblers", *The Guardian*, 9 October 2019. Available at:
https://www.theguardian.com/society/2019/oct/09/casumo-ad-banned-for-targeting-people-trying-to-stop-gambling

[120] Rachel Hosie, "Instagram has apologized for promoting weight loss content to people with eating disorders", *Insider*, 16 April 2021. Available at:
https://www.insider.com/instagram-apologizes-for-promoting-diet-posts-people-with-eating-disorders-2021-4

[121] "Beverage: Use our beverage-centric target audiences to drive incremental sales, reach competitor's customers, recapture lapsed shoppers, and drive new product trials. From sports bars to home bars, Oracle's purchase-based modeled audiences are 8X more likely to reach buyers than the national baseline." On: "Oracle Audiences" (webpage), Oracle, Archived on 19 October 2022.
https://web.archive.org/web/20221019160357/https://www.oracle.com/cx/advertising/audiences/#rc30p5

[122] For example: Recall that from the clean rooms section of this comment that Google's clean room offers the chance "to build an audience of high-value users". Oracle provides an additional example: "Retail: Oracle purchase-based retail audiences are built from multiple data sources. These include SKU-level offline and ecommerce transaction data from more than 500 retailers and trip-level spend data from more than 50,000 merchants. Target frequent shoppers or high spenders by category or onboard your first-party data to reach existing customers and build spend-a-like models to acquire new customers. Additional audiences frequently used by retailers include lifestyle, life stage, proximity, and seasonal audiences." On: "Oracle Audiences" (webpage), Oracle, Archived on 19 October 2022.Archived on 19 October 2022 at:
https://web.archive.org/web/20221019160357/https://www.oracle.com/cx/advertising/audiences/#rc30p2

make up a large part of the gaming industries' income and who are more likely to be "problem gamblers" than they are rich individuals.[123]

Targeting "high spenders'' could end up targeting at-risk individuals with mental health conditions. This is an area where FTC enforcement action has lagged to date.

People with compulsive buying behavior, for example, make up 6% of the U.S. population - a prevalent mental health disorder.[124] Compulsive shopping is characterized by "persistent, excessive, impulsive and uncontrollable purchase of products" in spite of severe consequences.[125] Those with compulsive shopping disorder are a disadvantaged group.[126] A study found compulsive shoppers are more likely to be influenced by advertising, particularly those on the internet.[127] (For other potentially impacted conditions related to impulse spending, see page 27.)

Advertisers are increasingly interested in understanding the psychological states of the consumers they wish to target with ads. Identifying a person's emotions may be lucrative; for example, particular emotions can be triggers for compulsive shoppers,[128] and research has shown that for many people, negative emotions can lead to unplanned purchases as a way to boost one's mood.[129] Advertisers have shown interest in identifying someone's mood to dictate when to best target them with ads. A 2013 beauty industry study, for instance, sought "to identify when women feel most vulnerable about their appearance throughout the week in order to determine the best timing for beauty product messages and promotions", concluding that women feel "least attractive" in the mornings from 5-9 AM and late at night, around 10 PM.[130]

Meta in particular has taken interest in identifying users' emotional states. In 2017, leaked documents revealed how Facebook can monitor posts and photos on its site and determine when teens are feeling "overwhelmed" or even "worthless" - research that the company

[123] Norwegian Consumer Council, *Insert Coin: How the gaming industry exploits consumers using loot boxes*, 31 May 2022. Available at:
https://storage.forbrukerradet.no/media/wp-content/uploads/2022/05/2022-05-31-insert-coin-publish.pdf
[124] Donald Black, "A review of compulsive buying disorder", *World Psychiatry*, vol. 6, issue 1, February 2017. Available at: https://www.ncbi.nlm.nih.gov/pmc/articles/PMC1805733/
[125] Roser Granero et al, "Compulsive Buying Behavior: Clinical Comparison with Other Behavioral Addictions", *Frontiers in Psychology* ,vol 7, June 2016, doi: 10.3389/fpsyg.2016.00914. Available at:
https://www.ncbi.nlm.nih.gov/pmc/articles/PMC4908125/
[126] Kalina Mikołajczak-Degrauwe and Malaika Brengman, "The influence of advertising on compulsive buying – The role of persuasion knowledge", *Journal of Behavioral Addictions*, vol. 3 issue 1, March 2014, doi: 10.1556/JBA.2.2013.018. Available at: https://www.ncbi.nlm.nih.gov/pmc/articles/PMC4117277/
[127] Ibid.
[128] See note 124.
[129] A Selin Atalay and Margaret G. Meloy, "Retail therapy: A strategic effort to improve mood", *Psychology & Marketing*, 2 May 2011, available at: https://onlinelibrary.wiley.com/doi/abs/10.1002/mar.20404 .
[130] "New Beauty Study Reveals Days, Times And Occasions When U.S. Women Feel Least Attractive" *(press release)*, PRNewswire, 2 October 2013, available at:
https://www.prnewswire.com/news-releases/new-beauty-study-reveals-days-times-and-occasions-when-us-women-feel-least-attractive-226131921.html .

reportedly shared with an advertiser.[131] Meta has also filed a patent to identify the emotions of users based on typing speeds.[132] Its VR headsets are an additional cause for concern (discussed on page 34).

AdTech systems that know too much about users can additionally end up amplifying personal tragedies in invasive and abusive ways. One woman googled the cost of headstones while making end-of-life arrangements after she lost her mother to cancer; as a result, she was trailed around the web with targeted ads for gravestones, turning the internet into a "virtual graveyard" every time she logged on.[133] In a poignant *Washington Post* piece by Gillian Brockell, she recounts the devastation of going online after a stillbirth, only to be pummeled with ads for infant products for a baby she no longer had.[134] As a piece by *Vox* summarizes the problem: How do you outrun something that's designed to follow you everywhere?[135]

Children

The effect of commercial surveillance on children and teens is an additional area of concern. Data collection on minors can be enormous; by one counting, online advertising firms have collected an average of 72 million data points on a child by the time they turn 13.[136]

U.S. PIRG supports the comments of Fairplay, Center for Digital Democracy and EPIC when it comes to protecting the data of our children.

Scammers

One notable harm of commercial surveillance is the wide range of tools made available to scammers. Scammers and predatory industries have always existed – but the big data system underpinning today's internet has allowed them an unprecedented ability to identify, reach and take advantage of their victims.

In some cases, predatory operations have relied on the data collection and ad delivery systems of major tech platforms. Reports include people searching terms like "need money help" on

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[131] Sam Levin, "Facebook told advertisers it can identify teens feeling 'insecure' and 'worthless'", 1 May 2017, available at:
https://www.theguardian.com/technology/2017/may/01/facebook-advertising-data-insecure-teens .

[132] "Facebook's Emotion Tech: Patents Show New Ways For Detecting And Responding To Users' Feelings", *CBInsights*, 1 June 2017, available at:
https://www.cbinsights.com/research/facebook-emotion-patents-analysis/

[133] Rae Nudson, "When targeted ads feel a little too targeted", *Vox*, 9 April 2020, available at:
https://www.vox.com/the-goods/2020/4/9/21204425/targeted-ads-fertility-eating-disorder-coronavirus .

[134] Gillian Brockell, "Dear tech companies, I don't want to see pregnancy ads after my child was stillborn", *Washington Post*, 12 December 2018. Available at:
https://www.washingtonpost.com/lifestyle/2018/12/12/dear-tech-companies-i-dont-want-see-pregnancy-ads-after-my-child-was-stillborn/.

[135] See note 133.

[136] Geoffrey A. Fowler, "Your Kids' Apps Are Spying on Them", *The Washington Post*, 9 June 2022. Available at: https://www.washingtonpost.com/technology/2022/06/09/apps-kids-privacy/

Google being served ads for predatory loans with staggering interest rates over 1,700%.[137] A precious metals scam used highly targeted Facebook ads to get elderly seniors likely to be suspicious of institutions to spend their retirement savings on grossly overpriced gold and silver coins.[138]

Sometimes scammers use data provided by data brokers to furnish offline schemes. For example, in 2020 and 2021, the U.S. Department of Justice took action against three major data brokers for knowingly assisting scammers in identifying ideal victims for direct mailer schemes. In all three cases - *U.S.A v. Epsilon Data Management*[139], *U.S.A v. Macromark*[140], and *U.S.A v. KBM Group*[141] - the firms were charged with Conspiracy to Commit Mail and Wire Fraud.

The scams went like this: send a mailer saying the victim had won a prize, such as thousands of dollars in a fake sweepstakes that could be claimed by paying a fee. The mailers were sent to people identified by these data brokers as most likely to fall for it, and their lists were largely made up of the elderly or cognitively impaired, including individuals with Alzheimer's.[142]
If someone responded to a scam once, they were likely to respond to a scam again. And so brokers contracting with new scamming companies running new schemes used the same victims, over and over again. These brokers also used the data on who fell for it to create models to find new additional ideal victims, putting even more people at risk than the initial targets.[143]

The brokers engaged in these schemes were not small, fly-by-night actors; they were large and well-established companies. The court filing against Epsilon identified the broker as "one of the largest marketing companies in the world"; it supplied data on over 30 million Americans to scamming companies alone.[144] KBM Group is reported to have databases containing data on more than 100 million U.S. households, and at any given time serves at least 2,500 client companies.[145] Data brokers providing data to predatory operations is not an isolated incident, and the troubling patterns illustrated by these cases imply that such behavior is widespread within the industry. The FTC, too, has taken its own actions against brokers assisting fraudulent

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[137] Shanti Das, "Google profiting from 'predatory' loan adverts promising instant cash", *The Guardian*, 12 March 2022. Available at:
https://www.theguardian.com/technology/2022/mar/13/google-profiting-from-predatory-loan-adverts-promising-instant-cash
[138] Jeremy B. Merrill, "How Facebook fueled a precious-metal scheme targeting older conservatives" *Quartz*, 19 November 2019. Available at:
https://www.yahoo.com/video/facebook-fueled-precious-metal-scheme-110044886.html
[139] See note 69.
[140] *U.S.A. v. Macromark, Inc*., U.S. Department of Justice, available at:
https://www.justice.gov/civil/case/file/1326376/download
[141] See note 70.
[142] Direct evidence for Alzheimer's victims is found in *U.S.A. v. Macromark, Inc*.
[143] Alistair Simmons and Justin Sherman, "Data Brokers, Elder Fraud, and Justice Department Investigations", *LawFare*, 25 July 2022. Available at:
https://www.lawfareblog.com/data-brokers-elder-fraud-and-justice-department-investigations
[144] See note 69.
[145] See note 70.

schemes, as in the case of information provided by consumers in an online application for payday loans instead being sold to scamming companies.[146]

Financial harms of data-driven advertising

Social media, targeted ads, sponsored content and fashion influencers have created a hyper-consumerist environment that can urge people to spend past their limits.[147] Academic studies have shown that using social media can lower a person's self-control, and that higher social media use is associated with a lower credit score, higher levels of credit card debt[148] and increased compulsive buying.[149]

Impulse purchases can be dangerous for consumers. By definition, impulse buys are unplanned spending - and more likely done without consideration of one's budget in advance. Industry studies have indicated that shopping on mobile devices leads to more impulse purchases.[150] As one such industry report puts it: "Often resulting from lapses of self-control, inner strength or resolve, unplanned purchases can be lucrative for retailers."[151] Importantly, advertising firms have written about how to target impulse buyers in order to boost sales.[152]

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[146] See: FTC v. Ideal Financail Solutions Inc, Ascot Crossing, LLC, Bracknell Shore, Ltd., FTC, available at: https://www.ftc.gov/sites/default/files/documents/cases/2013/02/130220ifscmpt.pdf; and "FTC Puts An End to Data Broker Operation that Helped Scam More Than $7 Million from Consumers' Accounts" *(press release)*, 30 November 2016. Available at:
https://www.ftc.gov/news-events/news/press-releases/2016/11/ftc-puts-end-data-broker-operation-helped-scam-more-7-million-consumers-accounts

[147] See: Emily Glaser, "Many Americans struggle with debt. Social media doesn't help", *Vox*, 17 May 2021, available at:
https://www.vox.com/the-goods/22436051/social-media-credit-card-debt-instagram-tiktok; Christopher Ingraham, "Your friends' social media posts are making you spend more money, researchers say", *Washington Post*, 19 February 2019, available at:
https://www.washingtonpost.com/us-policy/2019/02/19/your-friends-social-media-posts-are-making-you-spend-more-money-researchers-say/; and see note 87.

[148] "Social Networks May Inflate Self–Esteem, Reduce Self–Control" *(press release)*, 14 January 2013. Available at:
https://www8.gsb.columbia.edu/newsroom/newsn/2243/social-networks-may-inflate-selfesteem-reduce-selfcontrol.

[149] Saeed Pahlevan Sharif and Ken Kyid Yeoh, "Excessive social networking sites use and online compulsive buying in young adults: the mediating role of money attitude", Young Consumers, 7 August 2018, available at: https://www.emerald.com/insight/content/doi/10.1108/YC-10-2017-00743/full/html.

[150] See, e.g., "Emotional eCommerce: Ups and downs in the online experience", Klarna and University of Reading, 2017 July. Available at:
https://www.klarna.com/assets/sites/3/2020/01/07094907/emotionaleCommerce_Reading_Klarna.pdf

[151] Ibid.

[152] See, e.g., Chris Thomas, "How to Increase Sales by Targeting Impulse Buyers" *(blog)*, Cake Marketing Agency, archived on 21 November 2022 at
https://web.archive.org/web/20221121181414/https://www.cake.agency/blog/impulse-buyers ; "How to Increase Revenue by Targeting Impulse Buyers" *(blog)*, Quick Sprout, 22 January 2018, available at: https://www.quicksprout.com/impulse-buyers/; and "How To Target Facebook Ads To "Impulse purchase" Audience", AdTargeting, available at: https://adtargeting.io/facebook-ad-targeting/impulse-purchase.

Young people are more likely to make impulse purchases.[153] Some neurological conditions have impulsive behavior as a symptom, making individuals with these diagnoses more predisposed to unplanned spending. These conditions include attention deficit disorder (ADD/ADHD)[154], borderline personality disorder[155], anxiety disorders[156], and bipolar mood disorder.[157] People with bipolar mood disorder are specifically prone to impulsive spending sprees during episodes of mania or hypomania.[158] A common tip for preventing impulsive spending during a manic episode includes having another person password-protect or otherwise restrict internet access in an effort to cut off access to online shopping.[159] It's possible just by analyzing someone's social media posts to identify a manic state.[160]

The use of data in Buy Now, Pay Later debt products -

When many Americans feel driven to match their consumption patterns with those depicted on social media - a space where people carefully curate the image they broadcast to the world - many will feel frustrated or impelled to take on debt in order to inch their consumption as close to the new ideal as possible.

When it comes to data-driven consumer debt, one area of concern is the explosion of Buy Now, Pay Later (BNPL) companies. These on-demand loans granted at the time of purchase are designed, in no small part, to increase the amount of consumer impulse spending.[161] Increasingly, these companies are getting into the data business.

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[153] "Impulse Purchases Seen More Common Among Youth", Marketing Charts, 6 September 2022, available at: https://www.marketingcharts.com/customer-centric/spending-trends-226861

[154] "Tips for Curbing the ADHD Spending Impulse", *Edge Foundation*, available at: https://edgefoundation.org/tips-for-curbing-the-adhd-spending-impulse/

[155] Annegret Krause-Utz et al, "Self-reported impulsivity in women with borderline personality disorder: the role of childhood maltreatment severity and emotion regulation difficulties", *Borderline Personality Disorder and Emotion Dysregulation*, March 2019, available at: https://bpded.biomedcentral.com/articles/10.1186/s40479-019-0101-8

[156] See, e.g., Lisheng Xia et al, "Anxious Individuals Are Impulsive Decision-Makers in the Delay Discounting Task: An ERP Study", *Frontiers in Behavioral Neuroscience*, 24 January 2017,doi: 10.3389/fnbeh.2017.00005, available at: https://www.ncbi.nlm.nih.gov/pmc/articles/PMC5258725/; Katarzyna Jakuszkowiak-Wojten et al, "Impulsivity in Anxiety Disorders: A critical review", *Psychiatria Danubina*, vol. 27, 2015. Available at: https://www.psychiatria-danubina.com/UserDocsImages/pdf/dnb_vol27_sup1/dnb_vol27_sup1_452.pdf

[157] Emily Stewart, "Money problems are made worse if you live with bipolar disorder. Here's how to get on top of things", *ABC Australia*, 31 July 2020, available at: https://www.abc.net.au/news/2020-08-01/money-budgeting-bipolar-disorder-mental-health/12495852

[158] Ibid.

[159] See, for example: "Why Bipolar Disorder Mania Makes You Overspend (& How to Recover)", *PsychCentral*, 22 April 2021. Available at: https://psychcentral.com/bipolar/spending-sprees-in-bipolar-disorder

[160] Roisin Kiberd, "How Facebook Can Be Used to Predict a Manic Episode", Motherboard, 12 December 2014, available at: https://www.vice.com/en/article/kbznv9/how-facebook-can-be-used-to-predict-a-manic-episode

[161] R.J. Cross, "What's wrong with buy now, pay later? The risks of the newest tool to pull you into debt", U.S. PIRG, 6 January 2022. Available at: https://pirg.org/articles/whats-wrong-with-buy-now-pay-later-the-risks-of-the-newest-tool-to-pull-you-into-debt/

BNPL providers can collect demographic information and data from social media accounts, in addition to data about what consumers are buying and when.[162] In 2021, Afterpay launched a data and analytics platform called Afterpay iQ.[163] Using its 156 million transactions, the platform assigns its users a "persona" that companies can use to "paint a clear data-driven profile of who that customer is, their spend, frequency" and "AOV (average order value)". This, according to AfterPay, all serves to "provide a deeper understanding of the customer" and "ideas for new channels to target that customer".[164]

BNPL companies are increasing their targeting capabilities. While the original business model of BNPL companies has involved partnerships with specific retailers, BNPL companies are currently shifting to an app-driven model, where instead of being just the loan provider, they are the marketing medium itself, seeking to recreate the one-stop-shopping experience of the mall. As documented by the Consumer Financial Protection Bureau in a report earlier this year, this marks a pivot to a "lead generation business model". Placement of products inside a BNPL app are designed to "be attractive to the specific app user based on the user's behavioral surplus: pieces of consumer-provided or consumer-derived data that add value to models that predict the brands and products likeliest to elicit clicks and purchases."[165]

This raises the risks of increasing data-driven debt. Given the retail sales metrics that BNPL helps drive - including higher shopping cart conversion, higher average order sizes, and increased repeat visits - the CFPB correctly identifies that "BNPL lenders' use of consumer data for revenue-generating purposes has the potential to increase overextension risks by engendering repeat usage".[166]

In a letter to CFPB Director Chopra, 21 state attorneys general expressed similar concerns about BNPL's capacity to "push consumers into cycles of debt" and particularly highlighted the concern "when such products are popular among younger consumers unfamiliar with navigating credit products."[167]

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[162] Wendy Evans, "Buy now, pay later providers move into the data business", Choice, 7 March 2022, available at:
https://www.choice.com.au/consumers-and-data/data-collection-and-use/who-has-your-data/articles/buy-now-pay-later-data-collection

[163] "BNPL Firm Afterpay Launches Data Platform For Merchants", Pymtns, 19 August 2021. Available at:
https://www.pymnts.com/buy-now-pay-later/2021/bnpl-firm-afterpay-launches-data-platform-for-merchants/

[164] Nathan Jolly, "AfterPay IQ Brings Behavioral Science to the BNPL Sector", *ChannelNews*, 22 November 20212, available at:
https://www.channelnews.com.au/afterpay-iq-brings-behavioral-science-to-the-bnpl-sector/

[165] Consumer Financial Protection Bureau, *Buy Now, Pay Later: Market trends and consumer impacts*, September 2022. Available at:
https://files.consumerfinance.gov/f/documents/cfpb_buy-now-pay-later-market-trends-consumer-impacts_report_2022-09.pdf

[166] Ibid.

[167] Office of the Attorney General State of Illinois, "Re: Notice and Request for Comment Regarding the CFPB's Inquiry Into Buy-NowPay-Later Providers, Docket No. CFPB-2022-0002; 87 Fed. Reg. 3511" *(letter)*, 25 March 2022. Available at:
https://oag.ca.gov/system/files/attachments/press-docs/2022.3.25%20CFPB%20-%20State%20AG%20C

BNPL is popular with younger consumers, and is heavily publicized on platforms like TikTok.[168] In a post announcing AfterPay's new suite of advertising products inside its app, the BNPL company points out that "these powerful new advertising options are built for brands focused on growing their base of Gen Z and Millennial shoppers." The company's Chief Strategy Officer goes on to say that AfterPay Ads can "unleash the power of our ecosystem by giving brands a new way to promote products, collections and offers to Afterpay's highly engaged young audience of shoppers."[169] "Highly engaged" can be another metric for "likely to overspend".

Younger consumers are at a higher risk of accumulating more debt than they can afford and being targeted to buy more.[170] Further, recent reports indicate that more and more consumers are using BNPL for food and fuel, consumable products that they will need to purchase again before they've fully paid off the prior debts under the popular "pay in four" BNPL business model.[171]

And as we concluded in our 2022 report on BNPL complaints to the CFPB:[172]

> "Finally, we maintain our concerns that the vast data collection and monetization engines run by Big Tech firms are designed to fuel an explosion of buying and an increase in consumer debt for stuff we don't need and can't afford and, too often, end up throwing away."

The use of data to market financial products -

Data can be used to identify consumers and market financial products to them that may not be advantageous for their financial health. For example, some financial product marketers have relied on lead generation - a deceptive online activity using a web submission form or portal to collect information from individuals expecting to get one online service, not realizing their data is being transmitted to other actors that will use it in call centers or targeted advertising campaigns. Many lead gen operations are predatory in nature, used for peddling unwise investments. Payday lenders, for example, have used online lead gen tools to target ads at vulnerable consumers, even in states where payday loans are illegal.[173] Lead gen services also

omment%20Letter%20on%20BNPL%20Providers%20%282022-0002%2087%20Fed.%20Reg.%203511%29%20.pdf

[168] See note 87.

[169] "Introducing Afterpay Ads: Helping Brands Reach, Acquire, and Activate More Customers" *(press release)*, AfterPay, available at:
https://www.afterpay.com/en-US/for-retailers/access/news/introducing-afterpay-ads.

[170] Comment from Center for Responsible Lending (March 25, 2022), available at
https://www.regulations.gov/comment/CFPB-2022-0002-0028

[171] Priya Krishna, "Eat Now, Pay Later: Going Into Debt for Food", *The New York Times*, 29 August 2022, available at https://www.nytimes.com/2022/08/29/dining/buy-now-pay-later-loans-groceries.html

[172] Mierzwinski and Litt, U.S. PIRG Education Fund, "The hidden costs of Buy Now, Pay Later: Complaints To CFPB Show Need For Action", 9 March 2022, available at:
https://pirg.org/resources/the-hidden-costs-of-buy-now-pay-later/.

[173] Upturn, *Led Astray: Online Lead Generation and Payday Loans*, October 2015, available at:
https://www.upturn.org/static/reports/2015/led-astray/files/Upturn_-_Led_Astray_v.1.01.pdf

contributed to the 2008 mortgage market crisis, identifying candidates for subprime loans and targeting them with ads for mortgages and refinancing.[174]

Consumer data collected straight from the financial industry itself can be used for targeting consumers for financial products. The Gramm-Leach-Bliley Act regulating the financial sector's use of consumer data is woefully inadequate to protect consumers from unfair uses of their data. The FTC should support the CFPB's section 1033 rulemaking regarding personal financial data rights.[175]

There is an immense amount of financial data available about consumers. A sector of the AdTech industry is focused on the sale of financial products. The AdTech identity graph firm Claritas, for example, has its own audience tool for financial marketers called P$CYLE services which advertises its services as such:

> "Drawing on financial transactions data as well as the most comprehensive survey of financial behavior, you'll know more about people's financial lives including loans, credit cards, mortgages, insurance policies, 401Ks, online banking behavior, account balances and more. You'll be better able to predict financial behaviors with 60 precisely defined segments."[176]

Amazon shares streaming and shopping data with financial services marketers.[177] Overall, digital marketing by Finserv companies is expected to exceed $30 billion annually by 2023.[178]

Financial data has been used to target consumers with loans for financial products before. Ads for Goldman Sachs' consumer loan platform, for example, have been targeted to Americans with more than $10,000 in credit card debt.[179]

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[174] Ed Mierzwinski and Jeff Chester, "Selling Consumers Not Lists: The New World of Digital Decision-Making and the Role of the Fair Credit Reporting Act", *Suffolk University Law Review*, 1 February 2014. Available at:
https://cpb-us-e1.wpmucdn.com/sites.suffolk.edu/dist/3/1172/files/2014/01/Mierzwinksi-Chester_Lead.pdf
[175] "CFPB Kicks Off Personal Financial Data Rights Rulemaking", *(press release)*, CFPB, 27 October 2022.
[176] "P$YCLE Premier" *(webpage)*, Claritas, available at:
https://claritas.com/psycle-premier/?st-t=PPC&gclid=Cj0KCQjwkOqZBhDNARIsAACsbfLHHydKQqpHU7j3AUmDkug5ZhPHwlo0zj9fOk6RxbcY86PdsE1Tt5gaAmNIEALw_wcB
[177] Theresa Yerger, "How-to reach FinServ audiences in today's competitive content landscape" *(blog)*, Amazon Ads, 24 March 2022. Available at:
https://advertising.amazon.com/blog/reaching-finserv-audiences-in-2022
[178] Sara Lebow, "US banks and insurance companies slow down ad spending to compete with fintechs," *Insider Intelligence*, 4 August 2021. Available at:
https://www.insiderintelligence.com/content/us-banks-insurance-companies-compete-with-fintechs
[179] Portia Crowe, "'DEBT HAPPENS': Goldman Sachs just ran its first-ever ads trying to sell you something", *Business Insider*, 17 November 2016. Available at:
https://www.businessinsider.com/goldman-sachs-marcus-ads-2016-11

Multiple academic studies have found that the increased use of customer data by businesses has coincided with rapidly rising consumer debt levels.[180]

Along with the Center for Digital Democracy, we filed a comprehensive comment in the CFPB's recent Big Tech inquiry, which examined Big Tech's entry into the payments marketplace. From that comment:[181]

> "USPIRG and CDD believe the U.S. is at an especially critical inflection point regarding digital platforms, digital payment services and online consumer protection: the pervasive tracking of data on individuals, families and groups, online and off; the nearly real-time ability to target a consumer with financial and other product offers regardless of where they are or device they use; and the development of a highly sophisticated and now machine-driven apparatus to deliver personalized marketing and communications, have all led to a largely unaccountable digital marketplace. A handful of digital platform giants and their partners stealthily operate what is known as a "surveillance marketing" system, which now pervades every aspect of our lives— increasingly affecting how the public engages with the financial services sector."

Section 4. Biometrics - addressing questions 37 and 38.

Question 37: How do companies collect consumers' biometric information? What kinds of biometric information do companies collect? For what purposes do they collect and use it? Are consumers typically aware of that collection and use? What are the benefits and harms of these practices?
Question 38: Should the Commission consider limiting commercial surveillance practices that use or facilitate the use of facial recognition, fingerprinting, or other biometric technologies? If so, how?

Types of biometric data and their uses

There are many kinds of biometric data. As defined in a 2011 report from the Executive Office of the President and the National Science and Technology Council, biometrics are measurable characteristics that are either 1) biological (anatomical and physiological) or 2) behavioral, and can be used for automated recognition.[182]

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[180] Multiple studies making this argument are cataloged here: Paul Harrison et al, Consumer Action Law Centre and Deakin University, *Profiling for Profit: A report on Target Marketing and Profiling Practices in the Credit Industry*, February 2012, available at:
https://consumeraction.org.au/wp-content/uploads/2013/01/Profiling-for-Profit-FINAL-1-5-12.pdf
[181] Mierzwinski and Chester, Comments of USPIRG and the Center for Digital Democracy, December 21, 2021, CFPB Docket No.-2021-0017, available at
https://pirg.org/resources/comment-to-cfpb-on-big-tech-payment-platforms/
[182] National Science and Technology Council Subcommittee on Biometrics and Identity Management, *The National Biometrics Challenge*, September 2011. Available at:

Anatomical biometrics focus on physical traits like fingerprints or facial structures. Physiological biometrics can include fields like cognitive biometrics that rely on biosignals, such as nervous tissue responses, or measuring a person's electrocardiogram (ECG) reaction to a stimulus against a pre-recorded sample.[183] Behavioral biometrics may rely on measuring a person's interactions with an authenticating technology, like measuring keystroke patterns or mouse movement.[184]

The types of biometric data that can be collected, measured and analyzed are likely to grow in the future. Cognitive biometrics, for example, has been enabled by advances in neuroscience.

Biometric data has some practical applications that may benefit consumers. In an age of increasing data breaches and hacks, requiring confirmation of someone's identity in ways only they can easily provide may serve to increase security. Today, consumers knowingly interact with biometrics most often during an authentication process to verify their identity.

However, many applications of biometric data raise substantial ethical questions. There's a growing interest on the part of businesses and advertisers to collect consumer biometrics in order to identify individual consumers, catalog detailed physiological behavior, and use it to affect consumers' decisions. This is the area of concern we will address here.

IoT devices collect a lot of data on consumers, and marketers are taking notice.

The number of web-enabled devices for home use has grown. In addition to smartphones, watches and smart speakers, today there are internet-connected thermostats, locks, sleep monitors, children's toys, dishwashers, refrigerators, washing machines and dryers, toilets, lightbulbs, fish tanks, vacuums, shoes, rings, lockets, and even a smart jacket by Levi's.[185]

With sensors, software and an internet connection, these Internet of Things (IoT) devices can gather and transmit significant amounts of data to external servers in real-time, creating new opportunities for advertisers. In his 2021 book *Quantum Marketing: Mastering the New Marketing Mindset for Tomorrow's Consumers,* Raja Rajamannar, the Chief Marketing & Communications Officer for Mastercard, identifies this opportunity:

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https://obamawhitehouse.archives.gov/sites/default/files/microsites/ostp/biometricschallenge2011.pdf

[183] "Cognitive biometrics: A very personal login", *ScienceDaily*, 17 April 2012. Available at: https://www.sciencedaily.com/releases/2012/04/120417113539.htm

[184] Amy Kover, "What are behavioral biometrics?" *(blog)*, Mastercard, 15 November 2021, Available at: https://www.mastercard.com/news/perspectives/2021/behavioral-biometrics-explained/

[185] The following is a list of examples of a company that produces each product: thermostats and locks (Ring), sleep monitors (Owlet), children's toys (Mattel), dishwashers (Whirlpool), refrigerators (Samsung), washing machines and driers (Maytag), toilets (Kohler), lightbulbs (Philips), fish tanks (Neptune Systems), vacuums (Roomba), shoes (Adidas), rings (Oura), lockets (Evermee). See Levi's smart jacket at: https://www.levi.com/US/en_US/blog/article/levis-trucker-jacket-with-jacquard-by-google.

> "These sensors capture unprecedented levels of data from literally every breath, move, feeling, and action of consumers. If marketers know how to use this quantum data explosion, they can gain incredible insights that will propel the effectiveness of their campaigns and consumer engagement to extraordinary levels."[186]

The proliferation of smart devices is made even more useful to the marketer when paired with the adoption of 5G networks. 5G enables data to be gathered and moved over various networks at high speeds. By using these two technologies together, as Rajamannar recounts, companies will be "rushing to capture every bit of data about every aspect of the consumer" creating "a Wild West-like rush to gather every data breadcrumb, to be able to construct a picture of who the consumer is."[187] Ultimately, this means "interactions and strategies with consumers will be in real time".[188] And with the addition of AI, marketers "can model [consumer] behavior right up to the second."[189]

IoT devices capture non-conscious, automatic behavior over which consumers have little to no control and are largely unaware of. This type of data can be extremely revealing in ways consumers may not expect or understand. Analysis of body movement can serve to identify specific individuals, as in the case of posture based gait recognition.[190] This data can also be used to predict a person's future behavior. For example, a Stanford study used Microsoft Kinect devices (non-wearable motion sensors) to record the gestures, postures and body movement of students and teachers as they interacted. When this movement-based data was fed into machine learning models, researchers were able to accurately predict the test performance of students.[191]

AR/VR goggles promise even more detailed data generation.

Just 20 minutes using a wearable VR headset generates nearly 2 million unique recordings of an individual's body language.[192] These headsets often contain sensors and small cameras that can measure inadvertent physiological reactions in great detail - like pupil dilation, eye gaze, facial expressions, posture and gestures. These signals can each stand in for measures that

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[186] Raja Rajamannar, *Quantum Marketing: Mastering the new marketing mindset for tomorrow's consumers,* HarperCollins Leadership*,* February 2021 (pg 14).

[187] Ibid. (pg 40).

[188] Ibid (pg 65).

[189] Ibid (pg 66).

[190] Jithu Joseph et al, Crime-Pose: Human Identification System using Posture based Gait Recognition Methods, Internal Journal of Engineering Research and Technology, vo. 10 issue 4, February 2022, doi : 10.17577/IJERTCONV10IS04046. Available at: https://www.ijert.org/crime-pose-human-identification-system-using-posture-based-gait-recognition-methods

[191] Won, A. S., Bailenson, J. N., & Janssen, J. H. (2014). Automatic detection of nonverbal behavior predicts learning in dyadic interactions. *IEEE Transactions on Affective Computing*, 5 (2), 112-125. Available at: https://www.stanfordvr.com/pubs/2014/automatic-detection-of-nonverbal-behavior-predicts-learning-in-dyadic-interactions/

[192] Jeremy Bailenson, "Protecting Nonverbal Data Tracked in Virtual Reality", Stanford Virtual Human Interaction Lab, August 2018. Available at: https://stanfordvr.com/mm/2018/08/bailenson-jamap-protecting-nonverbal.pdf

would be undoubtedly profitable for advertisers. Eye gaze and pupil dilation, for example, are common stand-ins for gauging someone's interest and engagement with stimuli.[193]

In January of 2022, *The Financial Times* broke the story that Meta had been granted dozens of patents for various biometric data measurement devices that shed light on possible data collection and monetization strategies for the company's AR/VR platform, the metaverse. As *FT* writes, the patents show Meta "intends to cash in on its virtual world with hyper-targeted advertising and sponsored content that mirrors its existing $85bn-a-year ad-based business model."[194]

These VR headsets can gather direct, unmediated physiological data that can reveal additional sensitive information. For example, a number of studies have used VR headsets to tie physical movements with mental health diagnoses.[195] One study measuring head movements in a classroom revealed that students diagnosed with high-functioning autism looked at fellow classmates less frequently than non-diagnosed children.[196] Other VR-based studies have examined body movements of students diagnosed with attention deficit disorders.[197] With VR headsets, inferences may be drawn about people using information that consumers are likely not aware of generating in the first place.

There are presently very few legal limitations around the gathering and use of these types of biometric data. As the Commission looks at promulgating trade rules regarding the commercial use of biometrics, it should in particular consider banning the storage of a consumer's biometric data, and the use of this data by advertisers in any capacity.

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[193] See, e.g., Jacob Leon Kröger et al, "What Does Your Gaze Reveal About You? On
the Privacy Implications of Eye Tracking", IFIP Advances in Information and Communication Technology series, March 2020, available at:
https://rd.springer.com/content/pdf/10.1007%2F978-3-030-42504-3_15.pdf; and Adrianne Jeffries, "Google patents 'pay-per-gaze' eye-tracking that could measure emotional response to real-world ads", *The Verge*, 18 August 2013, available at:
https://www.theverge.com/2013/8/18/4633558/google-patents-pay-per-gaze-eye-tracking-ads
[194] Hannah Murphy, "Facebook patents reveal how it intends to cash in on metaverse", *The Financial Times*, 18 January 2022. Available (behind paywall) at:
https://www.ft.com/content/76d40aac-034e-4e0b-95eb-c5d34146f647
[195] This paper is one example, and lists other studies using VR paradigms: William Jarrold et al, "Social Attention in a Virtual Public Speaking Task in Higher Functioning Children with Autism", *Autism Res.*, vol 6 issue 5, October 2013, doi: 10.1002/aur.1302, available at:
https://www.ncbi.nlm.nih.gov/pmc/articles/PMC3778085/ .
[196] Ibid.
[197] See note 191.

Section 5. Regulation and data minimization - addressing question 43.

Question 43. To what extent, if at all, should new trade regulation rules impose limitations on companies' collection, use, and retention of consumer data? Should they, for example, institute data minimization requirements or purpose limitations, i.e., limit companies from collecting, retaining, using, or transferring consumer data beyond a certain predefined point? Or, similarly, should they require companies to collect, retain, use, or transfer consumer data only to the extent necessary to deliver the specific service that a given individual consumer explicitly seeks or those that are compatible with that specific service? If so, how? How should it determine or define which uses are compatible? How, moreover, could the Commission discern which data are relevant to achieving certain purposes and no more?

New trade regulation rules should institute data minimization requirements for all commercial activities. Data collection must be limited to only what is reasonably necessary to deliver the service a consumer is expecting to get, and that data must only be used for the purpose for which it was collected. Secondary uses of data should be banned outright.

Consumers should be able to choose how their data is used. However, the act of gathering both a consumer's consent and the necessary data must be limited to one purpose at a time. Companies should not be able to design their consent mechanisms such that consumers provide consent for multiple purposes simultaneously. This would serve to perpetuate the failed "notice and choice" regime in place today, where companies induce consumers to consent to a long list of purposes listed in a highly-technical, vaguely-written terms and conditions document intended to deter genuine consumer engagement in giving clear, unambiguous consent. The failures of this regime have been documented extensively.

Any trade rule promulgated by the Commission should also include provisions banning the use of deceptive design elements to trick consumers into giving consent for data collection and processing they would not otherwise allow.

U.S. PIRG broadly supports the data minimization framework put forward by the Electronic Privacy Information Group (EPIC) and Consumer Reports.[198] We strongly advocate for pursuing the strongest version of data minimization.

Consumers want a data minimization rule. 9,364 U.S. PIRG members signed a petition asking the FTC to pursue a data minimization rule. Find the text of the petition and list of signers below:

> Companies like data brokers gather huge amounts of data on Americans - like every website we visit, purchase we make, and web search we conduct. There's a huge

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[198] Consumer Reports and Electronic Privacy Information Center, *How the FTC Can Mandate Data Minimization Through a Section 5 Unfairness Rulemaking*, 26 January 2022. Available at: https://epic.org/wp-content/uploads/2022/01/CR_Epic_FTCDataMinimization_012522_VF_.pdf

market for our personal data and companies sell what they know about us to advertisers - and anyone else looking to buy.

There are no real rules regulating the collecting, buying and selling of Americans' data, leaving us vulnerable to identity thieves, hackers, scammers and manipulative advertisers. Every minute we delay is another minute our data is at risk. **The FTC should act and write a strong data minimization rule in order to stop companies from collecting unnecessary data about us and using it however they like.**

Signers begin on the next page.