

Expert group for the EU Observatory on the online platform economy

Work stream 1: Online advertising

Concept note

1. Policy context

Online advertising is one of the main building blocks of the digital economy for which it represents a main financial engine. Accordingly, there are growing efforts by regulators worldwide to assess whether firm competition and data privacy are working properly in ad-funded digital platforms.¹ Moreover, digital ad platforms raise concerns beyond the economic and competition domains alone, as their effects might spillover to social and political realms.² In the EU, there is no single regulation specifically targeted to online advertising. However, several recent and ongoing policy initiatives have the potential to impact this business. Among these initiatives, the most relevant are:

- 1) [The Platform to Business Regulation](#) (P2B, 2019 with revisions in April 2021)³
- 2) [The Digital Markets Act](#) (DMA, 15 December 2020)⁴
- 3) [The Digital Service Act](#) (DSA, December 2020)⁵
- 4) [The Digital Decade Communication](#) (9 March 2021)⁶

¹ These include the *Competition Policy for the Digital Era* report by the European Commission, the case study on *Market Power and Transparency in Open Display Advertising* by the Expert Group for the Observatory on the Online Platform Economy of the European Commission, the UK Competition and Markets Authority *Interim Report on Online Platforms and Digital Advertising*, the US *Stigler Committee Report* and the *Furman Review* for the UK government.

² See, among others, the note *Regulating digital platforms: Why and how?* by Reinassance Numerique.

³ The P2B entered into force in July 2019, with revisions implemented in April 2021. This was the first-ever set of rules aimed at creating a fair, transparent and predictable business environment for smaller businesses and traders on online platforms. Platforms were required to comply with the P2B Regulation before it started to apply on 12 July 2020. The rules were especially designed with the millions of SMEs in mind, many of them not having the bargaining muscle to enter into a dispute with a big platform: with these SMEs were intended *to have a new safety net and no longer worry about being randomly kicked off a platform, or intransparent ranking in search results*. The Commission has published [guidelines that address the main requirements for online platforms identified in the Regulation](#), from the need to identify key algorithmic parameters behind ranking to their communication to businesses. These guidelines are not legally binding. The *Online Platform Observatory* has a mandate to monitor the P2B regulation.

⁴ This proposal establishes a set of narrowly defined objective criteria for qualifying a large online platform as a so-called “gatekeeper”. This allows the DMA to remain well targeted to the problem that it aims to tackle as regards large, systemic online platforms. Business users who depend on gatekeepers to offer their services in the single market will have a fairer business environment. The new rules will establish obligations for gatekeepers, “do’s” and “don’ts” they must comply with in their daily operations. To ensure that the new gatekeeper rules keep up with the fast pace of digital markets, the Commission will carry out market investigations. **Fines** of up to 10% of the company’s total worldwide annual turnover. **Periodic penalty payments** of up to 5% of the average daily turnover. If necessary and as a last resort option, non-financial remedies can be imposed. These can include behavioural and structural remedies, e.g. the divestiture of (parts of) a business.

⁵ The Digital Services Act improves the mechanisms for the removal of illegal content and for the effective protection of users’ fundamental rights online, including the freedom of speech. It also creates a stronger public oversight of online platforms, in particular for platforms that reach more than 10% of the EU’s population.

⁶ This Communication follows [President von der Leyen’s call](#) to make the next years Europe’s ‘Digital Decade’; responds to the [European Council’s call](#) for a ‘Digital Compass’; and builds on the Commission’s [digital strategy](#) of February. The Communication proposes to agree on a set of digital principles, to rapidly launch important multi-country projects, and to prepare a legislative proposal setting out a robust governance framework, to monitor

5) [European Data Strategy](#)⁷

The above list of documents is certainly not exhaustive. For instance, the *Artificial Intelligence Act* proposal of April 2021 and several other recent and ongoing regulations have the potential to directly and indirectly impact online advertising.

Furthermore, the regulatory puzzle relating to online advertising is further complemented by older regulations which remain fully applicable, namely the E-Commerce Directive, the Unfair Commercial Practices Directive, the Misleading and Comparative Advertising Directive and the e-Privacy Directive, which, among others, specifically regulates cookies and which is soon to be replaced by the e-Privacy Regulation.

However, as mentioned above, there does not exist a single source describing how the existing EU provisions (or the newly proposed ones) apply to online advertising. This gap is one of the elements that the Expert Group should seek to tackle.

2. Research/Policy questions and methodology

In deciding the research/policy questions and methodology, it is important to keep in mind a few facts about the digital ad industry. These facts are summarized below, with the Appendix reporting three figures from two PwC reports that document them for the US market:⁸

- 1) Digital advertising revenues have surpassed the combined revenues of all other media markets (Figure A.1)
- 2) Digital advertising revenues have been steadily increasing, even despite the slower growth of the first half of 2020, but they have shifted from desktop to mobile (Figure A.2)
- 3) Among the categories of digital advertising, search advertising generates nearly half of all revenues, followed by display and video and this ranking has been rather stable (Figure A.3)

According to industry experts, there are currently three interconnected features which might alter in important ways the functioning of the online advertising industry:

- 1) **Privacy initiatives** by both regulators and large ad sellers (e.g., Google and Apple) will alter both the **targeting** possibilities (i.e. consumer identity) and the **attribution** of clicks/sales.
- 2) **Artificial Intelligence (AI)** will impact the way trading works and alter the complex network of **intermediaries** that connect advertisers, publishers, consumers and ad selling platforms.
- 3) **Devices**, from smart TV to wearables, will change both data collection and ad distribution.

These three features are highly interconnected as, for instance, the type and ownership of data collected by smart devices depends on the privacy rules, and the AI powered algorithms are the essential ingredient needed to transform the data collected into valuable commercial information.⁹

progress (the ‘Digital Compass’). A 20% digital expenditure target has been set for each national plan, accompanying the digital component of the 2021-2027 [European budget](#).

⁷ The European data strategy aims to make the EU a leader in a data-driven society. One of the pillars of the Data Strategy is the [proposed Regulation on data governance](#), adopted by the Commission on 25 November 2020; that will boost data sharing across sectors and Member States.

⁸ These reports by IAB-PwC are: “Internet Advertising Revenue Report: Full-year 2020 results”, April 2021 and “2021 Digital Ad Ecosystem report,” March 2021.

⁹ Similarly, the obsolescence of cookies and other identifiers used to track ads implies a loss of ad-tracking capabilities for many businesses. Adopting best-practice alternative solutions for ad targeting is driving the publisher pivot to first-party data collection through [direct-to-consumer relationships](#). While this fosters growth of higher and more walled garden environments, it has provided security for some of the largest stakeholders. This

The Covid pandemic has likely accelerated these market evolutions as people spend more time online due to movement restrictions.

Based on the elements presented above, and according to what was discussed during the 2nd meeting of the Expert Group, the main research questions to be addressed in the two years ahead will be:

- *Year 1*: Understanding better data flows and interaction between privacy and data
- *Year 2*: Alternatives to ad-based business models and society

Year 1: Understanding better data flows and interaction between privacy and data

To obtain an up-to-date overview of the environment where digital advertising operates, we will focus the first year of work on three tasks:

- 1) Description of typical data flows, with an emphasis on how privacy and cybersecurity-related reforms by both regulators and private companies (e.g. the death of third party cookies and alternatives like Google's FLoC; digital surveillance by large companies like Google and Facebook) are changing data flows. This should be studied through a series of case studies that should shed light on a few instances of data flows that are particularly relevant. The ones we have in mind are:
 - a. Search, especially on mobile devices working with different Operating Systems, and with a focus not just on traditional search but also on visual search (like Pinterst, Google Lens) and voice search (rank zero snippet or position zero)
 - b. Mobile apps, both those showing ads and those free apps that finance their business by reselling user data
 - c. Social media, with a special focus on those publishers producing interactive content (like quizzes, polls and games) that has the potential to be developed to extract and resell data and digital surveillance by large firms such as Facebook
 - d. Connected smart devices (smart TV, voice assistants, wearables, etc.) and smart sensor analytics (based on smart home solutions)
 - e. Data flow in distributed apps and blockchain platforms
 - f. B2B trade: data brokers' activities. How much data do brokers gather directly from consumer-facing services by obtaining consumer consent? How much data do they obtain through B2B trade? Who are their clients?
 - g. Other: as the analysis evolves, we will consider other cases involving wearables devices, cars, buildings and construction, IoT platforms, smart devices, etc. We will also be interested in the role of verification companies for the attribution problem.¹⁰
- 2) Review of the role of AI across the different segments of the digital ad market, with an emphasis on how privacy regulations and the EU proposal on AI might impact AI tools; for example, in image and video analysis, especially in facial analysis and facial search capabilities. This should be studied through a series of case studies that should shed light on how, for each of the digital ad market segments discussed above, AI is used by the different players involved:
 - a. Search engines
 - b. Social media, especially in relation to geo-fencing, which allows real-time targeting based on a user's location.
 - c. Ad exchanges

is particularly true for large retailers. Partnership opportunities with Connected TV (CTV)/Over-The-Top (OTT)—including content streaming via television like cooking shows— are considered as future industry focus areas.

¹⁰ As an example, consider the case of Lucidity, a company providing ad verification service to advertisers (such as Toyota) based on block chain technology.

- d. Intermediaries (digital marketing agencies, DSP, SSP, attribution/verification, etc.)
 - e. App developers
 - f. Publishers, with a special focus on those publishers producing interactive content
 - g. Advertisers
 - h. Smart TV manufacturers (and, possibly, others like wearables devices, cars, buildings and construction, smart homes)
 - i. Regulators
- 3) Review of the existing EU directives/proposals/initiatives affecting digital advertising and privacy, as well as the related private initiatives begun by Google, Apple and the like. This review should involve the main policy initiatives of the EU of the last decades, from at least the e-Privacy Directive onward.¹¹ It should also contain a comparative analysis to the privacy regulations about consent that the US is experimenting. In particular, it should contain:
- a. An assessment of the complete set of the existing EU directives/proposals/initiatives that impact digital advertising. DMA and DSA pool media market and retailers, but these are clearly different markets. The review shall emphasize these types of situations.
 - b. A review of the main ongoing antitrust cases in Europe and the US involving online advertising.
 - c. An assessment of the lawfulness of real time bidding, across different ad platforms and players.¹² What would be needed to make real time bidding lawful in the EU?
 - d. Comparison of the GDPR with California CCPA, and current initiatives in China
 - e. Assessment of “purpose classification”:¹³ analysis of how “consent management platforms” treat the *purpose* of the banners for the largest clients (like NYT) and the related cookies. If the categorizations differ across platforms, try offering a quantification of the frequency of the different cases
 - f. Assessment of the interaction of the main private initiatives on privacy (from Google, Apple and others) and the EU regulation. Examples: Apple’s opt-in tracking in iOS 14.5. Google moving to abolish tracking via cookies. Privacy « nutrition labels » on apps on the Apple app store and soon on the Google Play Store. What proposal exists for new regulation of ad standards? See <https://www.responsibleaddressablemedia.com/>.

Year 2: Alternatives to ad-based business models and society

There are two premises regarding the group work in year two. First, the exact details on what the group will work in year two will depend on the output of year one. Second, there is no consensus about (pros and) cons of ad-based business models, making any speculation about "alternatives to ad-based business models and society" a radical idea based on limited data.

In terms of developing an understanding of what are the alternatives to ad-based business models and society, it is crucial to stress that a main difference between online and offline markets is that a greater range of services are provided for no monetary price to consumers and monetized by other means (such as advertising or data collection). In the offline world, consumers always benefited from a number of free radio and TV channels and newspapers, which were advertising funded. Online, such free provision has ballooned, with consumers having free access to a wealth of different services, from

¹¹ The criterion should be relevance to online advertising instead of how recent a legal measure is. For example, the e-Privacy Directive is of 2002 (older than 10 years old) but has a profound impact on online advertising. Others measures too are older but have very recent amendments and are fully in force playing their role.

¹² See for a recent discussion Veale and Zuiderveen Borgesius (2021), <https://osf.io/preprints/socarxiv/wg8fq>

¹³ See here a description of the typical purpose classification under the GDPR: <https://gdpr.eu/cookies/>

social networks, to email, to mapping apps, to games, to audio-visual communications services, etc. This implies that reducing the extent to which online markets rely on digital advertising might impact the range (and quality) of online services offered, but also create greater inequality as prices might be asked for a wider variety of online services and not all individuals have the same means to sustain costly online services. The second part of the study will thus consider two scenarios that differ in the extent to which advertising or data collection are reduced. The analysis in this part of the study might be either qualitative or quantitative, depending on what data/resources will be available.

- 1) Moderate reduction of advertising and data collection. Studying this scenario is feasible through the observation of the consequences of the introduction of some recent reforms. This can lead to unexpected findings: for instance, by Aridor, Che and Salz (2021) have documented by looking at a large travel platform that while the GDPR has decreased the amount of consumer information tracked online (10.7% rate of users opting out of sharing their data), the remaining data has become even more valuable to companies marketing to customers with the trackability of remaining users increasing by about 8%.¹⁴ In this context, our analysis might look into the outcomes of reforms introduced by both regulators and private companies. This analysis might then offer the basis to develop suggestions to the regulator on how privacy and, more generally, data strategies might impact digital advertising. This, in turn, can help to offer advices to the regulator on how:
 - a. it should develop a simplified, standardized way of presenting privacy features and online firms should be mandated to use it. This part will benefit from the knowledge developed in item n. 3, year one list, specifically in point d. on purpose classification.
 - b. it should use AI to monitor the ad market, as regulators in financial markets do via RegTech and open data.¹⁵ This feature can be particularly relevant for consumer protection¹⁶ as it might help ensuring consumers are readily able to identify paid ads/marketing and are protected from false reviews/advertisements? (Remark: connections with the subgroup on **Algorithmic governance in platform economy** will be evaluated).
- 2) Drastic reduction of advertising and data collection. Here the analysis needs to be even more qualitative, with limited data from the industry to support claims. A good example of drastic change is Apple's « Ask App Not To Track » notification in iOS 14.5: recent findings indicate that 96% of US users opt out of app tracking in iOS 14.5.¹⁷ Nevertheless, for this more radical scenario, we will also review the existing literature to point out the results from those studies that, through the formulation of structural models, offer quantifications of counterfactual scenarios that have not yet been observed in reality. For instance, Alcobendas, Kobayashi and Shum (2021) use this approach to evaluate the likely effects of Google's announced plan, starting in 2023, to block third-party cookies by default on Chrome, finding it would reduce publisher revenue by 45%, and advertiser surplus by 35%.¹⁸ Related studies employing

¹⁴ See <https://mitsloan.mit.edu/ideas-made-to-matter/a-twist-gdpr-made-some-user-data-more-valuable-to-marketers>

¹⁵ As stated well in a recent report by Renaissance Numerique: "The regulation of "structural" digital platforms could be similar to the type of prudential supervision that can be found in financial markets, given that most of the financial flows on these platforms are real-time advertising flows that can be observed using APIs, to which the regulator could impose access." See <https://www.renaissancenumerique.org/publications/regulating-digital-platforms-why-and-how?token=OXtPZ5JJaXc8BTyU-xX9Fw>.

¹⁶ See for a recent discussion of consumer protection in online markets and digital platforms the report by the Yale Tobin Center: <https://tobin.yale.edu/digital-regulation-project>

¹⁷ See: <https://arstechnica.com/gadgets/2021/05/96-of-us-users-opt-out-of-app-tracking-in-ios-14-5-analytics-find/>

¹⁸ See: https://papers.ssrn.com/sol3/papers.cfm?abstract_id=3782889

structural model in their analysis exist for the mobile app market. For this market, there is the possibility of directly analyzing this type of methods through various data sources, like the ones on advertising in apps that are collected by www.appannie.com.

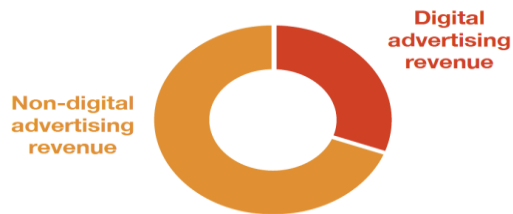
For both scenarios, it would also be important to see what the results of the reduction of publisher/advertising revenues would be. Would it be a drastic increase in the price of online services? Free services becoming paid? Or there can be alternative ways in which publishers can make up for those losses meaning that a drastic reduction is indeed a workable alternative and that there is indeed a viable alternative to ad-based society? While no final answer can be given to these questions, the analysis should provide hints at the possible outcomes produced by the reduction of publisher/advertising revenues.

Finally, it is worth stressing that there is very little economic research on welfare effects of ad-based business models. One exception is an emerging literature on platform business models which compares ad-based business model with an alternative such as device-funded business model. Still, it is far from reaching a consensus on welfare effects of ad-based business models. Another relevant literature is the emerging one on data externalities. A survey of the two kinds of literature in order to explain the current state of the art on welfare-effects of ad-business models can be useful and should be part of our analysis.

Appendix

Figure A.1

U.S. Advertising Revenue 2015¹



U.S. Advertising Revenue Projected 2024¹



Figure A.2

Desktop vs. mobile full-year internet ad revenues (2010-2020)
(\$ billions)

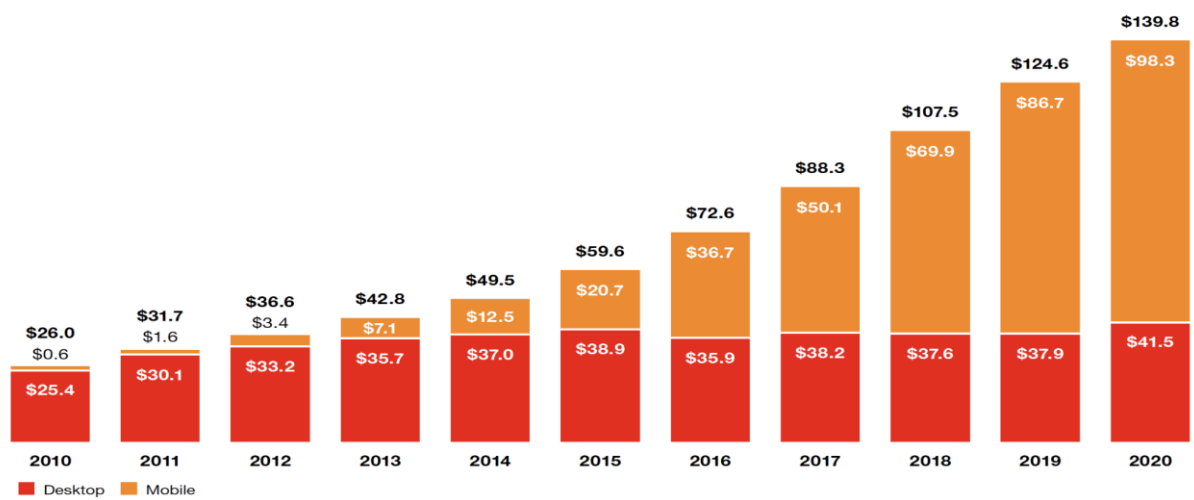
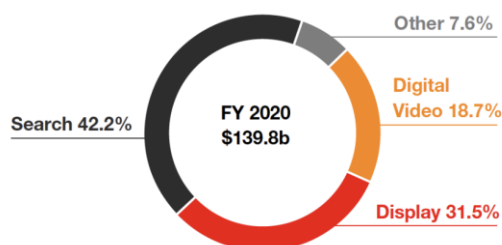


Figure A.3

2020 advertising format by share



2019 vs. 2020 advertising format, by revenue

