The article aims to analyse the relationship between data protection and online platforms’ zero-price business model. This business model functions in a way that online platforms provide their services “free of charge”, but in exchange for personal data. This business model may not only come with competition problems, but also is detrimental to data protection principles, such as the principle of data minimisation. Users are unaware of the value of the personal data they provide, partly due to the false illusion of the service being free of charge. This market failure could be remedied by regulations that would ensure that users are able to use online services that are currently zero-price without providing personal data.

KEY WORDS
Attention Market, Data Exploitation, Zero-Price Business Model, Online Platforms

1. INTRODUCTION
The zero-price business model is a feature of online attention market platforms (e.g., Facebook, Google). These platforms collect data and aim to gain human attention\(^1\) in order to provide an interface for advertisers in the online space, regardless of what service – that is offered free of charge (e.g., social media, email, free video streaming, online search engine service) – is used to gather the attention of these people. The platforms also sell data that can help third parties understand the habits of users. Platforms that operate using this business model provide their services for users in exchange for their personal data.

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According to UN data, this market is highly concentrated globally, with US and Chinese undertakings accounting for 90% of the market share of the largest online platforms, of which the market share of American undertakings is 70%, while the ratio of European undertakings does not even reach 4%.²

The article aims to present and analyse how online zero-price business models violate data protection principles, in particular the principle of data minimisation, and seeks to provide a possible remedy that could enhance users’ choice. In the article, after the introductory remarks in which I present the general features of online attention markets, I delve into the characteristics of the zero-price business model in Section 2. The first two sections are necessary to frame my analysis in order that I could find, on one hand, the connecting points between data protection and the zero-price business model, and, on the other hand, the possible violation of data protection rules by this model. After that, in Section 4, I propose the solution that could remedy the situation. In the end, I conclude. Although the main analysis concentrates on EU law, certain developments and events related to the issue are also mentioned from outside the European Union, such as the United States.

2. THE ZERO-PRICE BUSINESS MODEL

Online attention markets are platform-based. Platforms provide services to different directions and function as intermediaries between supply and demand. This creates an opportunity for them to collect remuneration from several directions. Platforms can be two- or multi-sided, depending on the number of groups between which they create interaction. What they always have in common is that they are built on exploiting network effects and economies of scale.³ Demand from all sides of the platform is connected by a network effect, higher demand also attracts additional demand and supply. A network effect can create market power, as the more people that use the platform, the more attractive it will be to others as well. This encourages further investment and thus users to join, as a result of which a so-called spill over effect can emerge, which after reaching a given tipping point can make the platform dominant.⁴ When the entire market tips in favour of a single undertaking due to a combination of economies of scale and network effect the competition no longer exists on the market.

but for the market.\textsuperscript{5} In this case, the market power can persist for a long time, as shown by the example of tech giants. This is remarkable because these undertakings acquired market power thanks to their innovations that constitute intellectual property.\textsuperscript{6} In this regard, we should mention the Schumpeterian competition theory, which states that an investment that creates intellectual property will be rewarded by the creation of a monopoly. The monopoly then ensures that there is a return on the investment into the creation of the intellectual property.\textsuperscript{7} According to the Schumpeterian dynamic competition theory, the new entrants to these innovative markets quickly dethrone the former winners. However, it is exactly these tech giants that serve as proof that the Schumpeterian competition theory seems to be truncated on markets characterised by innovation, as the market power of these tech giants has been unchallenged for decades.\textsuperscript{8} Therefore, it is important that the regulation of such markets allows for conditions that enable the entry of innovative market players. This is why the IMF emphasises that ensuring interoperability and data portability are important tools for fostering competition in digital markets,\textsuperscript{9} and it is no accident that these principles are also important building blocks that have been included in the DMA.\textsuperscript{10}

Two-sided transaction platforms and non-transaction platforms can be differentiated.\textsuperscript{11} For example, a media service provider is a two-sided non-transaction platform where there is interaction between the two sides, but no detectable transaction occurs; therefore, the two sides of the platform are not paying for the same service. For example, on the media market, a television channel competes against printed media products for advertisers but does not compete for the same subscribers. In this case, the users pay the


platform for the valuable content, while advertisers pay for the opportunity to attract the attention of the users. In the case of two-sided transaction markets (such as card payments, online marketplaces, or the platforms of the sharing-based economy, e.g., Airbnb, Uber), there is a detectable transaction between the two sides since it is the same product/service that is present on both markets. Here, only one transaction is carried out through the platform; therefore, in theory a fee can be charged for the transaction performed via the platform on a single occasion and from only one side of the platform (except if the platform explicitly provides a service to the other side as well, such as home delivery).

The online platforms of data-driven or attention markets (e.g. Google, Facebook) are non-transaction two-sided markets, where the platform provides users with content and experiences and advertisers with a space where they can advertise to the users gathered by the zero-price service. Since both sides are using a different service, the platform is able to demand remunerations from both sides. On the online attention markets, the user pays for the service used, which can be social media, video sharing, voice/video calls, or internet searches, with their data. This is how personal data becomes the new raw material of the digital economy, the new oil. It is an asset in the same way as copyrights, business secrets, and patents – this is often reflected by the books of undertakings as well. Therefore, one cannot say that users pay with their personal data for the personalised advertisements. With the data, the users pay for the online services (e.g. social media, email, free video streaming, online search engine); the advertisers are the ones who pay for the personalised advertisements.

This paper seeks to draw attention to the fact that there are groups of users who value the protection of their personal data more than personalised advertisements, but they do not have a choice when it comes to expressing this preference.

On attention markets, data are required in order to grab more attention through more targeted advertisements, as individuals pay the most attention

12 Joint Report by Autorité de la Concurrence and Bundeskartellamt, Competition Law and Data (accessed 10 May 2016), p. 3.
16 We disagree with the opinion of the OECD, see: OECD, ‘Quality considerations in digital zero-price markets Background note by the Secretariat’ (28 November 2018) DAF/COMP(2018), p. 14.
to information that is highly customised.\textsuperscript{17} According to a British study, the income of those offering advertising space to untargeted advertisements is 70\% lower than those implementing targeted advertising.\textsuperscript{18} The more attention is attracted, the more data are collected and the higher the personalisation of advertisements will be, which increases the advertising revenue that can be invested into even more effective attention-grabbing techniques and content (e.g. entertainment). This starts a cycle at the end of which the market can tip in favour of such a platform, which can thus become dominant.\textsuperscript{19}

Getting attention is the key to being able to direct it to other people, products, or topics.\textsuperscript{20} On attention markets, advertisers pay the providers of advertising space to ensure that the attention of buyers, which qualifies as a limited resource (since a day only consists of 24 hours),\textsuperscript{21} is directed at them. Since attention is a limited resource, there is fierce competition for attracting this attention, sometimes even using unfair practices (so-called attention theft).\textsuperscript{22}

Therefore, it is in the interest of online platforms within an attention market to grab as much of the users’ attention as possible. This enables the platform to acquire more personal data, based on which it can provide advertisers and users with more numerous and more valuable services. Nevertheless, the personal data acquired and later used by platforms to gain more attention from individuals can also be (mis)used to influence the thinking of users, as was clearly shown by the 2016 US presidential elections and the Cambridge Analytica scandal.\textsuperscript{23} These events show precisely the costs of data transfers that users are not aware of due to the breach of the data protection principle described in Section 3.


\textsuperscript{18} Competition and Markets Authority (2020) Online Platforms and Digital Advertising, p. 42.


3. DETRIMENTAL EFFECTS OF ZERO-PRICE BUSINESS MODEL ON PRINCIPLE OF DATA MINIMISATION

The zero-price business model is used on a non-transaction two-sided market, where the advertisers pay for access to users, while users pay for the services (or entertainment) of the platform. Although the users of the two sides of the platform pay for different services, there is still a correlation between the pricing of the two sides. The success of the platform depends on how many users it has, which is determined by the quality of the content it offers and the price of accessing this content. The advertising income can be used to increase the quality of the service or reduce the access fees, which in this case means the extent and intensity of personal data transfer. The quality of the service also necessitates that the ratio between content and advertisements is balanced or proportional, as excessive advertising spoils the user experience. However, from the point of view of the study, it is not attention exploitation, but data exploitation that is relevant. Data exploitation is contrary to the principle of data minimisation pursuant to Article 5 (1) c) of the GDPR. Together, these two (attention and data exploitation) ultimately increase the vulnerability of users. While the exploitation of attention can be fought with media law tools, in this study, however, I would like to present a possible regulatory solution against data exploitation that is explained by the following three reasons.

First, information asymmetry exists between the user and the platform. Information asymmetry can be traced back to two additional reasons. On the one hand, the information asymmetry created by the false illusion of a free-of-charge service (the so-called bounded rationality)\(^24\) and the confidentiality of the data exchange transactions, due to which the users are not aware of the true value of the personal data they provide. While opinion polls show\(^25\) that users are concerned about their personal data, they do not really care about protecting their data (the privacy paradox).\(^26\) In part, this can be traced back to them not being able to see the weight of their data in


the transaction. It is no coincidence that online attention merchants protect
the data exchange agreements even with confidentiality clauses. In many
cases, the undertakings share the data with third parties without the explicit
knowledge of the users. The decision of the German competition authority
against Facebook also highlights that consumers are unaware that they are
being exploited by Facebook and that their data are being acquired by the
undertaking even when they are using the internet for purposes other than
browsing Facebook. As a result of the illusion of the service being free
and being presented as free, consumers do not fully understand the fact
that they are actually paying for the service they consider free. The service
being free gives consumers the impression that the undertakings providing
such services do not need to generate any income to cover the costs of their
‘free’ services. Anderson claims that consumers absolutely believe that the
online space has changed the fundamental principles of how undertakings
operate. However, the truth is that behind online undertakings, there
are people, facilities and servers, all of which require the expenditure of
significant funds. On the other hand, the cause of information asymmetry
is due to privacy policies that are often worded in such a lengthy and
complicated manner that most consumers have difficulty to understand them
or simply do not wish to spend time reading them. Certain studies have
shown that it would take the average user more than 200 hours annually to
carefully read these documents in the case of every single online transaction

28 Tene, O. and Polonetsky, J. (2013) Big Data for All: Privacy and User Control in the Age of
1369–1460.
29 See: Bundeskartellamt prohibits Facebook from combining user data from different
sources (7 February 2019) www.bundeskartellamt.de/SharedDocs/Meldung/EN/
33 OECD (2016) Big Data: Bringing Competition Policy to the Digital Era,
Conducts in Digital Markets: Time for a Discussion after the Facebook Decision. Journal of
European Competition Law & Practice, 10 (8), pp. 465–478.
they enter.\textsuperscript{34} Only 18\% of European users reported that they actually read privacy policies.\textsuperscript{35}

Second, to gain data, attention merchants often reach for unfair tools. Examples include the so-called ‘dark pattern’, an example of which is when consumers are tricked into consenting to the provision of their personal data through the use of a graphical solution that makes it appear as if this is their only available option; for example, they can only choose between OK and Learn More and the OK option is even graphically highlighted. This solution was used, for example, by Facebook to obtain the telephone numbers of users, which further assisted the undertaking in mapping out the social connections of users.\textsuperscript{36} In the EU, the DSA creates opportunities to act against such dishonest tools.\textsuperscript{37} There are situations when creating the illusion that the service is free can be caught in the act as an unfair commercial practice, as shown by the Hungarian decision adopted against Facebook, where Facebook was fined for explicitly advertising its social media as free.\textsuperscript{38}

Thirdly, on online attention markets, data exploitation already exists independently of competition distortion; however, it is further intensified by the platform becoming unavoidable due to network effects and economies of scale. As a result of the ‘take it or leave it’ effect\textsuperscript{39} arising from this, even users that are more conscious of data protection do not have a choice but to participate in the data exploitation or opt out of the service. Probably the already mentioned privacy paradox could also be traced back to this since


\textsuperscript{35} In the opinion of two-thirds (67\%) of respondents, they are too long, while nearly four out of ten respondents (38\%) found them to be unclear or hard to understand. It would take on average 244 hours a year for each internet user to read through the privacy policies of all the websites they view, which is more than 50\% of the time that the average user spends on the internet. See: European Data Protection Supervisor (2014) Preliminary Opinion of the European Data Protection Supervision: Privacy and competitiveness in the age of big data: The interplay between data protection, competition law and consumer protection in the Digital Economy (8 March 2014), p. 34.


even though most users are not at all satisfied with this business model that allows them to use ‘free’ services in the online space, they have no choice but to accept the situation. The majority (it is important that not everyone) of European users object to the fact that they are only able to access ‘free’ services in exchange for personal data.\textsuperscript{40} The ‘take it or leave it’ effect means that users who are concerned about the fate of their personal data have no choice but to accept the terms of the attention merchants if they want to benefit from the services they offer, otherwise they will be left out.

To sum, users may ‘pay’ with their data much more on online attention markets than what they receive. This is due to information asymmetries, deceptive unfair practices, and because there are no market barriers to the disproportionate exploitation of data by online platforms as a result of a lack of competition. It is also true that even if competition existed, due to the illusion of the service being free and the confidentiality of the data trade, the platform would still be able to engage in data exploitation without consumers being aware of it. In the EU, the already-mentioned Directive on the prohibition of unfair commercial practices creates opportunities to act against these unfair tools. However, information asymmetry is a market failure that must be remedied by special regulations. A solution to this would be if users could decide if they wanted to pay for the services of online attention merchants with personal data or with cash.

Hoofnagle and Whittington also believe that if undertakings began asking for money in exchange for the services currently offered for free, those worried about privacy could enjoy these services without advertisements or tracking.\textsuperscript{41} Botta and Wiedemann also arrived at the conclusion that users should be able to decide whether they wish to use the services of online attention merchants in exchange for personalised advertisements or a monthly fee.\textsuperscript{42} The study of the British Competition Authority\textsuperscript{43} also suggests that online platforms should operate using a more diverse business model depending on the data protection settings of users. Creating this option seems necessary in light of the right to informational self-determination.


\textsuperscript{43} Competition and Markets Authority (2020) Online Platforms and Digital Advertising, pp. 386–387.
4. STRENGTHENING OF REGULATORY INTERVENTION AGAINST DATA EXPLOITATION

Since data exploitation happens independently of the distortion of competition, the enforcement of competition law would not ensure an overall solution, as it would only allow action against undertakings with dominant market positions. Of course, the German Facebook decision[^44] highlighted that competition law can be applicable to data exploitation; however, these proceedings are initiated against single undertakings and took a lot of time. Therefore, competition law cannot provide a quick and comprehensive industry-wide solution, as it is stated by the DMA[^45]. The DMA further strengthens the implementation of the GDPR in two ways. First, the DMA narrows the data processing rights of gatekeepers, because it excludes the application of two legal bases stipulated in Article 6 b)[^46] and f)[^47] of the GDPR in a certain scope, and limits it to the consent-based processing. This scope of data processing is delineated by Article 5(2) of the DMA.[^48] Second, the DMA delegates the enforcement of this narrowed data processing legal basis to the European Commission instead of the data protection authority of the place of establishment. The DMA raises the costs of end user profiling but does not prohibit the core of zero price business models and the reason of the data exploitation[^49]. The DSA prohibits online platforms to present advertisements based on profiling using personal data of the recipient of the service when they are aware with reasonable certainty that the recipient of the service is a minor[^50]. Interestingly, the Data Act goes further in case of non-personal data. This means that the designated gatekeepers under the DMA cannot


[^46]: Processing is necessary for the performance of a contract to which the data subject is party or in order to take steps at the request of the data subject prior to entering into a contract.

[^47]: Processing is necessary for the purposes of the legitimate interests pursued by the controller or by a third party.

[^48]: E.g. combining end user personal data collected from a core platform service with data collected from other services; cross-using personal data from a core platform service in other services provided separately by the gatekeeper.


request or be granted access to users’ data generated by the use of a product or related service or by a virtual assistant.\textsuperscript{51}

Hoofnagle and Whittington also believe that the current regulatory framework essentially turns a blind eye to the commercial business model based on personal data and nothing prevents these undertakings from acquiring valuable data from users while disregarding the right to data protection.\textsuperscript{52} Therefore, Hoofnagle and Whittington argue for the transformation of the entire business model built on this.\textsuperscript{53} Friedman arrives at the same conclusion due to the false illusion of free services and he would thus ban the entire zero price business model.\textsuperscript{54} Evans believes that consumers know that in the data-driven economy they have to provide personal data in exchange for experiences, and this works the same way as a subscription in the case of an offline newspaper.\textsuperscript{55} Therefore, Evans considers the provision of personal data a type of consideration for accessing the experiences. In my opinion, the problem is that data protection principles (i.e. data minimisation) are not fully prevailed in relation to the provision of personal data. Therefore, it is reasonable to create regulations that require zero price online platforms to provide an option to users to use the service they currently use in exchange for monetary payments instead. In such cases, the online platform would not be allowed to request any personal data, analogous to the case of Article 6 (2) of the Directive on privacy and electronic communications.\textsuperscript{56} beyond what is required for the management of the subscription and the billing of the service.

The question arises as to whether the service offered to users who refuse to provide personal data can remain free and be delivered without monetary payment obligations. There are strong indicators that this is true since the services of online attention merchants were originally provided for free\textsuperscript{57}

\begin{footnotes}
\footnotetext[51]{Proposal for a Regulation of the European Parliament and of the Council on harmonised rules on fair access to and use of data (Data Act), COM/2022/68 final, Rec. 36.}
\footnotetext[56]{European Parliament and Council Directive 2002/58/EC of 12 July 2002 concerning the processing of personal data and the protection of privacy in the electronic communications sector (Directive on privacy and electronic communications) OJ L 201 [2002] 37–47. Furthermore, Facebook displayed fewer advertisements at launch than MySpace, which was the market leader at the time, and only increased the amount of advertisements to the current level, which is considered by some to be an exploitation of the undertaking’s monopoly, after the latter player disappeared from the market. See: Wu, T. (2019) Blind Spot: The Attention Economy and the Law. \textit{Antitrust Law Journal}, 82 (3), pp. 790–791.}
\end{footnotes}
and gathered a huge mass of users. They only increased the proportion of advertisements after they had become dominant.\textsuperscript{58} Taking this into consideration, the exercise of data protection rights should be free in the sense that users should be able to continue accessing the services without fee payments even if they refuse to share their data. This solution is favourable from the point of view that the EU Data Protection Commissioner believes that the exercise of data protection rights cannot be an alternative to monetary payments.\textsuperscript{59}

However, if general advertising would not be enough to provide the service without fee payments, the question is whether it is possible to introduce monetary payments in addition to paying with data. In this case, payment with data would become an alternative to monetary payments, which is contrary to the spirit of data protection according to the EU Data Protection Commissioner since the protection of personal data is a fundamental right and therefore cannot be considered a commodity.\textsuperscript{60} However, payment with data is a practice that is already present but concealed and therefore acts as a ‘hotbed’ for data exploitation. Furthermore, Directive (EU) 2019/770 recognises the business model of paying with data on a regulatory level with respect to certain aspects of contracts concerning digital content and digital services.\textsuperscript{61} This Directive provides guarantees for contracts within the framework of which a merchant provides digital content or digital services to consumers or assumes an obligation to do so, while the consumer provides personal data or assumes an obligation to do so.\textsuperscript{62} Although Directive (EU) 2019/770 does not apply to situations where consumers are forced to watch advertisements without having concluded a contract with the merchant just so they can access the digital content or digital service, the Member States can still freely decide to extend the scope of this Directive to such situations which do not originally fall within its scope or introduce other regulations for such cases.\textsuperscript{63} Pursuant to Article 8 (1) b) of the Directive, the digital services have to comply with the expectations of the


\textsuperscript{63} Ibid.
consumers based on the public claims of the merchant. Therefore, claims about a free service mean that not even personal data can be collected in exchange for that service.\textsuperscript{64}

Of course, there are users who consider personalised advertisements to be a positive feature.\textsuperscript{65} Privacy is heterogeneous which means that there are a range of privacy preferences.\textsuperscript{66} However, the scope and intensity of the provision of data should be regulated in the case of those paying with data as well. On the one hand, since the market power of the attention merchants means that there are no competition-based barriers to the data exploitation (consumers cannot switch to other service providers because of this: the ‘take it or leave it’ effect), on the other hand, this exploitation is facilitated by consumers not being aware of the true value of the personal data they provide (information asymmetry). The latter situation would certainly be improved if consumers who pay with data were made aware of the monetary value of the data they provide. The scope and intensity of the provision of personal data could perhaps be regulated with transparency rules, such as the proposal concerning two-step consent by Botta and Wiedemann, which would mean that users would receive an email with the data protection settings they have selected and they would have to accept them again or the selected settings would only be in effect for a fixed period of time and the consent should be renewed after the expiry of this period.\textsuperscript{67} It is important that users who use online services in return for personal data transfer also have a clear idea of the scope and extent of the data transfer they are required to provide in order to make an informed consent decision.

The above proposal (the creation of the option to pay with data) would resolve the privacy paradox as well. As discussed above, the privacy paradox can partially be traced back to the fact that although users are concerned about their data, they do not take steps to protect them. This may be improved if monetary payments appearing as alternatives to paying with

\textsuperscript{64} In this context, see the decision of the Hungarian Competition Authority against Facebook due to misleading claims about a free service (6 December 2019). Available at: www.gvh.hu/sajtoszoba/sajtokozlemenyek/2019-es_sajtokozlemenyek/12-milliard-ft-birsagot-szabott-ki-a-gazdasagi-versenyhivatal-a-facebook-ra (Accessed: 15 August 2021).


data would draw attention to the significance of providing data. On the other hand, the alternative option of paying in cash would create an opportunity for better data protection, and it could ensure that users consider the terms and conditions of data processing more thoroughly.

5. CONCLUSION
In the zero price business model, online platforms provide services in exchange for personal data. However, this business model is detrimental to data protection principles, such as the principle of data minimisation, and fundamental rights, such as the right to self-determination. One of the reasons for this is information asymmetry, as a result of which users are unaware of the value of the personal data they provide, due to the false illusion of the service being free of charge. Another reason is the ‘take it or leave it’ effect caused by the dominance of the services offered by online platforms. Since data exploitation takes place not only due to the distortion of competition, the enforcement of competition law would not ensure a breakthrough on this front, as it would only allow action against undertakings with dominant market positions. Consequently, the elimination of the information asymmetry and the reinforcement of the right to self-determination require additional regulations that would ensure that users are able to use online services that are currently zero price without providing personal data. The question arises as to whether these online services would be able to remain free in this case. If free online services cannot be provided through general advertising, it must be ensured that users can decide to use the services in exchange for monetary payments. In addition, through the proper enforcement of the GDPR, in particular the principle of privacy by design, it must be ensured that the extent to which data are provided is not excessive, as there is currently no limit on this in the absence of competition.

LIST OF REFERENCES
[4] Bundeskartellamt prohibits Facebook from combining user data from different


