London, 16 March 2021

From: Prof. Nicolo Zingales
Re: Response to CMA Consultation on competition, algorithms and consumer harm

My name is Nicolo Zingales, and I am a professor of information law and regulation at Fundação Getulio Vargas in Rio de Janeiro, Brazil. I am also self-employed in the UK with my own consultancy, Zingales consultancy, advising clients on competition and platform regulation matters. I am hereby responding to your consultation on algorithms: how they can reduce competition and harm consumers.

I commend the CMA for its leadership in tackling some of the thorniest questions of harms generated by algorithms, and thinking clearly about how to establish effective oversight. I have read the paper with interest, and broadly agree with the characterizations and proposals made in the report. However, I have a couple of suggestions, in particular with regard to the section on "manipulating algorithms and unintended exclusion" and more generally on the regulatory approach that can be taken to improve legibility and minimize anticompetitive discrimination (so, mainly sections 7 and 8).

The first thing that I would point out is that antitrust law adopts a quite broad interpretation of what constitutes "intent", including the failure to undertake due diligence. Therefore, by defining clear benchmarks for algorithmic accountability, regulators can put firms on notice prescribing a minimum level of algorithmic self-policing. At the same time, I am afraid that a principled approach risks leaving a certain degree of uncertainty that may generate chilling effects, and for this reason I would suggest creating some sort of safe harbor for companies that take a series of step that ensure more effective oversight while reducing the risk of algorithmic discrimination and exploitation and enhancing consumer sovereignty. In a recent paper, after discussing the role of intent in EU competition law, I suggested that such safe harbor should include a notice-and-explanation framework that allows potentially aggrieved parties to request an explanation for algorithmic changes and potentially challenge before an independent third party. The paper can be found enclosed to this email (annex 1) or by clicking on this link.

A second point that I would like to respectfully submit is that a joined-up approach of competition, consumer and data protection law is essential to tackle issues related to consumer manipulation and nudging. In the papers attached in annexes 2 and 3, I outlined some of these concerns and also provided suggestions on how competition law can deal with nudging on its own.

I the brief note below, I elaborate on each of these points in a little more detail, while I refer you to the full papers for more extensive discussion.

Best regards,
Nicolo Zingales
Professor of Information Law and Regulation
+55 21 3799 **5967** t @JusTechne
Praia de Botafogo, 190 13º andar
Botafogo - Rio de Janeiro, RJ - CEP: 22250-900
nicolo.zingales@fgv.br

1. Liability for algorithmic exclusion (unilateral conduct)

One of the most daunting challenges in the assessment of antitrust conduct in the context of artificial intelligence is the extent to which enterprise liability ought to be imposed for measures undertaken by an algorithm, particularly where those measures were not foreseen or foreseeable by the person who made the decision to give effect to that algorithm. *Google Shopping* is a good test case to examine the adequacy of antitrust analysis in this context, giving a preview of some of the problems that we are likely to encounter with the increasing automation of a range of human activities. Unfortunately, the European Commission's decision that Google violated article 102 by engaging in self-favoring fails to identify the countours of abuse with regard to algorithmic design choices, insofar as it does not give sufficient indications of the exact conduct that falls short of the standards of special responsibility ascribed to a dominant company. This also generates problems of adequacy of the remedy imposed, as the Commission unqualifiedly ordered Google to take adequate measures to bring the conduct to an end, and refrain from repeating it, or engaging in any act or conduct with the same or an equivalent object or effect[1].

In order to appreciate the significance of the problem, it is necessary to make a clarification about the technology under discussion: to provide users with the most relevant results, search engines undertake editorial functions in indexing, triggering, ranking and displaying content. Those choices are made primarily by designing algorithms, i.e. rules that will govern the operation of Google's crawling, triggering, ranking and displaying technologies to perform the desired process. Because of these editorial functions, algorithms can have in-built biases which lead to systematically favouring certain content, although that may not necessarily be the result of a deliberate choice of the designer. Since the stage of algorithmic design is removed from the generation of results, it is often difficult for the designer to anticipate all the possible consequences. This holds even more true when it comes to unsupervised learning algorithms, recently incorporated into Google Search[2], that are characterized by the property to automatically learn and improve from experience without being explicitly programmed.

Of course, the underlying criticism is ostensibly that Google *should* have appreciated the consequences of its choices, including the impact of those on competition in the market for comparison shopping services. In fact, while in some instances the preferential treatment ostensibly arises from the choice of criteria triggering a given algorithmic result[3], in other parts of the Decision the Commission merely takes issue with the outright exclusion of Google Shopping from the application of certain criteria that adversely affect the position of competing price comparison services (notably the […] and Panda algorithms)[4]. However, the Decision does not

---

[1] European Commission, Case AT.39740, *Google Shopping*. Brussels, 27.6.2017, C(2017) 4444 final. Available at http://ec.europa.eu/competition/antitrust/cases/dec_docs/39740/39740_14996_3.pdf (hereinafter, "Decision"), Art. 2-4.

[2] Cade Metz, 'AI Is Transforming Google Search. The Rest of the Web Is Next', Wired (2 April 2016). Available at https://www.wired.com/2016/02/ai-is-changing-the-technology-behind-google-searches/.

[3] A good example is the "signals" for triggering the appearance of Product Universal, and/or its appearance in the middle to top position of the results in the first page: the number of stores and the number of shopping comparison engine in the top-3 generic search results. See Decision, para. 391.

[4] Decision, para. 512.

offer any comfort for operators of algorithmic technologies by pointing what particular conduct Google has fallen short of, i.e. what duty of care has been breached.

Although one may contend that the Decision must be premised on the recognition of intention or negligence, as required by law, this premise is nowhere to be seen in the assessment of Google's liability for algorithmic results. The Commission only refers to *subjective* intent by the concerned undertaking "to favour its own services over those of competitors in order to leverage its position in general search into the market for shopping comparison services"[5], which it uses to satisfy the requirement of objective intent for such conduct to eliminate competitors.

I have analyzed this Decision at length[6], and refer you to the annexes for further details. However, I think it is important to report here the main takeaways of that analysis:

- first, the advances in algorithmic technologies, big data and predictive analytics could better inform the processes of abstraction and inferences which decision-makers use to rely upon for the definition of intent. For instance, given that the processes of prediction for dominant companies might be significantly more advanced and sophisticated than those of other market participants and competition authorities[7], greater importance should be placed for *subjective* standards of liability. This could be based on in-camera disclosure of the dominant firms' datasets and replicability of their algorithmic design processes, to test whether the effects produced by a given choice could have reasonably been predicted considering the firm's inputs and design processes. A the same time, it is important to link those subjective standards to an objective component (a likelihood of anticompetitive effects generated by the purported conduct) which prevents an undue expansion of the concept of abuse.
- secondly, it is crucial to clarify what sort of methods of proof and inference would be deemed "subjective", and therefore considered only as additional and supporting evidence that cannot be sufficient for the establishment of an abuse: tracing the impact of an algorithm to the intent of its originator is likely to be the key and sometimes only question for establishing liability, for which we must have a clear answer.
- third and relatedly, the process of inference of intent from algorithmic action must have human fallacy as a backstop. We cannot expect developers or controllers of algorithms to prognosticate any possible anticompetitive effect that may result from their actions, as this would certainty hinder the deployment of innovative algorithms. However, we might want to hold them accountable (if not liable) for those choices by requiring transparency and explainability of automated decisions, as is currently done in the field of data protection law[8]. This is indeed the most pressing question: to what extent can objective antitrust intent be inferred from a set of actions performed by an algorithm, such that they can be linked to negligence in design and control? On one hand, antitrust intent can serve as a safeguard against the imputation to an algorithmic controller or designer of any possible impact an algorithm can generate on the market. On the other hand, an insufficiently clear definition of its role can be chilling investment and innovation in the development of predominantly

[5] Decision, para. 491.
[6] Nicolo Zingales, 'Antitrust Intent in The Age of Algorithmic Nudging' (October 15, 2018). Available at SSRN: https://ssrn.com/abstract=3266624
[7] A phenomenon that Stucke and Grunes call "nowcasting": see Maurice E. Stucke and Allen Grunes, *Big Data and Competition Policy* (Oxford University Press, 2016).
[8] See article 13 (2) (f), article 14 (2) (g), article 15 (h), article 22 as well as Recital 71 of the GDPR.

beneficial technologies, simply because they might conceivably produce anticompetitive outcomes.

- fourth, the establishment of a "safe harbor" is advisable to encourage investment and innovation into algorithmic technologies that comply with some fundamental principles. The safe harbor would need to be framed within appropriate institutional and procedural safeguards (above all, a fair and independent dispute resolution procedure) and include a framework of 'notice and explanation' for undertaking that consider themselves to be adversely affected by the algorithm in their ability to compete in the market. This framework would grant the algorithmic operator immunity from liability for any differential treatment which puts an undertaking at competitive disadvantage (*vis a vis* the operator himself or a third party), as long as a dedicated procedure was put in place to receive such notices and respond within an appropriate timeframe. The affected undertaking, if unconvinced by the explanation, could then submit that together with its substantiated claim to an independent body, which could order the readjustment of the ranking of that undertaking but also establish the allocation of litigation costs, as well as impose penalties for baseless complaints. Furthermore, algorithmic operators would not be entirely immune from scrutiny if they were somehow aware of facts, irrespective of a notice, that would make the detrimental impact apparent. To make that more specific, the safe harbor could include among its conditions the adherence to a due diligence procedure for the design of algorithms that can effectively impact consumer choice through the selection or ranking of content. Such procedure could for instance rely on established techniques to detect the existence of bias[9], maintain a record of that testing for inspection by a competition or judicial authority (or the independent body proposed in this section), and even define a threshold of adverse impact warranting a change of the existing rules or criteria. This could be imposed to the whole industry of online intermediation companies, as recently done in the European Commission's proposed Regulation on Platform to Business Fairness (RP2BF).

2. Anticompetitive nudging?

There is one further aspect which is worth putting to the attention of competition regulators. This is the evolving sophistication of practices of design and manipulation through "nudges", where consumers are not strictly forced but merely encouraged to undertake the desired action. This is likely to be a particularly complex area of inquiry in the context of personalized offerings, as companies can, thanks to greater data collection and the advances in data analytics, identify consumer biases and exploit them to accomplish the desired outcome(s). However, nudges need not take place only in the context of personalization, as they can be quite effective also where they are designed to address biases that are common among the users of a particular product.

The two *Microsoft* cases[10] provide a good illustration of the ability of EU competition law to reach

[9] See Christian Sandvig et al. 'Auditing Algorithms: Research Methods for Detecting Discrimination on Internet Platforms', Data and discrimination: converting critical concerns into productive inquiry (2014), 1-23. See also Karen Levy and Solon Barocas, 'Designing Against Discrimination in Online Markets' 32 Berkeley Technology Law Journal (2018).

[10] Commission Decision of 24 March 2004 relating to a proceeding under Article 82 of the EC Treaty (Case COMP/C-3/37.792 *Microsoft);* upheld on appeal in Case T-201/04, *Microsoft* EU:T:2007:289; Commission decision of 16 Dec.

situations where a consumer is only nudged towards integration of two products, despite retaining the ability to replace the tied product with one produced by competitors. In particular, the European Commission took issue with the fact that customers were not given choice, as Microsoft's softwares were pre-installed with Windows and could not be uninstalled[11]. In the Media Player case, the Commission elaborated on the rationale for intervening in the presence of "soft" tying of this type on grounds that the integration generated strong network effects for content providers and developers using Windows Media Player, which would eventually result in market tipping, and that intervention by a competition authority would need to occur before the tipping in order to be effective[12]. Similarly, in its recent *Google Android* Decision the Commission took issue with Google's efforts to ensure that manufacturers and mobile network operators pre-installed its search and browser apps, considering that users who find search and browser apps pre-installed on their devices are likely to stick to these apps.[13]

Where the exercised choice is the result of deception or undue influence, consumer protection law may be able to step in, recognizing the abusive nature of practices where consent to a new service is effectively forced upon a consumer, thus obviating the need for antitrust intervention. This is precisely what happened in a recent decision by the Italian competition authority (AGCM), though under its consumer protection mandate, concerning the update of WhatsApp's terms of service and privacy policy in August 2016[14]. The AGCM found that WhatsApp had engaged in an unfair and aggressive commercial practice for two main reasons: first, while it had provided users with a full screen informing about the existence of changes to the existing privacy policy and terms of service, the same screen only contained the option of integrally accepting those changes, whereas only a user clicking to read more information about those changes would find out that he or she could refuse to accept some of those (namely, the sharing of metadata with Facebook). Secondly, WhatsApp warned users in the notice communicating the update that those who did not express their acceptance within 30 days would no longer be able to use the service, which bolstered the effect of inducement that was already generated by the incomplete notice[15].

The scenario just described concerns a practice that may be considered unfair both from a consumer and a data protection law perspective, but has also a strong linkage with competition law: the possible change of privacy policy to enable data sharing with Facebook was in fact one of the considerations taken into account as part of the competitive assessment in the European Commission's clearance of Facebook's acquisition of Whatsapp[16], although it did not play a major role in the outcome due to the dynamic nature of the affected markets and the simultaneous use by consumers of multiple communication services. However, despite the fruitful interaction of the

---

2009 relating to a proceeding under Article 102 of the Treaty on the Functioning of the European Union and Article 54 of the EEA Agreement (Case COMP/C-3/39.530—*Microsoft (tying)*).

[11] See Nicolas Petit and Norman Neyrink, 'Back to Microsoft I and II: Tying and the Art of Secret Magic' (2011) 2 (2) Journal of European Competition Law & Practice, 117-121.

[12] Commission Decision in Case COMP/C-3/37.792 *Microsoft*, para. 946.

[13] European Commission, Press Release IP/18/4581, 18 July 2018.

[14] Provvedimento PS 10601 and Provvedimento CV 154, both available at <http://www.agcm.it/stampa/comunicati/8754-ps10601-cv154 -sanzione-da-3milioni-di-euro-per-whatsapp,-ha-indotto-gli-utenti-a-condividere-i-loro-dati-con-facebook.html> accessed 10 July 2018.

[15] *Ibid.*, para. 62.

[16] European Commission, Press Release IP 14–1088, 3 October 2014, http://europa.eu/rapid/press-release_IP-14-1088_en.htm.

forces of consumer protection, data protection and competition law in this particular case[17], it is not clear how far competition law can go with its existing instrumentarium to pursue practices which exploit consumer biases but at the same time leave them free to choose among competing alternatives. Arguably, a violation of consumer or data protection law may be used by a competition authority to document that a given undertaking is not competing on the merits, and therefore reinforcing its dominant position through its abusive conduct[18]. In any case, the strong intersection with consumer and data protection law calls for specific and swift cooperation mechanisms between the respective authorities[19], which are likely to be of increasing importance with the increase of personalized interactions.

Once again, I wish to emphasize that in examples like the Whatsapp case discussed above, nudging is not based on individual characteristics (some would say "vulnerabilities") of the targets, but simply on the expected reaction of a wide population or subgroup. These cases are distinguishable from cases of hypernudging, which involves "algorithmic real-time personalization and reconfiguration of choice architectures based on large aggregates of (personal) data", or the phenomenon of "digital market manipulation" described by Calo- based on "mass production of bias", "disclosure ratcheting" and "means-based ad targeting and interface design". This is, in a way, a step prior to that range of personalized or quasi-personalized nudging, which raises a whole different set of concerns that will not be considered here. Nevertheless, conduct undertaken algorithmically in connection with consumer biases challenges traditional antitrust analysis in that it may enable the dominant firm to accomplish the effects of a tying, predation, and exclusive dealing without presenting some of the features legally required to condemn them. This is because algorithmic agents can leverage a dominant position upon known consumer characteristics to make it highly likely that the latter voluntarily choose the dominant firm's preferred course of action.

This raises largely unexplored questions about what the optimal regulatory response to such conduct might be. This may be significantly different from the optimal response in the context of targeting based on personal data and emotions of individual consumers, which may raise more pernicious data and consumer protection issues[20]. Surely we don't want to make it easy for companies to route around the application of the antitrust rules by merely offering consumers an *appearance* of choice, while effectively tweaking the choice architecture to manufacture their desired outcome. At the same time, we don't want to be too paternalistic and deny consumers the greater convenience and other benefits that come from aligning their interests to those of the dominant company. However, competition law *does* require that a minimum choice is preserved, so as to enable competitors to exert pressures on the margin. As a result, we need to identify an

---

[17] See Nicolo Zingales, 'Between a rock and two hard places: WhatsApp at the crossroad of competition, data protection and consumer law '(2017) 33 (4) Computer and Security Law Review, 553-558.

[18] Bundeskartellamt, 'Preliminary assessment in Facebook proceeding: Facebook's collection and use of data from third-party sources is abusive', Press Release (19 December 2017), https://www.bundeskartellamt.de/SharedDocs/Publikation/EN/Pressemitteilungen/2017/19_12_2017_Facebook.pdf?__blob=publicationFile&v=3.

[19] See Nicolo Zingales, 'Data protection considerations in EU competition law: funnel or straitjacket for innovation?', in Paul Nihoul and Pieter Van Cleynenbreugel (eds.), *The Role of Innovation in Competition Analysis* (Edward Elgar Publishing, Cheltenham 2018), available at https://papers.ssrn.com/sol3/papers.cfm?abstract_id=3158008

[20] For extensive work on this topic, see Damian Clifford, Legal Limits To the Monetization of Online Emotions, at https://www.law.kuleuven.be/citip/blog/phd-thesis-the-legal-limits-to-the-monetisation-of-online-emotions/

analytical framework that distinguishes acceptable persuasion and simplification from outright manipulation.

In a recent (draft) paper, I suggested on the basis of existing literature three criteria that can be used to distinguish these two situations:

- First, the nudge is transparent and not misleading. However, the meaning of transparency will vary depending on the specific context: the more a nudge substitutes for the consumer's capacity for reflective and deliberative choice (to borrow from Sunstein's definition of manipulation), the more it should require a clear and conspicuous banner and it won't be sufficient to have announced it beforehand. In addition, there may be cases where disclosure is inapt to fulfil the purpose of transparency, for instance because it requires expert evaluation and/or long and complex procedures, calling for special safeguards such as approval by expert review boards and ongoing/periodic monitoring of implementation.
- Second, it is as easy as possible to opt out. This is not a strict pre-requisite, but the difficulty of cancelling out the effects of the nudge for an individual is a crucial mitigation measure, absent which the nudge is likely to be considered disproportionate. There might be cases where opting out involves several steps but the effects on consumers are still largely positive, in which case there is no ground for antitrust action (though this may be a trigger for the enforcement of consumer protection law).
- Third, the nudge must increase welfare. This is indeed the traditional focus of antitrust analysis, though it is worth clarifying the important point that antitrust would not focus on the welfare of the nudged consumer (or even the group of nudged consumers), but rather at the overall effect on consumer welfare in the relevant market.

The weight attached to each of these three criteria, however, will vary depending on the context in which the nudge is made. Should competition law have something to say on techniques of nudging that prime economic welfare over transparency and reversibility? Should the latter be considered more properly situated within the sphere of consumer protection? While the above-mentioned criteria seem suitable to separate the wheat from the chaff when it comes to determining the extent to which nudging preserves consumer sovereignty, the question of whether consumer sovereignty is the central preoccupation of antitrust law remains open, and fundamentally dependent on the underlying economic, social and political environment.