COMMENTS OF THE AMERICAN BAR ASSOCIATION SECTIONS OF ANTITRUST LAW AND INTERNATIONAL LAW ON "ALGORITHMS: HOW THEY CAN REDUCE COMPETITION AND HARM CONSUMERS"

March 16, 2021

The views stated in this submission are presented on behalf of the Antitrust Law and International Law Sections. They have not been approved by the House of Delegates or the Board of Governors of the American Bar Association and therefore should not be construed as representing the policy of the American Bar Association.

The Antitrust Law Section and the International Law Section of the American Bar Association (the Sections) appreciate the opportunity to provide their comments on the consultation paper "Algorithms: How they can reduce competition and harm consumers," published by the Competition and Markets Authority (CMA) on January 19, 2021 (the Paper).[1] The Sections are available to provide additional comments or assistance in any other way that the CMA may deem appropriate. These comments are based upon the extensive experience of the Sections' members in competition and consumer protection law from around the world.

The Antitrust Law Section is the world's largest professional organization for antitrust and competition law, trade regulation, consumer protection and data privacy as well as related aspects of economics. Section members, numbering over 7,600, come from all over the world and include attorneys and non-lawyers from private law firms, in-house counsel, non-profit organizations, consulting firms, federal and state government agencies, as well as judges, professors and law students. The Section provides a broad variety of programs and publications concerning all facets of antitrust and the other listed fields. Numerous Section members have extensive experience and expertise regarding similar laws of non-U.S. jurisdictions. For nearly thirty years, the Section has provided input to enforcement agencies around the world conducting consultations on topics within the Section's scope of expertise.[2]

The International Law Section (ILS) is the American Bar Association's section that focuses on international legal issues, the promotion of the rule of law, and the provision of legal education, policy, publishing and practical assistance related to cross-border activity. Its members total over 11,000, including private practitioners, in-house counsel, attorneys in governmental and inter-government entities, and legal academics, and represent over 100 countries. The ILS's 56 substantive committees cover competition law, trade law, and data privacy and data security law worldwide as well as areas of law, which often intersect with these areas, such as mergers and acquisitions and joint ventures. Throughout its century of existence, the ILS has provided input to

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[1] Competition & Markets Authority, "Algorithms: How they can reduce competition and harm consumers," *available at* https://www.gov.uk/government/publications/algorithms-how-they-can-reduce-competition-and-harm-consumers/algorithms-how-they-can-reduce-competition-and-harm-consumers.

[2] Past comments can be accessed on the Antitrust Law Section's website at: https://www.americanbar.org/groups/antitrust_law/resources/comments_reports_amicus_briefs/.

debates relating to international legal policy.[3] With respect to competition law and policy specifically, the ILS has provided input for decades to authorities around the world.[4]

The Sections recognize the increasingly important role that algorithms play in commercial activities. Algorithms are key technological drivers of the digitalization of our economies, both in online and traditional markets. They enable firms to be more innovative and efficient. The Sections also recognize the complexity of algorithmic systems and the importance of analyzing the implications of their use from a competition and consumer law perspective. The Sections appreciate the Paper's comprehensive overview and assessment of potential harms to competition and consumers from the use of algorithmic systems, its initial considerations with regard to monitoring and addressing such harms, and the important questions that it raises for further attention. We submit these comments in the hope that they assist the CMA as it engages in further work in this area.

Our comments focus on three areas of potential algorithmic harms discussed in the Paper: (i) consumer protection considerations; (ii) the potential for exclusionary abuses; and (iii) collusion risks. Two general considerations permeate the specific comments in each of these areas.

First, the Sections believe that the Paper appropriately focuses on economic harms that could be addressed by enforcement of competition and consumer law, or via the new powers of the Digital Markets Unit. However, the Sections respectfully suggest that future work delineate more clearly between the consumer protection and competition law implications resulting from identified harms, in terms of applicable legal frameworks and structures for assessment and enforcement. To this end, the Sections welcome further guidance as to the enforcement tools and related legal standards considered appropriate to address each of the identified harms.

Second, the Sections also respectfully note that while setting out potential harms is a useful frame of analysis, the benefits of algorithms – their pro-competitive aspects, efficiencies and consumer benefits they bring (*e.g.*, better search results, user experience, efficient pricing, etc.)—should also be considered and examined as part of a balanced assessment. The Sections' comments, below, address these points and others in the context of the three areas of potential harm.

I. Consumer Protection Considerations

As algorithms become increasingly complex and supported by increasing amounts of data, the impact on transparency to and meaningful choice for consumers intensifies. The appropriate use of algorithms that rely on significant data sets can provide many opportunities for enhancing consumer welfare by more efficiently matching products and services to consumers, facilitating

[3] American Bar Association, International Law Section Policy, https://www.americanbar.org/groups/international_law/policy/about/.
[4] Past submissions may be accessed at: https://www.americanbar.org/groups/international_law/policy/blanket_authorities_initiatives/.

inclusion, and providing opportunity.[5] Yet, as recognized in the Paper, they may also facilitate exclusion and have detrimental effects for vulnerable populations.[6]

The Paper identifies and discusses in detail four principal theories of direct harm to consumers that may result from the use of algorithms: (i) personalized pricing harms; (ii) non-price personalization harms; (iii) discrimination; and (iv) unfair ranking and design. Each of these potential consumer harms is worthy of further consideration and study, and the Sections commend the CMA for its efforts in identifying and describing them.

As the CMA continues its work, the Sections would encourage it to assess more directly within this framework the potential benefits to consumers and possible efficiencies as part of its determination as to whether use and effects of algorithms in fact raises consumer harm. In this regard, the Sections would welcome further explanation on how the CMA plans to engage in this balancing process, and the basis for any conclusion that consumer harm has occurred, particularly for those uses of algorithms that also have beneficial effects. For example, the CMA recognizes that personalized pricing may be beneficial "[i]n many cases" and "may increase total output and consumer welfare." With this in mind, the Sections suggest that the CMA carefully and clearly distinguish among a variety of personalized pricing approaches and identify which should be encouraged and which should not, and why. Similarly, the use of algorithms to personalize choice architecture may also benefit consumers by providing a manageable number of relevant choices that satisfy a consumer's broad set of desired attributes. We therefore recommend that the CMA engage in careful review of not only the potential burdens of choice architecture, but also its benefits. Detailed explanation of the consumer harm analysis and assessment will be critical in providing guidance to businesses and clarifying standards of permissible uses of algorithms. Further clarity of guidance will support firms in developing permissible uses of algorithms that offer consumer benefits.

In developing approaches to investigating and auditing algorithms used by firms, the Sections also suggest that the CMA consider the relevant intellectual property rights applicable to algorithms and the cost to firms of information production. Companies invest significant financial resources in developing their algorithms and other intellectual property. To the extent that algorithms and their development are protected by intellectual property laws, the Sections recommend that the CMA take these protections into account before requiring disclosure. Otherwise, the ability of firms to compete and their incentives to innovate could be stifled. Relatedly, investigations and audits of the usage of algorithms that require firms to produce large data sets may be very expensive. Accordingly, the Sections suggest that the CMA consider the burden on firms, and employ streamlined, targeted audits and investigations to minimize these concerns while meeting their needs.

Finally, because the proper use of algorithms has the potential to benefit consumers and enhance efficiencies, determining the overall effect and the proper remedy for any potential or

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[5] FED. TRADE COMM'N, BIG DATA: A TOOL FOR INCLUSION OR EXCLUSION? 5 (2016), *available at* https://www.ftc.gov/system/files/documents/reports/big-data-tool-inclusion-or-exclusion-understanding-issues/160106big-data-rpt.pdf [hereinafter FTC BIG DATA REPORT]. *See also* EXEC. OFFICE OF THE PRESIDENT, BIG DATA: SEIZING OPPORTUNITIES, PRESERVING VALUES (2014), *available at* https://obamawhitehouse.archives.gov/sites/default/files/docs/big_data_privacy_report_may_1_2014.pdf [hereinafter WHITE HOUSE BIG DATA REPORT].

[6] FTC BIG DATA REPORT, *supra* note 5, at 9-11; WHITE HOUSE BIG DATA REPORT, *supra* note 5, at 45-47.

actual harm should be undertaken carefully. In crafting remedies, for example, the Sections suggest that the remedy be narrowly tailored to the harm and flexible in addressing changing market dynamics. We suggest that the CMA provide further guidance on the potential remedies and factors to be considered to address competitive concerns.

II. Exclusionary Abuses

The Sections commend the Paper for comprehensively identifying potential theoretical harms that could stem from the unilateral development, adoption, or modification of algorithms. In addition to the consumer harms discussed above, the Paper outlines potential harms to competition from exclusionary abuses that could theoretically foreclose competition, including: (i) self-preferencing; (ii) unintended exclusion from manipulation of platform algorithms; and (iii) predatory pricing.[7] However, although the Paper acknowledges the potential efficiencies or benefits associated with algorithms generally, the discussion of these benefits is limited in the context of the assessment of individual exclusionary harms. Yet, in identifying further areas for potential action and considering how to prioritize issues for deeper consideration, the extent of efficiencies and benefits created by particular algorithms is relevant to the application of the legal standard and should be developed further.

The Sections believe that the CMA also could usefully provide additional guidance on how the potential theories of harm identified should be assessed in relation to the legal framework applicable to exclusionary practices. In particular, the Paper does not seem to provide a standard for assessing when the use or modification of an algorithm might amount to an exclusionary abuse. Further guidance on how the potential theories of harm identified will be assessed by reference to applicable legal standards, including how attendant benefits and efficiencies may be taken into account, can help avoid uncertainty regarding enforcement under applicable laws and promote the legitimate and procompetitive development, implementation, and refinement of algorithms. Moreover, recognizing that the application of the law on abuse of dominance and exclusionary practices to digital business models, including in relation to use of algorithms, is currently the subject of considerable debate among antitrust agencies and practitioners internationally, CMA guidance on these issues could help to focus the international dialog.

The Sections applaud the Paper's recognition that a role of the regulator is to "[p]rovide guidance to businesses and set or clarify standards."[8] In that context, the Sections therefore respectfully encourage the CMA to develop further guidance to: (i) account for the potential benefits or efficiencies associated with algorithms; and (ii) provide greater certainty around a legal framework for assessment of potential exclusionary abuses relating to use or modification of algorithms.

a. Potential Efficiencies and/or Benefits of Algorithms

The Paper acknowledges that algorithms "have greatly enhanced efficiency and allowed firms to deliver better products."[9] However, while the Paper comprehensively outlines specific theoretical harms that algorithms could pose, it does not identify any specific attendant efficiencies

[7] Paper § 2.2.
[8] *Id.* § 4.1.
[9] *Id.* § 5.

or benefits to consumers. For example, refinement of a search algorithm could enhance relevance of results overall, to the benefit of consumers and other users. That same modification may have the unintended effect of harming particular market participants whose search rankings are negatively affected. Highlighting "unintended exclusion" as a potential harm from manipulation of an algorithm[10] is one side of the assessment. However, it is also important to pay corresponding attention to potential benefits from algorithmic improvements to promote legitimate—and potentially procompetitive—modification of algorithms. Similarly, the CMA should consider efficiency-enhancing discounts that promote competition and consumer benefits as well as predatory pricing as a potential exclusionary harm.[11] These are some examples of the areas in which the interaction between potential efficiencies and harms could usefully be further explored. The Sections respectfully recommend that further work account for potential efficiencies and consumer benefits from development, use, or refinement of algorithms.

Further, when considering the real-world effects associated with use and modification of algorithms—including balancing the potential harms and benefits—the Sections strongly recommend that the CMA's future work program develop the Paper's theoretical discussion to develop and consider empirical evidence. The Paper rightly acknowledges that "[e]ven in relatively well-researched areas, such as algorithmic collusion, there is a dearth of empirical studies to understand real-world impacts."[12] The evidence base related to algorithms and unilateral effects, including exclusionary abuses, is currently less well researched. As the Paper notes, the operation of machine learning and algorithms is a highly complex area,[13] and further evidence gathering would be desirable. Given this context, the Sections respectfully recommend that the future work in relation to the effects of algorithms be evidence based, taking due account of the complexity of the issues.

b. Framework for Assessment

The Paper appropriately envisages the development of further guidance and clarification of legal standards. In this regard, the Sections would welcome further guidance on the legal standards relevant to assessing: when development, use, or modification of an algorithm could constitute an exclusionary abuse; the types of evidence that the CMA envisages would be relevant to this assessment; and how changes to algorithms that may create benefits for some users and negative implications for others should be assessed.

Identification of potential harms from algorithms in isolation—absent a defined legal standard for evaluating when algorithms can result in exclusionary abuses—may create uncertainty around enforcement under applicable laws. In light of the potential efficiencies associated with algorithms, clarity regarding the legal framework that the CMA will apply to assess the circumstances under which use of, or changes to, an algorithm could be considered to be "abusive" is encouraged.

In particular, the Sections would welcome guidance as to whether the CMA envisages its further work on exclusionary issues relating to algorithms proceeding under the proposed *ex ante*

[10] *Id.* § 2.2.2.
[11] *Id.* § 2.2.3.
[12] *Id.* at 3.
[13] *Id.* § 1.

regime for the Digital Markets Unit, existing competition law, or both. If both, further guidance regarding the relevant factors for determining which legal framework to apply would be helpful. Existing competition law standards on issues such as "self-preferencing" are currently in a state of development so that it is likely to be more difficult for businesses and advisers to "self-assess" how potential uses of, and/or changes to, algorithms will be evaluated under applicable legal standards. Given the potential consequences for business (including exposure to sizeable penalties) and current lack of clarity in this area, the Sections encourage the CMA to develop further guidance to assist businesses and their advisers in assessing when an algorithm is likely to result in one of the exclusionary harms identified in the Paper. For example, it is not clear what evidence would be taken into account or the factors that would suggest harm is likely. If harms are identified, it is further unclear how efficiencies, benefits or other potential objective justifications should be taken into account in deciding what enforcement action, if any, may be appropriate.

Finally, the Paper appropriately acknowledges that in some circumstances harms arising from changes made to algorithms for legitimate aims can be "unintended."[14] In practice, businesses may wish to change algorithms for a range of legitimate business reasons, and the potential effects of such changes may not always be clear in advance. In that context, further guidance as to the legal standard for assessment of "unintended harms" stemming from legitimate business decisions is particularly encouraged to allow businesses to proactively monitor and seek to mitigate the risk of such harms in advance.

The Sections commend the CMA for comprehensively identifying questions around potential exclusionary abuses for further attention, and appropriately acknowledging that it is the role of the regulator to set or clarify legal standards and provide guidance to businesses. The Paper makes a valuable contribution to the ongoing debate on these issues internationally and highlights a number of areas for further consideration. At the same time, the Paper leaves important questions open, particularly in relation to applicable legal standards. In that context, the Sections respectfully encourage the CMA to clarify the relevant legal standards for assessing exclusionary abuses in relation to algorithms.

III. Collusion Risks

The Sections also appreciate the CMA's evaluation of the use of algorithms in the context of horizontal price-fixing agreements, hub-and-spoke conspiracies and autonomous tacit collusion. Algorithms present a "double-edged sword" to competitive markets. On one hand, they can enhance competition by facilitating rapid response to changing competitive conditions and customer demand. Enhanced price discovery and dissemination—the crucial function of the price system itself—is likely to make markets more efficient and competitive. On the other hand, the use of algorithms may facilitate collusion and make cartels more stable. Yet, based on current understanding of algorithms and their effects on markets, it is the Sections' view that their use does not alter the core elements of a cartel case.

[14] *Id.* § 2.2.2.

a. Horizontal Price-Fixing Agreements

An agreement among competitors—for example, to fix prices, allocate markets or possibly to use the same algorithm as a means of accomplishing those same ends—remains a required element in proving collusion. The Sections believe that existing law and economic analysis can adequately address potential horizontal price-fixing issues raised by algorithms.

Professors Maurice Stucke and Ariel Ezrachi addressed how the current competition laws can be effective in identifying collusive conduct in recent price-fixing cases involving algorithms.[15] Moreover, as the United States Department of Justice demonstrated in the online poster cases, *United States v. Topkins*[16] and *United States v. Aston,*[17] U.S. antitrust laws can be used to prosecute this type of classic collusive agreement to restrain trade.[18] Precedent indicates that this is not new behavior requiring a new enforcement strategy. In *United States v. Airline Tariff Publishing Co.*,[19] airlines settled accusations that they used a jointly-owned computerized online booking system to communicate and set collusive airline fares. Computer-determined pricing may be susceptible to coordination, just as human determined pricing can be, and existing competition laws are well suited to address any such conduct.

Cases in which competitors use an algorithm to implement or monitor a price-fixing agreement are still, at their essence, just traditional price-fixing cases. The fact that an algorithm was involved does not change the traditional legal framework analysis for horizontal price-fixing cartels. On the other hand, the mere fact that algorithms can be used to detect competing prices that are already transparent, but on a much faster basis, does not convert lawful conscious parallelism into a cartel offense. The classic example is two petrol stations across the street from one another. As one station posts it new price to the public, the other station may adjust its price as well. Without an agreement between the stations on any component of the price, there is no cartel violation.

b. Hub-and-Spoke Conspiracies

The second collusion risk discussed in the Paper is the possibility that the use of algorithms by online platforms could create a "hub-and-spoke structure" or facilitate an anticompetitive information exchange among such platforms and their supply-side users.[20]

The Sections respectfully recommend exercising caution before inferring a hub-and-spoke conspiracy merely from the use of a common algorithm by sellers on an online platform. In

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[15] Maurice Stucke & Ariel Ezrachi, *How Pricing Bots Could Form Cartels and Make Things More Expensive*, HARV. BUS. REV. (Oct. 27, 2016), *available at* https://hbr.org/2016/10/how-pricing-bots-could-form-cartels-and-make-things-more-expensive.

[16] Information, United States v. Topkins, No. 3:15-cr-0021 (N.D. Cal. Apr. 6, 2015), ECF No. 1, https://www.justice.gov/atr/case-document/file/513586/download.

[17] Indictment, United States v. Aston, No. 3:15-cr-00419 (N.D. Cal. Aug. 27, 2015), ECF No. 1, https://www.justice.gov/atr/file/840016/download.

[18] Press Release, U.S. Dep't of Justice, Former E-Commerce Executive Charged with Price fixing in the Antitrust Division's First Online Marketplace Prosecution (Apr. 6, 2015), *available at* https://www.justice.gov/opa/pr/former-e-commerce-executive-charged-price-fixing-antitrust-divisions-first-online-marketplace.

[19] United States v. Airline Tariff Pub. Co., 836 F. Supp. 9 (D.D.C. 1993).

[20] Paper § 2.80(b), § 2.83.

general, a series of vertical agreements between a "hub" and various "spokes" can be viewed as a horizontal agreement among the spokes only if they use the hub as a means to communicate an anticompetitive intent with each other. That has generally been the rule in both UK courts[21] and in the United States.[22]

On certain online platforms, there could be procompetitive justifications for the use of a common algorithm that should be considered in any analysis. For example, the use of a common algorithm may result in competitive pricing to consumers. The prospect for anticompetitive effects also depends on the extent to which the platform, or the algorithm, dictates pricing and other terms. In one of the cited examples in the Paper, Amazon offers its third-party sellers an algorithm called "Automate Pricing," which, as we understand it, merely automates the execution of the pricing parameters that the user, and the user alone, determines. Absent some communication and agreement among the various third-party sellers, the use of that algorithm would not appear to risk a per se unlawful agreement.

As stated above, the Sections believe that the use of algorithms should not alter the core elements of a cartel case. For a hub-and-spoke conspiracy, there should be evidence of an agreement among horizontal competitors to fix prices or allocate markets, or at least to use a particular algorithm to achieve those same ends.

c. Autonomous Tacit Collusion

The Paper discusses the possibility of "autonomous tacit collusion," as the third concern around algorithmic collusion, where algorithms could use complex techniques, such as deep reinforcement learning, to learn to tacitly collude.[23] The Paper recognizes that the risk of such collusion in real-world markets is unclear due to the lack of sound empirical evidence.

Theoretically, algorithms could learn to collude tacitly in a stable experimental environment—but additional studies are needed to understand the real-world feasibility and actual relevancy to the antitrust community. For example, Deng discusses practical obstacles to algorithmic collusion, such as the extensive time needed to train the algorithm to collude in the context of real-world pricing changes.[24]

If future research supports algorithmic "autonomous tacit collusion" (*i.e.*, collusion without explicit communication and human intentions), additional topics will emerge.[25] First, today a cartel case appropriately requires an agreement among competitors to use such "collusive" algorithms in this way. In the future, to support autonomous tacit collusion as a distinct theory of harm, antitrust enforcers would potentially need to consider the definition of agreement and how to treat algorithmic interactions similarly to human interactions.

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[21] See Nicolas Sahuguet & Alexis Walckiers, *Hub-and-Spoke Conspiracies: the Vertical Expression of a Horizontal Desire?*, 5 J. EUR. COMPETITION L. & PRAC. 711, 712 (2014).
[22] *United States v. Apple, Inc.,* 791 F.3d 290 (2d Cir. 2015).
[23] Paper § 2.80(c), §§ 2.84 – 2.85.
[24] Ai Deng, *How Concerned Should We Be About Algorithmic Tacit Collusion? Comments on Calvano et al.* (Oct. 11, 2019), *available at* http://dx.doi.org/10.2139/ssrn.3467923.
[25] For more discussion, *see* OECD, ALGORITHMS AND COLLUSION: COMPETITION POLICY IN THE DIGITAL AGE (2017), *available at* www.oecd.org/competition/algorithms-collusion-competition-policy-in-the-digital-age.htm.

Second, humans design algorithms. A consideration should be whether they intentionally design such algorithms so they can self-learn to collude.[26] Agencies may need to consider the extent to which humans can control the potentially anti-competitive self-learning activities of algorithms. Although the Sections do not rule out that a different legislative approach to some of these issues might be required, additional studies and research appear necessary to assess whether autonomous tacit collusion can and does take place.

d. Other Issues

The Sections also recommend that the CMA consider other issues related to collusion that were not mentioned in the Paper.

First, the Sections suggest that information relating to a firm's use of pricing algorithms should be considered highly confidential information. Sharing that algorithm, or even disclosing that a certain kind of algorithm is being used to set prices, could facilitate collusion with competitors. With this in mind, we suggest that the CMA exercise caution concerning the Paper's recommendation (at § 4.21(a)) regarding the disclosure of algorithms to consumers. While that would likely address other legitimate concerns addressed in the Paper, it could jeopardize the confidentiality necessary to protect against collusion.

Second, while the Paper discusses how algorithmic systems might facilitate collusion, it does not show how, if at all, they could in practice make markets more susceptible to collusive outcomes. For instance, does the use of algorithms change any structural (demand and supply) characteristics? Algorithms and data availability may make it easier for firms to innovate and differentiate their production process, which may lead to asymmetries in costs. Such asymmetries are likely to make collusion harder to sustain.

Finally, the Sections suggest that the CMA consider topics related to multi-market contacts and multi-sided markets in greater detail. Questions related to whether and how different sides of a multi-sided market are to be weighed are important to understanding the economic impact of "collusive" algorithms. For example, how would the CMA assess "collusive" activities potentially harming one side of the market, third-party sellers, but that return as indirect network effects to the other side of the market, consumers, as benefits?

In these areas and the others identified, the Sections believe that there is significant opportunity for further CMA assessment and guidance. Moreover, as the CMA recognized, the Sections note that both inter-agency and international cooperation are essential to such assessment because platforms and internet businesses span the globe. Thus, the Sections applaud the CMA's commitment to coordinate further work on algorithms with its international enforcement colleagues.

The Sections appreciate the opportunity to provide these comments and welcome the opportunity to answer any questions or otherwise discuss this subject with the CMA.

[26] For more discussion, *see* MAURICE STUCKE & ARIEL EZRACHI, VIRTUAL COMPETITION: THE PROMISE AND PERILS OF THE ALGORITHM-DRIVEN ECONOMY (2016).