February 23, 2021

The Honorable David Cicilline
Chairman
Subcommittee on Antitrust, Commercial and Administrative Law
U.S. House of Representatives

The Honorable Ken Buck
Ranking Member
Subcommittee on Antitrust, Commercial and Administrative Law
U.S. House of Representatives

Reviving Competition, Part 1: Proposals to Address Gatekeeper Power and Lower Barriers to Entry Online

I want to thank the Committee for inviting me to testify on the important topic of designing remedies for the dominant digital platforms.[1]

My embrace of a nondiscrimination regime does not mean that it is the only portion of the Majority Report's recommendations that I support. I also embrace the Report's call to nullify bad legal precedent that created unnecessary impediments for antitrust plaintiffs, beginning with the dreadful American Express decision.

Big Tech's two-part strategy of appropriating edge content or "cloning," followed by steering users to their clones, or what some call "self-preferencing," presents the greatest threat to edge innovation and is arguably the most vexing monopoly problem in our lifetimes. Starting an e-commerce business or developing a killer app or designing a website is a new and critical pathway to the middle class. And the digital platforms' two-part exclusionary strategy of cloning the best ideas of independents and self-preferencing the clones threatens this pathway for many entrepreneurs and thus threatens the American Dream.

In light of the findings in the Committee's Majority Report, there is no need to revisit the question of whether the digital platforms are dominant in their dealings with certain input providers. They are. Amazon has buying power with respect to merchants on its e-commerce platform, as evidenced by increasing its take rates. Apple has buying power with respect to app developers on its App Store platform, as evidenced by its exorbitant take rate on downloads and in-app purchases. Google

[1] I currently serve as an economic expert in two litigation matters, one adverse to Apple and another adverse to Google. And I have no client that supports or benefits in any way from the remedies I will be endorsing today. My testimony to the Subcommittee from March 2020 is attached as appendix.

is dominant with respect to certain websites that depend on its Search platform, as evidenced by its power to disappear disfavored sites in search.

The question now is what to do about this unchecked dominance. Unlike the Europeans, there is no protection against abuse of dominance in the United States. This means that antitrust law can't assist harmed trading partners unless the offender's dominance is supported by a restraint of trade. And all too often, it must be a restraint that crosses the firm's boundaries and results in higher consumer prices.

So while Amazon's most-favored nation clause and requirements to purchase fulfillment service can and should be challenged under antitrust law, Amazon's residual market power over merchants cannot. Similarly, while Apple's exclusionary provisions in app developer contracts can be challenged under antitrust law, Apple's residual market power over app developers cannot. Given this gap in protection, there is an urgent need to supplement antitrust enforcement with regulatory protections.

There are two policy options to fill this gap. The first is structural separation or a line-of-business restriction: You can be the platform but you can't also own the content riding over the platforms. Because structural separation only covers control through ownership, this approach must be bolstered with rules against control via contracting, such as bans on exclusive dealing.

The second option is a nondiscrimination regime, which would allow platforms to have a toe in the content space, but would prevent them from leveraging their platform power into that content space. Nondiscrimination would be modeled after section 616 of the 1992 Cable Act, which was passed on a bi-partisan basis. The "program carriage" rules prevent cable operators from disfavoring independent cable networks that compete against the cable operator's network affiliate. As with program carriage, nondiscrimination here would be enforced with a private right of action for victims of discrimination by the platforms.

No proposal is a panacea. Line-of-business restrictions would solve the problem of cloning and self-preferencing. But to the extent platforms have anything of value to add in the content space, that value or "economy of scope" would be eliminated. A nondiscrimination regime would permit cloning, but would prevent the platform from monetizing the clone via self-preferencing. However, the nondiscrimination regime would have to be policed by an agency or tribunal, which would entail administrative and monitoring costs, and could be gamed by platforms with superior information and resources.

There is a hybrid approach that I'd like the Committee to consider—namely, Congress could empower a tribunal with the authority to offer three types of relief as it policies acts of discrimination on a case-by-case basis: (1) injunctive relief or ending the discrimination; (2) compelling the respondents to pay lost profits to the

victims of discrimination; and (3) structural separation. In cases involving a recidivist discriminator who shows no respect for the nondiscrimination regime, or where injunctive relief proves unworkable, the tribunal could require the platform to sell off its content arm or cease operations in the content space.

I'd like to close by raising one final point in the choice of remedies. The nondiscrimination regime or any regime that requires the platform's cooperation and respect for the rule of law is vulnerable to failure to the extent that the platform believes it is above the law.

Recent developments imply that certain platforms have accumulated so much economic and political power that they may not be governable, which militates in favor of cutting them down in size. Amazon preemptively sued Attorney General Letitia James of New York for having the audacity to consider new worker safety protections; Google threatened to shutter its search engine in Australia in retaliation for a new law that compels Google to share a portion of the advertising revenues it earns off the backs of newspapers; Facebook blocked links to news stories from Australian news publishers and users; and Facebook has launched its own conflicted Supreme Court.

Accordingly, this Committee should draft two separate bills: one that imposes structural separation with safeguards against controlling independents through non-ownership means, and a second that imposes a nondiscrimination regime with structural separation incorporated as a remedy. These are both serious proposals. Structural solutions have been embraced by noted economists John Kwoka and Tommaso Valletti.

These and other remedies discussed in the Majority Report are effective ways to address the gaps in antitrust enforcement.

Sincerely,

Hal Singer
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Washington, D.C.

Appendix: Singer Testimony from March 20, 2020

It is a great honor and privilege to be invited to comment on the three important competition questions you posed to me by letter on March 13, 2020. Much of my academic writing has been aimed at these topics—specifically, identifying and filling the gaps in antitrust laws—and I have provided an appendix that includes hyperlinks to the relevant publications.

In addition to writing on antitrust, my economic practice is focused on antitrust, and I have served as an economic expert in over 20 antitrust litigation matters. I currently serve as economic expert for the plaintiffs in several no-poach matters (e.g., Donald Conrad et al. v. Jimmy John's Franchise LLC) and non-compete matters (e.g., Cung Le, et al. v. Zuffa, LLC, d/b/a Ultimate Fighting Championship and UFC). In 2018, the American Antitrust Institute honored me as antitrust practitioner of the year in economics for my work for certain plaintiffs in a reverse-payment case concerning the drug Lidoderm.

The last piece of relevant experience, which may not be obvious until my preferred remedy is explained below, is that I have served as expert for complainants in several program-carriage cases before the Federal Communications Commission's Administrative Law Judge, including among others Tennis Channel v. Comcast, MASN v. Comcast, GSN v. Cablevision, and NFL Network v. Comcast.

My answers are organized according to the three topics raised in your March 13 letter. Please do not hesitate to contact me if you have any follow-up questions. Because of my ongoing cases involving monopsony, I will refrain from commenting on whether antitrust's consumer-welfare standard is up to the task of protecting workers from exploitative practices supported by a restraint. Thus, my answers, at least with respect to topics one and two, are largely limited to the digital marketplace.

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Topic 1: The adequacy of existing laws that prohibit monopolization and monopolistic conduct, including whether current statutes and case law are suitable to address any potentially anti-competitive conduct.

My overarching thesis is that antitrust is not a perfect solution for addressing certain categories of potentially anticompetitive conduct, particularly the problem of self-preferencing by the dominant "tech platforms," such as Amazon, Apple, Google and Facebook. Although certain types of exclusionary conduct by tech platforms do lend themselves neatly to antitrust scrutiny—for example, Facebook's restricting independent apps' access to Facebook's API (a discriminatory refusal to deal) or Amazon's conditioning unfettered access to its e-commerce platform on an independent merchant's purchase of Amazon's fulfillment services (a tie-in)—

selfpreferencing does not fit into any well-received antitrust paradigm. And even if the antitrust laws could be stretched to accommodate this type of exclusion, the pace of antitrust litigation is too slow to address the potential harms that flow from selfpreferencing—namely, an innovation loss at the "edges" of the platforms, as independents throw in the towel as a response to an unlevel playing field. So long as the harm from exclusionary conduct takes the form of an overcharge (or, in certain cases, underpayments to workers or other sellers), we can tolerate the snail's pace of antitrust, because damages can be awarded with the possibility of trebling. But there is no compensation for lost innovation. The relief in these cases must come quickly.

In the modern era, many courts have interpreted Section 2 of the Sherman Act to require that plaintiffs demonstrate a short-run harm flowing from the exclusionary conduct ("antitrust injury"), which typically takes the form of a price, wage, or output effect. Professor Michael Carrier estimated that between 1999 and 2009, courts dismissed a staggering 97 percent of Section 2 ("rule-of-reason") cases at the first stage, via the plaintiff's failure to show a price effect or output reduction. In the case of self-preferencing, there generally are no such observable short-run harms, as the platform is merely displacing an independent offering with its own. In the case of Google's self-preferencing in search results, however, there could be a short-run quality degradation—Google's affiliated content has been shown to generate fewer click-throughs than independent content—but few if any antitrust cases have turned solely on a showing of quality harm. Instead, quality harms have typically been treated as an "and also" category in antitrust.

There are certain exceptions to this immediate harm requirement, but self-preferencing does not fit into those exceptions. For example in FTC v. Qualcomm, the district court did not require a demonstration of harm to reach a finding of liability for Qualcomm's refusal to deal or its exclusive dealing. Instead, the court outlined alternative economic criteria that could stand as a surrogate for direct proof of harm ("surrogate tests"). In refusal-to-deal cases, a plaintiff can prevail by showing, among other things, that the defendant had a history of dealing with independents and the refusal was motivated by horizontal rivalry (or a "discriminatory refusal to deal"). But when a platform gives preference its own content, it is not strictly refusing to deal with an independent; instead, the independent receives inferior treatment. Thus, an antitrust plaintiff would have to argue that self-preferencing is tantamount to a refusal to deal. For exclusive dealing, a plaintiff can prevail by showing, among other things, that the share of commerce foreclosed by the exclusionary conduct (the "foreclosure share") is economically significant. Because self-preferencing does not amount to an exclusive arrangement, however, it is unlikely that a plaintiff could invoke this surrogate test either. Finally, in antitrust class actions brought on behalf of a group of similarly situated buyers or sellers, plaintiffs are often required to show price or wage effects to establish "common impact," even in refusal to deal or exclusive dealing cases.

Although Microsoft is often invoked by those pressing for antitrust scrutiny of selfpreferencing by tech platforms, the case stands for the opposite. The Microsoft court held that structural remedies were not appropriate unless anticompetitive effects could be demonstrated with confidence:

> Microsoft's concerns over causation have more purchase in connection with the appropriate remedy issue, i.e., whether the court should impose a structural remedy or merely enjoin the offensive conduct at issue. As we point out later in this opinion, divestiture is a remedy that is imposed only with great caution, in part because its long-term efficacy is rarely certain. … Absent some measure of confidence that there has been an actual loss to competition that needs to be restored, wisdom counsels against adopting radical structural relief.

Because the primary form of anticompetitive injury in Microsoft and any potential case against a modern tech platform would take the form of hard-to-measure innovation harms, securing a structural remedy via antitrust under current law would be challenging. It is not clear how to estimate a future loss in consumer choice due to exit by independents with any "measure of confidence."

Even with respect to (non-structural) injunctive relief, the Microsoft court was loathe to unwind the bundling of Internet Explorer and the operating system on the flimsiest of efficiency defenses, because such conduct occurred inside the firm's boundaries:

> As for the other challenged act that Microsoft took in integrating IE into Windows—causing Windows to override the user's choice of a default browser in certain circumstances—Microsoft argues that it has "valid technical reasons." Specifically, Microsoft claims that it was necessary to design Windows to override the user's preferences when he or she invokes one of "a few" out "of the nearly 30 means of accessing the Internet." … The plaintiff bears the burden not only of rebutting a proffered justification but also of demonstrating that the anticompetitive effect of the challenged action outweighs it. In the District Court, plaintiffs appear to have done neither, let alone both; in any event, upon appeal, plaintiffs offer no rebuttal whatsoever. Accordingly, Microsoft may not be held liable for this aspect of its product design.

I refer to this protection from antitrust scrutiny as the "firm-boundary" protection—that is, so long as the challenged conduct does not cross the firm's boundaries and thereby implicate a third-party buyer or seller, courts are reluctant to find antitrust liability in Section 2 cases. In the intervening decades since Microsoft, the landscape facing plaintiffs has become even more hostile, with monopoly-leveraging theories being met with disfavor in many courts.

Even if antitrust law could be stretched, via new push-the-boundary cases or via new legislation, to accommodate self-preferencing, antitrust is not designed to

redress innovation harms in a timely manner. To borrow a few personal examples, I testified before a jury in the Modafinil (reverse-payment) case in 2017, a full six years after I issued my first expert report in the matter. I testified before a jury in the Capacitors Antitrust litigation in March 2020, six years after the complaint was filed. I testified before a district court judge in the UFC matter in 2019, five years after the complaint was filed. The slow pace of antitrust is wonderful for defense lawyers and the parties' experts—I am able to keep a staff of five economists plus myself fully utilized with my cases—but painfully agonizing for victims of antitrust offenses (and their counsel often proceeding on contingency). These anecdotes are consistent with my empirical findings, published in George Mason Law Review in 2019, that the average Section 2 case in the modern era (1990-2007) took on average 35 months to adjudicate at the lower court level; to the extent these cases were appealed, relief took longer than 35 months.

Indeed, two prominent antitrust scholars and practitioners, Professors Fiona Scott Morton and Carl Shapiro, recently released separate reports explaining how certain practices of the tech platforms escape traditional antitrust scrutiny, thus implying the need for non-antitrust intervention. Professor Shapiro explains that "The second area where antitrust enforcement has become inadequate is the treatment of exclusionary conduct by dominant firms. The fundamental problem in this area is that the Supreme Court has, over the past 40 years, dramatically narrowed the reach of the Sherman Act." He also states that bringing a Section 2 case against a tech platform would be "difficult," and that pursuing Amazon under the antitrust laws for discriminating in favor of its own merchandise would be "very difficult." While Dr. Shapiro does not call for regulation explicitly, Dr. Scott Morton and her co-authors note in a Stigler Center report that "a sectoral regulator is likely to be better than antitrust laws at enforcing fairness norms."

To fill this gap in antitrust protection, I have advocated for a particular form of nonantitrust intervention—a nondiscrimination regime, patterned off of the nondiscrimination regime created by Congress as part of the 1992 Cable Act. Section 616 instructed the FCC to create a venue in which independent cable networks could bring program-carriage complaints against vertically integrated cable operators, the dominant platform of that era. By giving victims of discrimination a private right of action, Section 616 ensured that the level of enforcement would remain steady across different administrations. Several independent networks have availed themselves of this protection and achieved relief, including NFL Network and MASN. Tennis Channel and GSN secured findings of discrimination by the FCC's Administrative Law Judge, only to lose on appeal. And since the Cable Act's passage, the growth of independent cable networks has surpassed the growth of cable-owned networks, indicating that independents have the confidence to invest in new programming without fear that its content would be appropriated or discriminated against (or both) by cable operators. Moreover, these cases have taken roughly 18 months to adjudicate—a time period that is still too long but significantly shorter than antitrust.

A similar venue, or what I call the "Net Tribunal," could be used to adjudicate disputes between edge providers and dominant tech platforms. The Net Tribunal could operate inside of the Federal Trade Commission (FTC) or it could be housed in a new digital agency that is tasked with enforcing a new nondiscrimination standard as well other standards such as interoperability. Congress would need to instruct the agency, as it did in 1992, to create an evidentiary standard against which a complainant's case could be judged. The evidentiary standard could be imported verbatim from the program-carriage regime, in which a complainant must show that (1) its content is "similarly situated" to that of the dominant platform's vertical affiliate; (2) it received inferior treatment attributable to its lack of affiliation as opposed to some legitimate business reason; and (3) as a result, it has been materially impaired in its ability to compete effectively. This standard is intentionally different than antitrust standards, which require plaintiffs to demonstrate harm to competition in the form of a price or output effect. Requiring a complainant to establish an innovation harm connected to a particular act of discrimination would be an impossible burden. Instead, under the nondiscrimination standard, a showing of harm to the independent serves as a surrogate for innovation harm.

Congress should also specify the types of remedies that could be sought in the Net Tribunal. For example, private complainants could seek injunctive relief and lost profits that can be reasonably connected to the discriminatory conduct. When the agency acts as a complainant, by contrast, both injunctive and structural remedies could be available. If after meeting the evidentiary standard for liability, the agency in its role as complainant can convince the administrative law judge that injunctive relief is not sufficient, then the Tribunal would have the power to initiate structural separation of the respondent's vertical arm. It bears noting that the FTC (and only the agency) can bring cases before its administrative law judge under existing standards such as antitrust.

Skeptics of the viability of a standalone nondiscrimination regime are concerned that the new venue would not provide adequate relief to smaller, less-endowed independents operating at the edge of a dominant platform. This is a legitimate concern, to which I have four responses. First, the mere existence of a nondiscrimination regime should blunt some of the most blatant forms of discrimination. Discriminating on the basis of affiliation would, for the first time, be subject to regulatory scrutiny and timely consequences. Second, any private enforcement brought by complainants with sufficient means to prosecute a case should provide blanket benefits to all independent merchants or content providers, including small ones. As soon as the platform is brought under the microscope of a public inquiry, the platform should temper its discriminatory impulse, for fear of prompting additional lawsuits. Third, in its capacity as complainant, the agency tasked with housing the Net Tribunal could bring cases of its own; for example, on behalf of small merchants on Amazon's platform or on behalf of small app designers on Apple's platform. Fourth, by empowering the agency to seek structural relief, the regime would permit a more invasive approach upon a showing that

nondiscrimination is insufficient to address the harms in a particular case. Put differently, my proposal would not be a standalone nondiscrimination regime per se, but instead would complement injunctive relief with structural relief when needed.

Topic 2: The adequacy of existing laws that prohibit anti-competitive transactions, including whether current statutes and case law are sufficient to address potentially anti-competitive vertical and conglomerate mergers, serial acquisitions data acquisitions, or acquisitions of potential competitors.

Existing antitrust laws are inadequate at assessing and anticipating the cumulative harm of a series of seemingly inconsequential mergers. Existing antitrust laws also appear to be struggling with how to effectively police vertical and conglomerate mergers. In a recent submission alongside several noted antitrust economists Nicholas Economides, John Kwoka, Thomas Philippon, and Lawrence White, I submitted comments to the Department of Justice (DOJ) and FTC along these lines. My answer in this section draws heavily from those comments.

The legal landscape for challenging vertical mergers is hostile. Given the tendency of the current administration to preserve the status quo, as reflected in the DOJ and FTC Draft Vertical Guidelines, it is necessary for Congress to alter the landscape itself. Recent enforcement actions by the DOJ highlight the weakness of the current standards of policing vertical mergers, as well as the rigorous evidentiary burden (e.g., proof of price effects) they create for enforcers. In its complaint in CVS-Aetna, for example, the DOJ did not state any vertical theories of harm, permitting the formation of the only vertically integrated pharmacy/PBM/health plan in the United States—despite a serious concern among several states that the vertically integrated firm could deny a must-have input (CVS pharmacy services) to a rival health plan such as UnitedHealth. Instead, the DOJ sought and secured a modest requirement to spin off Aetna's Medicare Part D prescription drug plan based on a horizontal theory of harm. These cases show that the legal landscape for prosecuting vertical mergers is challenging, potentially discouraging enforcement against future anticompetitive vertical mergers.

The current legal landscape also makes it difficult for antitrust enforcers to challenge a series of (apparently) individually inconsequential vertical mergers that collectively represents a threat to competition. This scenario has arisen in the case of dominant platforms, whose acquisitive behavior under these guidelines will largely continue unabated. To borrow a single example of under-enforcement under the current policy regime, the UK Competition & Markets Authority (CMA) recently noted that Google acquired nine independent ad tech companies to achieve dominance in the open-display advertising market. CMA identified four vertical foreclosure strategies made possible through these vertical mergers: (1) using its market power in inventory and data (including exclusive access to YouTube's inventory) to advantage its own demand-side platform services (Google Ads and DV360); (2) channeling Google Ads demand through Google's supply-side platform

(AdX) and limiting the integration of AdX with rival publisher ad servers; (3) selfpreferencing between Google's publisher ad server and AdX; and (4) selfpreferencing between Google's demand-side and supply-side platform. Under the current merger-enforcement regime, Google has been able to leverage its power in publisher ad server supply (90 percent market share)—a concept that is now taboo in antitrust—to gain a substantial and growing foothold in demand- and supply-side platforms for open-display advertisements. According to CMA, in the United Kingdom, Google now accounts for between 50 and 70 percent of the value of ads purchased through demand-side platforms and between 40 and 60 percent of the value of ads sold through supply-side platforms.

To fill this gap in merger enforcement, Congress should create a presumption against mergers involving dominant platforms, as proxied with very high shares and entry barriers in a relevant market. Several leading antitrust economists have identified many such fact patterns where an anticompetitive presumption is warranted. Professors Jonathan Baker, Nancy Rose, Steven Salop and Fiona Scott Morton (2019) suggest that the agencies should adopt anticompetitive presumptions when certain conditions are met, including, among others, an inputand customer-foreclosure presumption, as well as a dominant-platform presumption. The dominant-platform presumption would arise whenever a dominant platform "acquires a firm with a substantial probability of entering in competition with it absent the merger, or if that dominant platform company acquires a competitor in an adjacent market." For example, because Google could be characterized as a dominant platform in both search and open-display advertising markets, this presumption could have been invoked to prevent Google from developing a dominant position across the open-display ad tech stack. A number of large firms, such as Amazon, Apple and Facebook, besides Google, are obvious candidates for dominant platforms. Additionally, in certain local markets, a cable operator or Internet service provider such as Comcast could be characterized as a dominant platform as well.

Vertical merger enforcement is particularly important to preserve competition given the current state of antitrust law; as noted above, monopoly leveraging is said to be a dead letter in antitrust, and few pathways remain to challenge ex post vertical foreclosure by a vertically integrated firm. Once a dominant firm has been permitted to extend its power throughout the supply chain, it is difficult to police discriminatory behavior via the antitrust laws, as explained above. The inability to police discriminatory conduct by a vertically integrated firm under the antitrust laws is yet another reason why vertical merger enforcement should be policed vigorously, so that such discriminatory post-merger conduct is unlikely to be profitable and thus unlikely to occur.

Topic 3: Whether the institutional structure of antitrust enforcement—including the current levels of appropriations to the antitrust agencies, existing agency authorities, congressional oversight of enforcement, and current statutes and case law—is adequate to promote the robust enforcement of antitrust laws.

I have addressed some shortcomings in the existing agency authorities above. For brevity, the FTC or some new agency should be authorized to enforce a new nondiscrimination standard, which is distinct from an antitrust standard or unfair or deceptive acts standard. Merger statutes could be refined to make vertical acquisitions under certain fact patterns (such as by dominant platforms) presumptively illegal, thereby shifting the burden of proof onto the merger proponents. Congress should overturn the Supreme Court's decision in Ohio v. American Express, which if left intact, has the potential eviscerate what remains of Section 2 enforcement by allowing courts to consider offsetting benefits to third parties from adjacent markets as a means to negate cognizable harms to antitrust plaintiffs in the market in question. Congress should also overturn the Supreme Court's decision in American Express v. Italian Colors and Epic Systems v. Lewis, which removed legal rights for customers and workers, respectively, to pursue antitrust claims as a class action so long as a dominant firm forced the weaker counterparty to sign an agreement mandating individual arbitration.

With regard to appropriations, any incremental funding to stand up a nondiscrimination regime should not come at the expense of antitrust funding. Congress should zero out any funding used by the Department of Justice's amicus program. Under Assistant Attorney General Makan Delrahim, the amicus program has been used to intervene on behalf of former (and likely prospective) clients of Mr. Delrahim himself (e.g., Qualcomm, Comcast, William Morris Endeavor Entertainment). Short of defunding the amicus program, Congress could impose other safeguards on the program that would reign in the current misuse but preserve the program overall. Even if the amicus program were shuttered, the DOJ could still respond to questions by invitation from a court.

Finally, no amount of appropriations is sufficient so long as an administration does not believe in the mission of antitrust enforcement. The current administration's willingness to wave through the Sprint/T-Mobile merger, and even lobby sister agencies in support of the merger, is just one example of not believing in the mission. Because there is no guarantee that the current or future administrations will enforce the antitrust law, it is imperative that Congress preserve a private right of action, both under the antitrust law and under my proposed nondiscrimination standard. Doing so is the only way to guarantee a steady flow of enforcement into the future.

RELEVANT PUBLICATIONS

- "Comments on the DOJ/FTC Draft Vertical Merger Guidelines," NET Institute Working Paper #20-04 (with Nicholas Economides, John Kwoka, Thomas Philippon, and Lawrence White).
- "When the Econometrician Shrugged: Identifying and Plugging Gaps in the Consumer-Welfare Standard," George Mason Law Review (2019) (with Kevin

Caves) "Paid Prioritization and Zero Rating: Why Antitrust Cannot Reach the Part of Net Neutrality Everyone Is Concerned About," Antitrust Source (2017)
- "Why the Justice Department Waved Through the CVS-Aetna Merger," American Prospect, July 17, 2019
- "How Big Tech Threatens Economic Liberty," American Conservative, May 7, 2019
- "Sorry, Mr. Delrahim: Big Tech's Worst Abuses Can't Be Cured Without Stiffer Regulation," Pro-Market, June 17, 2019
- "The Latest Facebook Scandal Is Also a Crisis for the FTC," Slate, Dec. 19, 2018
- "Inside Tech's 'Kill Zone': How to Deal with the Threat to Edge Innovation Posed by Multi-Sided Platforms," Pro-Market, Nov. 21, 2018
- "On the Utility of Surrogates for Rule of Reason Cases," Competition Policy International (2015) (with Kevin Caves)