WHAT THINKING ABOUT ANTITRUST LAW CAN TELL US ABOUT NET NEUTRALITY

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INTRODUCTION

Net neutrality regulation is often framed by its proponents as necessary to ensure that development and growth of the Internet is not impaired by harmful conduct by broadband providers.[1] The

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1. The term "broadband providers," as used in this article, refers generally to

fear is that, unless constrained, broadband providers will discriminate in various ways against certain edge providers, and the fact or prospect of such discrimination will deter or reduce investment in edge providers and thus diminish the overall value of the Internet.[2] Net neutrality regulation seeks to prevent that harm by prohibiting broadband providers from engaging in such behavior to the detriment of end consumers.[3]

The goal of net neutrality regulation—to encourage flourishing and variety among edge providers—seems unquestionably desirable. Less clear, however, is whether net neutrality regulation is, on balance, desirable in light of alternative methods of preventing such harmful behavior by broadband providers.

Net neutrality regulation is intended to prevent commercial conduct that might harm firms or exclude them altogether. The existing antitrust laws are also intended to prevent certain types of harm to (or exclusion of) firms, and those laws are the most obvious alternative to net neutrality regulation.[4] A crucial step to understanding the implications of net neutrality regulation, therefore, is to ask what the Internet world would look like if we relied entirely on antitrust law, and to compare that world to one with net neutrality regulation.[5]

This article is intended to ask that question and make that comparison. Part I addresses what we call the "economic harms" that net neutrality regulation is intended to prevent—that is, those harms to edge providers that result from profit-maximizing behavior by broadband providers. Part II addresses harms to edge providers that result from discrimination by broadband providers—typically for content-related reasons—which are *not* neces-

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service providers that provide high-speed Internet connections to consumers through a variety of technologies, including but not limited to telephone networks, cable networks, fiber optic connections, and wireless transmission. *See* John D. McKinnon, *Net Neutrality Proponents Warn of Loopholes*, WALL ST. J. (Dec. 13, 2015), http://on.wsj.com/1TK2SuK [https://perma.cc/6AXE-Q7A8].

2. The FCC defines the term "edge providers" to mean "[a]ny individual or entity that provides any content, application, or service over the Internet, and any individual or entity that provides a device used for accessing any content, application, or service over the Internet." *Protecting and Promoting the Open Internet*, GN Docket No. 14-28, Notice of Proposed Rulemaking, 29 FCC Rcd. 5561, 5564 (2014)

3. That is essentially what the Federal Communications required in its Open Internet Order. *Protecting and Promoting the Open Internet*, GN Docket No. 14-28, Report and Order on Remand, Declaratory Ruling, and Order, 30 FCC Rcd. 5601 (2015) [hereinafter *Open Internet Order*].

4. Among others, Columbia Law School professor Tim Wu (who is credited with having coined the term "net neutrality") has acknowledged that the antitrust laws can be effective in preventing at least some of the harms that net neutrality regulation is intended to prevent. *Net Neutrality: Is Antitrust Law More Effective Than Regulation in Protecting Consumers and Innovation?: Hearing Before the Subcomm. on Regulatory Reform, Commercial and Antitrust Law of the H. Comm. on the Judiciary*, 113th Cong. 72–75 (2014) (statement of Tim Wu, Professor, Columbia Law School).

5. *See id.* at 9–16 (statement of Joshua D. Wright, Comm'r, FTC, describing the benefits of an antitrust approach to ensuring efficient business practices in the broadband sector).

sarily intended to maximize profit. We call these "non-economic harms."

I. ECONOMIC HARMS

We assess the benefits and costs of net neutrality regulation for preventing economic harms in three steps. Part I(A) summarizes the circumstances under which a profit-maximizing broadband provider would have the ability and incentive to cause economic harms. Part I(B) summarizes how antitrust law might prevent such harms. Part I(C) summarizes how net neutrality compares to antitrust enforcement in that respect.

A. Ability and Incentive of Broadband Providers

A broadband provider might harm an existing or potential edge provider by mistake or accident. We assume, however, that only deliberate conduct by broadband providers is likely to cause serious or sustained harm to edge providers, that broadband providers will harm edge providers by such conduct only if they have the ability to do so, and that broadband providers will deliberately engage in conduct that is harmful to edge providers only if it is in their interest to do so.

1. Ability to Cause Economic Harm

Broadband providers can harm edge providers only by blocking or hindering the distribution of the edge providers' services. Some commentators have argued that broadband providers do not have the ability to do so without sacrificing profits.[6] One reason might be that, if a broadband provider attempted to block or hinder certain edge providers, a subset of its end consumers would switch to other broadband providers in order to maintain or gain access to the edge providers harmed by their original broadband provider. In effect, this argument hinges on the idea that broadband providers do not have sufficient market power over consumers to prevent them from finding alternative ways to access their preferred edge providers.

It seems likely, however, that broadband providers *will* have sufficient market power to harm edge providers—at least in some circumstances. In the first place, some consumers have access to only one broadband provider and thus cannot switch to another in order to get access to an edge provider that is blocked or hindered by that broadband provider. More important, even though the

6. *See, e.g.*, Gerald R. Faulhaber, *The Economics of Network Neutrality*, REGULATION 18, 23 (Winter 2011–2012) ("Generally, an intermediary has no interest in discouraging participation on either side of the market because such behavior would reduce the intermediary's profit.").

large majority of consumers could theoretically switch to a different broadband provider, switching costs appear to be substantial, or at least sufficient to deter widespread switching in response to the blocking or hindering of a small number of edge providers. That broadband providers have some degree of market power over consumers is evidenced by broadband providers' ability to charge prices to consumers that substantially exceed their marginal costs.[7]

The ability of broadband providers to harm edge providers without effective discipline by end consumers is likely to be even greater with respect to nascent or potential-but-not-yet-existing edge providers. Consumers might not know about those edge providers, and they might not know about (or have any means of counteracting) conduct by a broadband provider that nipped in the bud a nascent edge provider, or deterred investment in and entry by potential new edge providers.

Another reason broadband providers might be unable to weaken or exclude edge providers is that there are many broadband providers, and discriminatory conduct by a single broadband provider might not be material to the edge provider's overall success. But, while that might be true for small broadband providers, it is unlikely to be true for the major broadband providers. Comcast, for example, accounts for somewhere between 44.7% to 60% of all broadband distribution in the United States.[8] Even if 20% of Comcast's customers were able to access the blocked or hindered edge provider by other means,[9] the blocking action could potentially reduce the edge provider's consumer reach by between 35% to 48%—more than enough to inflict material harm on at least most disfavored edge providers.[10] If multiple broadband providers engage in conduct that harms the same edge providers, the aggregate effect would likely be enough to imperil the edge providers' competitive significance even if no one provider could itself have a material effect.

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7. Charging a price greater than marginal cost is not necessarily undesirable or even inefficient, given that fixed costs are a substantial portion of total costs in the broadband industry and providers thus need to be able to charge a price in excess of marginal costs in order to recoup their fixed cost investments. But it is evidence of short-term market power. *See* Richard Greenfield, *How the Cable Industry Became a Monopoly*, FORTUNE: FORTUNE INSIDERS (May 19, 2015), http://for.tn/1FkGVNi?xid=for_tw_sh [https://perma.cc/Y6NU-J6JR].

8. *See* Shalini Ramachandran, *New FCC Broadband Benchmark Lifts Comcast's Share to Nearly 60%*, WALL ST. J. (Jan. 29, 2015), http://on.wsj.com/15XX2CP [https://perma.cc/M34J-H5HZ].

9. That might be the case if the customers have multiple providers of broadband distribution services or if they switch to a different distributor in response to the blocking.

10. The 80% of Comcast customers that on this assumption could not access the edge provider by other means constitute approximately 35 (80% of 44) to 48 (80% of 60) percent of all broadband customers.

We are uncertain about the magnitude of the harm to edge providers that profit-maximizing broadband providers might be able to cause, but it seems reasonable to believe that they have some such ability. The analysis that follows is based on the assumption that they have such ability.

2. Incentive to Cause Economic Harm

Whether a broadband provider might have an incentive to harm one or more edge providers is less clear. As an initial matter, it seems somewhat counterintuitive that a broadband provider (e.g., Comcast) might elect to harm edge providers (e.g., Google or Netflix), given that access to valuable edge providers is what draws customers to purchase broadband distribution services in the first place. This intuition is captured in what is sometimes called the "one monopoly profit" theory, but is more accurately labeled the "internalization of complementary externalities" ("ICE") theory.[11]

ICE posits that even a monopoly platform provider would prefer that "applications—the complements to its product—be cheaply, innovatively, and efficiently supplied."[12] The platform provider, or broadband provider in the situation addressed here, cannot increase the value of its platform by harming edge providers and thus should have no incentive to do so.

There are, however, several circumstances in which ICE does not apply, some of which might be applicable to broadband providers.[13] They fall into two categories.

a. Exclusion

Although it is generally in a broadband provider's interest to maximize the value of the edge providers to which it offers access, a profit-maximizing broadband provider might, under some circumstances, want to weaken one or a few particular edge providers, or drive them from the market, in order to benefit rival edge providers. In this situation, the broadband provider is making a tradeoff: It is incurring the costs of weakening the disfavored edge

11. The one monopoly profit theory is actually narrower than, and a subset of, the broader ICE theory. *See* Joseph Farrell & Philip J. Weiser, *Modularity, Vertical Integration, and Open Access Policies: Towards a Convergence of Antitrust and Regulation in the Internet Age*, 17 HARV. J.L. & TECH. 85, 101 (2003).

12. *Id.* at 101.

13. *Id.* at 105 (describing eight situations where ICE may not apply: "(1) Baxter's Law; (2) price discrimination; (3) potential competition; (4) bargaining problems; (5) incompetent incumbents; (6) option value; (7) regulatory strategy; and (8) incomplete complementarity"); *see also* Barbara van Schewick, *Towards an Economic Framework for Network Neutrality Regulation*, 5 J. ON TELECOMM. & HIGH TECH. L. 329, 337 (2007) (distributor discrimination between edge providers is "much more likely than is commonly assumed").

providers, and to that extent reducing the value of its services to its customers, in exchange for the benefits conferred upon the favored edge provider. This tradeoff makes sense only if (1) the scheme enables the favored edge provider to gain market power it would otherwise not have and (2) the broadband provider is able to benefit from the edge provider's additional market power.

Market power could be created if the favored edge provider sells its services in a market in which it faces significant competition from only a few rivals and the scheme weakens or excludes some or all of those rivals. For example, a competing sports programming network might benefit if ESPN were driven from the market or significantly weakened. The competing network could benefit by gaining the ability to increase prices charged to advertisers if ESPN is a major player in some kind of sports advertising market, or by gaining the ability to increase prices charged to consumers (either directly or indirectly by the amount it charges broadband providers) if there is a sports television viewing market in which ESPN is a major player.

The broadband provider, in turn, might be able to benefit from that additional market power to the extent that it owns the edge provider. For example, if Comcast were able to exclude ESPN from the market, its own sports programming network might benefit. Alternatively, the broadband provider might benefit as a result of a contract with an unaffiliated favored edge provider that, in effect, enables the broadband provider to share in the gains of the edge provider. This could be the case if, for example, Netflix paid a broadband provider for preferential distribution compared to its rivals. Importantly, while a contractual arrangement would ordinarily take the form of a payment from the favored edge provider to the broadband provider, one might imagine situations where a powerful edge provider induces a reluctant broadband provider to harm its rivals by threatening to provide a competing broadband provider with more favorable treatment if the broadband provider refuses.

Deliberate schemes to favor one or more edge providers at the expense of others are called "exclusion." Conduct that discriminates among edge providers and leads to exclusion could theoretically be efficient—the broadband provider might, for example, provide faster or otherwise better distribution to those edge providers whose technology enabled them to take advantage of it. But exclusionary conduct could also be inefficient if, for example, the broadband provider hinders its distribution of the disfavored edge provider's services simply in order to benefit the favored edge provider.

b. Extraction

In many situations, even where it has no incentive to engage in exclusion, a profit-maximizing broadband provider might have an incentive to engage in price discrimination between edge providers or end consumers.[14] The broadband provider might, for example, have an incentive to charge higher prices to consumers (such as business users) that are more willing and able to pay for broadband services,[15] for services (maybe Amazon) that consumers regard as more valuable, or for services (perhaps Netflix) that impose greater costs on the broadband provider.[16] This type of discrimination could be implemented by charging consumers different fees depending on which category they fall in or on which edge provider services they use. Or it could be implemented by charging different fees to different edge providers for broadband distribution services.[17]

Price discrimination could harm some edge providers. A profit-maximizing broadband provider that did not have an incentive to engage in exclusionary behavior (as discussed in Part I(A)(2)(a), above) would intend to extract the maximum it could for its services without driving disfavored edge providers out of business. Still, all other things equal, over time a disfavored edge provider would have and be able to anticipate relatively less income than its rivals and would therefore be less able to invest in maintaining and improving its service.

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14. *See generally,* Nicholas Economides, *"Net Neutrality," Non-Discrimination and Digital Distribution of Content Through the Internet*, 4 I/S J.L. & POL'Y. FOR INFO. SOC'Y 209, 216 (2008) (discussing incentives for price discrimination in traditional telecommunications services).

15. The heaviest 1% of users account for 15.2% of fixed downstream broadband traffic and 43% of total upstream use. Daniel A. Lyons, *The Impact of Data Caps and Other Forms of Usage-Based Pricing for Broadband Access* 11–12 (Mercatus Ctr., George Mason Univ., Working Paper No. 12–27, 2012). At the other extreme, 60% of broadband users account for only 10% of fixed broadband traffic. *Id.* at 12.

16. Netflix currently accounts for 36.5% of all bandwidth consumed by North American web users during primetime. Brian Fung, *Netflix Now Accounts for Almost 37 Percent of Our Internet Traffic*, WASH. POST (May 28, 2015), http://wpo.st/6Zf72 [https://perma.cc/Y9EW-ZRJB]. To an economist, a cost-based price difference is not discriminatory. Thus, for example, a price schedule that charged users in accordance with how much bandwidth they consumed would not be regarded as a form of *economic* discrimination. A price schedule that charged consumers more for the same amount of bandwidth depending on which edge provider service is involved would be economic discrimination. *Cf.* Mark Armstrong, *Price Discrimination* 3–4 (Dep't of Econ., U.C. London, Working Paper, 2006) (recognizing that quantity discounts are "not discriminatory" where they are based on cost efficiencies).

17. At present, broadband distributors in the US generally do not charge edge providers any fee for distribution of their services. There is no logical or technical reason that would bar broadband distributors from charging some or all edge providers a fee for distribution. For purposes of our discussion of price discrimination, the broadband distributors can be regarded as generally charging a price of zero, and any positive price charged to selected edge providers could be regarded as discriminatory (unless it is offset by a reduction in the amounts charged to consumers for distribution of the edge provider's service).

Investment in nascent or potential-but-not-yet-existing edge providers might also be deterred by uncertainty as to whether they would be disfavored by the broadband provider. The ability of broadband providers to engage in price discrimination might add to the risks confronting edge providers. This effect, however, is unlikely to be substantial as a general matter. Profit-maximizing price discrimination (that is not part of a scheme to exclude) would most likely mean higher prices to those *most* able to pay, which would generally be the most valuable and well-established edge providers. Thus, discrimination would likely result in *lower* relative prices for new or fragile edge providers. The prospect of that kind of discrimination should reduce the likelihood that uncertainty about relative costs because of possible price discrimination would exclude nascent edge providers or raise barriers to their entry.

One type of discrimination of particular concern to proponents of net neutrality is so-called "paid prioritization," by which an edge provider pays the broadband provider for guaranteed bandwidth or some other kind of technical or distribution benefit.[18] Analogous arrangements are common throughout the economy even in the absence of market power, so they presumably are often efficient. Net neutrality proponents are concerned that paid prioritization in broadband distribution might enable the preferred edge provider to obtain a dominant market position that will make it very difficult for its competitors to succeed, and could in that way be especially threatening to potential or nascent edge providers. However, this would seem to be a serious risk only if the preferred edge provider is better or earlier able than its competitors to buy such benefits, the benefits are important to the relative attractiveness of the edge providers to customers, and the business in which they compete is subject to substantial network effects or scale economies.

B. How Antitrust Law Prevents Economic Harms

Antitrust law does not restrict extraction. A party is free under the antitrust laws to reap the fruits of lawfully obtained market power by charging high or monopoly prices.[19] While the Robin-

18. *See, e.g.,* Letter from Mike Ananny, Assistant Professor of Commc'n & Journalism, Univ. of S. Cal. et al. to Chairwoman Ramirez and Comm'rs Brill, Ohlhausen, Wright, and McSweeney, Fed, Trade Comm'n (Jan. 29, 2015). If the edge provider obtains a commitment to preferential treatment—for example, a promise by the broadband provider that certain other edge providers will not be able to buy equivalent benefits, the arrangement would entail, in the terminology of this article, "exclusion" of the disfavored edge providers. If, on the other hand, other edge providers are able to purchase comparable benefits, the provision of the benefits only to those edge providers who choose to pay for them would be a kind of "extraction."

19. *See, e.g.,* Verizon Commc'ns, Inc. v. Law Offices of Curtis V. Trinko, LLP, 540 U.S. 398, 407 (2004) ("The mere possession of monopoly power, and the concomitant

son-Patman Act prohibits price discrimination under some circumstances, it does not apply to services like the distribution of Internet content.[20]

Antitrust law does, however, prohibit exclusion under some circumstances. To oversimplify, exclusion violates the antitrust laws if both (1) the excluding conduct is not efficient or cannot be characterized as competition on the merits and (2) the excluding conduct causes or is likely to cause the creation or preservation of market power for the beneficiary of the exclusionary behavior.[21]

1. Exclusion Where the Provider and the Favored Edge Provider Are Not Affiliated

Antitrust doctrine is well-suited to address exclusion problems based on contractual relationships between broadband providers and unaffiliated edge providers (i.e., those that are not commonly owned with the broadband provider). Such relationships are subject to Section 1 of the Sherman Act, 15 U.S.C. §1, which applies to combinations or agreements among separate entities. For our purposes, a "contractual relationship" encompasses any combination that would be deemed an agreement for antitrust purposes, regardless whether it entails a legally enforceable contract. Generally speaking, an agreement exists for antitrust law purposes whenever the broadband provider and edge provider have a "meeting of the minds"[22] or a "conscious commitment to a common scheme."[23]

Antitrust enforcement should be reasonably effective at ferreting out such anti-competitive agreements between broadband providers and edge providers. Blatant conduct, such as a broadband provider dealing with a favored edge provider but refusing to deal with its competitors in such a manner as to create market power for the favored edge provider, would almost certainly be noticed by (among others) the spurned competitors. Even subtle conduct, such as providing inferior distribution services (allotting smaller or slower bandwidth use) to competitors of favored edge

charging of monopoly prices, is not only not unlawful; it is an important element of the free-market system."); *see also* United States v. Grinnell Corp., 384 U.S. 563, 571 (1966) (explaining the permissibility of monopoly power "as a consequence of a superior product, business acumen, or historic incident"); *see also* United States v. Aluminum Co. of Am., 148 F.2d 416, 430 (2d Cir. 1945) ("The successful competitor, having been urged to compete, must not be turned upon when he wins.").

20. Robinson-Patman Act, 15 U.S.C. § 13 (2012) (prohibitions on price discrimination apply to "commodities"); *see also* Ross E. Elfand, *The Robinson-Patman Act*, ABA: YOUNG LAWYERS DIVISION, https://shar.es/1ERsOe [https://perma.cc/3UVY-5QK6] (last visited Oct. 24, 2016) (explaining that "Section 2(a) does not apply to services").

21. *See, e.g.*, Rambus, Inc. v. FTC, 522 F.3d 422 (D.C. Cir. 2008).

22. *See* United States v. Am. Tobacco Co., 221 U.S. 106 (1911).

23. Monsanto Co. v. Spray-Rite Serv. Corp., 465 U.S. 752, 769 (1984).

providers would likely be detected by consumers, even if not by the disfavored edge providers. Even in the absence of compelling extrinsic evidence, it would probably be rather easy for an antitrust enforcer or court to infer an agreement between the broadband provider and the favored edge provider, unless the broadband provider could demonstrate a persuasive unilateral reason (i.e., one unrelated to an agreement with the edge provider) for the conduct.

Not all agreements pursuant to which a broadband provider favors an edge provider over its rivals violate the antitrust laws, even if the broadband provider is a monopoly. Agreements that exclude rivals of one of the parties are unlawful only if two conditions are met. First, the agreement must injure competition (i.e., create market power for the favored edge provider) in a properly defined economic market.[24] The aggregate effects of multiple agreements between the favored edge provider and multiple providers can be taken into account in determining the likelihood that the agreement injured or is likely to injure competition.[25] The injury-to-competition requirement could be met both by agreements that harm existing rivals and by agreements that raise barriers to entry by nascent or potential new edge providers.[26] Second, the agreement must injure competition for some reason other than efficiency.[27] An agreement that furthers significant efficiencies—such as avoiding broadband provider system congestion or providing incentives for investment—that cannot be achieved by means less likely to create market power for the favored edge provider is unlikely to be found to violate the antitrust laws.

2. Exclusion Where the Broadband Provider and the Edge Provider Are Affiliated

Coordination between a broadband provider and a commonly-owned edge provider is generally not subject to Section 1 of the

24. An agreement between a broadband provider and an edge provider could injure competition by creating market power for the broadband provider. For example, an agreement giving one broadband provider exclusive access to ESPN and other Disney programming might weaken rival broadband providers enough to increase the first broadband provider's own market power. Net neutrality regulation, however, is about protecting edge providers, not competing broadband providers. We therefore do not address this possibility.

25. *See, e.g.,* FTC v. Motion Picture Advert. Serv. Co., 344 U.S. 392 (1953); *see also* William O. Gilley Enters. v. Atl. Richfield Co., 588 F.3d 659, 665 (9th Cir. 2009) ("If the . . . agreements in themselves have an illegal effect on competition (*when aggregated*), then the . . . agreements constitute the 'contract, combination, or conspiracy' required for a claim under Section 1 of the Sherman Act." (emphasis added)).

26. *See generally* United States v. Microsoft Corp., 253 F.3d 34 (D.C. Cir. 2001).

27. *See, e.g.*, Omega Envt'l, Inc. v. Gilbarco, Inc., 127 F.3d 1157, 1164–65 (9th Cir. 1997) (upholding an exclusive dealing arrangement on the basis that the agreement, though exclusionary by nature, demonstrated "increasing output [and] decreasing prices").

Sherman Act;[28] but it is subject to Section 2, 15 U.S.C. § 2, which applies to unilateral or single-firm conduct.[29] Although the statutory provisions differ, for present purposes, the antitrust analysis is essentially the same with respect to conduct by a broadband provider that benefits an affiliated edge provider by *harming* a rival of that affiliate.[30] For this purpose, conduct will be regarded as harming a rival if it makes the rival worse off than if the broadband provider had not acted at all. An example would be conduct that interfered with the rival's access to needed inputs from third parties. Conduct that harms rival edge providers, is likely to create or maintain monopoly power, and is not necessary to achieve real efficiencies is likely to violate Section 2.

Antitrust law is less restrictive, however, of unilateral conduct by a broadband provider that can be characterized as *failing to help* a competing edge provider. For example, a broadband provider that provided fast-lane distribution to its affiliated edge provider but refused to provide that same distribution to an unaffiliated rival of the edge provider could be said simply to have engaged in a (partial) refusal to deal or failure to help that does not violate the antitrust laws.[31]

The forbearance of the antitrust laws in refusal-to-deal or failure-to-help cases is rooted in two considerations. The first is a normative principle that firms ought to be free to pick their trading partners. As the Supreme Court put it in a seminal statement nearly 100 years ago: "In the absence of any purpose to create or maintain a monopoly, the [antitrust] Act does not restrict the long

28. Entities that are wholly owned by the same parent, or one of which is a wholly-owned subsidiary of the other, are treated as a single entity for antitrust purposes; and coordination among them is not subject to Section 1. *See* Copperweld Corp. v. Indep. Tube Corp., 467 U.S. 752, 771 (1984). Although the law might not be entirely settled, coordination among commonly controlled entities is generally also not subject to Section 1.

29. An agreement between two entities that are partially commonly owned but not commonly controlled is likely to be subject to Section 1. In some situations, it might be in the interest of a broadband provider that, for example, owns a minority stake in an edge provider to exclude a rival of the edge provider in order to benefit the edge provider and thus enhance the value of its partial interest in the edge provider, even without agreeing with the edge provider about the exclusionary strategy. *See generally*, Stephen C. Salop & Daniel P. O'Brien, *Competitive Effects of Partial Ownership: Financial Interest and Corporate Control*, 67 ANTITRUST L.J. 559 (2000). In that situation, the broadband provider's unilateral conduct would be subject to Section 2.

30. There is a difference of degree that could matter in some cases. An allegedly unlawful agreement between a broadband distributor and an unaffiliated edge provider can violate Section 1 of the Sherman Act; and the injury to competition element of a Section 1 offense is satisfied by proof that the agreement caused or is likely to cause an increase in the favored edge provider's market power. Conduct by a firm that benefits a commonly-owned edge provider would be assessed under Section 2 of the Sherman Act, which requires proof that the conduct caused or is likely to cause the creation or maintenance of monopoly power. While there is no precise definition of "monopoly power," it is generally understood to mean lots of market power.

31. *See, e.g.,* Verizon Commc'ns v. Law Offices of Curtis V. Trinko, LLP, 540 U.S. 398, 407–08 (2004); Olympia Equip. Leasing Co. v. W. Union Tel. Co., 797 F.2d 370, 376 (7th Cir. 1986).

recognized right of trader or manufacturer engaged in an entirely private business, freely to exercise his own independent discretion as to parties with whom he will deal."[32] The second involves more instrumental concerns regarding both the incentive effects of requiring a firm to deal with one with which it does not want to deal, and the administrative difficulty a court would have in determining the terms on which the forced dealing should take place.[33]

The reach of the antitrust laws in failure-to-help cases remains unclear. It probably comes down to this: Even where the two elements described above are satisfied—that is, (1) the refusal to deal or failure to help does not further a legitimate efficiency objective, and (2) it does or is likely to create or maintain monopoly power for the affiliated edge provider—the antitrust laws will prohibit the failure to help only if the broadband provider is providing or has in the past provided the service in question (or a very comparable service) to the harmed edge provider or some other unaffiliated party. That record of dealing with an unaffiliated party can be evidence of the feasibility of dealing with unaffiliated edge providers and perhaps of an anticompetitive purpose in the refusal to deal. It can also provide a benchmark to aid the court in determining the terms on which the broadband provider should deal with the edge provider.[34]

It is possible, therefore, that a broadband provider could develop a fast (or otherwise superior) distribution channel and make it available only to its affiliated edge providers, thereby enabling them to become dominant in their fields, and not violate the antitrust laws. But it is not clear how likely that scenario is. As noted, it is generally in the interest of the broadband provider to maximize the aggregate value of the edge providers whose services it offers to its customers.[35] While it might make sense for a broadband provider, in some circumstances, to deny a value-enhancing benefit to selected edge providers in order to promote an affiliated edge provider, it is unlikely that a broadband provider would find it in

32. United States v. Colgate & Co., 250 U.S. 300, 307 (1919).

33. *See Trinko*, 540 U.S. at 407–08 ("Compelling such firms to share the source of their advantage is in some tension with the underlying purpose of antitrust law, since it may lessen the incentive for the monopolist, the rival, or both to invest in those economically beneficial facilities. Enforced sharing also requires antitrust courts to act as central planners, identifying the proper price, quantity, and other terms of dealing-a role for which they are ill suited.")

34. The Supreme Court's most recent discussion of duties to deal under the antitrust laws involved a service that the defendant did not provide voluntarily to anyone. *See id.* at 406. While the Court used broad language in rejecting the duty to deal claimed by the plaintiff in that case, it acknowledged and did not overrule an earlier decision that had found an antitrust violation when a firm ceased a previous course of dealing with a competitor. *See* Aspen Skiing Co. v. Aspen Highlands Skiing Corp., 472 U.S. 585 (1985).

35. *See supra* Part I(A)(2)(a).

its interest to withhold the benefit from *all* unaffiliated edge providers in order to promote one or a few affiliated edge providers.[36] Therefore, a broadband provider would be unlikely to make a value-enhancing benefit, that it could profitably provide to large numbers of edge providers, available to only its own edge providers; and once it made the benefit available to outsiders, its refusal to make it available to selected rivals of its edge providers would most likely be subject to antitrust challenge.

3. Antitrust Process Considerations

The antitrust laws are enforced on a case-by-case basis. They can be enforced by both government enforcement agencies and private parties that have been harmed by an antitrust violation. The remedies for a violation include both injunctions, which are potentially far-reaching and in some cases can materially change the way the defendant does business, and, in the case of private plaintiffs, damages equal to three times the cognizable harm suffered by the plaintiff. Antitrust cases can be among the costliest and most complicated types of litigation, both because of the complexity of the legal and factual issues and because the remedies can be so substantial.

These attributes of antitrust enforcement have a number of implications for the efficacy of antitrust law as a means of preventing broadband providers from harming edge providers. Because the costs of enforcement are substantial, the laws might be under-enforced where harm is modest or difficult to detect. Because the cases are complex and require resolution of matters that are often uncertain like the efficiency of the conduct in question and the creation of market power, there are probably a fair number of enforcement errors. Because the law regarding anticompetitive exclusion is stringent, false negatives are probably more likely than false positives.[37]

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36. Not surprisingly, the controversial "zero rating" plans have been offered to unaffiliated edge providers. For an in-depth discussion of one of the more notorious "zero rating" plans exemplifying this concept, *see* Barbara van Schewick, *T-Mobile's Binge On Violates Key Net Neutrality Principles*, CTR. FOR INTERNET AND SOC'Y (Jan. 29, 2016, 9:00 AM), http://cyberlaw.stanford.edu/blog/2016/01/t-mobiles-binge-violates-key-net-neutrality-principles [https://perma.cc/B9SL-8E63] (explaining how T-Mobile's Binge On program was made open to all legal video streaming providers at no cost, as long as they can meet some "simple technical requirements").

37. This might be less true in matters involving broadband distribution than elsewhere because there is some reason to think that antitrust law has over the years been applied to the then-dominant mode of communications with excessive zeal. *See* Robert A. Hammond & A. Douglas Melamed, *Antitrust in the Entertainment Industry: Reviewing the Classic Texts*, 3 GANNET CTR. J. 138 (1989). Other commentators have taken a similar stance, in support of the antitrust laws as a vehicle for maximizing viewpoint diversity. *See* Maurice E. Stucke & Allen P. Grunes, *Antitrust and the Marketplace of Ideas*, 69 ANTITRUST L.J. 249, 256 (2001) (arguing that "the federal antitrust agencies should consider the implications of media mergers on the marketplace of ideas").

On the other hand, the substantial costs of antitrust investigations and litigation, the large number of potential plaintiffs, and the potentially onerous remedies give firms substantial incentives to avoid antitrust violations. The antitrust laws are thus likely to be rather effective in *deterring* anticompetitive conduct, especially by firms like broadband providers that are widely thought to have market power and figure prominently in industries that are a subject of public scrutiny.

C. How Net Neutrality Regulation Prevents Economic Harms

The Sherman Act was enacted in 1890, and the continued salience of the antitrust laws is not in question. The question posed by the prospect of net neutrality regulation is thus whether it deters harm to edge providers in ways that add to and improve upon antitrust law. This issue is complicated by the fact that net neutrality regulation is not likely to be just a complement to antitrust enforcement. To the contrary, language in several antitrust cases suggests that there is a narrower role for antitrust enforcement with respect to matters that are subject to a different form of comprehensive regulation.[38] In other words, net neutrality regulation might, to some extent, become an alternative to antitrust enforcement.[39]

This Article assesses below how net neutrality regulation prevents both extraction and exclusion harms and the economic implications of such regulation. Because there are a variety of somewhat different understandings of net neutrality regulation, this Article takes the 2015 Open Internet Order as our baseline.[40]

1. Extraction

Like antitrust law, net neutrality regulation does not prevent

38. *See* Town of Concord v. Bos. Edison Co., 915 F.2d 17, 22 (1st Cir. 1990) (explaining that "where regulatory and antitrust regimes coexist . . . antitrust analysis must sensitively 'recognize and reflect the distinctive economic and legal setting' of the regulated industry to which it applies" (internal citation omitted)); *see also* Pac. Bell Tel. Co. v. Linkline Commc'ns, Inc., 555 U.S. 438, 459 (2009) (Breyer, J., concurring) (adding that "[w]hen a regulatory structure exists to deter and remedy anticompetitive harm, the costs of antitrust enforcement are likely to be greater than the benefits"); *see also* Verizon Commc'ns Inc. v. Law Offices of Curtis V. Trinko, LLP, 540 U.S. 398, 411 (2004) (noting that for antitrust enforcement, "'careful account must be taken of the pervasive federal and state regulation characteristic of the industry'" (citation omitted)).

39. Comprehensive regulation can also raise issues of implied immunity. *See, e.g., Trinko*, 540 U.S. at 406 (explaining that a "detailed regulatory scheme . . . ordinarily raises the question of whether the regulated entities are not shielded from antitrust scrutiny altogether by the doctrine of implied immunity"). However, implied immunity is unlikely, with respect to net neutrality regulation in light of the antitrust savings clause in the FCC's 2015 Open Internet Order, *Open Internet Order*, *supra* note 3, at 5606, para. 11, and Telecommunications Act of 1996, Pub. L. No. 104-104, 110 Stat. 56 § 601 (1996).

40. *See Open Internet Order*, *supra* note 3.

extraction in the form of high prices or bad service. It is explicitly not intended to be a kind of comprehensive utility-type rate regulation.[41] By contrast to antitrust law, however, net neutrality regulation does prohibit discrimination among edge providers and would thus prevent extraction based on discrimination. A broadband provider may not charge different prices to consumers depending on which edge providers they access,[42] and it may not charge different prices or provide different distribution services to different edge providers. Net neutrality regulation prohibits "paid prioritization," by which an edge provider pays in one way or another for superior distribution services.[43]

Net neutrality regulation aimed at addressing extraction harms has two principal benefits. First, by inhibiting the ways in which broadband providers can maximize their revenues, the regulation might prevent a wealth transfer from edge providers, as a group, to broadband providers and will thus leave more money to fund and induce investments by edge providers. Second, net neutrality regulation might reduce the costs and risks associated with operating as an unaffiliated edge provider by shielding edge providers from the risk of being disfavored compared to a rival edge provider.

These benefits, however, are not without costs. Prohibition of extraction by discrimination could have a number of costs, including the following:

- Decreasing Output: Regulatory interference with price discrimination could decrease output. A profit-maximizing price discriminator could charge higher prices to the consumers that were willing to pay the most and lower prices to consumers that are less willing or able to pay, resulting in more widespread provision of, and an overall increase in, broadband services.[44]
- Higher Prices: Prohibiting extraction by discrimination might interfere with the use of selective price cuts to encourage or maintain marginal volume. Such price cuts might generate incremental revenues to defray fixed costs

41. *See id.* para. 5 ("We expressly eschew the future use of prescriptive, industry-wide rate regulation").

42. *See id.* para. 15 (ensuring that a consumer's unwillingness (or inability) to pay a differential price will not restrict her "access to all (lawful) destinations on the internet").

43. *See id.* para. 18 (explaining the scope and implications of the bright-line rule against paid prioritization).

44. We assume that, even with net neutrality regulations, a broadband distributor would be able to charge consumers different prices for different download speeds and thus address here discrimination among consumers based on ability or willingness to pay. Greg Ip, *Best Web Regulator Not Necessarily Net Neutrality*, WALL ST. J. (Feb. 25, 2015), http://on.wsj.com/1DUzufE [https://perma.cc/LCM8-YL9Q].

and thus enable lower prices to some or all of those charged relatively higher prices.

- Loss of Benefits to Nascent Edge Providers: Profit-maximizing price discrimination would likely mean higher prices for the most valuable edge provider services and relatively lower prices for less valuable edge providers; that kind of discrimination should result in both reduced distribution of the most valuable edge provider services (although not so much as to reduce the broadband provider's profits) and wider distribution of less well-established edge providers. The prospect that new and less established edge providers might be the beneficiaries of price discrimination should offset, at least to some extent, disincentives to investment that might be caused by uncertainty as to (i) whether they will be disadvantaged by price discrimination or (ii) by the possibility that other edge providers will benefit from paid prioritization in the absence of net neutrality regulation.
- Decreased Innovation: Charging higher prices to consumers or edge providers that impose the greatest costs on broadband distribution systems should increase incentives for consumers to be more efficient in their Internet use and for edge providers to develop means of signal compression and the like to reduce the cost of distributing their services. One immediate benefit for consumers and edge providers in general could be a reduction in network congestion.[45]
- Hindering Efficient Partnerships: Net neutrality regulation would both prevent efficient transactions between selected edge providers and broadband providers and reduce incentives for both of them to increase their efficiency. It would, for example, reduce the incentives for an edge provider to pay the broadband provider to invest in enhanced distribution services in which the broadband provider might not otherwise invest.
- Potentially Inefficient Allocation of Wealth: While prohibiting discrimination could prevent an overall wealth transfer from edge provider to broadband providers, it would more precisely mean less wealth for both broadband providers and those edge providers that would be favored by discrimination. It would thus reduce the rewards to and investment incentive of those entities, which might

45. Netflix, which as noted accounts for a very large percentage of distribution bandwidth, has been charged large interconnection fees by cable operators. Netflix reportedly responded by *increasing* its investment in innovation and embarking on a project to reduce its bandwidth usage by 20% without sacrificing video quality. Holman W. Jenkins, Jr., *Net Neutrality vs. Net Reality*, WALL ST. J. (Feb. 23, 2016), http://on.wsj.com/1S08ymR [https://perma.cc/M892-TTAZ].

together be a more valuable source of potential innovation and economic growth than the edge providers that would benefit from a prohibition on discrimination.

- Double Marginalization Problem: Where both the broadband provider and the edge provider have market power and are able to charge supracompetitive prices, price discrimination could result in lower prices by enabling them to collaborate on pricing and thus ameliorate what would otherwise be a double marginalization or Cournot complements problem.[46]
- No Entry Subsidization: Being able to engage in price discrimination would increase the tools available to broadband providers that wanted to subsidize the entry or growth of new edge providers.

Permitting discrimination increases the opportunity and incentive for innovation by both broadband providers and favored edge providers, reduces the opportunity and incentive of disfavored edge providers to innovate, and increases uncertainty—and thus risk—facing edge providers overall. Whether net neutrality regulation addressed to extraction is, on balance, desirable would appear to depend on (1) the extent to which there are large potential innovations among existing and future edge providers that are sensitive to and likely to be deterred by the prospect of pricing that differentiates among edge providers, and (2) whether the benefits of protecting those lost innovations will exceed the benefits that would be lost if discrimination were prohibited.

Arguments for net neutrality regulation might rest in part on the implicit assumption that prohibiting discrimination will not reduce important innovation at the broadband distribution level because such distribution is (and will remain) a "dumb pipe" and the most valuable innovation will take place at the edge.[47] Given the historical oscillation between "pipe" innovation and "edge" innovation (e.g., theaters versus content providers, networks versus studios, cable versus content, desktop versus cloud, terminal versus mainframe), however, it is not clear that this assumption is correct.

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46. The problem, in a nutshell, is that if providers of two or more complements, each of which has market power, cannot coordinate their prices, the aggregate price charged by all of them will exceed the profit-maximizing aggregate price, because in setting their prices none of them will take account of the diminished sales by the others that its high price would cause. *See generally,* AUGUSTIN COURNOT, RESEARCHES INTO THE MATHEMATICAL PRINCIPLES OF THE THEORY OF WEALTH 99–116 (1897).

47. *See* Brett M. Frischmann & Barbara van Schewick, *Network Neutrality and the Economics of an Information Superhighway: A Reply to Professor Yoo*, 47 JURIMETRICS J. 383, 414 n.119 (2007) (clarifying that "[p]roposals for net neutrality are driven by concerns . . . that network providers' discriminatory conduct will reduce independent application developers' incentives to innovate").

2. Exclusion

As explained above, antitrust law prohibits a wide range of conduct likely to cause exclusion harms. As a doctrinal matter, net neutrality regulation adds to this only insofar as it prohibits conduct that excludes one or more edge providers and (1) does not create market power for favored edge providers, (2) promotes important efficiencies, or (3) constitutes a broadband provider not providing to unaffiliated edge providers help that it provides or has provided to affiliated edge providers.

It is difficult to see an important harm to the public interest from exclusion that does not create market power. In the first place, if market power is not created or likely to be created, it can be inferred that the excluded edge provider was not a significant participant in its sector and, in most instances, that there are at least several in that segment that are more significant. Moreover, unless exclusion seemed at the outset likely to create market power for the favored edge provider(s), it is likely that the broadband provider engaged in the exclusionary conduct for efficiency-based reasons, rather than anticompetitive reasons.

Conduct that creates both market power and important efficiencies presents a more complicated question, in part because the antitrust rules regarding such conduct are unsettled.[48] Prohibiting such conduct would, among other things, prevent the realization of efficiencies that would be created by such conduct and that would not otherwise be realized.[49] The antitrust laws embody a judgment that economic welfare is enhanced if successful firms are permitted to reap the fruits of their efficient conduct, including any market power created thereby, because enabling them to do so will create incentives for other firms to maximize their efficiency. It is not clear that the Internet is so different from other sectors that deterring edge providers and broadband providers from engaging in efficient conduct that threatens to exclude rival edge providers would enhance economic welfare.[50]

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48. *See* Einer Elhauge, *Defining Better Monopolization Standards*, 56 STAN. L. REV. 253, 257 (2003) (describing how current doctrinal standards suffer from "an uncertainty that is as extensive as it is unnecessary").

49. In some cases, there will be ways to achieve most or all of the efficiencies by different means that are unlikely to create market power for favored edge providers. In those cases, the efficiency justification would not be available to the defendant, and the conduct would violate the antitrust laws if it created market power.

50. Some commentators have argued that the Internet is different because innovation among edge providers benefit third parties that are not customers of the broadband provider and that neither the broadband provider nor users will internalize those benefits. *See* Frischmann & van Schewick, *supra* note 47. These benefits are internalized by the edge providers and will therefore be partially internalized by the broadband provider to the extent that it can transact with the edge providers, but no one broadband provider is likely to internalize all of those benefits because it is likely that many or most of the user beneficiaries will be served by other broadband providers. But these externalities cut both ways. On the one hand, they mean that

Net neutrality is more likely to enhance economic welfare, compared to antitrust enforcement, in the subset of so-called "failure to help" cases, discussed above in Part I(B)(2), Where the refusal to deal with or help an unaffiliated edge provider reflects efficiency considerations—for example, if an affiliated edge provider makes technical changes that make fast-lane distribution feasible and the unaffiliated edge provider does not—the conduct might not be objectionable. But where there is no substantial efficiency reason for a broadband provider to favor its own edge provider over rivals, the harm to the rivals and resulting creation of market power for the affiliated edge provider would seem unambiguously to reduce economic welfare.[51]

While there is real economic harm in that situation, it is far from clear that such situations would be common in the absence of net neutrality regulation. First, as explained above, these situations can arise only when the favored edge provider and the broadband provider are commonly owned. And even where that is the case, antitrust law would probably prohibit the discrimination if the broadband provider has previously provided the withheld service to an unaffiliated edge provider. Thus, the problem could arise only where the broadband provider has a way of increasing the value of edge providers, and the services it offers to its consumers, yet chooses to make it available to only the small portion of edge providers that are affiliated with it. As explained above, such behavior is not likely to further the broadband provider's economic incentives and is therefore unlikely to be a common occurrence.

3. Net Neutrality Process Considerations

The calculus becomes a little different when process considerations are taken into account. Net neutrality regulation is based on broad rules that have little ambiguity and do not require resolution of factual issues as difficult as the efficiency and market power issues that are central to antitrust enforcement. The 2015 Open Internet Order, for example, flatly prohibits blocking, throttling, and paid prioritization; the meaning of these terms is reasonably well understood, and ascertaining whether they occurred

broadband providers will have suboptimal incentives to avoid harm to edge providers—a point that proponents of net neutrality emphasize. On the other hand, however, these externalities mean that broadband providers have suboptimal incentives to take actions to benefit edge providers and, thus, that restrictions on their ability to engage in discriminatory conduct that benefits some edge providers might be especially undesirable. *See* Gary S. Becker et al., *Net Neutrality and Consumer Welfare,* 6 J. COMP. L. & ECON. 497, 516–17 (2010).

51. *See* A. Douglas Melamed, *Exclusionary Conduct under the Antitrust Laws: Balancing, Sacrifice, and Refusals to Deal*, 20 BERKELEY TECH. L.J. 1247, 1265 (2005) (discussing the antitrust implications of refusals to deal that make no economic sense, except as a device to exclude a rival).

is far simpler than resolving some the factual issues likely to arise in an antitrust case.[52]

Net neutrality regulation therefore has some important advantages over antitrust enforcement. It is likely to lead to lower transaction and enforcement costs, less perceived inconsistency in application, less uncertainty about the reach of the law, and fewer false negatives. Net neutrality also has some disadvantages when compared to antitrust enforcement. Two seem particularly important. First, net neutrality regulation prohibits discriminatory conduct regardless of its efficiency. It is therefore especially likely to induce efforts to conceal violations or second-best solutions to realize the efficiencies without violating the specific regulatory requirements. Second, because the sanctions for violation of Federal Communication Commission ("FCC") regulations are less severe than those for antitrust violations,[53] net neutrality regulation is less likely to effectively deter undesired conduct and thus to prevent economic harms.

The Open Internet Order includes a catch-all provision proscribing "unreasonable interference" with the ability of end users and edge providers to create and access web content.[54] That rather ambiguous term could be the basis for net neutrality regulation to evolve into a more complex form of regulatory oversight, but it is not clear how significant that provision will turn out to be in practice. If it becomes significant, it could permit certain types of discrimination needed to realize some of the efficiencies described above that might be jeopardized by simpler forms of net neutrality regulation. On the other hand, it could also increase regulatory uncertainty and the administrative and transaction costs associated with net neutrality regulation.

More generally, net neutrality regulation creates the prospect, inherent in any important regulatory scheme, of regulatory capture and mission creep.[55] In addition, precisely because of its specificity, net neutrality regulation could become a form of rigid regulation that does not adapt well to industry changes. That could be especially costly in industries like broadband distribution and Internet services that are likely to be characterized by rapid

52. *Open Internet Order*, *supra* note 3, at 5603, para. 4.

53. Treble damage remedies are available in private actions for violations of the antitrust laws. There are no comparable private remedies for violations of FCC regulations. The FCC can impose civil fines for violations of its rules, but large fines are unusual. *See, e.g.*, Brian Fung & Andrea Peterson, *AT&T Hit with Record $100 Million Fine as FCC Says It Slowed "Unlimited" Data*, WASH. POST (June 17, 2015), http://wpo.st/EAsw1 [https://perma.cc/CRS6-EPV8] (describing the FCC's record-breaking $100 million fee against AT&T).

54. *Open Internet Order*, *supra* note 3, at 5608, paras. 20–22.

55. *See generally* TIM WU, THE MASTER SWITCH: THE RISE AND FALL OF INFORMATION EMPIRES (2010) (recounting the history of sequential dominance by powerful communications firms and showing the repeated complicity of the FCC in their dominance).

innovation.

II. NON-ECONOMIC HARMS

Some proponents of net neutrality regulation express concern about non-economic harms.[56] They regard the Internet as a centrally important communications medium, and they worry that unbridled freedom of broadband providers to discriminate among edge providers could stifle viewpoint diversity and inhibit expressive and ideological innovation among existing and potential edge providers.[57] They worry about such effects both as an incidental byproduct of economically motivated discrimination among edge providers and as an intended consequence of ideologically or politically motivated discrimination. They imagine, among other things, a broadband provider or a corporate entity trying to maximize exposure of a particular viewpoint—be it as quotidian as a favored sports team or as substantial as a specific political perspective—by censoring content delivered over its network.[58]

A broadband provider that restricted its content offerings to those expressing a narrow range of viewpoints would most likely not be economically viable. It would have to block most edge providers and would thus both significantly reduce the value of its services to consumers and the price they would be willing to pay and drive large numbers of consumers to other broadband providers. The broadband provider is in a very different situation from that of the owner of a content provider that can profitably—or at least with little profit sacrifice—target its content at a minority of the consumer population.

It is more likely that a broadband provider will seek to restrict content expressing a certain disfavored viewpoint, which might be a sufficiently narrow category that the restriction would not significantly reduce its profits. That kind of strategy would cause some non-economic harm, but it would also most likely entail a reduction in profits for the broadband provider. Blocking some edge providers does not make it easier for consumers that want the favored content to access that content, so those consumers are unlikely to pay more for the blocking.[59] On the other hand,

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56. *See, e.g.,* Ananny, et al., *supra* note 18, at 5–6.

57. *See Net Neutrality: Is Antitrust Law More Effective Than Regulation in Protecting Consumers and Innovation?: Hearing Before the Subcomm. on Regulatory Reform, Commercial and Antitrust Law of the H. Comm. on the Judiciary*, 113th Cong. 70–77 (2014) (statement of Tim Wu, Professor, Columbia Law School).

58. *See id.* at 70–71 (describing, for example, an ISP that "did not like political speakers on one side of the spectrum," or another that "just thought the New York Rangers were a better hockey team despite losing the Stanley Cup than the L.A. Kings, and so tried to adjust coverage around sports").

59. One can imagine an extreme case in which a broadband provider might increase its appeal to consumers, and thus its profits, by refusing access to, for example, a content provider controlled by ISIL.

blocking would reduce the amount that consumers that want access to the blocked edge providers would be willing to pay the broadband provider and would likely induce at least some to switch to another provider. Not surprisingly, there has been little if any indication that broadband providers might be interested in implementing such a strategy.

There would seem, therefore, to be only two realistic concerns about viewpoint diversity. One is that viewpoint diversity and innovation at the edge might be harmed as an incidental by-product of economically motivated discrimination. As explained above, however, extraction-based discrimination is likely to favor new edge providers and unconventional viewpoints relative to established and popular edge providers and is unlikely to reduce diversity. Exclusion-based discrimination could be based in part on viewpoint considerations if viewpoint discrimination was likely to aid edge providers in which the broadband provider had an ownership or contractual interest. But exclusionary discrimination is more likely to be aimed at close substitutes for the favored edge providers and thus to harm those with similar, rather than different, viewpoints. In any event, antitrust enforcement would be likely to deter such discrimination if it threatened to create market power and could not be justified by efficiency benefits.

The other concern is that a broadband provider might block selected edge providers, not to benefit competing edge providers, but simply because of their content. Except in the rare situation in which such blocking is profit-maximizing for the broadband provider, such conduct is likely to be impermissible for a publicly held firm, whose directors and officers are required by law to further the interest of shareholders. Antitrust enforcement would not prohibit this kind of discrimination because it would not be intended to create market power for edge providers in which the broadband provider has an interest.

Net neutrality regulation would prohibit all of these non-economic harms because it would prohibit discrimination of any type. But it would be a relatively blunt instrument for what appears likely to be an uncommon harm.

CONCLUSION: WHAT THINKING ABOUT ANTITRUST LAW TELLS US ABOUT NET NEUTRALITY

Antitrust enforcement should be an effective deterrent—perhaps more effective than net neutrality regulation—with respect to exclusion of edge providers, except for (1) exclusion that is not likely to create market power for favored edge providers, (2) exclusion that is necessary to obtain substantial efficiencies, and (3) exclusion that takes the form of a unilateral refusal to help. Antitrust enforcement would also not prevent harm to edge pro-

viders resulting from (4) profit-maximizing extraction-based discrimination and (5) non-economic discrimination. Net neutrality regulation would prohibit discrimination, and thus the resulting exclusion, in all of these situations; but it would also prevent the realization of the various kinds of efficiency benefits, summarized above, that could result from discrimination among edge providers.

Three of these five categories seem to provide at most a thin reed on which to base net neutrality regulation. As to (1), deliberate exclusion is profitable only if there is a market power payoff, so it is unlikely absent the prospect of such a payoff. It might also be rather harmless absent such a payoff, because the absence of such a payoff would mean that substantial competitive constraints remain in place. Exception (1) might, therefore, not be very important.

Exception (3) also seems unlikely to be significant because, as explained above, it would in most instances impose a substantial cost on the broadband provider. Moreover, if exception (3) were thought to be a serious problem, it could be addressed by regulation much narrower than net neutrality regulation. One such narrower regulation would limit the portion of edge providers in which a broadband provider may be affiliated. The smaller the portion, the less likely is a broadband provider to withhold from unaffiliated edge providers benefits that increase the value of edge providers to its consumers; once those benefits are provided to unaffiliated edge providers, antitrust enforcement would prohibit anticompetitive exclusion to benefit affiliated edge providers, even if the exclusion can be characterized as a refusal to help.[60] Another narrower regulation would simply apply ordinary antitrust standards regarding exclusion to unilateral refusals to help.

Exception (5) seems unlikely to be significant because it would in most instances impose a substantial cost on the broadband provider. And here, too, there might be a less blunt instrument than net neutrality regulation if exception (5) were thought to be a serious problem. Some type of prohibition on content-based discrimination among edge providers might be a superior solution, assuming that would not run afoul of First Amendment restrictions.

The case for net neutrality regulation thus seems to turn on concerns about exceptions (2) and (4). The case would seem to depend on three premises: (A) that there are large but elastic poten-

60. A cap on the amount of edge providers with which a broadband distributor can be affiliated should suffice. It should not be necessary to prohibit all affiliations between broadband distributors and edge providers in order to obtain this benefit, and a complete prohibition would needlessly sacrifice the benefits that such vertical integration could create.

tial innovations at the edge provider level that would be lost by the prospect of discrimination among edge provides that was necessary to obtain substantial efficiencies or a type of profit-maximizing extraction; (B) that the potential innovations at both the edge provider level and the broadband provider level jeopardized by significant restrictions on the commercial freedom of such providers are insignificant by comparison; and (C) that the net benefit of (A) minus (B) will both exceed the lost efficiencies, and justify the risks of regulatory mission creep and capture, caused by net neutrality regulation.

It is not clear that all of the three premises are correct. Whether they are correct is a difficult and perhaps unknowable empirical question. If the premises are not correct, net neutrality regulation cannot be justified by concerns about economic harms.

Two considerations not mentioned above might tend to support those premises. The first is that broadband providers are more likely than edge providers in general to have enduring market power and correspondingly diminished incentives for innovation. The second is based on the fact that one of the benefits of efficiency-based discrimination is that such discrimination will reward and create incentives for edge provider efficiency. Small and nascent edge providers, however, might be unable in the short-run to compete on the basis of efficiency simply because they lack scale or secure revenue streams. Efficiency-based discrimination might, therefore, hinder the growth of small and nascent edge providers, or deter entry of edge providers, that might otherwise wind up being very efficient. Such discrimination might to that extent actually reduce long-run efficiency.

There are offsetting considerations. Perhaps the most important is that, as noted, price discrimination aimed at revenue maximizing is likely to favor new or nascent edge providers over those whose value to consumers has already been established. A prudent broadband provider would also seek to offset the long-term efficiency risk described in the preceding paragraph by subsidizing in one way or another entry and growth by promising new and nascent edge providers. Broadband providers might, however, underinvest in such subsidies because of lack of foresight, excess focus on short-run results, or a collective action problem that might reduce the incentive of a broadband provider to invest in edge providers whose success would also benefit other broadband providers.

In the end, the case for net neutrality regulation might not rest on a careful assessment of the limitations on or exceptions to antitrust enforcement, or even on a belief that the benefits from net neutrality regulation are *likely* to exceed its costs. The case might rest instead on views about risk and a belief that the range

of possible outcomes is significantly skewed. Proponents of net neutrality regulation might regard the costs of such regulation as knowable and bearable, and they might fear that the fact or prospect of discrimination among edge providers will deter or prevent new innovations at the edge that we cannot now know or even imagine and whose benefits might be far greater than the costs of net neutrality regulation. On those assumptions, the question raised by the debate about net neutrality regulation might come down to how much expected or likely harm to economic welfare we are willing to tolerate in order to increase the likelihood of unforeseeable but possibly very valuable innovations in the future.