ZERO-RATING BROADBAND DATA: EQUALITY AND FREE SPEECH AT THE NETWORK'S OTHER EDGE

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When broadband providers "zero-rate" data, they offer certain services or buckets of data for free without counting consumption against the user's data caps. Depending on how these offers are structured, they can be anti-competitive and violate net neutrality norms of open access. But they may also subsidize broadband access and increase expressive opportunities for users. Net neutrality theory has tended to focus on the free speech and economic inequality at the edge provider end of digital networks, positing that users have identical or derivative interests. The "virtuous cycle" of innovation at the heart of U.S. open networks policy starts and ends at the provider edge of the network. This conception of innovation overlooks digital divide issues and user economic constraint. Especially as customers of speech platforms, such as social media or video sharing sites, users may have interests that diverge from those of edge providers. Because some zero-rating practices benefit users at the consumer edge of the network, blanket bans can have a regressive effect, especially where the risk of competitive harm to edge providers is relatively small. Bans are more appropriate where there is great risk of competitive harm to edge providers and minimal increase in expressive opportunities for users.

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INTRODUCTION

Broadband providers the world over are experimenting with "zero-rating" access to some Internet content—that is, giving users access free from ordinarily applicable data fees.[1] The responses have ranged from reflexive jubilation over free access[2] to stern predictions that "free" will kill the open Internet, with corresponding policy proposals to allow or ban zero-rating practices.[3] This controversy has surfaced gaps in net neutrality theory about how open Internet networks relate to free speech and economic inequality. Both the theory and the policy have focused

1. BJ Ard, *Beyond Neutrality: How Zero-rating Can (Sometimes) Advance User Choice, Innovation, and Democratic Participation*, 75 MD. L. REV. 984, 985 (2016). As of 2014, 45% of mobile operators globally offered at least one zero-rated application. *See* ALLOT COMMUNICATIONS, APP-CENTRIC OPERATORS ON THE RISE: ALLOT MOBILE TRENDS CHARGING REPORT H1/2014 (2014), http://www.allot.com/wp-content/uploads/RP_MobileTrends_Charging_Report_H1_2014_LR_Publish.pdf [https://perma.cc/M5CW-QBHT]. While zero rating has been around for a long time outside of the United States, the adoption of the practice by American carriers such as T-Mobile has magnified controversy over the appropriate regulatory response.

2. DOUG BRAKE, INFO. TECH. & INNOVATION FOUND., MOBILE ZERO RATING: THE ECONOMICS AND INNOVATION BEHIND FREE DATA (2016), http://www2.itif.org/2016-zero-rating.pdf?_ga=1.247708423.1011305436.1479077005 [https://perma.cc/XSX6-PB3H] (surveying economic arguments in favor of zero-rating); Robert Roche, *Americans Love #FreeData*, CTIA LATEST (Apr. 7, 2016), http://www.ctialatest.org/2016/04/07/americans-love-freedata/ [https://perma.cc/876K-6P9U] (evidence of consumer benefits of free data); *but see* Karl Bode, *Wireless Industry Survey: Everybody Really Loves Zero Rating*, TECHDIRT (Apr. 14, 2016, 6:22 AM), https://www.techdirt.com/blog/wireless/articles/20160407/06231734122/wireless-industry-survey-everybody-really-loves-zero-rating.shtml [https://perma.cc/84G4-BNG9] (critique of CTIA methodology).

3. *Compare* ROSLYN LAYTON & SILVIA ELALUF-CALDERWOOD, ZERO RATING: DO HARD RULES PROTECT OR HARM CONSUMERS AND COMPETITION? EVIDENCE FROM CHILE, NETHERLANDS, AND SLOVENIA (2015) (supporting zero-rating), *with* Barbara van Schewick, Network Neutrality and Zero-rating, (Feb. 19, 2015) (unpublished manuscript) (on file with the FCC), https://cyberlaw.stanford.edu/files/publication/files/vanSchewick2015NetworkNeutralityandZerorating.pdf [https://perma.cc/5HGU-GZJY] (urging a ban on most zero-rating).

on promoting innovation at the content "edge" of the network, while neglecting the user edge.[4] Because some zero-rating practices benefit users at the consumer edge of the network, blanket bans can have a regressive effect, especially where the risk of competitive harm to edge providers is relatively small. By the same token, zero-rating should not be permitted where the risk of competitive harm to edge providers is greatest, such as when broadband providers favor their own content services at the expense of competitors.

This article outlines the emergence of the zero-rating debate. Part I situates zero rating as a practice within the larger set of net neutrality and broadband access issues. Part II briefly summarizes the state of play with zero-rated services and the arguments for and against them. Part III exposes the edge-provider (as in the content edge) centrism of net neutrality, which imagines user edge equality and free expression as peripheral to, and derivative of, innovation at the content edge.[5] Part IV suggests a conceptual tool for considering zero-rated services that accounts for both individual user and edge provider interests when they diverge.

I. NET NEUTRALITY AND BROADBAND ACCESS

The biggest issue in global telecommunications policy in recent years has been net neutrality—the broadband network design paradigm that requires broadband carriers to carry all traffic on the same terms. After a decade of frustrated efforts, United States regulators in 2015 adopted net neutrality rules.[6] The D.C. Circuit Court of Appeals upheld these rules in 2016.[7] Many other countries have adopted regulations along the same lines.[8] These rules focus principally on the terms of carriage

4. The distinction between users and edge providers is a functional one. Users are of course also content providers, and vice versa. However, most individual users distribute content by way of an edge provider such as Facebook, Medium, YouTube, etc. Their interests as content providers are significantly aligned with those of edge providers. Their interests as users are different. *See generally* Nicholas Economides, *"Net Neutrality," Non-Discrimination and Digital Distribution of Content Through the Internet*, 4 I/S: A J.L. & POL'Y FOR INFO. SOC'Y, no. 2, 2008, at 209.

5. Conceptually, users and content-producers can be one and the same. An individual transmits her own videos and streams those of others. Practically though, individual users consume much more content than they produce and therefore have interests that are distinct from those of content and application producers. With respect to zero-rating, they have interests in lower retail data prices that content producers might not share.

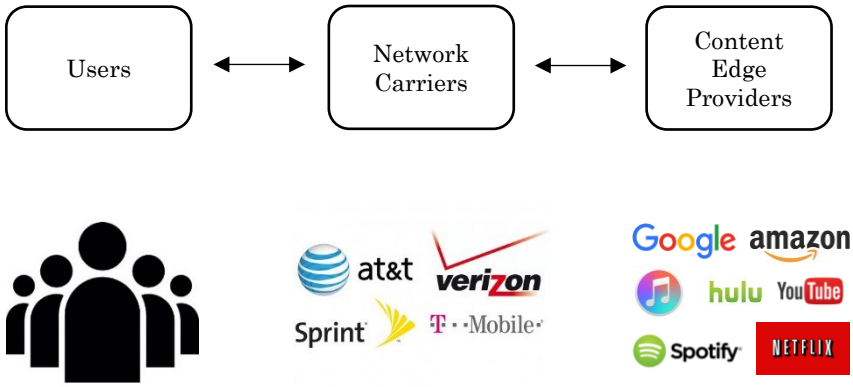
6. *See generally Protecting and Promoting the Open Internet*, GN Dkt. No. 14-28, Report and Order on Remand, Declaratory Ruling, & Order, 30 FCC Rcd. 5601 (2015) (providing rules for net neutrality) [hereinafter *Open Internet Order*]; United States Telecomm. Ass'n v. FCC, 825 F.3d 674 (D.C. Cir. 2016) (affirming the *Open Internet Order* decision).

7. *See United States Telecomm. Ass'n*, 825 F.3d at 674.

8. *See, e.g.*, BODY OF EUROPEAN REGULATORS FOR ELECTRONIC COMMUNICATIONS,

between network carriers and content edge providers: they forbid carriers from blocking or throttling lawful content,[9] from charging for prioritized delivery,[10] and from unreasonably interfering with content transmission.[11]

FIGURE 1



The core command of net neutrality is that carriers be technically neutral conduits for all content, delivering to users the content edge of the network on a "best efforts" basis.[12]

What these requirements do not address directly are the commercial terms between network carriers and individual users purchasing broadband service. Carriers are free to design retail product offerings, including plans that charge according to

ABOUT BEREC'S NET NEUTRALITY GUIDELINES, http://berec.europa.eu/files/document_register_store/2016/8/NN%20Factsheet.pdf [https://perma.cc/4U79-XTWE] (last visited Nov. 14, 2016); Theresa Papademetriou, *European Union: Net Neutrality*, LIBRARY OF CONGRESS (Apr. 28, 2011), http://www.loc.gov/law/foreign-news/article/european-union-net-neutrality/ [https://perma.cc/74UG-9FGD]; Wendy Zeldin, *Netherlands: Amended Telecommunications Act Prescribes Net Neutrality, Stricter Cookies Provisions*, LIBRARY OF CONGRESS (May 15, 2012), http://www.loc.gov/law/foreign-news/article/netherlands-amended-telecommunications-act-prescribes-net-neutrality-stricter-cookie-provisions/ [https://perma.cc/M9F7-76YS]; Eduardo Soares, *Brazil: New Internet Rule*, LIBRARY OF CONGRESS (Apr. 29, 2014), http://www.loc.gov/law/foreign-news/article/brazil-new-internet-rules/ [https://perma.cc/NNJ9-S48V]; Carolina Rossini & Taylor Moore, *Exploring Zero-Rating Challenges: Views from Five Countries* 15–20, 29–35, 37–46 (Public Knowledge 2015); *Japan: Telecoms, Media and Internet Laws and Regulations 2017*, INTERNATIONAL COMPARATIVE LEGAL GUIDES, TELECOMS, MEDIA & INTERNET LAWS & REGULATIONS 2017 (Sept. 23, 2016), http://www.iclg.co.uk/practice-areas/telecoms-media-and-internet-laws/telecoms-media-and-internet-laws-and-regulations-2016/japan [https://perma.cc/32F3-E9HC].

9. *Open Internet Order, supra* note 6, at 5648–5651, paras. 112, 119.

10. *Id.* at 5653, para. 125.

11. *Id.* at 5659–5660, para. 136.

12. *See, e.g.*, BARBARA VAN SCHEWICK, INTERNET ARCHITECTURE AND INNOVATION 142 (2010); Mark A. Lemley & Lawrence Lessig, *End of End-to-End: Preserving the Architecture of the Internet in the Broadband Era*, 48 UCLA L. REV. 925, 931–32 (2001); Tim Wu, *Network Neutrality, Broadband Discrimination*, 2 J. ON TELECOMM. AND HIGH TECH. L. 141, 145 (2003).

bandwidth usage or offer bundled services (e.g., cable and broadband) at a discount.[13] While intervening vigorously in the relations between edge providers and carriers, the rules largely leave user-carrier relations to market forces. What this means is that while the prices edge providers must pay to access broadband distribution are fixed at zero, consumers will pay market rates for access.

Just how the relationship between network carriers and users implicates Internet freedom has now exploded in the zero-rating debate. The debate raises questions including: should carriers be required to offer consumers access to all network content and applications on the same commercial terms? Should the price neutrality that governs the right edge similarly govern the left edge? Does the object of technical network uniformity—same speeds, same quality—demand commercial uniformity in consumer billing practices? And should the regulator address these questions on an ad hoc basis as practices evolve, or upfront with blanket prohibitions?

These questions are arising as carriers experiment with zero-rated packages that give users access to data free from ordinary caps and charges. The zero-rated offering is something like an old fashioned product giveaway. The broadband access provider offers to throw in some video, music, or social media content for free along with basic connectivity. Sometimes, an edge provider will pay a carrier (typically mobile) for zero-rated status. This is a form of sponsored data. More often, the carrier absorbs the costs of zero-rating as a loss leader to attract new customers, to differentiate its service, or to incentivize bandwidth conservation among applications.[14] A newer, and especially problematic, development is that carriers are offering to zero-rate their own affiliated content.[15]

What raises special concerns about giveaways in the communications context is that the broadband carriers doing the giving away have outsized power to control information flows. Zero- rating opponents say that discriminating among services at the retail edge on the basis of price is no different from the

13. The FCC's 2010 *Report and Order* considered, but rejected, *ex ante* regulation of consumer billing practices: "[P]rohibiting tiered or usage-based pricing and requiring all subscribers to pay the same amount for broadband service, regardless of the performance or usage of the service, would force lighter end users of the network to subsidize heavier end users." *Preserving the Open Internet*, GN Dkt. No. 09-191, Report and Order, 25 FCC Rcd. 17,905, 17,945, para. 72 (2010). Thus, even if the carrier makes no distinctions among edge providers, the end user who can afford to buy bigger data packages or faster speeds will be able to get better and more Internet.

14. *See generally* Ard, *supra* note 1, at 119–39 (taxonomy of zero-rated offerings).

15. Jon Brodkin, *AT&T, Owner of DirecTV, Exempts DirecTV from Mobile Data Caps*, ARS TECHNICA (Sept. 7, 2016, 10:31 AM), http://arstechnica.com/information-technology/2016/09/att-owner-of-directv-exempts-directv-from-mobile-data-caps/ [https://perma.cc/2N75-GTHF].

network layer discrimination banned by net neutrality.[16] According to a letter to the Federal Communications Commission (the "Commission" or "FCC") filed by numerous edge providers and civil society groups, "[g]iving ISPs the power to favor some sites or services over others would let ISPs pick winners and losers online—precisely what the Open Internet rules exist to prevent."[17] In the same way that charging edge providers for transit creates barriers to entry and innovation, so making them compete with "free" for user adoption can create equivalent barriers.[18]

Given the symmetry between differential pricing at one edge of the network, where Netflix enters, and the other edge of the network, where Netflix exits, why have zero-rating practices resisted regulatory classification as simple net discrimination? One reason is that the insistence on one-size-fits-all billing, in the face of users' economic constraint, has a whiff of "let them eat cake." Zero-rating poses an especially difficult problem because it implicates equality and free speech considerations on both sides of the issue.[19] The practices have to be understood in the context of failed broadband access policies. The United States and other nations have a broadband policy aspiration of universally available and fast service.[20] If broadband access were cheap and

16. *See, e.g.,* Rossini & Moore, *supra* note 8, at 1 (Zero-rating is the "use of billing practices, rather than network management practices, to distinguish between different Internet applications or services.").

17. Letter from consumer protection, free press, and civil rights groups to Tom Wheeler, Chairman, *Protecting and Promoting the Open Internet,* GN Dkt. No. 14-28, 1 (filed May 24, 2016), https://ecfsapi.fcc.gov/file/60002020568.pdf [https://perma.cc/N83Y-DKLR]; *see also* Karl Bode, *Reddit, Mozilla, Others Urge FCC To Formally Investigate Broadband Usage Caps And Zero-rating*, TECHDIRT (May 24, 2016, 11:44 AM), https://www.techdirt.com/blog/netneutrality/articles/20160524/09450534536/reddit-mozilla-others-urge-fcc-to-formally-investigate-broadband-usage-caps-zero-rating.shtml [https://perma.cc/49HZ-K6DP]; Laura Wright, *CRTC Reviewing Controversial 'Zero-Rating' in Internet Plans*, CBC NEWS (May 30, 2016, 5:00 AM), http://www.cbc.ca/news/technology/crtc-review-differential-pricing-zero-rating-1.3603807 [https://perma.cc/Q449-U9M9].

18. *See, e.g.,* Barbara van Schewick, Analysis of Proposed Network Neutrality Rules 7–9 (Feb. 18, 2015) (unpublished manuscript), http://cyberlaw.stanford.edu/downloads/vanSchewick2015AnalysisofProposedNetwork NeutralityRules.pdf [https://perma.cc/PLL5-J3UE]; van Schewick, *supra* note 3, at 1; ERIK STALLMAN & R. STANLEY ADAMS, ZERO-RATING: A FRAMEWORK FOR ASSESSING BENEFITS AND HARMS (2016), https://cdt.org/files/2016/01/CDT-Zero-Rating_Benefits-Harms5_1.pdf [https://perma.cc/N4T2-Q6QK]; Ard, *supra* note 1, at 1018–21 (summarizing objections).

19. Acknowledging this complexity, CDT and Public Knowledge, both staunch proponents of net neutrality, have taken intermediate positions on zero-rating. *See* STALLMAN & ADAMS, *supra* note 18.

20. FCC, CONNECTING AMERICA: THE NATIONAL BROADBAND PLAN (2010), https://transition.fcc.gov/national-broadband-plan/national-broadband-plan.pdf [https://perma.cc/75BY-RVS3]; THE EXECUTIVE OFFICE OF THE PRESIDENT, COMMUNITY-BASED BROADBAND SOLUTIONS: THE BENEFITS OF COMPETITION AND CHOICE FOR COMMUNITY DEVELOPMENT AND HIGHSPEED INTERNET ACCESS (2015), https://www.whitehouse.gov/sites/default/files/docs/community-

abundant, zero-rating would serve no purpose because consumers paying little for bandwidth would not place a high value on free. But in a world of second bests, where broadband access is relatively expensive and scarce, the free speech benefits that zero-rating can provide to users should be balanced against putative harms to edge providers.[21]

Arturo Carrillo has thoughtfully advanced a human rights framework for zero-rating that posits user connectivity as a tradeoff against edge provider freedom of expression.[22] Carrillo brings into conversation two usually distinct discourses: one about broadband access as a human right and the other about the open Internet and innovation. BJ Ard, in his work on zero-rating, frames the interests of both users and edge providers as expressive interests. This is because connectivity *itself* is a means to expressive freedom. He argues that the expressive value of zero-rating will be greatest when the services that have been zero-rated (such as Facebook and YouTube) are actually themselves tools for users to speak—platforms for participation.[23] I will return to this conception of user participation in Part IV.

Given the expressive interests on both sides of the zero-rating debate, the policy problem is not suited to blanket bans and permissions. Some kinds of zero-rated offerings, operating within particular market structures, will yield very little free speech benefits and impose significant free speech, competition, and innovation costs. Others are likely to net out differently. Commentators most receptive to zero-rating schemes[24] and those

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based_broadband_report_by_executive_office_of_the_president.pdf [https://perma.cc/34XV-TXWU]; EUROPEAN COMMISSION, COMMUNICATION FROM THE COMMISSION TO THE EUROPEAN PARLIAMENT, THE COUNCIL, THE EUROPEAN ECONOMIC AND SOCIAL COMMITTEE AND THE COMMITTEE OF THE REGIONS: A DIGITAL AGENDA FOR EUROPE (2010), http://www.europeanpaymentscouncil.eu/index.cfm/knowledge-bank/other-sepa-information/european-commission-communication-a-digital-agenda-for-europe-may-2010-/european-commission-communication-a-digital-agenda-for-europe-may-2010pdf/ [https://perma.cc/9T55-HJQL].

21. Zero-rating may also benefit less powerful edge providers. This would be true, for example, of noncommercial applications included in a zero-rating offering (Wikipedia, local government content, etc.). *See, e.g.,* MULTICULTURAL MEDIA, TELECOM AND INTERNET COUNCIL, UNDERSTANDING AND APPRECIATING ZERO-RATING: THE USE AND IMPACT OF FREE DATA IN THE MOBILE BROADBAND SECTOR (2016) (discussing ways in which zero-rating can bring more civic and government services to users).

22. *See* Arturo J. Carrillo, *Having Your Cake and Eating it Too? Zero-Rating, Net Neutrality and International Law,* 19 STAN. TECH. L. REV. 364 (2016) (applying an international human rights framework to balance access and free speech rights).

23. Ard, *supra* note 1, at 1003–04; *see also* JONATHAN ZITTRAIN, THE FUTURE OF THE INTERNET: AND HOW TO STOP IT 70 (Yale Univ. Press & Penguin UK 2008).

24. *E.g.*, Daniel Lyons, *Zero rating: Narrowing the Digital Divide in the Mobile Broadband Market*, TECH POL'Y DAILY (Jan. 12, 2015, 6:00 AM) http://www.techpolicydaily.com/internet/zero-rating-narrowing-digital-divide-mobile-broadband-market/#sthash.76qcZist.dpuf [https://perma.cc/6V2V-Q3DG]; DIANA CAREW, PROGRESSIVE POLICY INST., ZERO-RATING: KICK-STARTING INTERNET ECOSYSTEMS IN DEVELOPING COUNTRIES 6 (2015); LAYTON & ELALUF-CALDERWOOD, *supra* note 3.

most opposed[25] agree that some zero-rating practices are much more concerning than others.

Assessments of zero-rating entail perceptions of value and vulnerability in the network. The traditional network neutrality discourse posits a battle between the carriers, such as Verizon and Comcast, at the core of the network against the content and service providers at the network's edge, such as Google and Netflix. Net neutrality proponents see the most vulnerability and value at the provider edge. The Open Internet rules fuse the language of technology innovation and entrepreneurial dynamism at the edge with traditional telecommunications regulatory commitments to carrier nondiscrimination.[26] In this schema, the prime locus of innovation and freedom of expression is at the content edge of the network. Users may benefit from edge provider protections, but do not always have identical interests. Arriving at a sensible treatment of zero-rating requires a shift from the edge provider centrism of net neutrality law to include the free speech possibilities (and obstacles) at the user edge.

II. ZERO-RATED SERVICES

A. The State of Play

There are many flavors of zero-rated services, with significantly different competition and free expression effects.[27] The market impact of differential pricing is difficult to predict and assess, and is likely to vary with the particular practice, the state of broadband competition, broadband penetration, and other features of fluid Internet market structures. A practice that gives Internet connectivity to the previously disconnected poor has more upside than a practice that provides a marginal free service to users who are already well-connected. A practice that favors some services over others will have less competitive impact in a market that has thriving broadband competition, and the possibility of many different zero-rated packages. Packages that are exclusive to certain edge providers (because they have paid for access, they are affiliated with the carrier, or for some other reason) will have a more distorting effect than packages that are largely inclusive.

Most of the zero-rating literature examines the practices through an economic lens, namely the impact of zero-rating on the

25. *E.g.*, van Schewick, *supra* note 3.

26. *See generally Open Internet Order*, *supra* note 6.

27. *See* Ard, *supra* note 1; LAYTON & ELALUF-CALDERWOOD, *supra* note 3; Letter from Christopher Yoo, Professor of Law, Univ. of Pennsylvania Law Sch., to Vinod Kotwal, Advisor, Telecomm. Regulatory Auth. of India (Jan. 14, 2016), http://trai.gov.in/Comments_Data/Others/Yoo.pdf [https://perma.cc/VN5S-32AB]; van Schewick, *supra* note 3; STALLMAN & ADAMS, *supra* note 18; Rossini & Moore, *supra* note 8.

efficient functioning of the two-sided broadband access market.[28] The following is one way to categorize the practices based on their likely market impact, focusing on their degree exclusivity.

1. **No payment; no exclusivity.** Carrier does not get paid and will offer zero-rating non-exclusively to all applications within a class, subject only to compliance with technical rules (that reduce bandwidth demands). An example in the United States is T-Mobile's Binge On and Music Freedom services, which allow users to stream video and music without racking up data charges.[29] This kind of service is a product differentiator in mature markets.
2. **No payment; some exclusivity.** Carrier partners with select edge providers to zero-rate applications that are especially popular or have civic value. This kind of service has been a loss-leader in developing markets with under-penetrated populations, where carriers have exempted WhatsApp, Facebook, Wikipedia and other popular services.[30] A related family of practices is for the edge provider to pay customers with data credits in order to encourage content engagement.[31]
3. **Payment; no exclusivity.** Zero-rated services pay carrier for "sponsored data." One example is AT&T's "sponsored data" program, whereby services like ESPN pay to have their data exempted from mobile data caps.[32]
4. **Carrier's vertical service; exclusivity.** Carrier zero-rates its own services. An example is Comcast's treatment of Stream TV.[33]

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28. *See* LAYTON & ELALUF-CALDERWOOD, *supra* note 3; van Schewick, *supra* note 3; Lyons, *supra* note 24; JEFFREY A. EISENACH, THE ECONOMICS OF ZERO-RATING 6 (2015), http://www.nera.com/content/dam/nera/publications/2015/EconomicsofZeroRating.pdf [https://perma.cc/K7UJ-WLHJ].

29. *Simple Choice Plan*, TMOBILE.COM, http://www.t-mobile.com/cell-phone-plans.html?icid=WMM_TM_MSCFRDMLP_QMAI2TQ7CE24392 [https://perma.cc/VV7H-3A9X] (last visited Nov. 16, 2016).

30. *See* BRAKE, *supra* note 2, at 2–6; Ard, *supra* note 1, at 989–1002; Carew, *supra* note 24, at 6–9; LAYTON & ELALUF-CALDERWOOD, *supra* note 3, at 4–5; STALLMAN & ADAMS, *supra* note 18, at 2–7; EISENACH, *supra* note 28.

31. *See* Ard, *supra* note 1, at 114–15 (providing as an example the mCent model).

32. Jon Brodkin, *AT&T has 10 Businesses Paying for Data Cap Exemptions, and Wants More,* ARS TECHNICA (Jan. 6, 2015, 4:26 PM), http://arstechnica.com/business/2015/01/att-has-10-businesses-paying-for-data-cap-exemptions-and-wants-more/ [https://perma.cc/5C7X-TGZT].

33. *See* John Bergmayer, *Comcast's Latest Zero-Rating Plan Threatens Video Choice*, PUBLIC KNOWLEDGE (Nov. 20, 2015), https://www.publicknowledge.org/news-blog/blogs/comcasts-latest-zero-rating-plan-threatens-video-choice [https://perma.cc/4JNK-5JGD]; John D. McKinnon, *Net-Neutrality Proponents Warn of Loopholes*, WALL ST. J. (Dec. 14, 2015, 7:44 PM), http://www.wsj.com/articles/net-neutrality-proponents-warn-of-loopholes-1450053858 [https://perma.cc/ED2D-7PV8]

Faced with the complexity of zero-rated offerings and impacts, the FCC decided not to ban zero-rating in its 2015 Open Internet Order. Rather, the Commission said that it would assess zero-rating practices on an ad hoc basis under the "general conduct" rule of reasonableness.[34] A number of civil society groups object and have petitioned the FCC to ban zero-rating practices outright.[35]

Elsewhere in the world, some regulators have decided to ban zero-rating, most notably in the Netherlands and India.[36] Others that have generally banned zero-rated services have made exceptions for noncommercial services like Wikipedia. Chile is in this category.[37]

B. Overview of Arguments For and Against

Advocates and scholars have lined up on both sides, *for* (Layton, Lyons) and *against* (van Schewick, Crawford, Public Knowledge) zero-rating flexibility, focusing primarily on the effects on broadband competition and innovation.

The debate has been particularly sharp in India, where two-thirds of India's 1.25 billion citizens are still not online.[38] There, in an effort to attract new users, Facebook teamed up with the fourth largest wireless carrier, Reliance, to offer a service called Free Basics.[39] This is a Facebook-curated set of low-bandwidth sites

("Comcast says Stream is delivered over a closed path controlled by the cable company and that customers can't view it anywhere except in their homes—two hallmarks of cable service [not subject to net neutrality rules]."). *See also* Daniel Lyons, *Comcast's Usage-Based Pricing Memo: Much Ado About Nothing*, TECH POL'Y DAILY (Nov. 17, 2015), http://www.techpolicydaily.com/internet/comcasts-*usage-based-pricing-memo-much-ado-about-nothing/* [https://perma.cc/449B-MKF9] (arguing that Comcast data caps are simply a form of neutral price discrimination).

34. "Any person engaged in the provision of broadband Internet access service . . . shall not unreasonably interfere with or unreasonably disadvantage [(i)] end users' ability to select, access, and use broadband Internet access service or the lawful Internet content, applications, services, or devices of their choice, or [(ii)] edge providers' ability to make lawful content, applications, services, or devices available to end users." 47 C.F.R. § 8.11 (2012). The FCC's 2010 Open Internet rules *had* banned zero-rating *against a fee*.

35. Letter to Tom Wheeler, *supra* note 17 (arguing that zero-rating practices "present a serious threat to the Open Internet: they distort competition, thwart innovation, threaten free speech, and restrict consumer choice"); Tom Wheeler, *Zero-Rating Plans are a Serious Threat to the Open Internet*, NEW AM.: OPEN TECH. INSTITUTE (Mar. 28, 2016) https://www.newamerica.org/oti/zero-rating-plans-are-a-serious-threat-to-the-open-internet/ [https://perma.cc/VVF4-TQCK].

36. Rossini & Moore, *supra* note 8, at 22–36.

37. Glyn Moody, *Chile Bans Free Delivery of Social Services To Uphold Net Neutrality*, TECHDIRT (June 16, 2014, 2:11 PM), https://www.techdirt.com/articles/20140603/05442127439/chile-bans-free-delivery-social-media-services-to-uphold-net-neutrality.shtml [https://perma.cc/YE9M-MGJV].

38. Vidhi Doshi, *Facebook has Another Plan to Bring Internet Access to India - - and It's Winning Over Critics*, MASHABLE (Aug. 20, 2016), http://mashable.com/2016/08/20/facebook-india-express-wifi/#i13Rg3xZ58qm [https://perma.cc/5ULD-HLES].

39. Rajat Agrawal, *Why India Rejected Facebook's 'Free' Version of the Internet*,

offered in dozens of developing countries that includes Facebook as well as news sites like the BBC, Wikipedia, and local information sites.[40] Reliance bundled Free Basics (fee-exempt) with a data plan for Internet access.

Facebook battled a grassroots campaign that characterized Free Basics as a poor-man's Internet that would skew the development of a free and open Internet for all.[41] Facebook countered that Free Basics would make access possible for tens of millions of first-time users, and become an on-ramp to the full Internet. In 2016, Facebook lost the fight when the Indian regulator banned the service and its like.[42] Demonstrating just how difficult this area is, the regulator subsequently walked back the decision by opening comment on permitting certain zero-rated practices, such as those that simply provide the user with free data—more of a cash-back rebate than an in-kind giveaway.[43] Facebook plans to bring Free Basics to the United States, partnering with smaller carriers.[44]

The following is a brief overview of the arguments for and against zero-rating.

1. Against, Usually Unreservedly

Zero-rating opponents argue that zero-rated practices are the functional equivalents of network discrimination, and should be banned.[45] The critique focuses on the treatment of edge providers: non-neutral, differential terms for provider access to the network will raise barriers to entry and thereby reduce innovation and competition at the edge. Zero-rating thus inflicts, through consumer-side pricing, the very harm that the FCC sought to

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Mashable (Feb. 9, 2016), http://mashable.com/2016/02/09/why-facebook-free-basics-failed-india/#lMwspwUV5kq3 [https://perma.cc/Y7Y4-3NGN].

40. Josh Constine, *Internet.org App Brings Free Facebook, Wikipedia, BBC, Local Info Access to Tanzania*, TECHCRUNCH (Oct. 29, 2014), https://techcrunch.com/2014/10/29/free-internet-tanzania/ [https://perma.cc/X42S-49MD]; *see also Free Basics Platform*, INTERNET.ORG, https://info.internet.org/en/story/platform/ [https://perma.cc/64BT-PJVZ] (last visited Nov. 15, 2016).

41. Ellen P. Goodman, *India's Ban on Facebook's Free Service is an Overreaction*, GUARDIAN (Feb. 8, 2016), https://www.theguardian.com/technology/2016/feb/08/indias-ban-on-facebooks-free-service-is-an-overreaction [https://perma.cc/8R5X-ZGV4].

42. *Prohibition of Discriminatory Tariffs for Data Services Regulations*, 2002, GAZETTE OF INDIA, pt. III sec. 4 (2016), http://www.trai.gov.in/WriteReadData/WhatsNew/Documents/Regulation_Data_Service.pdf [https://perma.cc/PA3H-47N3].

43. TELECOMM. REGULATORY AUTH. OF INDIA, CONSULTATION PAPER NO. 7: CONSULTATION PAPER ON FREE DATA (2016), http://www.trai.gov.in/WriteReadData/ConsultationPaper/Document/CP_07_free_data_consultation.pdf [https://perma.cc/EV3B-LPSR].

44. Brian Fung, *Facebook is Talking to the White House About Giving You 'Free' Internet. Here's Why That May be Controversial*, WASH. POST (Oct. 6, 2016), http://wpo.st/saXE2 [https://perma.cc/M84L-3SJD].

45. van Schewick, *supra* note 3, at 1–2; Rossini & Moore, *supra* note 8, at 5–6.

avoid by forbidding tiered edge-side pricing (known as "paid prioritization"). This is the harm of application discrimination. When a carrier charges an application for quality of service delivery to consumers, it discriminates in the provision of network access by imposing differential transit costs at one edge of the network. So too, when a carrier zero-rates an application, it discriminates by imposing differential consumption costs at the network's other edge.

The fear is that price discrimination will enable carriers to exercise gatekeeping power over content, with potential harms to innovation, competition, and free speech. Susan Crawford writes that zero-rating creates a "synthetic" Internet experience that is "pernicious . . . dangerous . . . [and] malignant."[46] Barbara van Schewick asserts that "zero-rating has a strong discriminatory effect."[47]

Because zero-rating only involves billing practices, and does not slow or block user access to non-participating edge providers, critics are faced with the question: how does zero-rating leave the consumer worse off when the whole Internet remains as available as it ever was? Indeed, the whole Internet is effectively *more* available because "[w]hen certain content is zero-rated, particularly high-demand services like Google and Facebook, people are free to use a higher percentage of their existing data cap on other content?"[48]

The response has demand-side and supply-side components, both centering on the provider edge of the network. On the demand side, zero-rated services are likely to attract more users, all else equal (including assumptions about substitutability of services).[49] If carriers are partnering with services for no compensation (Category 2 above), then it is likely the selected services will already be market leaders and zero-rating will help them to cement their advantage. If the carriers are zero-rating

46. Susan Crawford, *Zero for Conduct*, BACKCHANNEL (Jan. 7, 2015), https://medium.com/backchannel/less-than-zero-199bcb05a868#.figres4x2 [https://perma.cc/R4E7-UEVC].

47. van Schewick, *supra* note 3, at 1.

48. *See, e.g.*, Carew, *supra* note 24, at 6 (discussing how zero-rating can help shift under-served populations to a "high-connectivity equilibrium" where increases in the number of people online increase the applications and services that are created for them).

49. *See* Barbara van Schewick, *Network Neutrality and Quality of Service: What a Nondiscrimination Rule Should Look Like*, 67 STAN. L. REV. 1, 30–31 (2015) ("[A]lthough the data packets associated with different streaming video applications receive the same technical treatment in the network, the practice of counting only some streaming video applications towards the monthly bandwidth cap would still be subject to the non-discrimination rules."); HELANI GALPAYA ET AL., A BASELINE SURVEY OF ICT AND KNOWLEDGE ACCESS IN MYANMAR 48 (2015), http://lirneasia.net/wp-content/uploads/2015/07/LIRNEasia_MyanmarBaselineSurvey_DescriptiveStats_V1.pdf [https://perma.cc/9B2M-J55W] (Myanmar research showing that users will consume content at much higher rates once it is part of a zero-rated content package.).

their own affiliated services (Category 4 above), this will likely be a form of anticompetitive self-dealing. And if the carrier is selling access to zero-rated programs (Category 3 above), the well-healed can get a leg up on potentially more innovative, but under-resourced, edge services by paying.[50] Even when carriers are inclusive within a genre or class of services about who gets to be zero-rated (Category 1 above), the selection of genre will privilege one (e.g., music) over another (e.g., video).

A subordinate demand-side argument focuses on anticipated user behavior. Zero-rating opponents fear that even when other services are readily available and not price-prohibitive, zero-rating will acculturate consumers to a limited Internet experience. Consumers will proceed *as if* in a walled garden, cultivating only zero-rated options.[51]

On the supply-side, the zero-rating problem is wrapped up with a larger concern about usage-based pricing and skepticism about bandwidth scarcity. Some years ago, mobile services moved from unlimited data plans to "usage based pricing," which implement "data caps" and "overage charges" for consumers who exceed their data allowances.[52] It now appears that fixed broadband providers are migrating to usage based pricing as well.[53] The ostensible reason for this move is that broadband

50. According to a group of smaller edge providers, 'Zero-rating' should not be permitted where (a) it is paid for by edge providers; or (b) it is offered to selected applications within a class to the exclusion of others, even if there is no payment involved. . . . Our companies would not be able to pay for special treatment—whether in the form of paid prioritization or zero-rating. . . . Once some applications are zero-rated, competing applications that count against a consumer's cap will be at a huge disadvantage. Thus, the harm to startups is just the same as the harm caused by paid prioritization. Notice of Ex Parte Letter from Vimeo, LLC, Cogent Commc'ns, Inc., Contextly, Inc., Distinc.tt, Dwolla, Inc. Engine Advocacy, Kickstarter, Inc., OpenCurriculum, Inc., and Tumblr, Inc., *Protecting and Promoting the Open Internet*, GN Dkt. No. 14-28 (filed Feb. 19, 2014), https://ecfsapi.fcc.gov/file/60001031567.pdf [https://perma.cc/P3C6-QGMW]. *See also* Letter from Nick Grossman, Union Square Ventures, *Protecting and Promoting the Open Internet*, GN Dkt. No. 14-28 (filed Feb. 18, 2015), https://ecfsapi.fcc.gov/file/60001030760.pdf [https://perma.cc/6HZE-JUNV]; Letter from Peter Micek, Senior Policy Counsel, Access, *Protecting and Promoting the Open Internet*, GN Dkt. No. 14-28 (filed Feb. 18, 2015), https://ecfsapi.fcc.gov/file/60001030870.pdf [https://perma.cc/BKL2-RGY9] (price discrimination schemes, such as zero-rating, skew the competitive marketplace and setup gatekeepers that can stifle innovation).

51. *See e.g.,* Access Now, *Open Letter to Mark Zuckerberg Regarding Internet.org, Net Neutrality, Privacy, and Security*, FACEBOOK (May 18, 2015, 7:34 AM), https://www.facebook.com/notes/accessnoworg/open-letter-to-mark-zuckerberg-regarding-internetorg-net-neutrality-privacy-and-/935857379791271 [https://perma.cc/V53U-4GRK].

52. Daniel Lyons, *Internet Policy's Next Frontier: Usage-Based Broadband Pricing*, 66 FED. COMMC'N L.J. 1, 5, 32 (2013).

53. *See e.g., Customer Agreements, Policies & Service Disclosures*, COMCAST, http://www.xfinity.com/policies#0 [https://perma.cc/RT3Y-QQAQ] (last visited Nov. 15, 2016); *Data Usage FAQs*, VERIZON, https://www.verizonwireless.com/support/data-usage-faqs/ [https://perma.cc/8W2T-DVKA] (last visited Nov. 15, 2016); *Verizon Plan*, VERIZON, https://www.verizonwireless.com/plans/verizon-plan/ [https://perma.cc/3D8G-YCRV] (last visited Nov. 15, 2016).

demand—especially on the mobile side—is rising far faster than supply.

Zero-rating opponents worry that carriers have exaggerated bandwidth constraints and imposed data caps to create artificial scarcity in bandwidth.[54] By unnecessarily rationing bandwidth, usage-based pricing depresses total Internet use for consumers who fear going over data caps, and thereby "can suppress activities that we generally encourage."[55] Moreover, data caps are "especially susceptible to anti-consumer manipulation by ISPs" which can zero-rate some services and then depress caps to channel usage into the favored services.[56] Data cap exemptions operate as "pernicious paid prioritization that unfairly disadvantage independent and noncommercial creators . . . [creating] conditions of inequitable online distribution by unfairly favoring those commercial operators that can afford to pay for this privilege."[57]

In the Global South, an additional gloss to the argument against zero-rating is that it advances a kind of technological colonialism—again, the focus is at the provider edge. When foreign technology companies partner with local carriers to zero-rate services, they exercise undue power over communications.[58] The criticism is that "zero-rating plans give dominant global web services an advantage over nascent local competition, putting small and medium enterprises and local content and service developers at a significant disadvantage."[59]

Some zero-rating opponents concede that some forms of zero-

54. Hibah Hussain & Patrick Lucey, *Capping the Nation's Broadband Future?*, NEW AM.: OPEN TECH. INSTITUTE (Dec. 17, 2012), https://www.newamerica.org/oti/capping-the-nations-broadband-future/ [https://perma.cc/B7WT-8XQP]; Hibah Hussain, Danielle Kehl & Patrick Lucey, *The Destructive Power of Data Caps*, FREE PRESS (Dec. 19, 2012), http://www.freepress.net/blog/2012/12/19/destructive-power-data-caps [https://perma.cc/HK55-6UZP] (The Free Press has similarly stated that "the rise of data caps – particularly on the mobile side – threatens future growth and innovation on the Internet" and that we should not treat broadband and bandwidth as "rationed commodities.").

55. Michael Weinberg, *The Question at the Core of the Data Caps Debate*, PUBLIC KNOWLEDGE (Jan. 3, 2013), https://www.publicknowledge.org/news-blog/blogs/question-core-data-caps-debate [https://perma.cc/K5P7-6ECL].

56. *Id.*

57. Danny Kimball, *Sponsored Data and Net Neutrality: Exemption and Discrimination in the Mobile Broadband Industry*, 2 MEDIA INDUSTRIES J., no. 1, 2015, at 38.

58. *See, e.g.*, Mahesh Murthy, *Poor Internet for Poor People: Why Facebook's Internet.org Amounts to Economic Racism*, QUARTZ (Apr. 17, 2015), http://qz.com/385821/poor-internet-for-poor-people-why-facebooks-internet-org-amounts-to-economic-racism/ [https://perma.cc/8QU6-E8QE].

59. Romit Guha & Gulveen Aulakh, *The War Over Zero Rating: All You Need to Know About Net Neutrality*, ECONOMIC TIMES: TELECOM (Apr. 21, 2015), http://telecom.economictimes.indiatimes.com/news/internet/the-war-over-zero-rating-all-you-need-to-know-about-net-neutrality/46995671 [https://perma.cc/3PHQ-JCQ5] (quoting civil liberties advocate Mishi Choudhary).

rating may be benign. Category 1 practices (described above) in particular have escaped the most scathing critiques.[60] Content offerings with special claims to educational or civic value are favored. Wikipedia, for example, offers a Wikipedia Zero service in concert with carriers in more than 60 countries.[61] It helps to mute criticism that Wikipedia itself insists on non-exclusivity, both for the carriers who must offer to zero-rate all edge applications within a class of service, and for edge providers who must be willing to deal with all carriers interested in zero-rating their content.[62] Other providers with more suspect commercial motives have not fared as well. T-Mobile seems to have satisfied Wikipedia's openness conditions with its zero-rated service, Binge On, which is open to all video providers that comply with technical requirements. But many advocates have urged the FCC to ban even this offering because of its potential to harm edge providers, complaining that the technical "requirements make it difficult for many start-ups, small players, and non-commercial speakers to participate in the program, creating lasting harms to innovation, competition, and free speech online."[63]

2. Support, Usually with Qualifications

Proponents of zero-rating—or more accurately, opponents of zero-rating bans—meet the objections about effects at the provider edge.

They argue that zero-rating has been around for many years, and has not adversely affected edge providers.[64] If zero-rated

60. van Schewick, *supra* note 3, at 8–9.

61. *See* Kul Wadhwa, *Free Mobile for Wikipedia Starts with Orange*, WIKIMEDIA: GLOBAL, HIGHLIGHTS, MOBILE, WIKIPEDIA ZERO (Jan. 24, 2012), https://blog.wikimedia.org/2012/01/24/free-mobile-for-wikipedia-starts-with-orange/ [https://perma.cc/G8EN-D5Y3]; *Wikipedia Zero*, WIKIMEDIA, http://wikimediafoundation.org/wiki/Wikipedia_Zero [https://perma.cc/V5DB-A79K] (last visited Nov. 15, 2016).

62. *Wikipedia Zero Operating Principles*, WIKIMEDIA, http://wikimediafoundation.org/wiki/Wikipedia_Zero_Operating_Principles [https://perma.cc/44UU-GGH3] (last updated June 13, 2016); *see also* Denelle Dixon-Thayer, *Mozilla View on Zero-Rating*, OPEN POLICY & ADVOCACY (May 5, 2015), https://blog.mozilla.org/netpolicy/2015/05/05/mozilla-view-on-zero-rating/ [https://perma.cc/53KL-8NUN] (exploring zero-rating options that do not benefit particular content providers, such as Mozilla's partnership with Bangladeshi Grameenphone which allows users to receive 20 MB of data usage for free each day, in exchange for viewing an advertisement).

63. Letter from consumer protection, free press, and civil rights groups to Tom Wheeler, Chairman, *Zero-Rating Plans are a Serious Threat to the Open Internet* (Mar. 28, 2016), https://static.newamerica.org/attachments/12903-zero-rating-plans-are-a-serious-threat-to-the-open-internet/FinalZeroRatingSign-OnLetter.fa929bef59a5423089a496b4f909fb97.pdf [https://perma.cc/J6DQ-8ZGP]. Another claim is that non-exclusivity that is limited to a class of service still has a discriminatory impact because the plan "favors video as a class over all other classes of applications." *Id.* Data caps and speed constraints arguably disfavor video as a class because of its bandwidth demands.

64. LAYTON & ELALUF-CALDERWOOD, *supra* note 3.

services like Free Basics create walled gardens, the walls are flimsy and give way to the wider Internet.[65] That is, consumers find their way to content not included in the zero-rated bundle. No one can gainsay that consumers with access to zero-rated content tend to use that content heavily.[66] However, this may be because what gets zero-rated in the first place are the most popular applications, whose popularity pre-dated the zero-rated offering. It is well known that Internet ecosystems are characterized by network effects and a winner-take-all distribution of users, with the most frequented applications enjoying overwhelming dominance in the market.[67] Free data consumption may reflect these concentrations, but it has not been shown to create them.

With respect to the impact of zero-rating on insurgent or local applications—something like the "next Google"—zero-rating can boost rather than inhibit entry. Particularly where zero-rated status is not purchased, it can be a way for unknown applications to gain market share.[68] Facebook's Free Basics, for example, includes local content and smaller applications. In some ways, zero-rating does on the physical network what Facebook's Instant Articles does on the social media platform.[69] Instant Articles makes content faster and more convenient to download from Facebook. At first just available for select publishers, Facebook in April 2016, made it available for all content providers.[70] Those that participate (which requires technical conformance) can expect to find an easier path to users. Smaller publishers are taking advantage, presumably to gain more traction in markets dominated by larger players.[71]

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65. *Free Basics by Facebook*, INTERNET.ORG, https://info.internet.org/en/story/free-basics-from-internet-org/ [https://perma.cc/6TWX-4PDN] (last visited Nov. 15, 2016); *see, e.g.,* Mark Zuckerberg, *Free Basics Protects Net Neutrality*, TIMES OF INDIA (Dec. 28, 2015), http://blogs.timesofindia.indiatimes.com/toi-edit-page/free-basics-protects-net-neutrality/ [https://perma.cc/G3TE-MZSL] (claiming that half the Indian users of Facebook's former zero-rated service, Free Basics, went online for the first time and then chose pay to access the full internet within 30 days).

66. *See* GALPAYA, *supra* note 49.

67. Clay Shirky, *Power Laws, Weblogs, and Inequality*, CLAY SHIRKY'S WRITINGS ABOUT THE INTERNET (Feb. 8, 2003), http://www.shirky.com/writings/powerlaw_weblog.html [https://perma.cc/KY6M-GLMG]; BERNARDO A. HUBERMAN, THE LAWS OF THE WEB: PATTERNS IN THE ECOLOGY OF INFORMATION 24, 30 (2001).

68. LAYTON & ELALUF-CALDERWOOD, *supra* note 3.

69. *Instant Articles Quickstart Guide*, FACEBOOK FOR DEVELOPERS, https://developers.facebook.com/docs/instant-articles/quickstart [https://perma.cc/2FA8-YVNB] (last visited Nov. 16, 2016); *see also* Casey Newton, *Google's Answer to Facebook Instant Articles is Now Available on the Mobile Web*, VERGE (Feb. 24, 2016, 10:00 AM), http://www.theverge.com/2016/2/24/11095776/google-amp-facebook-instant-articles [https://perma.cc/J2YP-MBHJ].

70. Josh Roberts, *Instant Articles Now Open to All Publishers*, FACEBOOK MEDIA (Apr. 12, 2016), https://media.fb.com/2016/04/12/instant-articles-now-open/ [https://perma.cc/2U23-3U77].

71. *See, e.g.*, Lukas I. Alpert, *Facebook Will Make Instant Articles Available to All Publishers*, WALL ST. J. (Feb. 16, 2016, 1:00 PM), http://www.wsj.com/articles/facebook-

Another way that zero-rating can *increase* the diversity of edge providers is by diversifying the user population. As discussed further below, net neutrality regulation rests on a particular theory of Internet innovation: open networks that allow edge providers to reach users without friction will increase edge provider entry and bring more users to the network, which will in turn lead to further edge provider innovation. This feedback loop creates a "virtuous circle" of innovation.[72] However, if there are barriers on the consumer side to access, leading to digital exclusion, then the edge providers that target *those* potential users will not come. Increasing broadband access, which zero-rating arguably does, can bring more of the digitally excluded to the network and thus incentivize edge providers to serve those users.[73]

The argument over zero-rating in part recapitulates net neutrality battles over the prime driver of innovation: is it edge provider competition or network infrastructure investment?[74] Opponents of zero-rating bans, while not conceding that the practice hurts edge providers, focus on benefits across the network. Jeffrey Eisenach contends that the practice "improves economic efficiency by supporting continuing investment and innovation in both networks and content while expanding Internet access to consumers who would otherwise be unserved."[75] One of the ways that zero-rating may enhance efficiency is by promoting broadband product differentiation instead of a one-size-fits-all

opens-up-instant-articles-to-all-publishers-1455732001 [https://perma.cc/EM8S-KJYM] (describing how the program, once available only to a handful of publishers, will be available to "anyone with a website and a Facebook page anywhere in the world" so that they can "host content directly on Facebook instead of posting links to direct users back to their own sites"); James Bennet, *Facebook's Instant Articles Offers New Choices – and Audience – for Small and Big Publishers*, SIIA BLOG (May 14, 2015), http://blog.siia.net/index.php/2015/05/facebooks-instant-articles-offer-new-choices-and-audience-for-small-and-big-publishers/ [https://perma.cc/GVZ5-7SCZ] (discussing Facebook Instant Articles advantages for small publishers).

72. *Open Internet Order*, *supra* note 6, at 5627, para. 77 ("the Internet's openness continues to enable a 'virtuous [cycle] of innovation in which new uses of the network—including new content, applications, services, and devices—lead to increased end-user demand for broadband, which drives network improvements, which in turn lead to further innovative network uses'") (citing *2010 Open Internet Order*, 25 FCC Rcd. at 17,910–11, para. 14); Verizon v. FCC, 740 F.3d. 623 (D.C. Cir. 2014) (finding reasonable and supported by substantial evidence the FCC's justification for net neutrality rules that they "will preserve and facilitate the 'virtuous circle' of innovation that has driven the explosive growth of the Internet"); United States Telecomm. Ass'n v. FCC, 825 F.3d 674 (D.C. Cir. 2016) (reaffirming Verizon v. FCC).

73. Carew, *supra* note 24, at 5.

74. *Compare* Wu, *supra* note 12, at 154–56 (edge-based innovation is engine for technological progress), *with* Christopher S. Yoo, *Network Neutrality and the Economics of Congestion*, 94 GEO. L.J. 1847, 1874–75 (2006) (network infrastructure innovation is most important for technological advance).

75. EISENACH, *supra* note 28, at 6.

data charge.[76] More marginal broadband competitors, like T-Mobile, can use zero-rating gambits to stay in the game, thereby increasing the number of broadband providers and network investment.[77] Carrier competition, in turn, can remediate broadband scarcity and reduce the need for regulatory intervention at either edge of the network.[78]

In developing markets with less broadband penetration, the ability to offer differentiated services can enlarge the pie of connected customers.[79] The proliferation of zero-rating, especially in these markets, has highlighted another dimension of broadband pricing plans: their effect on end users. In countries where Internet access is plentiful, zero-rating gives consumers free streaming services they might not otherwise be able to afford. And in countries where Internet access is a luxury beyond the reach of billions, free data connects the formerly disconnected to favorite applications like Facebook and WhatsApp. In this context, opponents of zero-rating bans have noted that flexible pricing can reduce digital divides.[80]

The extent to which zero-rating practices might enhance user free speech and access opportunities, and whether these benefits are outweighed by competition harms, is really the question for policymakers. Answering this question in any given case, or for a class of practices, requires a focus on the user edge of the network as distinct from the content edge. The next section examines how the rhetoric of equality and free speech undergirding the net neutrality movement has neglected users as distinct from edge providers.

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76. *See* BRAKE, *supra* note 2, at 10–13.

77. *See generally* BRONWYN HOWELL & ROSLYN LAYTON, EVALUATING THE CONSEQUENCES OF ZERO-RATING: GUIDANCE FOR REGULATORS AND ADJUDICATORS (2016).

78. Although net neutrality rules are premised on a lack of competition in the broadband access market, some economists believe that content edge discrimination could be inefficient even if there is sufficient carrier competition so long as consumers only use one carrier at a time. *See, e.g.,* Shane Greenstein, Martin Peitz & Tomasso Valletti, *Net Neutrality: A Fast Lane to Understanding the Trade-Offs,* J. OF ECON. PERSPECTIVES, Spring 2016, at 127, 129.

79. BRAKE, *supra* note 2, at 9–10.

80. Lyons, *supra* note 24 (arguing that zero-rating expands Internet access for underserved communities). *See e.g.,* Erik Moeller, *Wikipedia Zero and Net Neutrality: Protecting the Internet as a Public Space*, WIKIMEDIA: WIKIPEDIA ZERO (Aug. 1, 2014), http://blog.wikimedia.org/2014/08/01/wikipedia-zero-and-net-neutrality-protecting-the-internet/ [https://perma.cc/5CH7-ECME] ("ensuring free access to important resources like Wikipedia is a social justice issue"); Mike Godwin, *What the 'Zero-rating' Debate Reveals About Net Neutrality: Net Neutrality Can Work Against Developing Nations* REASON.COM (Apr. 8, 2015), https://reason.com/archives/2015/04/08/nothing-but-net [https://perma.cc/2PN5-BGSD] (arguing that "in developing countries, data caps effectively discourage people from using Wikipedia . . . extensively, cheating them of the gift of a free informational resource, and thus cheating us all of their contributions" and that zero-rating fixes this problem of user access).

III. ZERO-RATING EXPOSES THE EDGE-PROVIDER CENTRISM OF NET NEUTRALITY

Net neutrality rules gained political traction in the United States and around the world because of their appeal to equality and free speech. Zero-rating exposes net neutrality's preoccupation with edge providers when it comes to these values. In the net neutrality discourse, user interests in equality and liberty are derivative of edge provider interests. Although net neutrality celebrates and seeks to preserve the Internet's historic end-to-end architecture, and though it recognizes the generativity of users as producers, the thrust of its campaign for equality and free expression lands heavily at only the content end of the network.

Researchers have long recognized that there might be a tradeoff between user and edge provider interests. In their important piece laying out the economic and political rationale for net neutrality, Robin Lee and Tim Wu acknowledged that "zero-pricing" at the content edge of the network had a price: "[S]ubsidizing content comes at the expense of *not* subsidizing users."[81] It is an open question, they acknowledged, "whether, in subsidizing content, the welfare gains . . . offset the price reductions consumers might otherwise enjoy or the benefit of expanding service to new users."[82] The authors suggest that the value choice being made, to focus on the content edge of the network, was a choice to subsidize "the creative and entrepreneurial at the expense of the passive and consumptive."[83]

These preferences may disserve the equality and expressive interests of users because: (1) even passive consumption generates positive spillover effects from equalized access to communications; and (2) subsidized data increases active participation in networked culture and freedom of expression by increasing user access to speech platforms.

A. Equality

In the United States, the reclassification of broadband access service as common carriage activates nondiscrimination rules.[84] In its strongest form, net neutrality actually seeks to achieve more than mere nondiscrimination. Nondiscrimination ensures equality

81. Robin S. Lee & Tim Wu, *Subsidizing Creativity through Network Design: Zero-Pricing and Net Neutrality*, J. OF ECON. PERSPECTIVES, Summer 2009, at 61, 67 (emphasis in original).

82. *Id*; c*f.* Keith N. Hylton, *Law, Social Welfare, and Net Neutrality,* B.U. SCH. OF L. 1, 6 (2016) (Net neutrality imposes a regressive cross-subsidy on the poor to support services that are skewed towards serving the wealthier (e.g. Netflix)).

83. Hylton*, supra* note 82, at 7–9; Lee & Wu, *supra* note 81, at 67.

84. 47 U.S.C. § 202 (2012).

of opportunity or *formal equality*, forbidding carriers from practicing "unjust or unreasonable discrimination" in charges or practices.[85] The strongest version of net neutrality seeks *substantive equality*, meaning that all providers get the same service at zero-price. This strongest version is evident in the FCC ban on paid prioritization—an insistence on zero-price broadband access for edge providers, regardless of differences in quality of service offered.[86]

The FCC's first attempt at net neutrality rules in 2010 discouraged, but did not ban, paid prioritization.[87] For most of the run-up to the issuance of its 2015 Open Internet Order, the Agency appeared unlikely to insist on zero-price broadband access. FCC Chairman Tom Wheeler indicated in testimony that paid prioritization could exist within a common carrier model.[88] Open network rules purportedly apply common carrier nondiscrimination rules to broadband access providers.[89] Common carrier rules typically *do* allow all manner of payments for special service, as long as the deals are offered on a nondiscriminatory basis to all comers.[90] This is because they are designed to advance

85. *See* United States Telecomm. Ass'n v. FCC, 825 F.3d 674, 757 (D.C. Cir. 2016) (Williams, J., concurring in part and dissenting in part) ("general principles of public utility rate regulation have always allowed reasonable rate distinctions, with many factors determining reasonableness").

86. *Open Internet Order*, *supra* note 6, at 5647, para. 107 ("Under the rule we adopt today, the Commission will ban all paid prioritization subject to a narrow waiver process.").

87. *Id.* at 5627, para. 77; *Preserving the Open Internet, Broadband Industry Practices,* GN Docket No. 09-191, Report and Order, 25 FCC Rcd. 17,905, para. 26 (Dec. 21, 2010) ("Fees for access or prioritization to end users could reduce the potential profit that an edge provider would expect to earn from developing new offerings, and thereby reduce edge providers' incentives to invest and innovate" with negative consequences for new entrants that are "small 'garage entrepreneurs,' not large and established firms. These emerging providers are particularly sensitive to barriers to innovation and entry, and may have difficulty obtaining financing if their offerings are subject to being blocked or disadvantaged by one or more of the major broadband providers.").

88. *See Oversight of the Federal Communications Commission: Hearing Before the Subcommittee on Commc'n and Tech. of the H. Comm. on Energy and Commerce,* 113th Cong. at 44:56 (2014), https://energycommerce.house.gov/hearings-and-votes/hearings/oversight-federal-communications-commission-0 [https://perma.cc/BKR2-FDHW] (statement Tom Wheeler, Chairman, Fed. Communications Commission) ("There is nothing in Title II [common carrier law] that prohibits paid prioritization.").

89. *Open Internet Order, supra* note 6, at 5743–5744, para. 331.

90. 47 U.S.C. § 201(b) (2012) ("Different charges may be made for the different classes of communications."); *The Dev. of Operational, Tech. and Spectrum Requirements for Meeting Fed., State and Local Public Safety Agency Commc'n Requirements Through the Year 2010; Estab. of Rules and Requirements for Priority Access Service,* WT Dkt. No. 96-86, Second Report and Order, 15 FCC Rcd. 16,720 (July 3, 2000) (finding Priority Access Service, a wireless priority service for both governmental and non-government public safety personnel, *"prima facie* lawful" under 47 U.S.C. §202); *Access Charge Reform; Price Cap Performance Review for Local Exchange Carriers; Interexchange Carrier Purchases of Switched Access Services Offered By Competitive Local Exchange Carriers; Petition of US West Commc'n, Inc. for Forbearance from Regulation as a Dominant Carrier in the Phoenix, Arizona MSA,* CC

formal, not substantive, equality among customers.[91]

What seems to have shifted the Agency's course was a very successful public campaign against Internet stratification. Encouraged by comedian John Oliver's hugely popular segment lambasting Internet fast and slow lanes, members of the public and policy community inveighed against any price discrimination for edge providers.[92] The dystopian target of this campaign was an economically stratified network that lets the rich (edge providers) ride the fast lanes, while relegating new entrants and noncommercial entities to potholes and gravel. Opponents of paid prioritization warned that network tolls would preserve existing hierarchies and retard innovation.[93] New and innovative services might stutter and fail because they could not pay carriers for premium service. The alternative to stratification was, ideally, the historically flat (last mile) network structure where carriers deliver all traffic with as much speed and fidelity as possible, with network upgrades benefiting all, and preferential access for none. Because Internet access is a two-sided market, access providers deal with content suppliers at one end (Netflix, Facebook) of the network and with consumers at the other. The ban on paid prioritization essentially codified the longstanding practice of charging only one side of this two-sided market.[94]

Of course the world is full of fast and slow lanes, first class

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Dkt. Nos. 96-262, 94-1, 98-157, Fifth Report and Order and Further Notice of Proposed Rulemaking, 14 FCC Rcd. 14,221 (1999) (granting dominant carriers pricing flexibility or special access services, allowing both higher charges for faster connections as well as individualized pricing and customers discounts).

91. The Supreme Court hearing a railroad case at the end of the 19th century wrote that "any fact which produces an inequality of condition and a change of circumstances justifies an inequality of charge." ICC v. Balt. & O.R. Co., 145 U.S. 263, 283-84 (1892) (common carriers are "only bound to give the same terms to all persons alike under the same conditions and circumstances"). This divergence between the open network rules and common carrier traditions is one among many reasons that two FCC Commissioners dissented from the *Open Internet Order*. *Protecting and Promoting the Open Internet*, GN Dkt. No. 14-28, Oral Dissenting Statement of Commissioner Ajit Pai, 30 FCC Rcd. 5601, 5921 (2015), https://apps.fcc.gov/edocs_public/attachmatch/DOC-332260A5.pdf [https://perma.cc/RN27-22VN]; *Protecting and Promoting the Open Internet*, GN Dkt. No. 14-28, Dissenting Statement of Commissioner Michael O'Rielly, 30 FCC Rcd. 5601, 5985 (2015), https://apps.fcc.gov/edocs_public/attachmatch/DOC-332260A6.pdf [https://perma.cc/9ETW-JQBU]; *See also* Ajit Pai, *The Story of the FCC's Net Neutrality Decision and Why It Won't Stand Up in Court*, 67 FED. COMMC'N. L.J. 147, 158 (2015).

92. *Open Internet Order*, *supra* note 6 (over two million comments were filed on this proceeding*).*

93. *See, e.g.*, Reply Comments of Public Knowledge & Benton Foundation, *Protecting and Promoting the Open Internet*, GN Dkt. Nos. 14-28, 10-127, 09-191, 07-52 (filed Sept. 15, 2014), https://www.publicknowledge.org/assets/uploads/documents/Public_Knowledge_NN_Reply_Comments_2014_FINAL.pdf [https://perma.cc/V95J-2RPC]; *but see* C. Scott Hemphill, *Network Neutrality and the False Promise of Zero-Price Regulation*, 25 YALE J. ON REG. 135, 145–50 (2008).

94. Nicholas Economides & Joacim Tåg, *Network Neutrality on the Internet: A Two-Sided Market Analysis,* INFO. ECON. & POL'Y, June 2012, at 91, 94–104.

and coach, premium and ordinary service.[95] These disparities map onto background resource distributions and inequities. Open network rules that include bans on paid prioritization insist on an Internet exceptionalism when it comes to the opportunity to reach users. Open network rules ensure that telecommunications infrastructure does not replicate and magnify the background distributional privileges of content producers. "Neutrality" in this sense is a bid for equality—substantive equality—at one edge of the network.

But the bid is only at the application edge, not at the user edge. Broadband access services remain free to charge users for quality-of-service and other product differentiations.[96] Here, background financial wherewithal will determine whether users get broadband and how much. While rich edge providers are constrained, rich users are not, and while the rules support entry for the poor edge provider, they do not help the poor user. Indeed, neutrality rules which constrain carrier behavior *vis a vis* edge providers can result in increased consumer broadband prices because of the "waterbed effect." According to Michael Katz, carriers forbidden from charging for transmission "charge higher prices to end users. . . as a means of deriving revenue from edge providers."[97]

To be sure, open Internet rules theorize a mechanism by which prices will fall for consumers as a result of zero-pricing at the provider edge of the network. This mechanism is the virtuous cycle (or circle) of innovation, propounded by scholars,[98] advanced by activists,[99] adopted by the FCC,[100] endorsed by the D.C.

95. United States Telecomm. Ass'n v. FCC, 825 F.3d 674, 768–69 (D.C. Cir. 2016) (Williams, J., concurring in part and dissenting in part). For a discussion and critique of market stratification, *see generally* MICHAEL J. SANDEL, WHAT MONEY CAN'T BUY: THE MORAL LIMITS OF MARKETS (2012).

96. *Open Internet Order*, *supra* note 6, paras. 37–40.

97. Michael L. Katz, *Wither U.S. Net Neutrality Regulation*, REVIEW OF INDUSTRIAL ORGANIZATION 15 (forthcoming), https://techpolicyinstitute.org/wp-content/uploads/2016/05/MLKatzWitherUSNetNeutralityRegulation.pdf [https://perma.cc/8VEQ-ESTA]; *see also* J. Gans & M. Katz, *Weak Versus Strong Net Neutrality: Corrections and Extensions*, J. OF REG. ECON., Aug. 2016, at 99, 110.

98. VAN SCHEWICK, *supra* note 12; Economides & Tåg, *supra* note 94, at 92.

99. *See e.g.*, *Open Internet Order*, *supra* note 6, 5651–5652 n. 120; Comments of Common Cause, *Protecting and Promoting the Open Internet*, GN Dkt. Nos. 14-28, 10-227, at 1 (filed July 15, 2014), https://ecfsapi.fcc.gov/file/7521700158.pdf [https://perma.cc/39PQ-88G3] (noting that "[i]ncreased broadband adoption and new service offerings demonstrate that Open Internet protections foster the 'virtuous circle' of innovation, generating both consumption and new discourse, driving additional investment and yet more creative applications")); Comments of Higher Education and Libraries, *Protecting and Promoting the Open Internet*, GN Dkt. Nos. 14-28, at 5 (filed July 18, 2014), http://www.aplu.org/members/councils/governmental-affairs/CGA-library/net-neutrality-comments-sent-to-the-fcc/file [https://perma.cc/LNQ5-3WG4] (explaining that Internet openness is an essential driver of the "virtuous circle," and "[t]he unimpeded flow of knowledge, information, and interaction across the Internet enables the circle of innovation, user demand, and subsequent broadband expansion")).

100. *Open Internet Order*, *supra* note 6, 5627, para. 77 (Internet openness "can help

Circuit,[101] and furthered by Obama Administration initiatives.[102] The idea is that low entry barriers for applications will result in more innovation at the edge, which will increase demand for Internet bandwidth, which will expand supply, and this dynamic will ultimately result in cheaper and better consumer broadband.

There exists today in the United States, and much more dramatically in the Global South, debilitating gaps in broadband access.[103] Markets are not yet producing universal broadband access, or affordable access, that can keep up with edge provider innovation.[104] Maybe the virtuous cycle of innovation will forge greater equality at the user edge of the network in the future. Government broadband subsidies of various kinds can also help, as will new private investment in infrastructure, such as Google Fiber. But the problem of digital exclusion persists. Olivier Sylvain has characterized the current faith in edge-provider generativity as a sort of "trickle-down" innovation theory that gives insufficient attention to user connectivity gaps.[105] To the extent that the poor are non-users of broadband, or light users, we can expect a "virtue-less cycle": less demand for applications targeted to the needs of the poor and less innovation in those applications.[106]

Into this breach steps zero-rating, which can variously be seen as private provision of a public good (free data), or as usurpation of consumer choice. These two visions may both be true at different points in time, depending on competition, and depending on other interventions to increase bandwidth. What zero-rating does is provide zero-price broadband access for the user. From the user's perspective, zero-pricing of anything mitigates their background financial constraints—the constraints

close the digital divide by facilitating the development of diverse content, applications, and services. The record also supports the proposition that the Internet's openness continues to enable a 'virtuous [cycle] of innovation in which new uses of the network—including new content, applications, services, and devices—lead to increased end-user demand for broadband, which drives network improvements, which in turn lead to further innovative network uses.'" (citing *2010 Open Internet Order*, 25 FCC Rcd. at 17910-11, para. 14).

101. Verizon Comm. Inc. v. FCC, 740 F.3d. 623 (D.C. Cir. 2014).

102. *See, e.g.*, EXEC. OFFICE OF THE PRESIDENT, COMMUNITY-BASED BROADBAND SOLUTIONS: THE BENEFITS OF COMPETITION AND CHOICE FOR COMMUNITY DEVELOPMENT AND HIGHSPEED INTERNET ACCESS 1, 13 (2015), https://www.whitehouse.gov/sites/default/files/docs/community-based_broadband_report_by_executive_office_of_the_president.pdf [https://perma.cc/G9HA-X9KX] ("This cycle [of innovation] begins when new applications of the Internet create demand for more bandwidth, resulting in a wave of network-level innovation and infrastructure investment. As more bandwidth becomes available, application-sector innovators find new ways to use that capacity, creating additional demand, leading to another round of network investment, and so on.").

103. *See, e.g.*, Rossini & Moore, *supra* note 8, at 1.

104. *Id.* at 3.

105. Olivier Sylvain, *Network Equality*, 67 HASTINGS L.J. 443, 451 (2016).

106. Carew, *supra* note 24, at 3.

that the net neutrality movement sidelined. Net neutrality insisted on formal equality at the user edge and substantive equality at the provider edge.[107] In a sense, zero-rating can advance substantive equality at the user edge, depending on how it is implemented. It is this social value that regulators must weigh against possible market-distorting effects in deciding whether to ban all or some zero-rating practices.

B. Free Speech

The net neutrality approach to freedom of expression tracks its stance on network equality by focusing largely on the freedom of edge providers.

In the United States, net neutrality rules are rooted in a free expression narrative. That story goes something like this: anything other than a neutral network, in which edge providers are able to access broadband on equal terms, would let carriers privilege (for business or ideological reasons) some content providers over others.[108] This would leverage carriers' power in the market for Internet traffic into undue influence over the market of ideas. The buying power of edge providers would elevate the speech of the well-capitalized. Carriers, seeking to maximize their rents or speech preferences, would become arbiters of what Internet speech has the best chance of becoming salient.

Unfortunately, this free expression narrative strays from actual First Amendment doctrine as it exists today. The doctrine disfavors regulatory interventions that redistribute speaking opportunities down the wealth ladder. It takes a decidedly "negative rights" approach to freedom of expression. Currently, constitutionally protected free speech is the freedom to speak *without* government constraint rather than a freedom to speak *because of* government rules that combat private constraint.[109] The high water mark of this negative rights approach to the First Amendment is *Citizens United*, which re-confirmed and extended the notion that "money is speech," and regulation that limits the purchase of speech trenches on protected freedoms.[110]

While not compelled by First Amendment doctrine, net neutrality free speech claims find a home in the free speech values that have guided many areas of communications policy. This tradition countenances (but does not compel) regulation as a necessary counter-weight to censorious private action and distributions of economic power. This tradition structures what Marvin Ammori calls the "free speech architecture" of

107. *Open Internet Order*, *supra* note 6, at 5622–23, para. 71.
108. *Id.* at 5627, 5663, paras. 77, 143.
109. Citizens United v. Fed. Election Comm'n, 558 U.S. 310, 340 (2010).
110. *Id.*

communications law.[111] Rules that have sought to ensure media plurality, media access for political candidates at low rates, media access for partisans of controversial positions, and various carriage and nondiscrimination rules are all examples. The benefited services cannot insist on these rules as a matter of First Amendment law—because of the doctrine's negative rights structure[112]—but as a matter of free speech "values" whose vindication requires a positive rights approach.[113] So too with net neutrality rules, which are advanced not as a First Amendment imperative for edge providers, but as consistent with and furthering First Amendment values.

As a historical matter, it is natural for the articulation of the positive rights approach to focus on content providers. The approach was developed in a one-to-many broadcast and print press environment.[114] Rules that limited the concentration of ownership of broadcast stations, or the cross-ownership of papers and stations, were government interventions justified as increasing the number of "voices" accessible to the public.[115] The

111. Marvin Ammori, *First Amendment Architecture*, 2012 WIS. L. REV. 1 (2012); *see also* DAWN C. NUNZIATO, VIRTUAL FREEDOM: NET NEUTRALITY AND FREE SPEECH IN THE INTERNET AGE (2009); Jeffrey Blevins & Leslie Shade, *International Perspective on Network Neutrality—Exploring the Politics of Internet Traffic Management and Policy Implications for Canada and the U.S.*, 3 GLOB. MEDIA J., no. 1, 2010, at 1, 4–6.

112. *See* Frederick Schauer & Richard H. Pildes, *Electoral Exceptionalism and the First Amendment*, 77 TEX. L. REV. 1803, 1806–07 (1999) ("[I]t is plainly true that a negative conception of the First Amendment generally, and freedom of speech in particular, have held sway, both in the literature and in the case law, over the past several decades.").

113. *See, e.g.,* Turner Broad. System, Inc. v. FCC, 512 U.S. 622, 663 (1994) (characterizing speech diversity policy as "a governmental purpose of the highest order, for it promotes values central to the First Amendment.").

114. For an explication of the positive rights theory of the First Amendment, namely that government is obligated to create communicative opportunities, *see generally* Owen M. Fiss, *Why the State?*, 100 HARV. L. REV. 781, 783 (1987) ("state regulation of speech is consistent with, and may even be required by, the first amendment [sic]"); FREDERICK SCHAUER, FREE SPEECH: A PHILOSOPHICAL ENQUIRY 80–81 (1982) (distinguishing negative and positive theories of the First Amendment); Kathleen M. Sullivan, *Two Concepts of Freedom of Speech,* 124 HARV. L. REV. 143, 144–46 (2010); Thomas I. Emerson, *The Affirmative Side of the First Amendment*, 15 GA. L. REV. 795, 796–98 (1981). The most influential treatment of positive First Amendment rights in the context of media regulation was Jerome A. Barron, *Access to the Press—A New First Amendment Right*, 80 HARV. L. REV. 1641 (1967) (arguing that the people have a positive First Amendment right of access to communicate through the press). *See also* Yochai Benkler, *Free As the Air to Common Use: First Amendment Constraints on Enclosure of the Public Domain*, 74 N.Y.U. L. REV. 354, 384 (1999) (arguing that the Supreme Court in at least one case (Denver Area Educ. Telecomms. Consortium, Inc. v. FCC, 518 U.S. 727 (1996)) "came close[] to identifying not only a constitutional interest in diversity, but an actual constitutional constraint on regulation that unnecessarily causes concentration").

115. *See* Philip M. Napoli, *Deconstructing the Diversity Principle*, 49 J. COMM. 7 (1999). *See, e.g.,* Metro Broadcasting, Inc. v. FCC, 497 U.S. 547, 567–68 (1990) (upholding minority ownership policies on grounds that they furthered media diversity); FCC v. Nat'l Citizens Comm. for Broad., 436 U.S. 775, 795 (1978) (upholding broadcast ownership regulations aimed at diversifying mass media); Fox Television Stations, Inc. v. FCC, 280 F.3d 1027, 1043 (D.C. Cir. 2002) (recognizing diversity as a legitimate goal of media policy); Turner Broad. Sys., Inc. v. FCC, 512 U.S. 622, 663

public was similarly benefited by being able to hear these new voices. User speech did not come into play because users were not speaking over the broadcast platform.[116]

What is different now is that broadband access at both edges of the network implicates user speech interests in a direct way. By focusing on edge provider speech interests, the net neutrality movement has marginalized the interests of individuals at the other edge of the network. To be sure, these users have speech interests as "listeners," derivative of the speech interests of edge providers. But they also have distinct speech interests as speakers that are advanced by robust and affordable broadband access at the user end. The end-to-end theory at the core of net neutrality, of course, recognizes the importance of user participation in Internet speech circulation.[117] However, the policy focus on edge provider neutrality compromises user speech interests where these conflict with those of edge providers.

Zero-rating raises one potential conflict between edge provider and user speech interests. Edge providers, as a class, have speech interests in reaching users on equal terms. User speech interests coincide as far as this goes, but users also have an interest in having access to speech platforms that distribute their voices for free. Facebook's Free Basics gives users free access to Facebook.[118] While that access promotes Facebook's market share, it also lowers barriers to a basic communications platform. India has a population of 1.25 billion, 80% of whom are mobile users. But these users consumer little data.[119] Only 57% of Indian smartphone users have data plans, and these are anemic (only about 3-5% of developed nation average usage).[120] Mobile users in India reportedly spend almost a third of their time on Facebook properties.[121] If they can get this access for free, Facebook competitors may be harmed, but the user can now deploy scarce

(1994) (upholding policies promoting "access to a multiplicity of information sources"). For a comprehensive discussion of FCC rules emanating from its diversity policy, *see* HARVEY L. ZUCKMAN, ET AL., MODERN COMMUNICATIONS LAW § 14.4 (1999).

116. The positive rights approach is largely absent from common carriage policy. For example, universal service and common carrier nondiscrimination do not find justification in free speech rights. Net neutrality rules are a hybrid that grows out of common carrier regulation, but uses the free speech narrative of media policy.

117. *Open Internet Order*, *supra* note 6, at 5627, para. 77.

118. STALLMAN & ADAMS, *supra* note 18.

119. Christopher T. Marsden, *Comparative Case Studies in Implementing Net Neutrality: A Critical Analysis of Zero-rating,* SCRIPTED J. OF L. TECH. & SOC'Y 1, May 2016, at 1, 19, https://script-ed.org/wp-content/uploads/2016/04/marsden.pdf [https://perma.cc/9XL5-2DY7].

120. *Id.*

121. Barry Gilbert & Bonny Joy, *Strategy Analytics: Indian Mobile Users Spend 45 Minutes/Day on Facebook Properties*, STRATEGYANALYTICS (June 8, 2016), https://www.strategyanalytics.com/strategy-analytics/news/strategy-analytics-press-releases/strategy-analytics-press-release/2016/06/08/strategy-analytics-indian-mobile-users-spend-45-minutes-day-on-facebook-properties#.V77tzZgrJhE [https://perma.cc/LZQ3-4HW5].

access for other purposes, and other edge services (voices) may find more oxygen.

As BJ Ard notes, zero-rating is especially speech-promoting where it expands access to platforms for user speech, thereby providing more opportunity for generative uses of the Internet.[122] One engine for this generativity is user participation over speech platforms. But what of the costs to users in terms of longer term risks to the diversity of these platforms if, in fact, zero-rating unfairly benefits incumbent and other favored services? Ard offers a menu of possible regulatory interventions that would mitigate this risk. Most of these involve attaching conditions to zero-rating practices to reduce consumer lock-in and market foreclosure.[123]

IV. SQUARING USER AND EDGE PROVIDER INTERESTS

Consideration of zero-rating practices needs to take seriously the speech interests of users at both edges of the network. It has proven difficult enough to model the economic impacts of zero-pricing, as evinced by the arguments for and against the practices outlined in Part II above. It would be vastly more so to complicate those models with dynamic speech effects. Although it is beyond the scope of this piece to attempt such a layered model, I do offer a way to conceptualize the interplay of competition concerns and user speech interests (as distinct from the interests of edge providers).

Recall the four categories of zero-rating practices from Part II, ranging from more open and inclusive to more closed and exclusive. The most open models offer zero-rating opportunities to all content providers within a particular class of potentially substitutable services (*e.g.,* video streaming, social networks platforms) and do not result in carrier payments that might disadvantage edge providers that cannot pay. These fall into Category 1. The most closed models offer zero-rating opportunities only to the carrier's own services, thereby disadvantaging all other edge competitors, and potentially incentivizing the carrier to increase charges for other Internet services (through data caps). These fall into Category 4. For reference, the categories are:

Category 1: No carrier payment; no exclusivity
Category 2: No carrier payment; some exclusivity
Category 3: Carrier payment; no exclusivity
Category 4: Carrier's own service; exclusive

122. Ard, *supra* note 1, at 1001 (identifying the principal speech-promoting aspect of zero-rated services as "social layer" generativity).

123. Ard, *supra* note 1, at 1021–24 (proposing, for example, that regulators impose interoperability requirements on zero-rated platforms like Facebook so that users could easily switch to a competing service).

Something like these categories seem to have been operationalized by the Body of European Regulators for Electronic Communications ("BEREC") in its recently published guidelines for national regulatory authorities on implementation of EU net neutrality rules.[124] Degrees of openness of various zero-rating practices are pivotal to how BEREC understands their economic impact and risks of market foreclosure. For example, BEREC advises regulators that in judging zero-rating practices, they consider the possible "reductions in the range of applications available, incentives for end-users to use certain applications, or whether there is a material reduction in end-user choice."[125]

To the extent that user and edge provider expressive opportunities coincide, this type of guidance will serve for both in equal measure. But an analysis focused exclusively on competition concerns may shortchange user interests where they part from those of edge providers. There is another dimension of edge services, which is the extent to which they support user participation. BJ Ard's approach helpfully tries to merge these concerns by testing for whether zero-rating enhances the "generativity" of Internet communications, for example by increasing user speech and access over "platforms that embody the generative and participatory features of the open web."[126] His concept of generativity is complex. It includes both the degree to which the edge service supports user participation (e.g., social media platforms) as well as the degree to which the zero-rated deal forecloses edge provider competition (e.g., exclusivity, payment to carriers).[127] The latter set of characteristics is represented by the four categories laid out above.

Building on Ard's proposals, we can try to disentangle user participation from edge provider competitive considerations. The following analytic matrix helps to tease out the interplay between the two sets of interests.

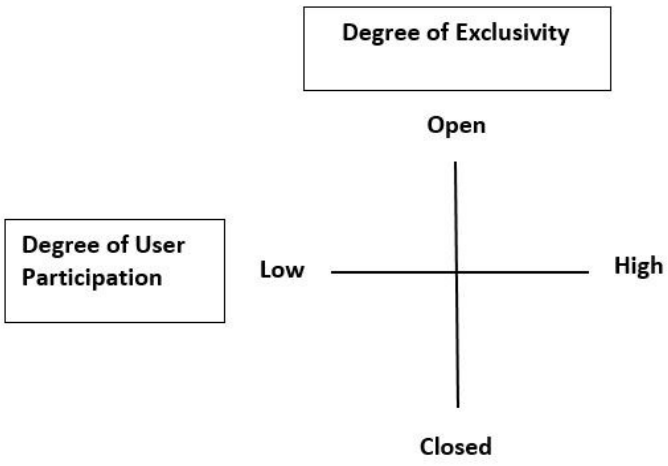
124. *See* BODY OF EUROPEAN REGULATORS FOR ELECTRONIC COMMUNICATIONS, ABOUT BEREC'S NET NEUTRALITY GUIDELINES, http://berec.europa.eu/files/document_register_store/2016/8/NN%20Factsheet.pdf [https://perma.cc/Q4YE-XA6J] (last visited Nov. 14, 2016).

125. *Id.* at paras. 40–48; *see also*, What is zero-rating?, BEREC, http://berec.europa.eu/eng/netneutrality/zero_rating/ [https://perma.cc/WYM7-XVTG] (last visited Nov. 16, 2016). Other considerations focus on the market positions of the relevant broadband and edge providers.

126. Ard, *supra* note 1, at 1028 (borrowing the term "generative" from Jonathan Zittrain).

127. *Id.* at 998–1001.

FIGURE 2



Within a particular context of broadband carrier competition and user connectivity, zero-rated practices in the top right quadrant will produce the greatest benefits to users, with the least harm to edge providers. Those in the lower left corner will produce the least benefits to users, with the greatest harm to edge providers. A regulator could reasonably conclude that all practices in the lower left quadrant are likely too harmful and should be presumptively banned. These determinations will depend heavily on the state of broadband competition and the background state of user connectivity.

CONCLUSION

The zero-rating debate revisits the almost theological conflicts of net neutrality. What constitutes innovation and what regulatory and business relationships best promote it? Are broadband carriers, if unconstrained by regulation, incentivized to keep connectivity costs artificially high? Does differential pricing constitute rent seeking or efficient price discrimination? Is it better to proscribe business practices, risking over-enforcement, or assess them after rollout, risking under-enforcement? Too often, warriors of the net neutrality battles take their sides reflexively executing worn battle plans. What data there is does not deliver victory to either side of the zero-rating debate. Rather, it suggests that the impacts of the pricing strategy on broadband market structure and edge provider innovation are uncertain and variable.

Whatever the negatives of zero-rating practices for edge

providers, we should also consider their benefits for users, especially when they are open and inclusive. Preoccupation with edge provider equality and free speech interests tends to neglect user community inequality and free speech constraints. User interests are not purely derivative of edge provider interests. While neutral treatment of edge providers indeed benefits users, so does free data, especially where users are under-served. The utility of free data for consumers might well outweigh the disutility for certain classes of edge providers, at least in the short term. This is especially true where the free data supports user participation in digital discourse. More research is needed to compare the utility functions over time before it is clear that zero-rating bans are as good for have-not users as they are for have-not edge providers.