

Appendix

PARTICIPANT BRIEFING PAPERS

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"Zero-rating and universal access: part of the route or a detour?"

Zero-rating and universal access: part of the route or a detour ?

Veridiana Alimonti / Intervozes - Collective Brazil of Communication

It is not new that speeches, documents, studies and initiatives in different parts of the world declare the importance of Internet access and use for human and economic development. Being connected to the network enhances access to information, the exercise of the right to education and culture, the ability to expressing and interacting with a huge number of people, and allows the reinvention of government's relationship with citizens through e-government applications, the expansion of transparency and encouraging of participation and social pressure in the development of standards and implementation of public policies. However, even today, over four billion people are not connected to the Internet. Nine in 10 of them are in the developing world and, in the poorest countries, the relative costs of basic Internet access remain over 80 times higher than in the rich world¹.

In Brazil, 50% of households are disconnected², without access even to dial-up Internet. At the same time, the country ended 2015 with about 174 million accesses to the internet by 3G or 4G devices on a sample population of just over 200 million inhabitants³. Approximately 70% of these accesses are prepaid and refer to packages with low data caps compared to postpaid plans. The Brazilian scenario is just one that highlights the difficulties to ensure quality, universal access to the Internet. To tackle these difficulties, different models, business or not, are developed and presented as part of the solution to this problem. Zero-rating stands among them and has been generating heated regulatory debates. At the center of these debates lies the assessment of whether this model may or may not be considered as part of the way to overcoming the digital divide.

Where does zero-rating takes us to?

On here addressing zero-rating, we aim mainly at sponsored browsing by the application that is accessed and the model where the ISP (Internet Service Provider) defines which applications to offer from strategic decisions or specific agreements (regardless if the chosen applications have commercial purposes or not)⁴. Whereas these

¹ Available at <<http://thewebindex.org/report/>>.

² Brazilian Internet Steering Committee (CGI.br). *ICT Households and Users 2014* (index A4). Brazil. Available at <<http://cetic.br/tics/usuarios/2014/total-brasil/A4/>>.

³ This number does not consider the connections via mobile broadband modems, which total 5.9 million accesses. Connections stated above are divided as follows: 149.1 million on 3G and 25.4 million in 4G technologies. Data available at <http://www.teleco.com.br/mshare_3g.asp>. Finally, it is important to point out that 174 million hits do not mean 174 million different people connected, because one person may have more than one mobile plan that includes Internet access.

⁴ In addition to these models, we can mention the use of zero-rating for access to emergency services (such as sending messages to the police), of which we recognize the importance and consider relevant, and initiatives such as Mozilla Equal Rating, which provides additional data caps for the Internet user to freely spend by, among others, the viewing of ads. The fact that this model does not involve the different

models are the most common among those currently in operation, one must keep in mind at least four aspects of the task of answering the posed question.

a) Underlying access model

Before approaching the zero-rating, it is necessary to shed light on another issue - data caps in network connections. Internet access has been taking on characteristics much closer to telephony, where charging is more based on the "amount" of service used, than the logic established initially, of contracting a transmission capacity (a connection speed). If the existence of caps can provide consistency in mobile connections, by spectrum limitations and issues related to mobility, which is the technical justification to make it increasingly common in fix connections? To what extent the spread of caps is not a way for operators reframe the congestion of their networks - which stops being a problem to become part of a profitable business model?⁵ Certainly, overcoming this congestion implies on a high degree of investment, not always available to the providers. However, it is interesting to assess what public policies and commercial practices are stimulated when such investment is consolidated, with zero-rating closely linked to this movement.

Recent research and experience show that the adoption of zero-rating impacts negatively on the price of mobile plans. The November 2014 Digital Fuel Monitor report, has compared various countries of the European Union and the OECD and has found that 32 of the 41 analyzed countries had implemented zero-rating strategies from the second half of 2014. In these countries, the cost of 3G and 4G access plans has significantly increased throughout 2014, especially among providers offering zero-rated video services through partners or companies of their economic group (in one case, a zero-rated provider tripled the price of its 4G access plans). Among the countries that have not adopted the model, the report shows a trend of local providers to increase the caps limits of their members without changing prices. From the most talked examples stands the Dutch provider KPN, which doubled caps plans, reducing by half the average price per gigabyte in mobile broadband⁶.

In addition to this concern, there is another regarding the distortion of user internet experience caused by the spread of zero-rating. This user is encouraged to access a minimum set of content compared to the complexity and diversity of the network. Sometimes, more than being encouraged, getting enclosed into a walled garden is the only option offered to him. Even if later he starts to get access to the entire internet, it is not easy to break the standards initially established. This distortion reinforces

access and charges of online content makes it better fit, at least at first glance, to the concern of not reinforcing the problems mentioned in this text.

⁵ See Hibah Hussain, Danielle Kehl, Benjamin Lennett, and Patrick Lucey. *Capping the Nation's Broadband Future?*. New America Foundation. December, 2012. Available at <http://newamerica.net/publications/policy/capping_the_nation_s_broadband_future>.

⁶ Digital Fuel Monitor. *EU28 & OECD mobile internet access competitiveness report Q4 2014*. Helsinki, 2014. Available at <http://www.dfmonitor.eu/insights/2014_nov_premium_q4_update/>.

dominance positions between applications and generates even more perverse consequences, as leading users to think that the entire network comes down to a single application⁷. Its effects are, of course, more serious for low-income people or those living in remote areas, deepening existing inequalities.

b) Barrier to innovation and preservation of dependence

Strengthening the dominance of positions also impact on competition between applications and network innovation capability. Zero-rating models based on sponsored access or agreements between providers and internet applications create entry barriers that benefit the big players of these two markets. In theory, zero-rating could be used so that smaller ISPs or startups may conquer their spots. However, this is not what often occurs, since the already consolidated economic power tends to weigh more in settings like this. No wonder, zero-rating ends up favoring vertical integration. In many arrangements, online content benefited from non-deduction of data caps are precisely those offered by the service provider or application provider within the same corporate group. Overall, these problems culminate in another - the preservation of the dependent position of developing countries. The adoption of zero-rating as input mechanism of major application providers in the poorer countries, interested in expanding their databases on a global scale, intensifies these above mentioned problems of competition and innovation in relation to local capability of content and applications creation. Thus, these countries, affected by the development of its own innovation industry, will be used as fuel for the financing of innovation in developed countries⁸.

c) Gatekeepers and the threat to open Internet architecture

From the moment that the ISP is allowed to differentiate charging for access to online content and, worse, in the end of the caps allowing access to few, blocking all others, we have a powerful gatekeeper capable of privileging some agents in detriment of others, benefitting certain information to the detriment of a vastly larger and more pluralistic content universe. Impact is not limited to impairment of competition, freedom of expression and access to information, but also affects user privacy and safety. Hardly this "toll" role will be able to be fulfilled by the ISP without it recurring to deep packet inspection or other mechanisms that serve to the monitoring of data packets. Such models may be transfigured into "internet" simulacra, even more controlled and distant from the open network architecture and the principle that preaches its neutrality with respect to data packets that transit there. As a global network of interconnected networks, provided by different agents, Internet operation must be based on internationally agreed technical standards, in which intelligence and

⁷ It is worth recalling the Quartz research, released in 2015, available at <<http://qz.com/333313/millions-of-facebook-users-have-no-idea-theyre-using-the-internet/>>.

⁸ Pedro Henrique Soares Ramos. *Towards a developmental framework for net neutrality: the rise of sponsored data plans in developing countries*. March 31st, 2014. 2014 TPRC Conference Paper. Available at <<http://ssrn.com/abstract=2418307>>.

substantive choices about where to go or what to make available online is at the ends of the network⁹.

Final considerations

In our view, the zero-rating model that involves these characteristics and possible consequences can not be understood as part of the way to overcoming the digital divide – it is, in fact, the detour on the route to such goal, pointing to the opposite direction. The focus for achieving universal network access must be the combination of public policies and investments (private and public). In the field of public policies, there should be considered initiatives that explore the spectrum use for smaller commercial providers, or community ones, in addition to local government, even to strengthen measures aimed at collective Internet access by population.

Palliatively, network neutrality protection systems possibly may allow as exceptional, initiatives that differentiate access, provided they do not reproduce any of the problems pointed out here. Beside public emergency services, provision of essential government services is, not without controversy, one of the few exceptions we envision¹⁰. And yet, with the warning that those who access them can not be considered as users connected to the internet and with knowledge that such initiatives remain inserted into a digital exclusion scenario to be overcome with more complete and long-term measures.

⁹ In this sense, it is worth mentioning the recent decision of the Regulatory Authority of India Telecom, which prohibited the discrimination of rates for data services: “A particular TSP which is offering data services to the consumer does not control the internet infrastructure in its entirety. It is dependent on several other networks to facilitate this task. Thus, allowing a TSP, which is at one edge of the Internet to charge differentially for data that it does not alone. Process, could compromise the entire architecture of the Internet itself. Were other TSPs across multiple tiers allowed to do this, then the openness of internet as we know, would be altered. Allowing price differentiation based on the type of content being accessed on the Internet, would militate against the very basis on which the internet has developed and transformed the way we connect with one another”. Available at <http://www.trai.gov.in/WriteReadData/WhatsNew/Documents/Regulation_Data_Service.pdf>.

¹⁰ Although part of our organization consider the discussion of this possibility, we understand that it is not allowed under Brazilian Law, after the approval of the Civil Rights Framework for the Internet (known as “Marco Civil da Internet”).

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“Zero Rating Programs: Is Some Access Better than Nothing?”

Zero Rating programs: Is some access better than nothing?

Maria Paz Canales – Berkman Center

I. Introduction

Zero Rating (ZR) programs are understood as any commercial offering from a telecommunication provider to its customers (with or without alliance with application providers), in which under a metered or limited data plan the company provides their customers discounted or free data allowance with certain conditions. Sponsored plans refers to specific subset of ZR programs that entangle commercial arrangements in which an application provider or other third party (commonly advertisers) pay to the telecommunication provider for the data usage that is exempted or discounted from the consumer data plan.

ZR programs have spread over the world, particularly as form to promote Internet mobile access expansion. The trend has been particularly strong in developing countries where the absence of infrastructure for fix Internet access provision has made very attractive for application providers, telecommunication companies and device manufactures to focus they effort in mobile services. In these countries, some regulators have welcomed ZR programs as a way to rapidly expand Internet access to previously unserved or digitally illiterate population. Some of these strategies have been presented as promotional and transitory, what have favored their regulatory acceptance. In other places, the regulatory response has been strong against ZR, essentially motivated by the risks of application and telecommunication providers exclusion, the “walled garden” effects and other forms of competition, innovation and free expression restrictions that could come with these programs.

But not only developing countries, but also developed countries have felt under the ZR programs enchant. In this last case, ZR programs have shown in some cases their effectiveness as a marketing tool to reinforce already dominant positions of application or telecommunication providers, and in another situations as competitive tools to increase competition in the market enhancing a stronger participation of new entrants.

Everywhere, and in any form, ZR programs have shown controversial until now, what make valuable a more careful consideration of the opportunities and risks entangle in each one of their formulations. My particular proposal is that the variety of forms of these programs and the diversity of competition conditions among the markets in which they are offered make necessary a case by case regulatory approach that assess in each situation their compatibility with Net Neutrality goals. This regulatory task could be helped by identifying a subset of areas of potential concerns that have to be evaluated to regulatory clearing in the implementation of a ZR program.

II. Zero Rating and Net Neutrality

Net neutrality is a policy that tries to preserve an equal treatment for any application in the network and to prevent the ability of network operators to interfere in consumer choice and use of applications over Internet.

Not only blocking, throttling and paid prioritization have the ability to harm Net neutrality goals. Unreasonable restriction in the amount of data covered by plans can have the practical effect to block real ability to Internet access, particularly to heavy data consuming applications (as video streaming). That is why the lower data caps offered by telecommunication providers in a market, the more attractive ZR can become.¹ On the other hand, small amount of data allowances combined with the exemption from data caps of the use of certain applications through ZR programs can have the effect to generate an artificial deviate of consumer preference to the exempted applications damaging competing applications. In the U.S., these commercial practices could be evaluated under the “no unreasonable interference/disadvantage” standard incorporated by the 2015 Open Internet Order. This provision offers an alternative to the authority to make a specific assessment of new commercial practices as ZR programs and its compatibility with Net Neutrality goals.

III. There is no just a Zero Rating program, but rather a full taxonomy of them

There is a common mistake considering all ZR program in the same category and with the same level of risks. Beside what has been said about the relevance of the particular competitive conditions of the market in which the program is implemented to accurately assess its risks, there is a wide range of forms for these deals.

Some ZR programs imply payments to telecommunication operators and others do not. Application providers or advertisers can compensate the carrier for customers’ use of data or telecommunication operators can simply absorb the costs to provide the offering to customers. After the spread criticism of application provider sponsoring of zero rating programs, there is an increasing trend of ad sponsored data plans in which the consumer, after watch a few minutes of advertisement, receives certain amount of data that can be freely used to access any content, application or service on the Internet, such as the model spur by Opera Mini Browser or Mozilla initiatives.

In the ad-sponsored plans is the advertiser who compensates the carrier for the data provided freely to consumers that usually can go wherever they want and use whatever application they want over the Internet. But, often ZR programs limit customers access to content, applications or services offered by the sponsoring entity, such as Facebook “free basics”, that offer unlimited access to specific applications that fulfill specific technical characteristics to be part of the program. Finally, there is a variety of ZR program that offer customers free or discounted access to a broader selection of content or services category, such as T-Mobile Music Freedom that provides unlimited music streaming on a number of music services like Pandora, iHeartRadio, iTunes Radio, Rhapsody, and others (the same for the most recently Binge On for video services). In the case of subset of applications pre-selected by telecommunication operators, it will be relevant to determine what kind of relationship exist between them and application providers and what is the competitive

¹ Some factual support for this affirmation is provided by BEREC Report released in 2015 on how consumers value net neutrality, which highlights that consumer consider particularly valuable ZR programs in cases where there are more likely to reach their data caps. Where data caps are high (50 GB) ZR programs have low influence in consumer decisions. ZR programs and particularly video application ZR has a positive effect in consumer valuation when is linked to data caps of 10GB. Office of the Body of European Regulators for Electronics Communications, Report on how consumers value net neutrality, February 13, 2015 (“BERC Consumers Report). p. 5.

position of each of them in the concerned market (vertical integration and monopolization risks).

The regulatory assessment of ZR programs should acknowledge the variety of forms that they can take. What all of them have in common is that they provide some form of access to application or services that does not count against user data usage or without requiring a data plan subscription. Although, they are very diverse if we look into the following criteria: (i) who will cover the cost of the data usage (telecommunication provider/application provider/advertiser); (ii) which applications or services can be accessed (any/pre-selected ones/any from a specific category); and (iii) what kind of deal (exclusive or not) or bundle (vertical integration/partnership/none) exists between telecommunication providers and application providers or device manufacturers.

IV. Assessment proposal

More than a general ban or authorization for ZR programs offering in each jurisdiction, what a regulatory authority needs is a set of tools to effectively evaluate the potential outcomes of ZR concrete programs implementation. The following is my proposed framework for that assessment, balancing the risk and opportunities that a particular ZR program can implicate in each market. My identified factors try to assess and balance the effect of ZR programs against the risk of harm to innovation, local markets development, Internet access, Internet adoption, consumer choice, and free expression.

1. Nature of the offering: Non-exclusive application participation in ZR programs is less likely to cause harm. Likewise, the broader number of applications offered as part of the program, the lower risk for competition, innovation, consumer choice, and free expression. ZR programs with a free amount of data for unconstrained navigation over Internet decrease considerably the risk of any harm.

2. Content offered: ZR programs that offer applications of educational nature, social services, health information, local information, local services, among others, are able to strengthen public benefit because they increase access to information, facilitate expression, and stimulate innovation and they are less likely to cause harm.

3. Structure of the offering: ZR programs that offer applications vertically integrated or with commercial partnerships with telecommunication operators are more likely to cause harm, especially if participants have a dominant position in their concerned markets. Likewise, if ZR programs are used as a cheap substitute to mask unjustified restricted data caps or differential costs in data used to access different types of content, they are more likely to cause harm.

4. Duration of the offering: ZR promotional and transitory programs are less likely to cause harm.

5. Transparency of the offering: More information available about a ZR program conditions that enable more rational consumer choices and regulatory oversight makes less likely the program to cause harm.

6. Sponsoring: Sponsoring (payment) by application providers is more likely to produce equivalent effects to paid prioritization, therefore, it is more likely to cause harm. The level of risk of sponsoring by telecommunication providers or device manufacturers will depend of the market power of the telecommunication provider or device manufacturer. When a telecommunication provider or device manufacturer has dominant position is more likely to cause harm. Conversely, when a telecommunication operator or device manufacturer has a small market share or is an entrant in the market, a transitory ZR program could be a valuable competitive tool to challenge market incumbents or to introduce new technologies. Sponsoring by advertisers of ZR programs that offer full connection to Internet are less likely to cause harm.

7. Market structure: ZR programs offered in markets with a big number of participants (telecommunication and application providers), high data allowance plans, and technologies available (device manufactures) are less likely to cause harm.

In markets where the price of data plans is relatively high considering the economy level of development and cost of life, and where cost to get Internet access is not affordable according the user income, ZR programs may increase the public benefit by offering Internet free access (this factor balanced against all the others aforementioned).

ZR programs structure is not always the same, neither the market conditions in which the ZR programs are implemented. Those market conditions are also in constant change. ZR programs would require constant and dynamic assessment and permanent overseeing from regulatory authorities in all cases.

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"The Human Rights Response to the Zero-rating Conundrum"

The Human Rights Response to the Zero-rating Conundrum¹

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National debates rage across the globe on whether to permit zero-rating, which violates net neutrality, as a means of increasing connectivity, especially in the developing world. As a rule, these highly contentious discussions lack rigor, objectivity, and impact. They are frequently characterized by a clash of dogmas: the sanctity of net neutrality principles, on the one hand, versus the imperative to close the digital divide, on the other. My work seeks to bridge that dichotomy by invoking the applicable international law framework to analyze zero-rating as a limitation on net neutrality understood as a norm of human rights, which net neutrality indisputably is. When viewed in this light, the zero-rating conundrum becomes a more tractable conflict of rights – the right to impart and receive information freely vs. the right to access the Internet -- that can be constructively analyzed using the exceptions regime that human rights law provides precisely to resolve such conflicts.

The touchstone issue viewed from the perspective of human rights law is this: *Can zero-rating ever be consistent with net neutrality principles, understood as the freedom enjoyed by persons to seek, receive, and impart information in a non-discriminatory manner?* The applicable international legal framework outlined below seems to suggest that the answer to that question is *yes, sometimes, under certain circumstances*. Under this framework, which legally binds almost 80% of the countries in the world, proposed exceptions to net neutrality like zero-rating must be examined under specific country conditions. These exceptions are assessed using a balancing test of factors, including necessity and proportionality, to determine whether, on the whole, freedom of expression is advanced or not in that particular context. This approach has the additional advantage of being able to accommodate inputs from other fields, like economics and technology policy. In short, understanding how human rights legal norms apply to net neutrality and zero-rating in practice should lead to better reasoned discourse on both sides of the debate, and thus better outcomes.

Despite its relatively recent appearance as a critical policy issue, network neutrality is already a consolidated norm of international human rights law due to the seminal role it plays in the protection of freedom of expression and non-discrimination rights in contemporary society. Article 19 of the ICCPR affirms the right “to seek, receive and impart information and ideas of all kinds, regardless of frontiers, either orally, in writing or in print, in the form of art, or through any other media of [...] choice.”² Freedom of expression enjoys near universal acceptance worldwide, not least because it is an enabler of several other basic human rights.

In international human rights law, it is now settled that the constituent rights comprising freedom of expression will apply to all “internet-based modes of communication.”³ International experts from the United Nations and other human rights systems have further recognized that “[t]here

¹ Extracted from my article entitled, “Having Your Cake And Eating It Too? Zero-rating, Net Neutrality, and International Law,” 19 Stanford Technology Law Review __ (forthcoming 2016) [some citations omitted]. The complete manuscript is available at <http://ssrn.com/abstract=2746447>.

² International Covenant on Civil and Political Rights, Dec. 16, 1966, arts. 19(1)-(2); *hereinafter* “ICCPR.”

³ *Id.* at para. 12.

should be no discrimination in the treatment of Internet data and traffic, based on the device, content, author, origin and/or destination of the content, service or application.”⁴ Among other things, this means that “[a]ny restrictions on the operation of websites, blogs or any other internet-based, electronic or other such information dissemination system, including systems to support such communication, such as internet service providers or search engines, are only permissible to the extent that they are compatible with [the exceptions regime set out in] paragraph 3 [of Article 19].”⁵

Today, a key element of freedom of expression relating to net neutrality is the right to access information *online*, or connectivity.⁶ Put simply, “[g]iving effect to the right to freedom of expression imposes an obligation on States to promote universal access to the Internet.”⁷ This positive obligation means that for States to meet their duty to respect and fulfill the right to freedom of expression, they must guarantee that all people within their territory have access to “the means necessary to exercise this right, which [today] includes the Internet.”⁸ Accordingly, the UN Human Rights Committee has called upon States “to take all necessary steps to foster the independence of [...] new media [...] such as internet and mobile based electronic information dissemination systems [...] *and to ensure access of all individuals thereto*.”⁹ In modern times, it is difficult to overstate the transcendental role that connectivity as an integral part of freedom of expression plays in the exercise of human rights generally.

With respect to non-discrimination, the ICCPR establishes in Article 2 that State parties are obligated “to respect and to ensure to all individuals within [their] territory and subject to [their] jurisdiction the [human] rights recognized [...] without distinction of any kind, such as race, colour, sex, language, religion, political or other opinion, national or social origin, property, birth or *other status*.” What counts as “other status” for purposes of determining which additional distinctions might lead to negative (or positive) discrimination is in open question. What is certain is that international human rights law recognizes distinctions based on *economic* status or criteria, and evaluates whether their purpose or effect is to nullify or impair the exercise or enjoyment of other human rights.¹⁰

Not all discrimination is *per se* illegal. International law differentiates between negative and positive discrimination. The “principle of equality sometimes requires States parties to take affirmative action in order to diminish or eliminate conditions which cause or help to perpetuate discrimination prohibited [by international law].”¹¹ For this reason, “[n]ot every differentiation of treatment will constitute [unlawful] discrimination, if the criteria for such differentiation are

⁴ U.N. Special Rapporteur on Freedom of Opinion & Expression, OSCE Representative on Freedom of the Media, OAS Special Rapporteur on Freedom of Expression, ACHPR Special Rapporteur on Freedom of Expression & Access to Information, *Joint Declaration on Freedom of Expression on the Internet*, June 2011, para. 5(a), available at: <http://www.osce.org/fom/78309>; hereinafter “2011 Joint Experts Declaration.”

⁵ HRC General Comment 34, para. 43.

⁶ Connectivity is defined here as access to an Internet connection.

⁷ 2011 Joint Experts Declaration, para. 6(a).

⁸ See UN Special Rapporteur Report 2011, para. 61.

⁹ HRC General Comment 34, para. 15 (emphasis added).

¹⁰ See *Haraldsson and Sveinsson v. Iceland*, Communication No. 1306/2004, U.N. Doc. A/63/40, para. 10.3 (2007), available at http://www.worldcourts.com/hrc/eng/decisions/2007.10.24_Haraldsson_v_Iceland.htm.

¹¹ UN Human Rights Committee, *General Comment No. 18*, 10 Nov. 1989, para. 10.

reasonable and objective and if the aim is to achieve a purpose which is legitimate under [international law].”¹²

Zero-rating is a discriminatory restriction on network neutrality, which, as we have seen, is part and parcel of the rights to freedom of expression and non-discrimination. Under international human rights law, however, there are some circumstances in which such a restriction may be permitted. The issue is whether that discrimination is positive or negative in its effects. This is because human rights norms in general, and freedom of expression in particular, are not absolute.¹³ Defamation laws are a classic example of the hard limits imposed on freedom of expression in order to protect the rights of others.¹⁴

Article 19 of the ICCPR expressly permits certain restrictions on the right to freedom of expression when necessary to “respect of the rights or reputations of others,” or to advance “the protection of national security, or of public order [...], or of public health or morals.”¹⁵ These are, generally speaking, the legitimate aims that may be invoked by States seeking to impose limits on fundamental human rights, including expression.¹⁶ In addition to pursuing a legitimate goal, a State seeking to curtail freedom of expression (or any human right for that matter) must ensure that the measures doing so are “provided by law,” “necessary” to meet the stated aim, and “proportional.”¹⁷ The operation of the exceptions regime under the ICCPR, however, is not a blank check: “When a State imposes restrictions on the exercise of freedom of expression, these may not put in jeopardy the right itself.”¹⁸ In other words, exceptions must remain exceptional, and cannot become the rule.¹⁹

There is more to be said about how this exceptions regime operates in relation to net neutrality, which I have done elsewhere.²⁰ Suffice it to say that the foregoing discussion opens the door to a country-by-country analysis by policymakers and advocates to determine when and how a State may permit or ban restrictions on net neutrality such as zero-rating consistent with its human rights obligations under international law. My research suggests that in developing countries with deep digital divides, the promotion of zero-rating practices to increase connectivity are likely to advance a legitimate State aim. Such practices may also be necessary and proportional, depending on how they are configured and regulated. Where these conditions are met, zero-rating is best viewed as a fulfillment of the State’s human rights obligations, rather than a violation of them.

¹² *Id.* at para. 13.

¹³ A good example is ICCPR Art. 20, which explicitly enumerates a series of offensive forms of expression that *must* be curtailed by States in order to meet their obligations under the treaty, such as incitement to war.

¹⁴ HRC General Comment 34, para. 47.

¹⁵ ICCPR, art. 19(3).

¹⁶ See Frank La Rue, *Report of the Special Rapporteur on the promotion and protection of the right to freedom of opinion and expression*, 17 April 2012, A/HRC/23/40, para. 28.

¹⁷ ICCPR, art. 19(3); HRC General Comment 34, paras 24-26, 33-34.

¹⁸ HRC General Comment 34, para. 21.

¹⁹ *Id.* “[T]he relation between right and restriction and between norm and exception must not be reversed.”

²⁰ See *supra* note 1.

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“Zero-Rating Broadband Data: Equality and Free Speech at the Network’s Other Edge”

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 access² 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.

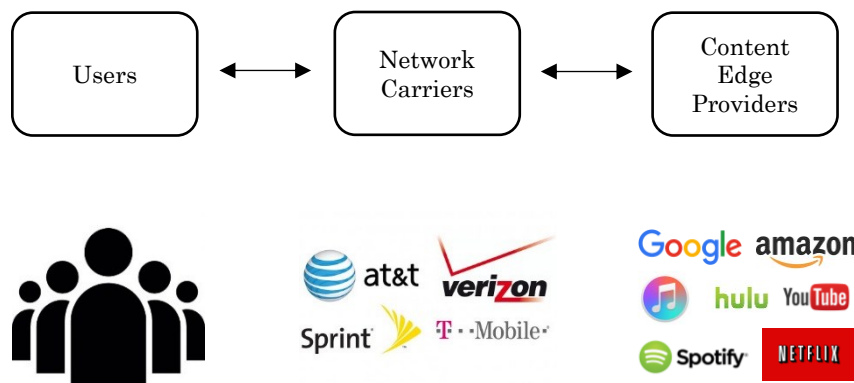
6. *See generally* *Protecting and Promoting the Open Internet*, GN Dkt. No. 14-28, Report and Order on Remand, Declaratory Ruling, & Order, 30 FCC Rcd. 5601 (2015) (providing rules for net neutrality) [hereinafter *Open Internet Order*]; *United States Telecom. Ass’n v. FCC*, 825 F.3d 674 (D.C. Cir.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

7. *See United States Telecom. 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 BEREK'S NET NEUTRALITY GUIDELINES,
http://berec.europa.eu/files/document_register_store/2016/8/NN%20Factsheet.pdf
[\[https://perma.cc/4U79-XTWE\]](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/>
[\[https://perma.cc/74UG-9FGD\]](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-](http://www.loc.gov/law/foreign-news/article/netherlands-amended-telecommunications-act-prescribes-net-neutrality-stricter-cookie-provisions/)
[amended-telecommunications-act-prescribes-net-neutrality-stricter-cookie-provisions/](https://perma.cc/M9F7-76YS)
[\[https://perma.cc/M9F7-76YS\]](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-](http://www.loc.gov/law/foreign-news/article/brazil-new-internet-rules/)
[internet-rules/](https://perma.cc/NNJ9-S48V) [\[https://perma.cc/NNJ9-S48V\]](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-](http://www.iclg.co.uk/practice-areas/telecoms-media-and-internet-laws/telecoms-media-and-internet-laws-and-regulations-2016/japan)
[areas/telecoms-media-and-internet-laws/telecoms-media-and-internet-laws-and-](https://perma.cc/32F3-E9HC)
[regulations-2016/japan](https://perma.cc/32F3-E9HC) [\[https://perma.cc/32F3-E9HC\]](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 Brodtkin, *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/vanSchewick2015AnalysisofProposedNetworkNeutralityRules.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 schemes²⁴ and those

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-2010pdf/](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 opposed²⁵ 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, Telecom. Regulatory Auth. of India (Jan. 14, 2016), http://traf.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

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 Brodtkin, *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

Mashable (Feb. 9, 2016), <http://mashable.com/2016/02/09/why-facebook-free-basics-failed-india/#IMwspwUV5kq3> [<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 f [<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., Distinct, 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. COMM’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 Mishu 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

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.siiia.net/index.php/2015/05/facebook-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 Telecom. 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.

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 & Tommaso 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.*; cf. 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 Comm’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 Comm’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 Comm’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

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. COMM'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 structure¹¹²—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.

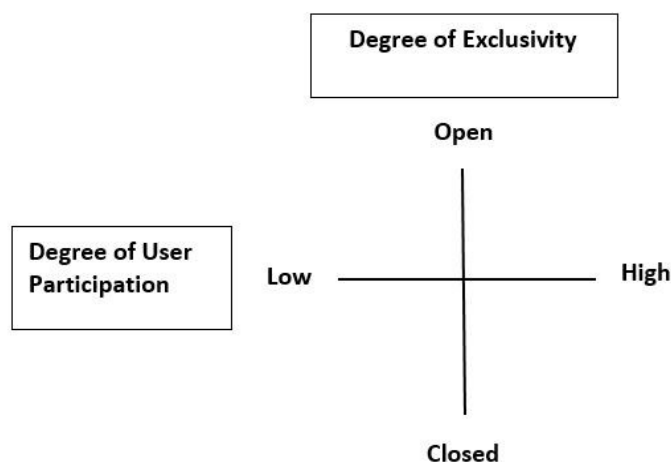
124. See BODY OF EUROPEAN REGULATORS FOR ELECTRONIC COMMUNICATIONS, ABOUT BEREC’S NET NEUTRALITY GUIDELINES, http://berec.europa.eu/files/document_register_store/2016/8/NN%20Factsheet.pdf [<https://perma.cc/Q4YE-XA6J>] (last visited Nov. 14, 2016).

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.

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**ZERO-RATING AND BEYOND: THE ROLE OF
TELCOS, ISPS AND TECH COMPANIES IN
EXPANDING GLOBAL INTERNET ACCESS**

MARCH 25, 2016

In most countries where the issue of net neutrality has been debated, regulators have adopted rules against, and broadband Internet service providers (ISPs) have generally agreed to refrain from, blocking, throttling, degrading or prioritizing Internet traffic. As a result, much of the net neutrality debate has moved to the issue of “zero rating.” Whether zero rating is harmful, beneficial, or benign is a challenging public policy issue. As with many such issues, the answer largely is, “it depends.” While there are some zero rating arrangements that could present potential public policy concerns, the potential harm or benefit from zero rating programs largely depends on how they are structured. Zero rating programs could be structured in a manner consistent with net neutrality principles but also could be structured in a manner that present similar concerns as those raised in the traditional net neutrality debate.

Part of the challenge in this debate is that “zero rating” is a term with no universal or even consensus definition. Indeed, the term zero rating itself is not even universally endorsed. Some prefer the term “toll free data,” while others prefer “sponsored data,” and it’s not clear that those who use each term are referring to precisely the same thing as those who use other terms. Beyond definitions, there are myriad specific arrangements that could be considered zero rating. Some consider zero rating to refer specifically to arrangements in which online content and service providers pay an ISP. Others use zero rating to encompass a broader array of all programs under which ISP subscribers can consume select online content and services without impact to their data caps or metered consumption of data. Precisely because there is no common definition of zero rating and thus potentially a myriad of different arrangements that could be considered covered by the term, as well as the fact that there has been limited use of zero rating in practice, it would seem that *ex ante* regulatory rules outright prohibiting zero rating are unwarranted at this time.

In the absence of rules prohibiting zero rating arrangements, it is nonetheless possible to craft a well-defined universe of arrangements that may be considered *a priori* consistent with net neutrality principles. In particular, any zero rating arrangement that satisfies the following criteria should be considered compatible with network neutrality principles.

1. **Free**. The arrangement is free of charge for all participants—end users, the providers of Internet services and content and any third party that may establish a zero rating program.
2. **Open to All**. Any content provider can participate in the zero rating arrangement, provided it satisfies technical requirements that relate to reasonable network management practices, such as efficiency, and not to any competitive considerations.

3. **Transparent**. All of the policies, practices and requirements to participate in the zero rating arrangement are made public.

In effect, these criteria circumscribe a sort of safe harbor against regulatory scrutiny of zero rating arrangements.

For arrangements that do not satisfy these criteria, policymakers should be concerned about the potential for public harm of some prospective arrangements. Zero rating could be used to afford certain types of online content a “financial” priority – analogous to the traditional net neutrality concept of providing priority of the physical transmission of particular content. By zero rating the consumption of certain content and not other types of content, an ISP creates an economic incentive for customers to use a zero rated service or content rather than those services and content that are not zero rated.

ISPs could potentially use zero rating in a discriminatory manner to dissuade consumers from accessing certain content, applications, or services – or encourage them to access others. For example, an ISP could allow all Google Voice traffic to be zero rated but not allow Skype traffic to be zero rated. Or, a government might allow zero rating that favors domestic apps over similar, competing apps offered from outside the country. Even if an ISP chooses to allow all similar content or services to be zero rated, the ISP could still effectively curate or control the content and services that are eligible for zero rating.

Beyond the potential for discriminatory treatment, allowing ISPs to charge online content and service providers for zero rating raises further public policy concerns. Such charges essentially create an “innovation tax” on online content and service providers, because all online content and service providers will have to pay the ISP to have their content and services zero rated in order to succeed in the highly competitive online marketplace. Such prospects are particularly troubling when the benefit of paying for zero rating derives entirely from the manner in which an ISP is able to leverage its retail pricing schemes, *e.g.* paying to have traffic not count against a data cap created by the ISP in the first instance.

In these ways, zero rating arrangements raise the same prospects for harm to an open Internet and violation of net neutrality principles as preferential treatment of the physical transmission of online traffic, such as creating “fast lanes” for some online traffic. Because of the potential harmful impacts that some arrangements could have, while *ex ante* rules prohibiting zero rating are unwarranted, regulators and policy makers should continue to monitor the issue, should assess any zero rating arrangement on a case by case basis, and should have the authority to prohibit or regulate any such arrangements that are demonstrated to pose a public policy risk.

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Summary: There Is More Reason to be Skeptical than Optimistic

Popular edge providers offer “zero-rated” services through which they leverage their coveted brand names to provide free low-bandwidth access to a curated and relatively small range of data services in developing countries. These providers partner with mobile carriers who generally manage the connection. Free Basics, Facebook’s zero-rated service, offers up to 100 applications and services in nearly 40 countries.¹ Half are in Africa.

The question of whether zero-rating is a good idea has split communications policymakers around the world for the past couple of years, and uncovered a longstanding tension in the logic for network neutrality. Zero-rating proponents argue that it grows adoption rates. Opponents argue that it violates the network neutrality ethic of “innovation without permission.”

I am inclined to be skeptical about zero rating, at least as its been developed over the past several years. There undoubtedly are ways in which the low-bandwidth cost calculus at the heart of zero-rating suggests a way forward. Why not, for example, to paraphrase Nikhil Pahwa’s *Times of India* response to Mark Zuckerberg’s public advocacy for Facebook’s Free Basics, give potential subscribers “free access to the open, plural and diverse web?” But, for now, the range of applications and content available on zero-rated platforms falls far short of the bazaar of opportunities for social and economic integration available on the open internet,² with little evidence that it sustainably grows adoption rates. This state of affairs is enough to come to zero-rating with skepticism.

The Manipulability of the Adoption-Growth Claim: Comparing the Open Internet in the U.S.

If allowed, zero-rated services (at least those that have been the subject of broad discussion up to this point) would confer a significant first-mover advantage to the large edge providers and carriers (i.e., Google, Facebook, and T-Mobile) who are positioned to leverage their brand names in ways that smaller companies simply cannot. Whether such services stand or fall is a question for which longstanding norms and country-specific regulations in competition and communications law have answers.³

For what it is worth, current law in the United States gives the pertinent regulatory authority, the Federal Communications Commission, the authority to bar zero-rating in its current form. The FCC’s open internet rules prohibit discrimination and prioritization of the sort we find in the zero-rated services at issue today. The agency has explained recently that it will assess whether arrangements in which edge providers obtain favorable treatment from carriers are “just and reasonable.” The agency will determine whether the edge providers’ “mass market service” at issue is offered “in connection” with the carrier’s broadband subscription service.⁴ Free Basics, which in India would have limited its users to one hundred or so applications and services, appears to fail that standard.

¹ See Internet.org, “Where we’ve launched,” available at <https://info.internet.org/en/story/where-weve-launched/>.

² Cf., Olivier Sylvain, *Network Equality*, 67 HAST. L. J. 443 (2016).

³ I also put aside the market effects of zero-rating including, for example, the price of internet access for paying subscribers. I am not an economist and, accordingly, cannot pretend to know the answer. There seems to be an obvious enough possibility that paying subscribers will not feel the benefits of adoption rate growth if some users gain access to online services, albeit very limited and low bandwidth service.

⁴ FCC, *In the Matter of Protecting and Promoting the Open Internet*, FCC 15-24, (March 12, 2015), ¶¶ 339-40.

And, yet, the definitive answer to the question about whether zero rating is consistent with the open internet rules could also depend on whether it in fact increases adoption rates. This is because the strong argument for zero-rated services – adoption-growth – ironically resembles the legal argument for the FCC’s open internet rules. Mark Zuckerberg and other proponents argue that zero-rated services give users who do not have access or are otherwise resistant or relatively uneducated about the benefits of connection a free sample of what networked connection portends.⁵ His and others’ hope is that these new users will be enticed to “graduate” to paid subscriptions to access the internet in earnest.

This adoption-growth thinking is remarkably evocative of the line of reasoning on which the FCC and proponents base the argument for the open internet rules. Their reasoning is as follows: openness and nondiscrimination encourage users and developers to create new applications and content; the more varied Internet applications are, the more likely that users will adopt broadband service; the more users, the more likely that carriers will invest in their networks and reach even more new users. For the agency and other proponents, universal deployment and adoption-growth are innovation’s happy by-products.⁶ The agency calls this “‘the virtuous cycle’ that drives innovation and investment on the Internet.”⁷ I call this “the trickle-down theory of innovation.”⁸

This is to say that the main justification for the open internet rules is that they will grow adoption rates and encourage broadband deployment. There is something to the claim. In the U.S., de facto open transmission engineering standards appear to be part of the reason (if not the main) for the remarkable rate of user adoption since the mid-1990s. At least, this is the argument the FCC has made and that federal judges have accepted.⁹ To be clear, however, the FCC has made this causal claim – that openness leads to innovation which leads to increased adoption which leads to deployment to the underserved – because it arguably had to as a matter of administrative law doctrine. That is, the agency (like other federal agencies) has to anchor its authority to a requirement in its organic statute. As it turns out, the Communications Act speaks repeatedly of the FCC’s responsibility to encourage universal deployment, ensure reasonably comparable service between users no matter who or where they are, and promote competition. It says little to nothing about innovation as such.

These are the legal contours of the debate in the U.S. In fact, however, the FCC’s interest in innovation is orthogonal to the agency’s claim that it is motivated by the statute’s core distributional concern about deployment. This is obvious because, as I explain elsewhere, the new rules “will remain fully applicable well after everyone is well connected, precisely because universality is not their statutory objective.”¹⁰

This shape of things in the U.S. has something to offer the current debate about zero-rating, at least because it underscores the rhetorical manipulability of the claim about growing adoption rates. Put differently, it is odd, to say the least, if both the argument for zero-rating and the open internet – the expansion of broadband adoption among current underserved communities – are both true because the two approaches are conceptually incompatible. Either one of the sides of the debate is completely right and the other is completely wrong or, likelier, both have something to offer and the debate is

⁵ Mark Zuckerberg, “Free Basics protects net neutrality,” Times of India (Dec. 28, 2015), available at <http://blogs.timesofindia.indiatimes.com/toi-edit-page/free-basics-protects-net-neutrality/>.

⁶ See generally Olivier Sylvain, *Network Equality*, 67 HAST. L. J. 443, 460 (2016).

⁷ FCC, *In the Matter of Protecting and Promoting the Open Internet*, FCC 15-24, (March 12, 2015), ¶¶ 2.

⁸ Sylvain, *Network Equality*, 67 HAST. L. J. 443 at 446.

⁹ See *Verizon v. FCC*, 740 F.3d 623 (D.C. Cir. 2014).

¹⁰ Sylvain, *Network Equality*, 67 HAST. L. J. at 460.

rhetorically overheated. It is also possible that the political economy of broadband infrastructure determines whether one approach is better than another. It is likely, for example, that the success of any zero-rated platform depends on the relative size of the partner carrier's network. Reliance, Facebook's partner in India, is only the fifth largest mobile operator there, with a little more than one third of the market share of Bharti Airtel at the top.¹¹

The (Lack of) Data on New User Adoption

This is all to say that policymakers must get to the bottom of the data supporting the adoption-growth claim before assessing the legal or policy soundness of zero-rating. For now, the material impact of zero-rated platforms in developing countries is unclear. To the extent there is any information, it is not clearly supportive. According to a recent report, "many users of [Free Basics] already pay for cellular data and essentially use Free Basics as a way to reduce costs. Thus it might be viewed not as a way to go online, but rather as a way to remain online."¹² As such, the program helps local carriers who have an interest in retaining subscribers. This at least complicates Zuckerberg's claim late last year that "half the people who use Free Basics to go online for the first time pay to access the full internet within 30 days."¹³

Consider, moreover, that the number of new users has grown in India before and without Free Basics. The Internet and Mobile Association of India (IAMAI) reported last November that, while it took a decade for the number of users in India to go from 10 million to 100 million, it only took one year from it to go from 300 to 400 million at the end of last year.¹⁴ There is little to no evidence that suggests that a meaningful fraction of these users come online for the first time through Free Basics. Observers expect this number to reach 500 million by the end of 2017, again, without Free Basics.¹⁵

Conclusion: Equal Access to the Internet

There are more effective ways of, on the one hand, getting more new users online and, on the other hand, protecting the quality of all users' access to the unique opportunities for economic and social integration on the internet. One such approach might just be to offer free, relatively low bandwidth connections to all users. While this, too, in the grand scheme of things, would perpetuate disparities between developing and relatively wealthy nations, it would go much further in accomplishing zero-rating's ostensible objective. In any case, increasing connectivity and adoption rates is hard work that should not be passed off to highly leveraged firms who are eager to penetrate emerging markets without much more than the evidence currently suggests.

¹¹ See Telecom Regulatory Authority of India, "Highlights of Telecom Subscription Data as on 30th November, 2015" (Jan. 27, 2016) ("TRAI 2015 Highlights"), available at <http://trai.gov.in/WriteReadData/PressRelease/Document/PR-TSD-Nov-15.pdf>.

¹² Caroline O'Donovan and Sheera Frankel, "Here's How Free Basics Is Actually Being Sold Around The World," BuzzFeed (Jan. 27, 2016), available at <http://www.buzzfeed.com/carolineodonovan/heres-how-free-basics-is-actually-being-sold-around-the-worl#.bvwdPmAaz>.

¹³ Mark Zuckerberg, "Free Basics protects net neutrality," Times of India (Dec. 28, 2015), available at <http://blogs.timesofindia.indiatimes.com/toi-edit-page/free-basics-protects-net-neutrality/>.

¹⁴ The Times of India, "IAMAI: India's internet user base to hit 402 million, second-highest in the world," Times of India (Nov. 2015), available at <http://timesofindia.indiatimes.com/tech/tech-news/IAMAI-Indias-internet-user-base-to-hit-402-million-second-highest-in-the-world/articleshow/49816190.cms>.

¹⁵ To be more specific, in India there are a mere 131.49 million broadband subscribers of a total population of over one billion people. See TRAI 2015 Highlights.

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The [mission](#) of the Wikimedia Foundation is to empower people around the world to participate in the sum of all knowledge. Zero-rating - when done in a considerate way - can be a useful tool in expanding free access to knowledge when the local context, community, and policy support it and where users would otherwise be unable to afford access to the entire Internet. With this understanding, we developed Wikipedia Zero in 2012, in which Mobile Network Providers offer access to Wikipedia at no cost. Wikipedia Zero currently operates in 64 countries with 82 operators with an estimate of more than 600 million people able to now access the Wikimedia projects free of data charges.

To develop Wikipedia Zero, we focused on providing access to Wikimedia projects while remaining true to Wikimedia values. We considered several questions when designing the program, such as: what users do we want to empower ? How do we preserve our values of privacy, transparency, and neutrality? How do we ensure user experience is not sacrificed? What content do users most want or need to access? How do we partner with commercial entities in ways that respect our fundamental values?

To answer these questions, we developed a set of [operating principles](#) to guide our relationship with carriers and users that are coherent with the Wikimedia movement values.

- First and foremost, there is no exchange of payment to or from a carrier to offer Wikipedia Zero. We rely solely on the social responsibility goals of carriers to encourage them to provide users with free access to Wikimedia projects.
- When setting up these relationships, we are also careful to respect the local laws and views of a region we look to offer Wikipedia Zero in. Accordingly, we respect the position of countries that understand how Wikipedia Zero works and decide it isn't right for them, as they are obviously more aware of the needs of their people. We then refocus our resources on countries that welcome the program as a much needed way to effectively bring access to knowledge to their people.

- Additionally, we ensure that any relationship is not exclusive to one carrier so that we can reach as many people in need as possible.
- We ensure the user experience is not sacrificed when users are accessing the Wikimedia projects through Wikipedia Zero or through a regular data plan. Users see the Wikimedia sites just as they would when accessing them outside of Wikipedia Zero, which allows them to both consume the knowledge, but also contribute to the growth of Wikimedia sites.
- The Wikimedia Foundation also has a sincere commitment to user privacy both on our sites and through Wikipedia Zero. We strongly feel that protecting user privacy, rather than collecting information for profit, benefits users the most. This is also why we only work with carriers that can support access to our sites using an HTTPS connection, which ensures that users can browse the sites without fear of being tracked.
- Another important aspect of the Wikimedia mission that is emulated in Wikipedia Zero is the fact that all content on our sites is licensed under a Creative Commons Share-Alike license. This allows the free reuse of all the content by anyone, for any reason. We feel this is important because users are obtaining access to content that they can not only freely consume and contribute to, but also, reuse.

Wikipedia Zero has now been operating for over three years. To help communicate our approach to zero rating that is based on Wikimedia movement values, we formalized the above [operating principles](#) in July 2014. Furthermore, we started sunseting our text-only version of Wikipedia Zero, which had been adopted by some of our early partners. This ensured we could guarantee a full experience to the Wikimedia projects. We also accelerated an HTTPS transition process, where only carriers that supported this secure connection could deploy the program. HTTPS also guaranteed that users could not only securely read Wikipedia, but contribute back by editing via the app or mobile sites.

This evaluation of the program is an ongoing process. We are currently researching the impact of Wikipedia Zero on users by conducting phone surveys and in-depth research in a set of relevant countries. From our experience, we need more information on how zero-rating affects users so we can mold the program to better suit them. This information will also help us determine when a zero-rating program is no longer appropriate in a specific region. It will also allow us to determine whether supporting measures are required to make sure access to knowledge is implemented in the long run.

We realize that Wikipedia Zero is one of many ways to expand free access to knowledge, and we are actively exploring other viable models to explore, like preloads, improving Internet access, and [offline efforts](#). We recognize that zero-rating is a mid-term solution, rather than one that will solve issues of access to knowledge permanently. We look forward to the day when affordability is no longer a barrier to getting online. Until then, we'll continue exploring ways we can bring free access to knowledge to every person.

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I come to the workshop with more questions than answers.

I get the anti-zero rating approach: by emphasizing some services or sites over others, people are driven to use not the best but the cheapest, and that makes for a non-level playing field among those who want to reach an audience. Moreover, any disparities can become inertial and magnified thanks to network effects. Once everyone's using a social network, it's harder to switch later.

As I understand Facebook's 2.0 (3.0?) version of its zero rating program, many of the clearest objections are mitigated if not fully addressed. Anyone can set up a Web site (I'm not clear if apps can be zero rated) that, should it meet technical requirements around low bandwidth usage, will qualify to be zero rated. Facebook's own zero-rated version of its flagship social network itself meets those requirements.

Could such a program -- or a modestly refined version -- end up helping get the Web to new audiences, a worthy second-best if government or private subsidy is not going to already make that happen? And are there ways that technical requirements can be articulated and applied by a neutral party or group? Could the requirements for participation in a zero rated platform include commitments to privacy, or openness, that have otherwise eluded most Internet configurations, despite regulators' more heavy-handed efforts? I'd like to work on those questions a little, as well as round out my own understanding of the program, before coming to a firm judgment about it.