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Zero Rating & Internet Adoption: The Role of Telcos, ISPs, & Technology Companies in Expanding Global Internet Access

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Citation	Bates, Samantha, Christopher Bavitz, and Kira Hessekiel. 2017. Zero Rating & Internet Adoption: The Role of Telcos, ISPs, & Technology Companies in Expanding Global Internet Access. Berkman Klein Center for Internet & Society Research Publication.
Accessed	June 18, 2018 1:41:49 PM EDT
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ZERO RATING & INTERNET ADOPTION: THE ROLE OF TELCOS, ISPs, & TECHNOLOGY COMPANIES IN EXPANDING GLOBAL INTERNET ACCESS

Workshop Paper & Research Agenda

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KEY FINDINGS

- Many different models of industry initiatives currently fall into the loose definition of zero rating. Creating a better defined taxonomy of program parameters, technical mechanisms, and impacts may allow for greater nuance and understanding in the field, as well as more targeted regulatory responses.
- Universal Internet access and adoption is a common goal but one that requires significant investment in global infrastructure. Some assert that zero rating programs may serve as a helpful stopgap measures to increase access, while others argue that these programs contribute to the creation of a tiered internet ecosystem without providing meaningful benefits to the targeted beneficiaries.
- Zero rating initiatives may be employed in pursuit of goals other than Internet adoption, such as emergency services messages or security updates, and the goals of a particular program may make it more or less controversial.
- More empirical research is required to fully assess the impact of specific zero rating initiatives, as well as zero rating generally, on Internet adoption in the developing world. This research will sometimes require access to usage information held by mobile carriers and zero rating service providers that should be handled with user privacy in mind.

I. INTRODUCTION & BACKGROUND

Zero rating, which allows users to access certain Internet services and content without incurring mobile data charges, is not a new concept. Since the early 2010s, mobile carriers and app providers have used zero rating to attract customers via a wide array of programs across global markets. These kinds of initiatives have also been employed in service of the goal of addressing the Internet access and adoption divide in developing and developed countries.¹ Some early examples of this application include the launch of Google FreeZone and Wikipedia Zero in 2012.² Access to mobile markets in the developing world is particularly appealing, given expected surge in mobile Internet users around the world: by 2020, Cisco estimates there will be 9.9 billion mobile connections globally, with countries like India expected to double their number of Internet users.³

Following Facebook's announcement of its zero rating service and platform Internet.org (subsequently rebranded as the "Free Basics" initiative) in 2015,⁴ however, zero rating as a mechanism for Internet adoption drew scrutiny from media and activists who had questions and concerns about zero rating, including its relation to net neutrality regulations.⁵ While this debate brought significant attention to Facebook's model of zero rating,

Suggested Citation: Bates, Samantha, Bavitz, Christopher, and Hessekziel, Kira. Zero Rating & Internet Adoption: The Role of Telcos, ISPs, & Technology Companies in Expanding Global Internet Access. (October 2017). Available at: <http://cyber.harvard.edu/publications/2017/10/zerorating>

1 "Zero-rating," Wikipedia [last modified September 3, 2015]: <https://perma.cc/S4Q8-AHKW>; Carolina Rossini and Taylor Moore, "Exploring Zero-Rating Challenges: Views From Five Countries," *Public Knowledge* (July 2015): <https://perma.cc/PH3T-352G>.

2 Jeffrey Wagstaff, "Free Zone, Google For The Developing World, Launched For 'Next Billion Users' Of Internet," *Huffington Post* (Nov. 11, 2012): http://www.huffingtonpost.com/2012/11/08/free-zone-google_n_2091749.html; Justin Ellis "Wikipedia plans to expand mobile access around the globe with new funding," *Nieman Lab* (Jan. 13, 2013): <http://www.niemanlab.org/2013/01/wikipedia-plans-to-expand-mobile-access-around-the-globe-with-new-funding/>.

3 "VNI SA Highlights," VNI Service Adoption Forecast, Cisco [accessed Apr. 6, 2017]: http://www.cisco.com/c/dam/assets/sol/sp/vni/sa_tools/vnisa-highlights-tool/vnisa-highlights-tool.html; Angela Doland, "The Race Is On to Reach India's Next Billion Internet Users," *Advertising Age* (Jun. 15, 2016): <http://adage.com/article/digital/race-reach-india-s-billion-internet-users/304467/>.

4 "Announcing the Internet.org Platform," Internet.org by Facebook, (May 4, 2015): <https://perma.cc/52UG-KT5R?type=source>.

5 "Update to Internet.org Free Basic Services," Internet.org by Facebook, (September 24, 2015): <https://perma.cc/Q9UM-HJU7>.

such questions and concerns apply with equal force to a wide range of potential business models that fall under the term's loose definition.

Critics of zero rating models have raised a range of questions about purported violations of net neutrality principles and the level of control service providers exercise over which content can be “zero-rated.” Initial regulatory responses to zero rating efforts in nations such as Chile and India demonstrated that concerns about net neutrality, in particular, may prove a major barrier to the implementation of certain zero rating models throughout the world.⁶ Relatedly, some have questioned whether efforts to address the digital divide through some forms of zero rating might actually exacerbate it by creating multiple tiers of service and access. At a minimum, there is little research on the reach and efficacy of zero rating initiatives in increasing adoption; the research that does exist does not support the idea that zero rating brings new users online.⁷

Proponents, on the other hand, argue that zero rating may be a first step toward achieving the long-term benefits of a pronounced increase in global Internet access. Some have begun to adapt their models, and others have expressed a willingness to rethink the technical and policy architecture of zero rating programs in direct response to critics' concerns.⁸ Again, a dearth of evidence makes it difficult to evaluate claims on either side of the debate.

In March 2016, the Berkman Klein Center for Internet & Society (then known as the Berkman Center for Internet & Society) at Harvard University hosted a zero rating workshop that brought together a diverse group of participants from academia, the media, the government sector, industry, and the open software community to discuss their perspectives on the topic of zero rating.⁹ The workshop – conducted pursuant to the Chatham House Rule – was intended to generate constructive dialogue between representatives with widely varying perspectives and to identify research priorities and potential pathways forward. This paper attempts to summarize some of the major outcomes of the workshop and chart a path forward toward further research.

Section II of the paper offers an overview of the workshop's key topic of discussion as well as recent publications on this issue. Section III constitutes a deep-dive into specific research areas that workshop participants identified as requiring further investigation in order to inform the debate.

II. CHALLENGES & OPPORTUNITIES: THE WORKSHOP DISCUSSION

Participants in the workshop organized their discussion around four core sets of themes: (a) establishing common definitions and principles, identifying points of shared purpose, and highlighting areas of friction or concern; (b) barriers to implementation of zero rating initiatives; (c) establishing reasonable principles and responsible practices to govern and evaluate zero rating initiatives; and (d) identification of key research questions and action items.

Establishing Common Definitions & Principles, Identifying Points of Shared Purpose, & Highlighting Areas of Friction or Concern

Recent publications and discussions during the workshop highlight the need for a consistent and standardized definition of zero rating as well as an understanding of how current zero rating programs work, how zero rating programs differ between providers, and what problems zero rating programs solve in reality.¹⁰ Participants in the workshop focused significant attention on

⁶ Mahesh Murthy, “Internet.org is just a Facebook proxy targeting India's poor,” Tech2 (April 17, 2015): <http://perma.cc/8M9B-3D43>; Karl Bode, “India's New Net Neutrality Guidelines Suggest Facebook's Internet.org is Just Glorified Collusion,” Techdirt (July 27, 2015): <https://perma.cc/2PP7-SHBM>; David Meyer, “In Chile, mobile carriers can no longer offer free Twitter, Facebook, or WhatsApp,” GIGAOM (May 28, 2014): <https://perma.cc/PWA2-PVDC>.

⁷ See *infra* note 28.

⁸ Facebook in particular modified its Free Basics zero rating programs to include all zero-rated apps that comply with their technical and participation guidelines. See *supra* note 4. See technical guidelines here: <https://developers.facebook.com/docs/internet-org/platform-technical-guidelines>.

⁹ The Center hosted this event with generous support from the Ford Foundation. The Center had received unrestricted gift funding from other workshop participants as well.

¹⁰ Note that there are different zero rating business models based on the nature of the agreement between the carrier and the app

the question about the problems zero rating addresses. Is it all about access? Or – as Facebook suggests of its own Free Basics initiative¹¹ – do these types of programs seek to improve awareness of the Internet and its capabilities and/or address the issue of affordability? Additionally, can these types of programs help local content and service developers reach local audiences?

Participants also asked about the viability of programs with aims that go beyond the inherent benefits of access – e.g., whether there might be programs aimed at improving digital security in the developing world and whether such programs might raise similar concerns as those implemented to date.¹² Participants expressed concerns that some zero rating programs may reinforce existing digital divides to an extent that zero rating users will experience a different, lesser Internet than users who are able to afford full data plans.

One way of evaluating the propriety of a zero rating program as a response to problems of access is to juxtapose zero rating programs with alternative solutions, such as Internet access subsidies or the connection of publicly-accessible areas (such as universities, libraries, and other public spaces) to the Internet. As with many issues addressed at the workshop, this is an area where more robust data would significantly help in the evaluation and comparison of available policy choices.

Finally, the discussion of who, or which organization, regulates the content of zero-rated programs was a constant theme. Participants discussed the example of Facebook's Free Basics program, which was open to any service that meets the program's technical criteria but in certain operator configurations had a landing page with a curated selection of zero-rated apps. Assuming that a zero rating program requires that accessible sites meet technical criteria relevant to media and bandwidth, is there a way to satisfy those criteria without the paternalism of an intermediary (e.g., a commercial website operator) exercising its discretion? Might an Internet Service Provider itself provide technical standards for zero-rated applications, then step back and permit access solely based on compliance with those standards? And, would that resolve or exacerbate concerns about a gatekeeper role? These technical questions – and the ways in which they necessarily interact with the fundamental policy questions underlying zero rating proposals – were identified as areas in need of further research.

Barriers to Implementation of Zero Rating Initiatives

In addition to discussing zero rating definitions, participants also emphasized that no one-size-fits-all solution to the Internet access problem exists, especially in developing countries. Depending on the country, zero-rated services may not be the answer due to cultural values, needs, and infrastructure. At the same time, consideration of country-specific factors may help companies customize zero rating services or propose alternative programs, such as Internet subsidies or public Internet, to fulfill the specific needs of consumers.¹³ For example, workshop participants discussed that one of the reasons that Free Basics was not successful in India was that Indian customers did not understand that data charges would apply once they left a zero-rated service. Customers in India seemed to prefer time-limited, all access plans that did not require users to understand how the Internet works in order to avoid data charges.

A report released by Public Knowledge in 2015 buttresses this reasoning. The organization stud-

provider as well as the type of content that is zero-rated. See Carolina Rossini and Taylor Moore, "Exploring Zero-Rating Challenges: Views From Five Countries," *Public Knowledge* (July 2015): <https://www.publicknowledge.org/documents/exploring-zero-rating-challenges-views-from-five-countries>. For the purposes of this paper, we focus primarily on zero rating models like those used by Facebook, Mozilla, and Wikimedia.

11 "Free Basics by Facebook," *Internet.org by Facebook* (Accessed July 12, 2016): <https://info.internet.org/en/story/free-basics-from-internet-org/> archived at <https://perma.cc/NPG2-7EEP>.

12 Participants noted that U.S.-based programs like ones promoted by Verizon's go90 program are probably not about user adoption but are nonetheless worrisome insofar as they create gated communities. See Natasha Lomas, "Verizon Accused of Net Neutrality Foul by Zero-Rating Its Go90 Mobile Video Service," *TechCrunch* (February 7, 2016): <https://techcrunch.com/2016/02/07/verizon-accused-of-net-neutrality-foul-by-zero-rating-its-go90-mobile-video-service/>.

13 Programs like Facebook's Free Basics already incorporate a version of a "public interest" hub in their program, pointing users to reputable sources of public-serving information on health, government, and education. Workshop participants floated the idea of making such a list of sites in the public interest zero-rated regardless of a particular platform, acting as a virtual public library for community resources. What remains unresolved and a point of contention for some workshop participants is the question of who would curate the public interest list. Such a design necessitates the position of a gatekeeper who would choose what sites were in or out.

ied responses to zero rating programs in five countries: the Netherlands, Colombia, Chile, India, and Brazil. The report urged policymakers to consider how zero rating programs are deployed and received in a given market as well as the needs of the people in that country before making a determination about whether zero rating violates net neutrality principles. The report reminded regulators that “a conclusion in one market does not say anything about how the issue might play out in another market.”¹⁴

In countries that have net neutrality legislation, like India, the zero rating model faces another major obstacle, one that is complicated by the spectrum of opinions on whether zero rating violates net neutrality. These viewpoints range from the belief that zero rating programs violate net neutrality in all cases to arguments that such programs should be permitted if they are governed by a given set of principles or guidelines.

Those who feel zero rating in general violates net neutrality principles state that zero rating programs establish a discriminatory data pricing scheme. In a column for Backchannel, Harvard Law Professor Susan Crawford called zero rating “absolutely inappropriate” because “it makes certain types of traffic exempt from any data caps at all” and allows service providers, rather than the user, to decide what traffic makes it to the user and what traffic does not.¹⁵ Similarly, some participants in the workshop asserted that, in eliminating data charges only for a given set of zero-rated services, the (typically American) provider assumes a “gatekeeping” role and thus exercises undue influence over the content users are able to access.

In addition, some advocates claim that zero rating may block innovation by making it much more difficult for smaller companies to break into the market. In contrast, other participants in the discussion emphasized that zero rating programs can help local developers, including smaller or new ones, reach audiences with locally relevant content.

Net neutrality advocates are also concerned about the Internet experience created by zero rating programs. While proponents of zero rating claim that it helps bridge the digital divide by introducing people to the Internet, others feel that zero rating users do not experience the “real” Internet because they are limited to curated services selected by a third party. Some net neutrality advocates argue that this silo effect may worsen the digital divide, in that zero rating programs may create an Internet for “poor people,” separate from the Internet available to people who can afford data charges.¹⁶

Middle-ground viewpoints contend that zero rating programs may be appropriate in certain circumstances if governed by a set of principles that respect net neutrality. Advocates of this approach view the conflict between zero rating and net neutrality as a benefit-harm analysis and therefore support evaluating zero rating on a case-by-case basis. Some point out that there are a variety of flavors of zero rating programs and therefore it may be possible to reach a compromise if providers are required to answer questions concerning the nature of the offering, the content offered, business model, as well as the structure, duration, and transparency of the offering.

For example, George Washington University Law School Professor Arturo Carrillo views the debate as a clash of human rights – the right to the free flow of information versus the right to Internet access. He suggests that, in the interest of promoting human rights, zero rating may be compatible with net neutrality principles in certain circumstances. Carrillo asserts that international human rights law distinguishes between positive and negative discrimination, thus, while zero rating is undoubtedly “a discriminatory restriction on network neutrality,” the essential question is whether zero rating discrimination in a given context has positive or negative consequences.¹⁷

¹⁴ Carolina Rossini and Taylor Moore, “Exploring Zero-Rating Challenges: Views From Five Countries” *Public Knowledge* (July 2015): <https://perma.cc/PH3T-352G>, 14.

¹⁵ Susan Crawford, “Zero for Conduct,” *Backchannel* (January 7, 2015): <https://perma.cc/4ZC8-QR53>.

¹⁶ *Id.*

¹⁷ Arturo J. Carrillo, “Having Your Cake and Eating It Too? Zero-Rating, Net Neutrality and International Law” 19 *Stan. Tech.L.Rev.* 364 (2016): <https://perma.cc/PSG8-ZWLL>.

Finally, some argue that zero rating does not in any way threaten net neutrality because while zero rating may be a form of differential pricing, it does not interfere with the Internet itself or a user's ability to access the services of her choice. David Post, a fellow at the Center for Democracy and Technology, contends that this debate is primarily semantic because zero rating does not impact the user's ability to access other services on the Internet. He points out that Free Basics organizes and provides certain content to users, but does not prevent them from accessing the greater Internet if they want. Prohibiting zero rating does not change the fact that users have to pay for full Internet access.¹⁸

Others maintain, similarly, that the debate focuses on the needs of edge providers and fails to consider what is best for individual end users. In their view, there are many situations where zero rating may benefit the end user by providing free limited access where there would otherwise be none at all. Proponents of this view see the conflict as more of a balancing act between the benefits for users and the drawbacks for edge providers.

The major barriers to implementing zero rating programs involve issues related to context. With the exception of the argument that zero rating programs unilaterally violate net neutrality principles, it seems that the success of zero rating programs as well as whether they respect net neutrality principles depends on proper consideration of on-the-ground factors, program structure, and impact on users by service providers and policy makers.

Establishing Reasonable Principles & Responsible Practices to Govern & Evaluate Zero Rating Initiatives

Having established an understanding of both the objections to zero rating generally and the role context can play in determining whether zero rating programs should be allowed or encouraged, participants at the workshop discussed potential compromises that could establish implementation of zero rating programs in a way that would satisfy net neutrality principles. Some of the suggestions included using the international human rights law framework¹⁹ or devising another set of principles to govern these programs, finding consensus around whether some services (such as government services) should be zero-rated, and appointing the government or a neutral third party to make determinations about what services and content can be zero-rated. Again, participants returned to the importance of collecting data, particularly on program outcomes, and considering context in order to devise a system that best responds to user needs in a given country or region.

Participants disagreed, however, about whether governing principles would be the best way to address zero rating concerns. Those not in favor of establishing principles raised questions about how principles would become standardized and enforced. Additionally, they emphasized that the cultural, political, and economic environment of a given country or region would greatly influence the success of principles, so programs would still need to be evaluated individually, making universal principles seem superfluous.

Some proponents of principles agreed that zero rating programs would still need to be evaluated on a case-by-case basis but suggested that existing models, such as Wikipedia Zero's operating principles or even Free Basics' participation and technical requirements, could guide the formulation of universal zero rating principles.²⁰ If carefully considered, there may be ways to establish guidelines that will ensure that zero rating programs are compatible with net neutrality. For example, Chile determined in 2014 that zero rating violates Chilean net neutrality laws,

18 David Post, "Facebook, Internet.org and net neutrality bugaboo," *The Washington Post* (August 17, 2015): <https://perma.cc/RF9W-5WXW>.

19 See, e.g., "Zero-rating and the Holy Grail: Universal Standards for Net Neutrality," in *Net Neutrality Reloaded: Zero Rating, Specialised Services, Ad Blocking and Traffic Management*, 2016 Report of the United Nations IGF Dynamic Coalition on Net Neutrality (edited by Luca Belli).

20 Wikipedia Zero principles include: providing "a full Wikimedia experience, working with local Wikimedia communities, promoting open-source, carriers do not get editorial control, no exchange of payment, personal user information is never shared, Wikipedia zero cannot be sold as part of a bundle, no exclusive rights (will partner with as many carriers as possible to maximize the number of users that can benefit from the initiative), limited trademark license, open to collaborating with other public interest sites." See <https://perma.cc/6BWR-G3G5>. See also Free Basics's technical and participation guidelines, <https://developers.facebook.com/docs/internet-org/platform-technical-guidelines> archived at <https://perma.cc/JK9V-G4K5> and <https://developers.facebook.com/docs/internet-org/participation-guidelines> archived at <https://perma.cc/9LS7-6BSX>.

but it made an exception for Wikipedia Zero because “Wikipedia’s intent to provide access to knowledge was aligned with the views of the Subsecretaria de Telecomunicaciones (Subtel) as well as the Chilean President.”²¹

Participants considered whether certain types of information, such as government and emergency services or security updates, should be automatically zero-rated. While some agreed that it would make sense to zero-rate government and emergency services, others pointed out that in countries that do not respect the rule of law, it might be unwise to grant the government more influence over what information users can access.

Most participants supported zero rating software updates to improve overall security, but this use case does not address the goals that many current zero rating programs were created to advance (namely, increasing Internet adoption). While making it easier for consumers to complete security updates is a worthwhile aim, it is unrelated to bringing more people online. As the vast majority of existing zero rating programs are adoption-focused, they would have to radically rethink their model. Some noted that it is unlikely carriers will agree to zero rating software updates because they may view security updates as a consistent revenue stream, since users are often willing to pay for them. Section III contains a more in-depth account of the zero rating principles discussion and next steps.

Lastly, participants discussed the type of entity that should be in charge of governing zero rating programs. Participants felt that if a private company was to provide a zero rating program, it should do so with the utmost transparency as to the program’s operational details, qualifications for participation, and specific aims as well as what information from consumers the program relies upon. Private industry should also consult extensively with government or non-governmental organizations to make sure programs address real needs of the population through their structure, implementation, and distribution, rather than needs that are merely assumed or perceived. Governments could also contribute to governance structures by clearly defining Internet policy principles, including where and how zero rating fit into their regulatory framework.²²

Participants discussed the importance of government entities becoming at least partially involved in selecting content and services worthy of zero rating, given their increasing activity in regulating net neutrality and their knowledge of local needs, though this suggestion again raised concerns about government abuse of power. A third proposed compromise involved appointing a neutral third party, such as an international organization, to pick and choose what services are zero-rated and/or to determine the requirements of zero-rated services that could join a zero-rated program. The main drawback, as argued by David Post, is that companies like Facebook may need to maintain control over the services offered in order to keep promises to its ISP partners.²³

While participants largely agreed that context, transparency, and user needs should all be considered when evaluating whether to implement a zero rating program, they disagreed about the best way to devise a compromise. At the heart of the disagreement is the belief that zero rating programs are not viable solutions to the Internet access problem, especially while there are alternatives that are less restrictive of user access to the Internet. The workshop discussion again underlined the need for more data and impact assessment in this area. Once data regarding user adoption rates and user needs is available, scholars and decision makers will be better able to make a determination about the utility of zero rating programs and how best to implement them.

21 See *supra* note 18, at 19-21. See also Glyn Moody, “Chile Bans Free Delivery of Social Media Services to Uphold Net Neutrality,” *Techdirt* (June 16, 2014): <https://perma.cc/DW5C-XAZ2> and Yana Welinder & Carolynne Schloeder, “Chilean regulator welcomes Wikipedia Zero” *Wikimedia Blog* (September 22, 2014): <https://perma.cc/336C-7WK7>. Anecdotal evidence indicates that, in practice, Chile may now allow a broader range of zero rating programs to operate (see: Pedro Huichalaf Roa, “Responde consulta sobre ofertas de Redes Sociales en Telefonía Móvil” (Feb 11, 2015): http://www.subtel.gob.cl/transparencia/Perfiles/Transparencia20285/Normativas/Oficios/1500_1305.pdf).

22 Brazil’s Marco Civil da Internet is one example of a national government promulgating principles.

23 David Post, “Facebook, Internet.org and net neutrality bugaboo,” *The Washington Post*, (Aug. 17, 2015): <https://perma.cc/RF9W-5WXW>.

Identification of Key Research Questions & Action Items

The final discussion of the workshop focused on next steps and areas for further research, which will be discussed in further detail in the following section. Participants agreed that we need more data in order to determine what current zero rating programs accomplish. Some of the key research questions that emerged from the discussion included: Do these programs successfully encourage more people to use the Internet? Do users already familiar with the Internet use zero rating programs to manage data costs? How many zero rating program users eventually transition to a paid data model? What are the long term impacts of zero rating programs?

III. WORKING TOWARD SOLUTIONS: FACILITATING RESEARCH & ESTABLISHING RESEARCH PRIORITIES

Introduction

Workshop participants engaged in broader policy conversations about long-term goals vis-à-vis Internet access and infrastructure. However, much of the discussion focused on more discrete and tangible questions designed to inform higher-level debates. Participants focused on terminology and worked toward consensus about categorizing different types of zero rating programs and their constituent elements. Significant attention was paid to the need for data-sharing and research built upon high-quality data to ensure policy is based on evidence and not anecdotes.

Participants also considered different paths toward achieving well-accepted long-range ideals – including the “utopia” of universal access to benefits conferred by the Internet and online communications more broadly – and the value of developing a roadmap for incremental progress toward such goals. These discussions resulted in the combination of research questions and policy or implementation recommendations that follow.

Developing / Refining Taxonomies

An overarching concern among the workshop participants was the looseness of the term “zero rating” – programs advertised or described as “zero-rated” are not consistent as to the kind of access they provide, the mechanism for paying for data used, or the services available. In examining the current landscape, workshop participants came up with several proposed means of classifying zero rating programs, as well as questions to help classify existing and future programs.

“Four Models” Approach

In examining existing programs included under the zero rating header in the public discourse, one workshop participant identified four categories that characterize the landscape:²⁴

- single-site or service programs allowing users free access to one particular website or service (either the full service or a limited version);
- compound access programs that allow users to access multiple services through one site or application (Facebook’s Free Basics, for example), none of which pay to be included on the site;
- sponsored data programs where content providers pay mobile operators so that end users get access to their services or content for free (including plans in which telcos and ISPs offer their own services for free); and
- non-selective programs that provide access to limited free data under certain conditions, but without restrictions on what content can be accessed. These plans have been lumped together with zero rating programs but do not “raise the discrimination or anti-competitive net neutrality concerns” the other models do because the end user is able to use the data they receive through the program for any purpose.²⁵ Examples include Mozilla’s equal rating partnership with Orange, for example, where the purchase of a certain phone includes 500megabytes of data for use within the first six months,²⁶ and

²⁴ See *supra* note 16, at 373.

²⁵ *Id.*, at 381.

²⁶ “Orange Launches Breakthrough All-Inclusive Digital Offer to Deliver Mobile Internet to Millions More across Africa and the Middle East,” Orange (March 1, 2015): <http://www.orange.com/en/Press-and-medias/press-releases-2016/press-releases-2015/Orange-launches-breakthrough-all-inclusive-digital-offer-to-deliver-mobile-internet-to-millions-more-across-Africa-and-the-Middle-East>.

mCent, where users earn data to use at their discretion by watching advertisements, taking surveys, or downloading sponsored apps.

Another participant pointed out that the models above captured the manipulation of different variables linked to the affordability of online Internet service in order to achieve program goals. Single-site and compound access programs both offer reduced available content to provide some free access, including programs like Free Basics that allow access to low-bandwidth content only. Non-selective or “equal rating” programs put a limit on the duration of Internet connection, in the sense that a user’s allotted data credit will run out naturally or after a specific time period. As these variable levers are moved, different harms, benefits, and regulatory concerns come into play.

Similarly, workshop participants contemplated existing programs in terms of the impact of positive discrimination – what was the effect of choosing to make certain services cost less, and were there instances in which such choices were unambiguously beneficial or harmful? Participants also raised concerns about developing a taxonomy that would not only classify existing zero rating programs but help to quickly evaluate new program models.

“Series of Questions” Approach

Another, more nuanced approach to refining taxonomies involves identifying questions that clarify key components of any zero rating regime. Over the course of the workshop, participants raised many such questions, the answers to which might help distinguish zero rating programs from one another and ultimately identify principles to guide its use. These questions included:

- What is the geographical, economic, and regulatory context in which the zero rating program is implemented?
- What communities, if any, does the program target? How and why?
- Is any entity paying for or subsidizing the cost of the zero-rated data? If so, who? Is it the mobile carrier? The content provider? A government subsidy or partnership? The end consumer?
- Is the agreement between the mobile carrier and the provider of the zero rating service transparent to the end user?
- Is the program non-exclusive and open to all carriers? Is the ISP free to enter into the same, or similar, arrangement with other content providers or platforms?
- Is the program open to all content providers that qualify under the same technical standards?
- Does the arrangement ensure a carrier’s own content is not favored over other content?
- Is the offer transparent?
- How is content/service chosen for the zero rating program?
- Is the zero rating service agnostic to content/service type? Does the program differentiate between different types of content, such as video or voice?
- How many ISPs or mobile carriers offer the program in the particular market? Is the program non-exclusive?
- What role do the ISPs or mobile carriers play in the program, and to what extent are these entities gatekeepers for users?
- What metrics or standards will determine success for the zero rating program?

One could envision developing a matrix based on these (and perhaps other) criteria and using them to refine collective understandings and draw useful comparisons.

Promoting Research & Data Sharing

One issue that emerged multiple times during the course of the workshop was the lack of available data to contextualize and understand current zero rating programs, particularly in the developing world. Whether advocating for or against zero rating – and, in some cases, even when talking about programs with which they were ostensibly familiar – many participants were not in a position to share empirical evidence or data-based research at the workshop. Access to data could help companies, policy-makers, non-governmental organizations, scholars, and others evaluate zero rating’s effectiveness as a tool to promote access and long-term adoption or whether the market becomes more or less competitive as a result of such programs.

Subsequent to the workshop, the global coalition Alliance for Affordable Internet (A4AI) published findings from one of the first studies to look at data on mobile Internet users in eight countries in the Global South (Colombia, Peru, Ghana, Nigeria, Kenya, India, Bangladesh, and the Philippines).²⁷ A4AI distinguished four types of data plans available to these populations: “full-cost data plans,” “service-specific data bundles,” “earned data” (i.e., data awarded for a specific action), and zero rating, defined in their work as “services that make a specific set of content, websites, or applications available at no additional cost to the user.”²⁸ Overall, 10% of the people in A4AI’s total sample had used a zero rating plan at least once, with in-country percentages ranging from 20% in the Philippines to 4% in India. But 88% of those participants familiar with zero rating programs stated they had used the Internet beforehand.²⁹

Whether the availability of zero-rated services led users to pursue full Internet access was unclear: just under one-third of users of zero-rated services were paying for mobile Internet services, but just over one-third continued “to use the zero-rated service and a paid plan.”³⁰ And zero rating users from the sample were more likely to use multiple types of data plans than those in any of the other categories A4AI examined.³¹ When survey respondents were asked whether they would prefer unlimited data for a limited time, limited data to use on any app or site, or a zero-rated model, 82% preferred either the first or the second option over zero rating.³² A4AI’s study underscores both the complicated nature of working to increase Internet access in the developing world and the need for more data-based research to guide stakeholders endeavoring to do good.

Building on this type of research and developing robust standards and practices to promote sharing data that allows for greater insights into Internet use in the developing world are key components to informed policy debates around zero rating programs and related endeavors in the future. Participants in the workshop discussed both the kinds of data that would be valuable and the ways to establish baselines around data collection and sharing.

Establishing Baselines around Data Collection & Sharing

The A4AI report mentioned above illustrates one mechanism of collecting data on Internet adoption – a survey of Internet users by a third-party/NGO. Over the course of the workshop, however, participants expressed a desire to see statistics regarding particular existing zero rating programs. This often involves data privately held by telecommunications providers and would generally require cooperation from such operators to permit access.

If companies or research organizations could work with the providers that offer zero rating programs and encourage sharing of information about those programs (including how those programs are used and changes in access habits of users over time), stakeholders could evaluate whether and to what extent such efforts are helping to diversify the market and increase Internet adoption. Those offering zero rating programs in the future may want to build in methods for testing efficacy as part of the overall program design.

Once a mechanism exists to enable data collection from individual providers about individual programs, there remains a question of how to organize that data and share them with the public. Academic institutions (like the Berkman Klein Center) and non-profits could potentially serve as aggregators for companies’ data to allow for comparative analyses. Projects like the Center’s own Lumen Database -- which collects copies of online takedown notices by entering into voluntary arrangements with private parties that send and receive them and makes those notices available to researchers via an online research platform – might serve as models for future engagements in this space. Efforts to standardize data gathering and reporting mech-

²⁷ “The Impacts of Emerging Mobile Data Services in Developing Countries,” Alliance for Affordable Internet (June 2016): http://1e8q3q16vyc81g8l3h3md6q5f5e.wpengine.netdna-cdn.com/wp-content/uploads/2016/05/MeasuringImpactsofMobileDataServices_ResearchBrief2.pdf.

²⁸ Id., at 2.

²⁹ Id.

³⁰ Id., at 8.

³¹ Id., at 3.

³² Id.

anisms across providers could go a long way toward ensuring that such data actually permits the kinds of comparative analyses that workshop participants sought to promote.³³

Research Agenda

Establishing standards and protocols to govern the sharing of data about zero rating presents significant challenges. Assessing which data is valuable, identifying relevant questions, and interrogating that data pursuant to a viable and impactful research agenda is even more complex. Developing good metrics that speak to a program's success or the degree to which it serves as a first step for users toward fuller Internet access requires a cross-disciplinary approach that brings together attributes from the worlds of economics, social sciences, and business.

Participants in the workshop brought up specific factors that should be part of evaluating both Internet use patterns prior to and after zero rating intervention to capture conversion rates. These ideas included:

- collecting information about how many SIM cards a consumer is using (some people in the developing world may alternate to take advantage of certain features in prepaid plans);
- developing program architecture to allow for some monitoring of use patterns by the zero rating companies, while prohibiting such access from interfering with user privacy;
- measuring the diversity of the sites and applications zero rating users access both in and out of zero rating programs in addition to the frequency of Internet use over the study period; and
- calculating the number of new Internet users coming online as a result of zero rating, perhaps coupled with the number of experienced Internet users utilizing the program as a cost-saving mechanism.

Mapping Interim Steps toward “Utopia”

Workshop participants generally agreed that zero rating was a well-intentioned stopgap solution to the larger root problem of insufficient Internet infrastructure and access globally. Many expressed the desire to see affordable, open Internet access available worldwide that serves as a platform for communication and innovation, a sort of digital world utopia. And, to be clear, there are signs that progress is coming, if slowly; the United States State Department's Global Connect Initiative to bring 1.5 billion more people online by 2020, which the World Bank estimates will cost \$4.5 billion, is one example.³⁴

Participants agreed, however, that progress on devices and on-the-ground infrastructure for the developing world would not be able to mitigate the negative effects of the digital divide for some time. If a particular zero rating program is regarded in a much larger context of long-term efforts to move toward that utopia – i.e., an intervention alongside efforts to improve infrastructure and otherwise bring more people online – and if that program is subjected to appropriate safeguards and adequate scrutiny, it may be more palatable in the short-to-medium-term. Encouraging stakeholders to collaborate to leverage principled and tailored approaches to zero rating (or other mechanisms to increase Internet adoption and access), while continuing to agitate for solutions that address root causes of the digital divide could result in a more productive approach.

A pitfall of this strategy that some participants highlighted is the risk that pouring too much into stopgap measures will increase resistance to proposals to do the heavy-lifting of infrastructure investment and development. In the worst-case scenario, such approaches could lead to a two-tiered Internet, with service providers content to keep poorer populations in a “cul-de-sac” of zero-rated websites and applications. Stakeholders must continue to balance programs that will help temporarily bridge the gap with more sustainable and equitable methods.

³³ Work done by researchers at the Berkman Klein Center for Internet & Society in collaboration with the New America Foundation's Open Technology Institute to develop transparency reporting standards may be instructive in this regard. See by Liz Woolery, Ryan Budish, and Kevin Bankston, “The Transparency Reporting Toolkit” (March 31, 2016): available at https://cyber.law.harvard.edu/publications/2016/transparency_memos.

³⁴ Jim Yong Kim, “Remarks by World Bank President Jim Yong Kim at the Global Connect Initiative,” The World Bank (April 14, 2016): <http://www.worldbank.org/en/news/speech/2016/04/14/remarks-by-world-bank-group-president-jim-yong-kim-at-the-global-connect-initiative>.

Identifying Alternatives

In considering utopian access, some participants floated alternative strategies for increasing Internet access and adoption. While these options are generally less fraught with net neutrality concerns than zero rating programs, other challenges to their implementation may exist.

One possible strategy is to invest resources in increasing access to free Wi-Fi in public spaces. Many countries and NGOs currently provide some options for public Wi-Fi, but groups interested in growing the number of Internet users could support initiatives to create more hotspots in areas with low rates of Internet adoption, reducing the economic barrier to access.

Similar to the Mozilla-Orange program, participants suggested creating subsidized data plans for new Internet users which were content agnostic, meaning the data allotments could be used for any site or service. Such plans will require buy-in from a mobile carrier, as well as addressing the issue of device access.

Finally, rather than addressing the adoption problem through direct-services approaches like zero rating, plan subsidies, or public Wi-Fi, companies and organizations could focus efforts on policy advocacy in the areas of Internet infrastructure and competition. Policies that require cable unbundling or sharing tend to increase competition, thus driving down the cost of connectivity, which could in turn allow more people to regularly use the Internet. Even more ambitious plans could include subsidizing or financing increased infrastructure build-out in countries with low Internet penetration, as lack of service is also a roadblock for Internet adoption. Such plans involve far more capital investment by companies and do not address the device access element of the Internet adoption challenge.

Developing Viable Governance Structures

Participants in the workshop grappled with how governments, private industry and standards organizations could play a role in ensuring reasonable zero rating programs abided by the principles set forth to guide them, though some expressed skepticism that such a thing was realistic throughout the proceedings.

Applying or Promulgating Principles

While the concept of principles to govern zero rating was of some debate among workshop participants, existing resources and recurring discussion threads provide a roadmap we could use to define acceptable programs. At least some of the participants referenced the international human rights law framework as a preexisting source of applicable principles. Another source cited by several in attendance as a model of principles was Wikipedia Zero's operating principles, which govern the actions and management of the Wikimedia Foundation's zero rating program. Their principles include:

- A full Wikimedia experience. Carriers will zero-rate access to the regular mobile version of Wikipedia and other Wikimedia sites in all languages. We provide a notice to users with zero-rated access. To ensure that users do not mistakenly incur data charges, they will be prompted with a notice if they are about to leave a zero-rated page.
- Working with local Wikimedia communities. Wikipedia Zero also provides us with another opportunity to work with local community members when approaching carriers and locally promoting the free use of the Wikimedia sites.
- Promoting open-source. Consistent with our guiding principles, the software we develop to implement Wikipedia Zero is open source licensed. We hope that this will make it easy for other similar nonprofits to spread their information to the people of the world.
- Carriers do not get editorial control. Wikipedia articles and other Wikimedia content are community curated and will remain that way.
- No exchange of payment. The Wikimedia Foundation does not pay carriers to zero-rate access to the Wikimedia sites and does not receive payments from carriers through Wikipedia Zero.
- Personal user information is never shared. Carriers get the IP addresses of sites that will be zero-rated so that they can identify Wikipedia Zero traffic. Wikipedia Zero does not enable carriers to collect or receive personal information about Wikimedia users.
- Wikipedia Zero cannot be sold as part of a bundle. Access to the Wikimedia sites through Wikipedia Zero cannot be sold through limited service bundles.

- No exclusive rights. We try to partner with as many carriers as possible to maximize the number of users that can benefit from the initiative.
- Limited trademark license. Carriers get a license to use Wikipedia trademarks to promote Wikipedia Zero. They cannot use the trademarks to suggest that they are sponsored, approved, or endorsed by the Wikimedia Foundation or Wikipedia.
- Open to collaborating with other public interest sites. Our main goal is to promote free access to knowledge and we want to help other similar services interested in doing the same (just ping us!).³⁵

Participants also voiced support for these additional ideas, though the question of whether they should be bright-line rules or concepts to consider requires further conversation to resolve:

- **Meaningful User Choice:** Program users are given clear onramps to the open web and not restricted to limited versions of the select number of sites and programs available through the zero rating program.
- **Transparency:** Users understand how the platform works, what information platform providers or mobile carriers receive as part of their participation, and how the zero rating program connects to, but differs from, the open web.
- **Third-Party Choice / Curation:** In zero rating programs where a limited number of sites are made available, curation of accessible sites or apps is done with the aid of the targeted community or third-party groups such as NGOs or government entities.
- **Standards to Evaluate / Govern Gatekeepers:** Governments, NGOs, and civil society organizations should have some capacity in which to survey what zero rating program is doing and whether it is achieving its goals.
- **Identifying Boundaries of “Acceptable” Zero Rating Approaches:** Similarly, all actors in the space should have a clear understanding of what constitutes an appropriate zero rating program, and certain tactics should be known to all as off-limits. What falls in the latter category may vary slightly depending on in-country circumstances, but all groups should endeavor to make the lines clear and abide by them.

Establishing Technical Architecture & Platform Design Standards

A strong governance model would also promote the development of technical architecture and platform design standards, ensuring interoperability and maximizing the likelihood of participation in zero rating programs. Various mechanisms might be employed in order to offer website operators the chance to ensure their sites are accessible to consumers, including the use of open application programming interfaces and recognition of standardized header flags.

Identifying Appropriate Considerations / Aims for Zero Rating Programs

Many of today’s existing zero rating programs are aimed at improving Internet adoption in the developing world, but as discussed above, little empirical evidence exists to show whether or not these programs meet this well-intentioned goal. Further, the limited amount of data-based research already conducted by A4AI and others supports the workshop participants’ general consensus that zero rating is a stop-gap measure, not a long-term solution, to the global digital divide.³⁶ Therefore, zero rating program providers, as well as researchers and policymakers, must interrogate what the specific aims of a zero rating program are. Better research into local community needs may help program designers refine whether Internet adoption, access to key online resources, or other concerns are the best focus of their efforts.

Since workshop participants agreed that achieving the utopia of Internet access we previously defined will inevitably require infrastructure build-outs worldwide, program designers may want to consider coupling any zero rating program with an investment in a region’s Internet infrastructure. Similarly, program designers could look for opportunities to improve access to Internet-enabled devices that come preloaded with data or zero rating applications, emulating Mozilla and Orange’s Klif program or partnering with local government or NGOs to distribute or subsidize devices.

³⁵ “Wikipedia Zero Operating Principles,” The Wikimedia Foundation, (modified June 13, 2016): https://wikimediafoundation.org/wiki/Wikipedia_Zero_Operating_Principles.

³⁶ See *supra* note 27.

Interplay with Net Neutrality – e.g., Restrictions on Type of Content

One of the workshop participants' key worries about zero rating was its potential violation of net neutrality rules in placing restriction on content type, whether technological or subject-matter related. While the specifics of net neutrality policies may vary from country to country, parties interested in exploring zero rating for Internet adoption should look closely at the reasoning behind the decisions on zero rating in places like India, Chile, the U.S., and Brazil, which have codified net neutrality policies.

Crafting Case Studies (Applying Principles to Facts)

Workshop discussion highlighted the need for more illustrative examples, both real and hypothetical, to help decision-makers understand how existing programs impact Internet adoption and interact with regulatory regimes, and how the concept of zero rating could alternatively be used to further goals outside of Internet adoption. Close examinations of individual zero rating programs, as well as continued investigations of regulatory approaches to zero rating in specific countries, like those done in the Public Knowledge report “Exploring Zero-Rating Challenges: Views from Five Countries,” will be useful evaluative tools.

The following real-world examples of initiatives that may be ripe for case studies could be instructive:³⁷

- **Facebook:** One of the most well-known zero rating programs, Facebook's Free Basics program is live in at least 60 countries around the world with more than 75 operators. The program received a lot of negative press relating to its initial roll-out in India, but researchers could still benefit from a more holistic evaluation of its program design (which was modified in 2015, following the India roll-out, to be a platform open to any services that meet the program's technical guidelines), interactions with regulatory bodies, and impact on Internet adoption, its stated goal.
- **Mozilla:** As previously discussed, Mozilla has created partnerships with mobile carriers in developing nations (Grameenphone in Bangladesh, Orange in several African countries) to offer low-cost phones with plans that give customers a modest allotment of data for a certain time window, or in exchange for viewing advertising content.³⁸ To date, no outside entity has investigated the success of such efforts, which could be useful in determining whether to emulate this program.
- **Wikimedia:** Wikipedia Zero allows users in participating countries on partner operators to access all the functions of the Wikipedia, including search, page creation and editing.³⁹ Users get a notification when they are about to leave the zero-rated materials, and the Wikimedia Foundation has put forth principles to guide their program, as discussed above.⁴⁰ Some news coverage suggests that while many users are enjoying Wikipedia Zero for its intended uses, some have compensated for a lack of access to the greater Internet by using Wikipedia as a host for pirated content.⁴¹
- **mCent:** Owned by the company Jana, mCent offers free data in exchange for downloading and using sponsored apps (whose use is zero-rated) to over 30 million users in the developing world.⁴² The sponsored apps pay Jana to participate in the program, and the actions that earn data can range from downloading an app to performing specific actions. Tracking this method's success and whether it runs into the same net neutrality questions as a program like Free Basics would be a valuable contribution to the conversation. Jana is a mission driven, for-profit company.
- **Gigato:** Gigato, a company operating in the Indian mobile market, provides a service where its users earn data credits for using certain zero-rated partner apps and claims to seamlessly switch between zero rated content and earned data credits without accessing the Gigato app.⁴³ This approach combines the content-specific elements of more typical zero rating programs with the credit-granting practice used by groups like mCent. Gigato will likely face similar challenges to mCent, and the model, while less-content restrictive than other zero rating programs, is similarly untested. Gigato's owner, Mavin, is also a mission driven for-profit.

³⁷ These examples were first collected in a report by Public Knowledge (see: Carolina Rossini & Taylor Moore, “Exploring Zero-Rating Challenges: Views from Five Countries,” Public Knowledge, 7-8, (July 2015): <https://www.publicknowledge.org/assets/uploads/blog/ZeroRatingCombinedCR.pdf>).

³⁸ 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/>.

³⁹ “Wikipedia Zero,” Wikimedia Foundation (last updated Sept. 6, 2016): https://wikimediafoundation.org/wiki/Wikipedia_Zero.

⁴⁰ See *supra* note 34.

⁴¹ Koebler, Jason, “Angola's Wikipedia Pirates Are Exposing the Problems with Digital Colonialism,” (Mar. 23, 2016): <http://motherboard.vice.com/read/wikipedia-zero-facebook-free-basics-angola-pirates-zero-rating>.

⁴² “About,” Jana (accessed Oct. 5, 2016): <http://www.jana.com/home>.

⁴³ “Gigato,” Gigato, (accessed Oct. 5, 2016): <http://www.gigato.co/>.

Hypothetical Use Cases for Zero Rating

During the workshop, discussion turned to a series of questions about whether there were specific content areas that all parties could support being available through zero rating programs. As previously discussed, these ideas included zero rating government and emergency services, security updates, or sites dealing with areas of public interest. Going into further detail as to what such uses would look like and where questions remain may help governments, companies, and NGOs rethink zero rating programs and develop use cases outside of improving Internet adoption.

Investigating the Interplay between Zero Rating & International Trade

Though not the focus of the workshop, many participants noted in the final session that international trade agreements that address open Internet practices have the potential impact the development and implementation of zero rating programs. In particular, the Trans-Pacific Partnership agreement (TPP) and the Trade in Services agreement (TISA) could determine the validity of zero rating programs for many developed and developing nations, or the scope of tools in-country regulators have to control them.

Trans-Pacific Partnership

The Trans-Pacific Partnership, a trade agreement negotiated by 12 nations on either side of the Pacific Ocean, has come under some scrutiny for the vagueness of its open Internet provisions.⁴⁴ The text of the agreement recognizes net neutrality as important but is vague on regulatory requirements, leading some advocates to feel they are not robust enough.⁴⁵ An agreement analysis conducted by Public Knowledge points out that the TPP language on open Internet practices closely mirrors the United States' Federal Communications Commission's "Open Internet Order," which established net neutrality in the United States in 2015.⁴⁶ Both the FCC Open Internet Order and the TPP allow ISPs to conduct "reasonable network management" in order to maintain the quality of the connection for users.⁴⁷ The vagueness of this and other provisions of the US regulations have allowed major mobile carriers and ISPs to create zero-rated programs for their users, giving priority to their own streaming services or those of partners, which many Internet companies have protested.⁴⁸ Given the language similarities, it is reasonable to think that companies in TPP countries could implement similar programs, giving rise to what some workshop participants feared would be an Internet with gatekeepers. With President Trump's rejection of the TPP and the uncertainty of its continuation without American involvement, it remains to be seen if or how net neutrality, and thus zero rating, will be addressed in the region in the future.

Trade in Services Agreement

Similarly, the Trade in Services Agreement (TISA), negotiated by 23 world economies, uses loosely defined terms to describe net neutrality rights.⁴⁹ Like the TPP, TISA refers to rights of individuals in signatory states to "access and use services and applications of their choice" and provides the same reasonable management exception that TPP does, according to a 2014 leak of the draft agreement.⁵⁰ Access Now, a group opposed to the TISA agreement, stated at the time that such language could allow zero rating programs "and other forms of price discrimination."⁵¹ While debate continues about the agreement overall and its potential impact

⁴⁴ "What is the TPP?" Office of the United State Trade Representative [Accessed July 12, 2016]: <https://ustr.gov/tpp/>.

⁴⁵ "Trans-Pacific Partnership Agreement," Electronic Frontier Foundation, [Accessed July 12, 2016]: <https://www.eff.org/issues/tpp>.

⁴⁶ "Assessing the Effects of the Trans-Pacific Partnership on Telecommunications, Intellectual Property, and the Public Interest," Public Knowledge (May 5, 2016), pp. 9 https://www.publicknowledge.org/assets/uploads/documents/PK_TPP_Analysis.pdf.

⁴⁷ Id.

⁴⁸ Bode, Karl, "Reddit, Mozilla, Others Urge FCC To Formally Investigate Broadband Usage Caps And Zero Rating," Tech Dirt (May 24, 2016): <https://www.techdirt.com/blog/netneutrality/articles/20160524/09450534536/reddit-mozilla-others-urge-fcc-to-formally-investigate-broadband-usage-caps-zero-rating.shtml>.

⁴⁹ "Trade in Services Agreement List of Participants," Office of the United States Trade Representative, [Accessed July 12, 2016]: <https://ustr.gov/tisa/participant-list>.

⁵⁰ Masse, Estelle, "Leak: U.S. Pushing to Undermine Net Neutrality and Privacy in Major Trade Agreements," Access Now (December 18, 2014): <https://www.accessnow.org/leak-us-pushing-to-undermine-net-neutrality-and-privacy-in-major-trade-ag/>.

⁵¹ Id.

on net neutrality, these remaining questions and concerns are worth noting given that the participating regions currently account for 75% of the world's services markets.⁵² As a result, even countries that do not participate in TISA may feel its impact as companies design programs to comply with TISA provisions.

CONCLUSION

As this paper shows, not surprisingly, a one-day discussion did not resolve the many questions surrounding zero rating as a practice for Internet adoption. It did, however, serve to highlight some key areas where coordination is possible and research is needed. While participants disagreed about whether devising a set of universal principles would adequately address some of the major concerns about zero rating programs, there may be certain practices that can be deemed acceptable or unacceptable. But reaching consensus will require further discussion.

All agreed that research into the impact of zero rating programs on the ground in the developing world, both comparative studies and program-specific analyses, will be central to understanding whether such practices are or could be beneficial, and data-sharing programs could be an effective way to facilitate these goals. Participants also suggested devising a Bill of Rights for zero rating users as another way of thinking about how to design programs that address user needs while also respecting their rights. Additional convenings of experts on this topic – such as those that take place at the Internet Governance Forum and other conferences – are needed to continue conversations as well as expand the discussion beyond zero rating programs implemented solely in developing countries.

One area in which zero rating is quickly developing relevance, and which was largely undiscussed in this convening, is its use in developed countries. While certain mobile carriers have begun zero rating data-rich content, like streaming video, as an enticement for potential customers, others are exploring the tactic as an Internet adoption mechanism or supplementary program on American soil as well. Indeed, in the fall of 2016, Facebook was reported to propose offering its Free Basics program in the United States with the intention of specifically targeting Americans who currently cannot afford to pay for Internet in their homes or on their phones. Although the company has not moved forward with this idea as of yet, speculation about Facebook's plan has already fueled more debate regarding the harms and benefits of zero rating, how best to implement zero rating programs, and what problems these programs solve in practice.⁵³ Researchers, policymakers, and civil society members alike should include these developments in future conversations as they endeavor to understand the full picture of how zero rating programs can and should be used.

52 "Trade in Services Agreement," Office of the United States Trade Representative, [Accessed July 12, 2016]: <https://ustr.gov/TiSA>; Burcu Kilic & Maryant Fernandez, "Meet the Trade in Services Agreement (TiSA): The biggest plurilateral trade agreement you've probably never heard of!" Internet Governance Forum, [Accessed July 12, 2016]: https://www.intgovforum.org/cms/igf2016/uploads/proposal_background_paper/Background_paper-Meet_TiSA_panel1.pdf.

53 Brian Fung, "Facebook is talking to the White House about giving you 'free' Internet. Here's why that may be controversial" *The Washington Post* (October 6, 2016): <https://www.washingtonpost.com/news/the-switch/wp/2016/10/06/facebook-is-talking-to-the-white-house-about-giving-you-free-internet-heres-why-that-may-be-controversial/> archived at <https://perma.cc/72QT-EYSB>.