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Zero-rating in Emerging Economies

Helani Galpaya



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ABOUT THE GLOBAL COMMISSION ON INTERNET GOVERNANCE

The Global Commission on Internet Governance was established in January 2014 to articulate and advance a strategic vision for the future of Internet governance. The two-year project conducts and supports independent research on Internet-related dimensions of global public policy, culminating in an official commission report that will articulate concrete policy recommendations for the future of Internet governance. These recommendations will address concerns about the stability, interoperability, security and resilience of the Internet ecosystem.

Launched by two independent global think tanks, the Centre for International Governance Innovation (CIGI) and Chatham House, the Global Commission on Internet Governance will help educate the wider public on the most effective ways to promote Internet access, while simultaneously championing the principles of freedom of expression and the free flow of ideas over the Internet.

The Global Commission on Internet Governance will focus on four key themes:

- enhancing governance legitimacy — including regulatory approaches and standards;
- stimulating economic innovation and growth — including critical Internet resources, infrastructure and competition policy;
- ensuring human rights online — including establishing the principle of technological neutrality for human rights, privacy and free expression; and
- avoiding systemic risk — including establishing norms regarding state conduct, cybercrime cooperation and non-proliferation, confidence-building measures and disarmament issues.

The goal of the Global Commission on Internet Governance is two-fold. First, it will encourage globally inclusive public discussions on the future of Internet governance. Second, through its comprehensive policy-oriented report, and the subsequent promotion of this final report, the Global Commission on Internet Governance will communicate its findings with senior stakeholders at key Internet governance events.

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EXECUTIVE SUMMARY

Zero-rated data refers to data that does not count toward the user's data cap. In developing countries where nearly all users pay for their Internet on a capped and metered basis (rather than having the "all you can eat" unlimited Internet data packages on offer in many developed countries), zero-rating is a subsidy that can be important to operators, content providers and users. For users, zero-rating provides an opportunity to save money because they bear no cost of the zero-rated data. For telecom operators and content providers, zero-rating is an opportunity to increase their customer base — as long as appealing content is zero-rated, new users will be attracted to join the telecom operator's network and consume the content providers' content.

Social media and text-messaging applications (apps) are among the content that is commonly zero-rated. Of particular fame is Facebook Flex, which is a video- and image-free version of Facebook, the world's largest social media platform. Free Basics is another service from Facebook, which allows access to Facebook Flex as well as to other content. Free Basics is presented as a solution to allow users who have never been online to use Facebook Flex or other zero-rated content, and if they like it, to become paying consumers of the "full" Internet. According to Facebook's data, about 50 percent of consumers who start out on Free Basics do end up paying for a data plan within a month. While it is unclear if these consumers then venture on to explore content outside of Free Basics, or keep consuming the content inside Free Basics/full-version Facebook, it certainly appears that zero-rating plays a role in giving some kind of connectivity to the previously unconnected. Research from multiple countries in Africa shows that for poor users, consuming zero-rated content is one of many strategies for saving money. Research in Myanmar shows a variety of content, including politics, news and health information, is consumed and searched for inside the free versions of Facebook, and that its use is not limited to connecting with friends.

But zero-rating, especially Free Basics, has proven to be hugely controversial, the primary argument against it being that zero-rating violates net neutrality — the concept that all content should be treated equally on the Internet. Indeed, zero-rated content can create incentives to the actors involved to behave in a market-distorting or anticompetitive manner. For example, if the telecom operator is seeing increased revenue (through attracting new users to the zero-rated content or by charging the content provider for carrying the content on the operator network), it has incentives to treat the zero-rated content better than other traffic. While such incentives are real, they are primarily issues in markets with low levels of competition. The developing countries that are the focus of this paper, particularly those in South Asia, have very

competitive markets. As long as regulators mandate the publishing of operators' traffic-management practices and ban negative discrimination of non-zero-rated traffic, market mechanisms can be sufficient to prevent the most egregious harms.

Many countries in South Asia have met affordability benchmarks set by the UN Broadband Commission but are still struggling to get more than 25 percent of their populations online. An oversight approach to zero-rating such as described above might enable regulators in developing countries to address the challenge of low connectivity in their countries while also safeguarding net neutrality.

INTRODUCTION

For decades, emerging countries in Asia, Sub-Saharan Africa and Latin America worried about connectivity: how to extend networks and how to make access affordable to citizens. During this time the issue of net neutrality was at most theoretical in these regions, its debate left to developed countries. Yet, since around 2014, it has emerged as a topic garnering attention in Asia, to a greater extent, and in Africa and Latin America, to a lesser extent. For the first time, emerging economies are not just debating how to get people connected to the Internet, but also *what type of Internet people could and should be connecting to*: an Internet that gives special advantage to certain content through differentiated pricing or differentiated quality, or an Internet that does not discriminate — positively or negatively, based on price, quality or other criteria — any content over another? Much of this recent interest in developing countries is a result of the availability of zero-rated content — broadly defined as content that doesn't count toward the user's data cap, and therefore is free to the user. The actions of one firm brought the issues to the forefront. Facebook linked up with mobile network operators (MNOs) in developing countries and content providers across the world to introduce a platform called Free Basics (previously called Internet.org, since rebranded) which enabled any content accessed via the platform (including Facebook's own popular social media network) to be free of charge to the users.

The debate had most people at one of two extremes: At one end was the argument that zero-rated content should be banned because it is a violation of net neutrality (because the free content is privileged over paid-for content, thereby giving an automatic advantage to the free content, possibly keeping users from exploring anything else in the rest of the Internet). At the other end was the argument that zero-rated content is a boon to the poor and unconnected populace in Asia, Africa and Latin America, the rationale being that having some connectivity, even with minimal content, was better than having no access at all. Between

these two extremes is an emerging body of evidence that paints a mixed picture, showing that:

- not only the poor find zero-rating attractive;
- most users prefer to have the full Internet instead of limited content (such as that offered by Free Basics);
- a significant number of people don't stay inside the zero-rated platform but use the full Internet instead;
- a zero-rating strategy is one among many used by telecom operators to increase market share and could easily be a passing phenomenon;
- competition could be enhanced or reduced depending on how the zero-rated content is offered in a given market; and
- zero-rating strategies are very common, and when popular content such as Facebook is zero-rated, it enjoys significant uptake.

It is a debate that touches upon issues of net neutrality, market power, privacy, security and social equity.

This paper examines the spectrum of arguments for and against zero-rating and presents evidence, where available, supporting or contradicting such arguments. It analyzes each issue from the perspective of developing countries — countries with market conditions vastly different from those of Europe or the Americas in terms of connectivity, affordability, quality of service and availability of relevant content for users.

UNDERSTANDING ZERO-RATING AND NET NEUTRALITY

ZERO-RATED CONTENT

CAPPED AND METERED USE OF DATA

The most common MNO data plans in the developing world are capped or metered. That is, users pay a fixed amount per day, per week or per month, in return for being able to download/upload a specific (capped) amount of data, or users pay per number of units of data downloaded/uploaded. Uncapped (“all you can eat”) packages *are* available in some markets, but these are rare. By far, capped and metered packages are the norm. If the cap is reached before the validity period ends, the user can purchase an additional data quantity (thereby temporarily increasing the cap), or pay for what he or she uses additionally on a per-unit basis. Either way, the usage is metered in the sense that users pay for what they consume. It is not uncommon in emerging markets to find packages that are capped as low as 100 megabytes (MB), sometimes less, and valid for just a day or a few days. These types of “micro” data packages (small quantities consumed for low

prices) allow even those on tight budgets to consume *some* data.

The advantage of caps generally is that they give price-sensitive users (the majority in any developing country) certainty about what they are spending on data, since they cannot continue to consume data after the (prepaid) cap is reached unless they consciously top up their mobile credit. Since many data networks follow something close to the 80:20 rule (where 80 percent of the bandwidth is used by 20 percent of users), metered use makes everyone pay for what they consume, thereby avoiding the majority (or the poor majority) subsidizing the limited number of high bandwidth consumers. This is important in the Global South, where affordability can still be a challenge and where networks are still being rolled out.

A DEFINITION

Zero-rated data is data that doesn't count toward the user's data cap as referred to above. When a specific application or content is zero-rated, the user may consume an unlimited amount of that specific content without incurring data charges. All other content the user consumes is charged at the normal rates and is deducted from the user's data cap. The terminology possibly stems from the world of customs duty and taxation — where goods that are zero-rated are excluded from taxes such as the Goods and Service Tax.

BENEFITS TO THE USER

Intuitively, this could be very useful to users who are price-sensitive. Usually, it is very attractive content that is most often zero-rated — for example, social networking content such as Facebook and Twitter, and Internet calling (Voice Over Internet Protocol) and messaging (WhatsApp). In developed countries, the list might, on rare occasions, include video, even on mobile networks — for example, T-Mobile offers zero-rated streaming of such video content as YouTube, Netflix, Amazon, HBO Now, Hulu and others through their Binge On service in the United States.¹ But zero-rating video is not common in bandwidth-constrained developing countries.

Recent research from Latin America showed that among 15 countries that offered some kind of zero-rated content, 14 offered zero-rated WhatsApp or Facebook (Viezens and Callorda 2016) (Table 1). The study looked only at what is zero-rated by over-the-top (OTT) players (providers of content, applications or services that run on the Internet) and didn't include MNOs' own zero-rated content. The value proposition to the users is obvious. Not only is zero-rating giving free content to people, it is giving the most popular content for free. Intuitively, the value of such zero-rated data would be higher for poorer users, since they would otherwise not be able to consume it at all. Yet

1 See www.t-mobile.com/offer/binge-on-streaming-video.html.

Table 1: Number of Operators Offering Zero-rated Content

Country	No. of Operators Offering Some Variant of Zero-rating	Applications in Zero-rating Plans
Brazil	1	WhatsApp, Facebook, Twitter
Chile	1	WhatsApp, Facebook, Twitter
Colombia	3	WhatsApp, Facebook, Twitter, Skype, Yahoo Messenger, Gtalk, MySpace, Hi5, LinkedIn
Costa Rica	1	WhatsApp, Facebook
Dominican Republic	1	WhatsApp
Ecuador	2	WhatsApp, Facebook, Twitter
El Salvador	2	WhatsApp, Facebook, Twitter, Messenger, email
Guatemala	2	WhatsApp, Facebook
Honduras	1	WhatsApp, Facebook
Jamaica	1	WhatsApp, Facebook, Twitter, Instagram, Wikipedia, Rdio music streaming
Mexico	1	WhatsApp, Facebook, Twitter
Nicaragua	1	Facebook, Twitter
Paraguay	2	WhatsApp, Facebook, Twitter, Google Plus, MySpace, Orkut, Google Talk, Yahoo Messenger, Skype, Yahoo, Hotmail, Gmail
Peru	1	WhatsApp, Facebook, Twitter
Trinidad and Tobago	1	WhatsApp, Facebook, Twitter, Instagram

Data source: Viemens and Callorda (2016).

there is at least some evidence that it is not the poorest who find such content useful. Though the research results were not generalizable due to the study's small sample size — around 20 users in India — Amba Kak (2015) found that it was students with access to the (full) Internet in other locations (such as at home or at university) and unlikely to be the poorest of Indian society who were willing to purchase the WhatsApp-only/Facebook-only zero-rated bundles on their phones. They were willing to have limited use on their mobiles while “on the go” because they could access the “full” Internet when they got home or to university. In contrast, the poorest students who did not have alternate modes of access and who relied purely on Internet access via their phones were not willing to limit their use to the zero-rated content, even though that meant a cost saving; they were only willing to limit the total bandwidth they consumed, not what content they consumed.

BENEFITS TO THE OTT/CONTENT PROVIDER AND MNO

Just because the user does not pay does not mean that zero-rated data provision is costless. It means instead that some other entity in the Internet value chain bears the costs. Usually, it is the MNO or the OTT player (or both) who bears them. The cost of the user's bandwidth to access the zero-rated content is borne by the MNO, or paid to the MNO by the OTT player, or shared between the MNO and OTT player, depending on how the specific business model is structured.

For the MNO and OTT, zero-rating could be part of a strategy to move users toward being fully paying consumers — initially attracting them by giving away some attractive content (but leaving some desirable content just beyond their reach), thereby nudging them toward paying. Alternatively, the specific content could be zero-rated for a limited introductory period to users. Having a taste of the content, some proportion of users would willingly convert to being paying consumers, to keep accessing the content after the promotional period ended. For the MNO, the customers' conversion would mean increased data-use fees. For the OTT provider, it would mean direct revenues.

Zero-rating is a marketing strategy for the OTT provider and MNO. It is difficult to imagine a situation where the MNO keeps bearing the cost of zero-rated connectivity if the medium- or long-term payback is not sufficient to cover the incurred costs — that is, the MNO's revenue due to new consumers is higher than the combined cost of serving consumers who only use zero-rated content (and never “convert” and generate revenue) and the cost of previously paying consumers who downgraded to the zero-rated version of the content they previously paid to consume. For the OTT player, too, “converting” a user from a free version that offers partial functionality into a “full” version that offers all functions can be a direct revenue stream. But because the value of some content (such as that of social media platforms) can increase as a result of the number of users (for example, by increasing the value of advertising on that social media platform), it might make sense for the OTT provider to continue to zero-rate (and pay the MNO), even if no users buy the version with full functionality.

Jeffrey A. Eisenach (2015, 6) explains this most succinctly:

...Zero Rating is a means by which carriers create opportunities for distribution by content providers (by increasing the number of subscribers), while enhancing the value of the platform for subscribers (by increasing the amount of available content). To the extent content providers contribute financially to Zero Rating through sponsored data programs, they do so in reflection of the increased value (at least over the long run) of enhanced distribution. But carriers may (and do) choose to offer Zero Rating even without a financial payment from content providers simply because it increases the value of their platforms.

A second aspect of multi-sidedness relevant to Zero Rating relates to the dual nature of consumers in relation to platforms like Facebook, Twitter and Wikipedia, in which “consumers” are also content creators. Thus, by attracting additional participants onto the platforms of such services, Zero Rating increases *both* the number of content consumers and the amount of content available. This “double whammy” effect helps to explain why firms like Facebook are taking the lead in encouraging Zero Rating programs.

Yet profit (direct or indirect) is not the only motive claimed by zero-rated providers. Mark Zuckerberg of Facebook has claimed that its zero-rated platform, Free Basics, is part of its plan to “connect the world,” and presents altruistic motives.² This paper will delve into a detailed discussion of Free Basics in later sections.

PREVALENCE OF ZERO-RATED OFFERS

There are no clear statistics of the prevalence of zero-rated programs globally or by country, as such offers are constantly entering or leaving the market. However, as shown in Table 1, 15 out of 19 countries researched in Latin America had some kind of zero-rated product offered. And according to the same research, 21 of the 46 MNOs in the region offered some zero-rated product. Zero-rated plans were seen as post-paid plans as well as prepaid plans. Some countries had a handful of plans to choose from (across all MNOs) while others, such as Colombia, offered as many as 30 prepaid and 34 post-paid plans (Viezens and Callorda 2016).

In another study, the Alliance for Affordable Internet (A4AI) looked at the top three to five carriers by market share in eight countries in the Global South (India, Philippines, Bangladesh, Ghana, Nigeria, Kenya, Peru and Colombia) and found that zero-rated data plans exist in every country, although there is a great range in the frequency with which they are offered in each (A4AI 2015). Across the 181 plans examined in these eight countries, 13 percent were offering zero-rated services. However, the researchers found that 51 percent offered a “service specific” data bundle, which is defined as a package that allows users to purchase data that enables them to access certain sites or apps for a specific period of time (including unlimited use of that site or app during the period). The user paid a discounted rate for this data pack. And commonly offered packs included social media (Facebook, Twitter, others), email (Gmail, Yahoo mail) and other popular content (ibid.). While these packs were not free, they are highlighted here to show the importance of certain key social media content in generating data revenue for MNOs. As such, offering it free initially via a zero-rated program and then selling a subsidized, time-limited data bundle or pack is a viable strategy.

Another study covering Ghana, Kenya, Nigeria and South Africa by Alison Gillwald and her colleagues (2016) finds Facebook’s Free Basics and Wikipedia Zero to be the most commonly zero-rated content. Gillwald et al. also mention Mozilla and Orange’s experiments in “equal rating” in the region (which are not commercial offerings yet and have only nominal presence), where the purchase of a particular phone (for around US\$40) included unlimited talk, text and 500 MB of data per month for six months; the user can access any content, up to the data cap. This type of program, which doesn’t zero-rate just one specific content but zero-rates all content up to a specified data cap, is usually called equal-rating and will be examined in coming sections.

No published study systematically looks at what content is zero-rated in the Asia-Pacific region, but Facebook has claimed that Free Basics is available in 11 Asian countries (Bangladesh, Cambodia, Indonesia, Maldives, Mongolia, Myanmar, Pakistan, Philippines, Thailand, Timor-Leste and Vanuatu) and more than 23 African countries.³

NET NEUTRALITY

Net neutrality is a principle about how traffic is routed on the Internet. Tim Wu (2003), who is credited with coining the term, and others have talked about how the Internet serves as a platform for innovation, and state that the neutral nature of the Internet is what provides incentives to invest and enables competition among applications.

² See Mark Zuckerberg’s statement on Facebook on March 27, 2014, at <https://en-gb.facebook.com/zuck/posts/10101322049893211>.

³ See <https://info.internet.org/en/story/where-weve-launched/>.

They see network providers acting as neutral routers of information packets, without discrimination, with the exception of some specific situations (such as spam) that can harm the network or the users. Wu’s rules specifically ban the network operator from discriminating for or against any particular application. He uses the example of an online game that consumes large amounts of bandwidth (compared to, say, email) and thus creates incentives for the telecom operator to restrict usage in order to manage quality for other users and other applications. Instead of banning or restricting the game, Wu proposes another solution: the network provider does not block, but polices usage, and allows users who are interested in a better gaming experience to buy more bandwidth. If these rules in Wu’s proposal are applied by each operator to the networks they own (“police what they own”), neutrality of the Internet is ensured. In other words, Wu’s solution is to move toward a “pay for what you consume” model that is already the most common across emerging Asia and Africa. These regions rarely offer the “all you can eat” data bundles that are common in some developed economies.

Most will summarize the principle of net neutrality as “all electronic communication passing through a network will be treated the same, independently of content, application, service, device, sender, receiver” (Global Symposium for Regulators [GSR] 2012).

In other words, the principles of net neutrality were predominantly about ensuring the technical quality of Internet access, not about issues of equity. A purist reading of network neutrality implies that no part of the network may engage in any type of traffic management (traffic management refers to a collection of techniques that Internet service providers [ISPs] could use to allocate network resources to obtain optimal performance). But most people see traffic management as necessary under certain circumstances, and that it benefits OTT providers and users. An example would be prioritizing time-sensitive data such as a Skype transmission over a File Transfer Protocol action happening in the background. This management is all the more necessary in developing countries where bandwidth is constrained. According to a discussion paper from the GSR (ibid.), networks can use a range of techniques such as data caps, application-agnostic congestion management, prioritization, differential throttling (where capacity available for one type of content is throttled — for example, all video content), access tiering (selling access to a lane to OTTs who are able and willing to pay) and blocking.

The UK regulator Ofcom presents the traffic management methods, from the least intrusive (therefore, least problematic for most people) to the most intrusive (therefore, highly likely to be seen as a violation of net neutrality) as shown in Figure 1.

Figure 1: ISP Traffic Management Continuum

LEAST INTRUSIVE
No traffic management
Traffic managed during high-congestion periods only
Most vulnerable services given priority (voice, streaming, games)
Blocking content (spam and illegal website content)
Throttling or degrading of some types of traffic (for example, peer-to-peer networks)
Some service providers or apps given priority (perhaps for fee, as revenue stream)
Rivals’ content or apps blocked
MOST INTRUSIVE

Source: Author, based on Ofcom (2010, 6).

It is worth noting that Wu’s discussion took place mainly in the fixed-network data world. A majority of his arguments are applicable in the case of mobile data too. But mobile networks possibly face more traffic management implications due to the nature of technology and spectrum.

The big question is whether zero-rating violates net neutrality rules. In other words, does the act of an MNO offering some form of zero-rated package create the conditions or provide financial incentives under which certain forms of traffic management become necessary?

It should be obvious from Figure 1 that the more intrusive forms of traffic management (and therefore, to many, the more egregious violations of net neutrality) occur in relation to how an ISP treats *someone else’s traffic in relation to its own*. That is, the violations are necessarily set in the competitive landscape. As such, an analysis of net neutrality violations cannot take place without analyzing the competitive dynamics of the specific market or market segment. Vishal Misra (2015) makes the need for analyzing the competitive dynamics clear in his look at the issue of neutrality using consumer surplus, which is the difference between the utility gained from using a good or service and the cost of consuming that good or service. He argues that the common understanding of net neutrality focuses only on the utility side and therefore limits only discrimination based on quality of service (utility is a function of the quality of service obtained for a specific application). By looking at the cost, he points out that, from a game theoretic model, zero-cost services create higher surpluses,

thereby providing a competitive advantage to the provider of the service.

INCENTIVES FOR NON-NEUTRALITY

The incentives for each actor in a zero-rated arrangement can vary depending on the level of competition and the flow of money. With the recognition that many more variations are possible, the scenarios below present three separate possibilities:

SCENARIO 1: MNO WITH SIGNIFICANT MARKET POWER

Consider a case where an MNO (call it “X”) has significant market power and wants to adopt a zero-rate content strategy. Given X’s power, it has the ability to offer a very high number of viewers (or “eyeballs”) to any potential content provider. This makes being zero-rated by X very attractive to content providers, and therefore increases their willingness to pay X for carrying the content, if needed. X may, too, decide to carry the content without payment from the content provider, as long as the content is attractive enough to attract new users to X’s network, and the expected revenue from these users is larger than the cost of zero-rating the data. Because the zero-rated content is of high value (because X is receiving payments from the content provider, or because the content’s attractiveness is generating new consumers for X’s network, or both), traffic management would result in all other traffic being negatively discriminated, while the zero-rated content is positively discriminated. X could keep downgrading all other content, until other content providers feel compelled to join X’s zero-rating program in order to have their content reach X’s customers at reasonable quality levels.

There are other concerns beyond traffic management. Due to its market size, X is in a position to ask for exclusivity — that is, to specify that the content that is zero-rated on its network cannot be zero-rated on a rival MNO’s network. The exclusivity would negatively impact the content diversity for consumers not on X’s network, and create further incentives for them to switch to X.

SCENARIO 2: ZERO-RATING OF DOMINANT CONTENT

A variation of Scenario 1 is when a particular content or app — call it “A” — dominates the market and has few competitors. In such a situation, A could demand that each MNO that zero-rates A not carry any competing content. Given A’s popularity, as traffic increases, the MNOs might have incentives to negatively discriminate against other content. The concerns are the same as in Scenario 1 in terms of competition harms, content diversity and quality. Further, seeing that the particular content market (be it for streaming music, social networking or some other activity) is dominated by A, entrepreneurs who might

have developed alternate content or apps will leave the market, or worse, never enter, since it is difficult to compete with the zero-rated A unless one has significant resources (since price competition with A is no longer an option). Innovation and entrepreneurship could be harmed.

SCENARIO 3: COMPETITIVE MARKET OF MNOS

In this scenario, there are a large number of MNOs in the market, none with significant market power. In this situation, there is no reason for a content provider to try to be on one specific network provider over another because no one MNO offers a market share advantage. Content providers have incentives to be zero-rated with as many MNO networks as possible in order to reach the widest audience. Further, no single MNO can demand exclusivity from content providers. Therefore, there is no immediate danger to content diversity on competitive networks. And each MNO has incentives to include as much diverse content as possible on their zero-rating program, in order to cater to the diverse demands on a long-tail market.

We could consider many variations of the above scenarios. But it should be clear that the biggest concerns arise when actors with significant market power — in content provision, or in service delivery (MNOs) — participate in zero-rating programs. The harms to competition, consumer content diversity and innovation are all issues that need to be examined in such situations.

THE CASE OF FACEBOOK FLEX

Though no formal studies of market power were found at the time of writing, most writers agree that Facebook is one of the most dominant social media platforms. Even in the face of emerging data that shows younger users prefer SnapChat to Facebook (Beck 2016), Facebook still has nearly 1.8 billion users (Statista 2016) and is the social media platform with the highest number of registered users. It is certainly the most popular application used in many emerging markets. If Facebook were to be zero-rated exclusively via the dominant MNO in a given market (that is, if consumers on the dominant market could consume the dominant content for free), competition harms would be a significant concern. Not only does Facebook provide its own content, but it also hosts third-party content (for example, games, map applications). Given Facebook’s popularity, other content providers have incentives to be inside Facebook, thereby further increasing Facebook’s power.

Facebook Flex is the video- and image-free version of Facebook that is zero-rated by various telcos across the world. Facebook Flex is commonly zero-rated in many emerging markets, as previously seen. It is clear Facebook being zero-rated causes concerns, particularly if it is zero-rated via the dominant operator. But does Facebook Flex being zero-rated also pose a concern? The question here is

whether Facebook Flex is the same as Facebook. Does the lack of video and pictures make it a different product, or do the dynamics above still apply?

One could argue that Facebook is Facebook, with or without pictures — it still connects one to the social network, allows posting on timelines and allows messages to be exchanged. There are no market definition studies to conclusively show whether the two versions are in the same market (that is, substitutes) or not. However, Myanmar provides a unique natural experiment where Facebook and Facebook Flex are both offered to users. Myanmar Posts and Telecommunications (MPT), the incumbent dominant operator, offers Facebook Flex within its Free Basics platform, and users can consume unlimited quantities of it. Telenor, the largest private-sector operator (although still smaller than MPT) offers Facebook (the “full” version, with pictures and video) to its users, but limits the free usage to 150 MB per day per SIM card. In July 2016, focus groups were conducted with 63 men and women aged 15 to 64 from all income levels to understand their data use. All but 16 of the respondents were users of zero-rated content. Many respondents had two SIM cards — one from MPT and one from Telenor. All of them stated a very clear preference for the “normal” or “full” version of Facebook, where they could consume pictures and video as well as text. They consumed Facebook Flex only because they could not afford the full version. They would start the day with their Telenor SIM card and access the full Facebook. When they reached their consumption limit (150 MB) they switched to the MPT SIM and used Facebook Flex without pictures and videos. They did so because they still wanted to stay connected to their friends and communicate via Facebook, but they were unhappy about being unable to see picture or videos. Many knew they would exceed their data cap while on their Telenor SIM, and therefore consumed only essential videos, bookmarking and saving the rest to consume if they came across a free Wi-Fi hotspot during the day. A subgroup of these respondents ended up reloading their prepaid data service in order to keep consuming pictures and videos, instead of switching to the free version. These types of consumption patterns and respondents’ stated preferences show that photos and videos are key components of Facebook, and suggest that Facebook Flex is a different product from Facebook, as far as it is perceived by the Myanmar users studied (Cihon and Galpaya, forthcoming 2017). Further, this specific implementation of Facebook caps the amount consumed per day at a level where even poor or entry-level consumers feel the need to purchase additional bandwidth, indicating that the two are not substitutes.

THE CASE OF FREE BASICS

Free Basics is Facebook’s product that is not limited to Facebook Flex but offers a variety of other content from

third parties.⁴ Free Basics (previously called Internet.org) can be accessed via a browser or a downloadable app. Anyone with a mobile phone can use Free Basics as long as his or her MNO participates in the Free Basics program — that is, the MNO has an agreement with Facebook to offer Free Basics. According to Facebook, there is no payment made by Facebook to the MNO or by the third-party content providers to Facebook or the MNO. Therefore, the MNO bears the full cost of subsidizing Free Basics users. Any third-party content provider can offer its content via Free Basics, as long as the content meets certain technical specifications (such as absence of video, very high-resolution of images, use of JavaScript and iFrame elements), thereby enabling the use of Free Basics on feature phones (not just smart phones) and in low bandwidth connectivity. Given that smart phone penetration is low among the poor in Asia, Africa and Latin America, providing the service on basic or “feature” phones appears to fit in with Facebook’s stated goal of connecting the world. Implementations of Free Basics are found almost exclusively in developing countries in Latin America, Africa and Asia.⁵

While Facebook Flex is offered on every Free Basics implementation, the other (third-party) content that is offered on the platform varies based on the country, and can include content related to health, weather, education, jobs and entertainment. No two instances of Free Basics are the same. For example, Rjurekha Sen and colleagues (2016) have compared the implementations in Pakistan and South Africa, and found 74 and 101 services in each country respectively. Certain content (for example, global news sites such as the British Broadcasting Corporation) are common across the two countries, but much other content is country-specific. They have also analyzed the content on Free Basics in each country against the generally popular content accessed by that country in general. They found that although much of the popular content for the country (as revealed by the country’s Alexa Internet rankings) is also offered on Free Basics in that country, these sites only account for around 20 percent of what’s offered on Free Basics. The other services or content offered on Free Basics falls below the top 500 nationally popular services, indicating that not all popular content is offered on Free Basics. They even find a small handful of services that are dubious and categorize these as spam because they lead to unavailable links or to links that generate warnings. And Facebook is offered on Free Basics, but it is Facebook Flex that is offered, not the full version preferred by users. These researchers (ibid.) also performed tests to find that, on average, the data transfer quality of content on Free Basics is worse than the quality of the same content outside of Free Basics (on a normal “paid” data connection). This finding is almost counter to popular expectation, since in Scenario 2

⁴ From here on, this paper will refer to Free Basics as a platform, because of its ability to host other content.

⁵ See list of countries offering Free Basics at <https://info.internet.org/en/story/where-weve-launched/>.

above, the MNO has incentives to treat the zero-rated content better, and to downgrade other content. Since the MNO isn't getting paid by Facebook, it appears to have set up the arrangement to give users just enough connectivity while nudging them toward becoming "full" users. Finally, most implementations of Free Basics are through a non-dominant operator, as part of its strategy to compete against a larger operator. In such cases, market concentration is likely to diffuse, and raises fewer concerns about zero-rated content.

ARGUMENTS FOR AND AGAINST ZERO-RATING

As mentioned in the introductory section, the topic of zero-rating has garnered much attention in South Asia, with the Free Basics battle in India (see Box 1) being played out in other jurisdictions. Less polarized yet equally important debates have taken place in other countries. Much of the debate centres on the trade-off involved — the importance of giving citizens any type of connectivity (even limited access to certain content or platforms) to the Internet, versus the importance of giving them access to the full, free, open Internet. In this debate, poverty and rights are as important as economics and technology.

Some of the points made by opponents and proponents of the zero-rating debate are given below, along with supporting or countering evidence.

BOX 1: THE FREE BASICS BATTLE IN INDIA

In March 2015, the Telecom Regulatory Authority of India (TRAI) issued a *Consultation Paper on Regulatory Framework for Over-the-top (OTT) Services*. The document covered a range of questions on how OTT services should be regulated, as well as the pros and cons of various price or non-price discrimination methods (TRAI 2015a). In the six months leading up to this consultation, Airtel had announced its package Airtel Zero, and Reliance had launched Free Basics. A coalition of activists, private companies, academics and others came together under the "Savetheinternet.in" campaign and were successful in making the citizens of India, and indeed the world, aware of the issues of net neutrality involved in such zero-rated offerings. By using creative and entertaining videos, open letters to Mark Zuckerberg and much traditional publicity (such as op-ed pieces in newspapers) and making it easy for anyone with an Internet connection to send a standard response to TRAI with a simple click, the campaign was a triumph in getting the public to engage with regulatory decision making. More than one million people wrote emails to TRAI, the majority asking for Internet.org (later renamed Free Basics) to be banned

and for strict net neutrality rules to be enforced. Some questioned the relevance of asking people already online (and thus able to write emails to TRAI) about an issue that deeply affected the chances of the rest of the population getting online. The negative publicity against Internet.org was so significant that in order to avoid controversy, *Times of India* (a leading news provider), Flipkart.com (a dominant Internet retailer, the Amazon.com of India) and others pulled out of the Internet.org platform in the period leading up to TRAI's deadline for public input.

It is unclear how TRAI analyzed all the responses it received, but in December 2015, TRAI issued a temporary ban on Internet.org by asking Airtel to stop offering the program. It then issued another call for public comment, this time specifically about differential pricing, titled *Consultation Paper on Differential Pricing for Data Services* (TRAI 2015b). This time around, Facebook mounted its own campaign, and urged Facebook users to write to the regulator. According to TRAI, within the first three weeks, over two million responses were received, with more than 500,000 coming from the @facebook.com domain and one million coming from the @supportfreebasics.in domain (ibid.).

By February 2016, TRAI came out on the side of net neutrality by banning all differentially priced data (TRAI 2016a), thereby addressing the price discrimination but not the other forms of discrimination (for example, non-price discrimination methods related to traffic blocking, throttling or quality of service). Facebook retreated, admitting defeat (see Bhatia [2016] for a summary of what happened inside Facebook during this campaign).

Yet it seems the matter doesn't end there. In May 2016, TRAI called for another round of public comments through its *Consultation Paper on Free Data* (TRAI 2016b). This time, TRAI acknowledges both the possible positive effects of zero-rating, in getting people online, as well as the negative effects on net neutrality, and aims to "explore model(s) that could achieve the benefits of offering free data while avoiding the ingenuity that the Differential Tariff Regulation is meant to prevent. The model should facilitate the unconnected and under-connected consumer to become better connected and should not allow any TSP [telecom service provider] or large company playing a gatekeeper or biased role" (ibid., 4).

As of December 2016, activists claimed that a new (and final?) ruling was imminent.

ZERO-RATING AS INTERNET ON-RAMP

Emerging Asia has some of the lowest mobile voice and data prices in the world. Many have even met the affordability benchmark set by the UN Broadband Commission⁶ in 2015, requiring monthly access charges be less than 5 percent of monthly income. And yet, fewer than 20 percent of the population in these countries is online (Galpaya 2015, 11-12). So there is something beyond mere affordability keeping people off-line. Could it be they don't see the value of getting online by buying a data package? Might they be tempted to try some data if it were free? Might social media content, especially apps such as Facebook used by the users' friends, entice users to get online, especially if it were free initially? After being exposed to the Internet (or a limited part of the Internet) in this manner, would these people later become consumers of the "full" Internet and buy a data bundle? And what about the masses in Asia, Africa and Latin America who still face a huge affordability challenge? Will they not welcome the chance to try consuming some select content on the Internet for free? And won't that make the business case for lowering prices (because MNOs can see the pent-up demand)? This last point is the hope of many, and certainly the development/"pro-poor" narrative espoused by MNOs and content providers who offer zero-rating. Unfortunately, at the time of writing, very little systematic evidence is available to either support or disprove this narrative.

But the two data points that are available show that there is some "on-ramp" effect.

The data Facebook has publicly recited is that 50 percent of users who start using Free Basics buy a data package within 30 days (Internet.org 2015). But it is not known if, after purchasing the packages, these users continue to only browse Facebook (including videos and images, which were not available on the Free Basics version) or are consuming other content outside of Facebook.

Another study based on phone interviews with zero-rated data users in eight developing countries in Latin America, Africa and Asia shows that 28 percent of users of zero-rated services no longer use it and have become paying customers of the full Internet; another 35 percent continue to use the zero-rated services but also have a paid data subscription to the full Internet (A4AI 2016). It is not possible to establish if the effects are stronger for poorer people, because income (or a proxy for it) was not captured in the survey.

6 In full, the UN Broadband Commission for Sustainable Development, formerly the UN Broadband Commission for Digital Development. See the 2015 benchmarks at www.broadbandcommission.org/Documents/Broadband_Targets.pdf.

These data points show that there is some "on-ramp to the Internet" effect. But in this study too, what the users did when they started paying for the "full Internet" is unknown. If users continue to use only Facebook even after paying, many would argue they aren't on the "real" Internet. But then what is the "real" Internet? Instead of searching inside Facebook, people might be using Google or another search engine to search and then be clicking through to one of the links. Could that be considered using the "open" Internet, or is it just what the search engine algorithm put on the first page? And if so, can we say the users aren't being nudged to particular content? Clearly there is a continuum of moving toward using the "open" Internet, and more research is needed to better understand it.

FACEBOOK: THE POOR PEOPLE'S INTERNET?

One of the biggest threats pointed out by net neutrality advocates is that people who get online for the first time using Free Basics or Facebook Flex will simply assume that the whole Internet is Facebook, and never benefit from the vast trove of content (and knowledge) beyond it on the Internet. The author's own research from 2012 (cited in Mirani 2015), which observed respondents in Indonesia using Facebook on their phones, even though when surveyed they had said "I do not use the Internet" — has been used by some to highlight this threat. The author's research was done before zero-rated packages were introduced in the countries she was researching, so that the relationship she observed between users' misperception of Facebook as not "the Internet" and their never venturing beyond Facebook was not a phenomenon related to zero-rating. Since that research, there is sufficient evidence⁷ to show that there are more Facebook users than Internet users in several East Asian countries, including Myanmar, Indonesia, Philippines and Thailand. However, this is not proof that people *aren't* leaving the walled garden of Facebook and going outside, since these numbers do not show what people do outside Facebook, or whether they go outside Facebook in the first place.

As described in the previous section, the research by A4AI (2016) showed that 28 percent of users of zero-rated services went on to become paying customers of the full Internet and no longer used the zero-rated services; another 35 percent continued to use the zero-rated services but also acquired a paid-data subscription to the full Internet. Again, just paying for a data package does not indicate whether the customers wanted to access any content outside Facebook, or whether they wanted the video- and photo-filled version of Facebook (instead of the text-only version that was zero-rated).

7 Based on the International Telecommunication Union's "Internet users" individual country estimates and Facebook subscriber data and assuming that the users have identified their home countries truthfully on their Facebook profiles (see Galpaya 2015, 17).

Recent research from Myanmar (Cihon and Galpaya, forthcoming 2017) showed that a majority of the users that participated in the focus groups did primarily use Facebook when they consumed zero-rated data services, even though other content was also zero-rated. When asked if they searched for information, they responded that they do — but for many, this was a search on Facebook/Facebook Flex. Although there is other content besides Facebook offered for free on Free Basics, many were hard-pressed to identify or recognize the names of any of the other content, apart from one local news site. And those who did increase their daily data limit by paying for data also appeared to stay inside Facebook: the primary reason they bought more data was to be able to browse photos and watch videos on their Facebook feed. In Myanmar zero-rating implementations, users staying inside Facebook or Facebook Flex without venturing outside are a real and observable phenomenon.

But the bigger question is why this matters. Underlying the worry of many advocates is an assumption that being on Facebook (or some other popular zero-rated app) is somehow a frivolous activity, and that those people for whom the Internet is a precious commodity (that is, the “poor”) should be consuming “useful” content on the Internet (instead of funny cat videos, as the joke goes). There is no small amount of hypocrisy in this line of thinking — after all, one might ask how many rich people, especially youth, spend their online time on social media and never leave those apps to explore the “full” Internet? Yet when the poor (who deserve subsidies) do the same, many observers have a problem with it.

Equally relevant is the misunderstanding of the range of content people consume on or via social media platforms and the value of it to those users. In Myanmar, in the absence of anything else digital, whole political campaigns leading to the November 2015 parliamentary elections were conducted on Facebook (Regencia 2015). LIRNEAsia’s field research in South and South East Asia (including Myanmar) found micro-entrepreneurs using Facebook as a learning platform to improve income — for example, hairdressers at the lower end of the socio-economic spectrum were looking at pictures of celebrity hairstyles on Facebook and offering to recreate the same for their clients. The author has colleagues who were unable to book a local tour bus in Myanmar via the bus company’s website but could transact all but the actual payment — for example, consulting schedules and negotiating the specific bus to take when they contacted the same bus company’s Facebook page, and exchanged messages with it via Facebook.

Finally, evidence from Africa shows that social media has been used as a means to contact, keep in touch and coordinate with friends, family and business partners (Stork, Calandro and Gillwald 2013). Consumers have used it as a substitute for the much more expensive voice

or Short Message Service (SMS) products, thereby saving money and creating value to the user. The research from Myanmar agrees — zero-rated Facebook Flex and Facebook Messenger have become primary ways of communicating (Cihon and Galpaya, forthcoming 2017), and are replacing SMS and voice (Galpaya et al. 2016, 101). Unless SMS and voice prices fall significantly, banning zero-rating would harm many consumers financially.

Clearly, those people with more education and wealth have an advantage in using the Internet. They know how to do research online and how to acquire new knowledge. They have credit cards that can be used for online payments in electronic commerce transactions, which in turn helps them save money by buying from a global market and provides them with other advantages. The capacities of the poor need to be enhanced in order for them to benefit from digital technologies. Prices need to be lowered through the elimination of market power so that services are affordable to the poor. Without doing these things first, banning zero-rated services immediately might not help bridge the access gap.

ZERO-RATING CREATES FAST AND SLOW LANES ON THE INTERNET

The economic incentives for discriminatory treatment of content were discussed in detail in a previous section, viewed through three separate scenarios. Irrespective of the level of competition in the market (that is, in all scenarios discussed), the regulatory action must mandate making traffic management practices transparent. Furthermore, the regulator must monitor data quality indicators by content type, and take action against those that discriminate against types of classes of content. In other situations (Scenarios 1, 2), additional measures such as banning exclusive contracts will be necessary if the operator has market power.

The level of competition in most South Asian retail MNO markets is suited for this type of minimal intervention, since it is not unusual to have six or even eight operators competing fiercely for market share. As Scenario 2 showed, in such a situation there is less concern about market distortions. And equally importantly, in many instances, the zero-rating is done by a non-dominant operator, as a strategy to gain market share. Therefore, a zero-rating strategy may actually reduce the market dominance of one operator, thereby making the overall market less concentrated.

A MARKETING AND BUSINESS STRATEGY FOR MNOS OR OTTS

Many have questioned Facebook’s stated intents of giving Facebook and Free Basics away in order to “connect the world.” But this questioning, in some ways, misses the point. The point is that whoever is spending money on

zero-rated offerings (Facebook, other content providers and MNOs) is doing so with private sector capital — the type of capital that demands a return on investment. If the zero-rating program is not returning the kind of conversion rates (that is, if not enough consumers convert to paying consumers, or not enough new users are attracted to the network), it is highly unlikely the MNO will continue the program in the long term.

Highly competitive markets such as those in many South Asian countries have built-in checks and balances against such indulgences. As a prominent Indian journalist wrote at the height of India's net neutrality debate last year, "the very strength of the parallel Internet for the poor is that it is corporate strategy. Mark Zuckerberg has tried his best to give it a humanitarian spin, which may not be wholly a lie, but I do hope the venture is not purely altruistic" (Joseph 2015).

SOME COUNTRIES BANNING ZERO-RATING

It is true that some countries have banned zero-rated services. It is also true that much of the anti-zero-rating battle started in developed countries, such as the United States, well before it percolated to developing countries. One of the earliest cases was MetroPCS, a very small MNO in the United States (with around three percent market share) that primarily sold prepaid connection (that is, served the poor) and was struggling to compete with the big, nationwide telecom companies. It struck a deal, where for a US\$40 flat fee, customers received unlimited YouTube bundled with voice, SMS or data services or some combination. Additional bundles for other specific content were available on top. The service was technologically innovative in that it delivered video efficiently over a low-bandwidth network. Net neutrality advocates pointed out that the offerings were in violation of the newly drafted net neutrality rules from the Federal Communication Commission (FCC) (Free Press 2011; FCC 2010). MetroPCS could not survive the financial fallout and abandoned the program (Szoka 2015). The company was soon sold out to the fourth largest operator, T-Mobile (Skorup 2014). How the exit of a small competitor with no market power could possibly make the overall market (or consumers) better off is as unclear as how the company's actions constituted a violation of the FCC's rules — which in any case were later challenged in courts by the very big MNOs.

Even more famous was the case of Comcast and Netflix, which has been much discussed, and was beautifully written up by Susan Crawford (2014), among others. But the Comcast/Netflix battle took place in a market of low competition, in which Comcast had a regional monopoly on cable TV subscriptions and at most one other fixed substitute (in the form of ADSL data connectivity) and some distant mobile substitutes.

But in all these cases, it is important to understand how radically different the context in the developed world is from that of the developing countries. The level of connectivity is *far* higher, the problems of affordability are far lower, and bandwidth is much less constrained in the United States and other developed countries, in comparison to those in the Global South. Equally important, the level of competition in the United States is lower than in many of the East African and South Asian countries. Therefore, regulation warranted in one market cannot be applied to another market that is vastly different. While some regulatory action to outright ban zero-rating is justified, other actions are not, especially if the market conditions are taken into account. India, a highly competitive market of MNOs, banned subsidized data — even though a much more nuanced approach might have sufficed — allowing the positive effects of zero-rating (that is, getting people online for the first time) to take place while also mitigating harms.

GATEKEEPERS HARM FREEDOM OF EXPRESSION

In the initial incarnation of Free Basics (then called Internet.org), it was not possible to get on the platform without having a partnership with Facebook. It was unclear how Facebook decided which handful of apps it selected in each country to put inside Free Basics. In this instance, Facebook acting as gatekeeper for content was indeed a problem. After receiving very heavy criticism from activists, Facebook changed the policy, so that any content that met the basic technical requirements (that is, accessible on a basic feature phone, not just a smart phone) could get on Free Basics.

But, moving from the specific criticism about Facebook, the general criticism fails to take into account that in the market in question, as long as there is competition, all parties benefit from economies of both scale (having more users) and scope (having a range of content). It is a two-sided market, with one side influencing the other. The actors, therefore, have economic incentive to be as diverse as possible in their content offerings, in order to attract the widest number of users (content markets have long-tail characteristics). As such, the purely theoretical argument of gatekeeping is countered with economic incentives.

Further, there is a group of users who are able to be online (even if only on Facebook) thanks to zero-rating. If it were banned, they might not be online at all — not to communicate, not to obtain news and information. As Eisenach (2015) states, "it is difficult to construct a scenario under which increasing access to online information and adoption of digital communications services would be harmful to online speech."

REGULATORY RESPONSES

WHAT IS THE APPROPRIATE RESPONSE?

As shown previously, the risk of discriminatory or anticompetitive behaviour by the actors involved in an Internet value chain that offers zero-rated content depends on the level of competition at various points in the value chain, and whether or not the actors have market power.

There is no concrete data about the prevalence of the scenarios (described earlier) across various countries. The zero-rated Free Basics plan in India that generated such huge controversy was offered by the country's third- or fourth-largest MNO, Reliance. In Ghana, South Africa and Kenya, the MNOs that offer Free Basics (Airtel, Cell C, Airtel, respectively) are all non-dominant operators. And each is using zero-rated offers to compete with much larger operators with larger market share (and in some cases, significant market power). In South Africa, Cell C's zero-rated WhatsApp offer was hugely popular, with one million Cell C consumers using it over a seven-day period in July 2015. Cell C then converted this zero-rated offer to a service-specific top-up where the user paid for unlimited use of WhatsApp monthly (Gillwald et al. 2016). In Pakistan and Myanmar, too, it is offered by the operators that have second- or third-highest market share, not the dominant operator. In many markets, zero-rating is a pro-competitive strategy, used by smaller operators. In other words, the negative outcomes (to competition, service quality, innovation) identified in Scenario 1 are not an immediate threat in such situations.

Of course, it is possible that in other markets zero-rated content, especially Free Basics, might be offered by the dominant operator. If this is the case, the regulator might have a range of reactions: at the strictest end, it could enforce an outright ban on any zero-rating by an MNO with significant market power; or it could take other, lighter actions such as monitoring (and banning) some of the negative consequences. For example, in Scenario 1, where the MNO might have incentives to downgrade non-zero-rated traffic, a regulator could have *ex ante* rules or regulations that mandate:

- advertising of minimum speeds by MNOs;
- a ban on speeds falling below this limit; and
- a ban on traffic management that discriminates against specific content or classes of content.

Because the MNO in this scenario has market power, it is necessary to ban not only *negative* discrimination (that is, the downgrading of the non-zero-rated content) but also *positive* discrimination (where the MNO meets the minimum speed for all content but provides higher-than-advertised speeds for its zero-rated content). How could

these bans be implemented? One idea is that users, if they had tools for monitoring the speeds they get, could report problems to the regulator (be it the competition regulator or the telecom regulator, depending on the context and country). But in practice this method is often insufficient, because it puts the onus of detecting ISPs' problematic traffic management practices on the user. The better approach would be for the regulator to monitor promised versus delivered quality of service for various applications and content. The regulator could then take action when violations (discriminatory traffic management) were seen, *ex post*. Similarly, *ex ante* rules would be required regarding exclusive contracts, which might otherwise lead to arrangements between the walled garden and a particular application banning competing applications.

In Scenario 2, where the zero-rated content is dominated by a content provider that has market power, the incentives are similar. Therefore, the minimal regulatory response is the same as Scenario 1: *ex ante* banning of negative/positive traffic management and other anticompetitive behaviour (such as exclusive contracts that discriminate against similar apps), monitoring of speeds and service quality parameters, *ex post* imposition of penalties in the case of violations and so on.

In Scenario 3, where there is competition in the market, less onerous regulatory action might be considered. *Ex ante* rules need to:

- mandate publishing of minimal data-quality standard (for example, minimum speeds) by MNOs; and
- mandate a ban on negative discrimination of any content or any class of content.

Some have argued that positive discrimination (where the MNO can give faster-than-promised speeds to zero-rated content, as long as all other content receives at least the minimal promised speeds) should be allowed (for example, Marda, Tiwari and Prakash 2015). In any case, as long as traffic management patterns are made public, and the regulator monitors actual performance speeds (and other data-quality measures), consumers can switch between MNOs. A very competitive market provides incentives for walled gardens (by MNOs or OTTs) to differentiate themselves, while still leaving consumers with sufficient choice and diversity of content.

WHAT IS POSSIBLE IN EMERGING ECONOMIES?

The above-mentioned regulatory responses require some *ex ante* rules but also depend on *ex post* detection and action. To detect and act, regulators must be able to monitor the market, interpret data and patterns, analyze the trends and come to decisions based on the principles of economics, competition and regulation. In other words,

they must have the ability to engage in some level of principle-based regulation as opposed to rule-based regulation. On the one hand, rule-based decision making would mean simply taking an existing rule — for example, “zero-rating is banned under all conditions, and a fine of X is imposed if an MNO is found in violation” — and applying it uniformly in all situations. On the other hand, principle-based regulation might lay out overall objectives of the regulation — such as to promote diversity of content, increase competition, disable anticompetitive behaviours — but let the specific details be determined on a case-by-case basis. This latter approach allows for discrimination by the regulators and more nuance and fine-tuning of regulation, which might be desirable, given that regulation often is a blunt tool to begin with. But in countries with low institutional capacity, rule-based regulation is a lot easier to implement, since there is no discretion left to the regulators. In dealing with the challenges of new market developments, of which zero-rating is just one example, regulatory capacity is essential.

However, in emerging economies, regulators *do* need to balance the challenge of connectivity with all other concerns, including that of ensuring net neutrality. In fact, connectivity (getting citizens online) is a primary challenge. Given that there is evidence that zero-rated content helps users to stay connected, and even to get onto the full and open Internet for the first time, regulators could take an approach that enables them to both encourage these positive benefits and avoid the negative ones (or to be ready to act, when negative effects are observed).

MAKING ZERO-RATING MORE PALATABLE

Connecting people to the Internet has been, and will continue to be, a primary goal of policy makers and regulators in the developing countries. Yet, unless regulators are capable of monitoring evolving market conditions and taking the right action, allowing zero-rating as a way (albeit temporary) of giving people some form of affordable Internet access can be the start of a slippery slope that leads to market distortion, lack of content diversity and innovation harms. It thus requires regulatory capacity at a level that might not always be available in emerging economies.

In this context, it is worth exploring models of zero-rating that might be more likely to ensure net neutrality, easier to enforce and monitor for the regulator, and have lower potential for future harms while also helping achieve connectivity for the poor. Some models are already being trialled. Other ideas are being debated, for example:

- **Time limit zero-rating offers:** Under certain conditions, zero-rating partnerships between MNOs and content providers provide incentives to drive the competition out of the market through the signing of exclusive deals, downgrading of competitor content

and so on. To avoid this, regulators could allow zero-rating programs only on a time-limited basis (that is, a promotional basis). At the end of the period, the user would have to sign up for normal data or stop using the zero-rating package. The regulators might relax this condition (or allow longer promotional periods) for non-dominant (that is, smaller) MNOs with zero-rating programs. It is possible that users might “game” the system by constantly changing their SIM cards, each time obtaining a new promotional period. Therefore, this type of solution would have to be tied to the user’s identity, not to the SIM, which suggests it would only work in markets with relatively strong SIM registration procedures (where an MNO could identify unique users and all their SIM cards separately).

- **Zero-rate 2G (or “low bit rate, generic zero-rating”):** Steve Song (2015) proposes that Internet data be enabled, by default, for free, for all users, at the Global System for Mobile Communications standard 2G speeds of 9.6 kilobits per second. Doing so would not only give “something” to people who have no data connectivity but also spur innovation in delivering content and services over very low bandwidth. Song points out that T-Mobile already enables free 2G roaming for prepaid users. Therefore, as a social good, it is not unthinkable to do this for all users. The bandwidth demands would not spoil the experience for others who are willing to pay. Net neutrality concerns are avoided because users are not restricted to accessing only pre-specified data for free.
- **“One-click-away zero-rating”:** This idea is aimed at addressing the supposed danger of users staying inside the walled garden and never consuming any content outside.⁸ In order to avoid this, it is suggested that any zero-rated application should also enable free access to the first link/URL the user clicks through to, outside of that application. That is, a user clicking on a news article that shows up on the Facebook Flex news feed should be able to click on it, go outside Facebook and read it for free; following any link from that point onward would require payment. At least, this idea could be implemented for content that requires less bandwidth (for example, text such as news articles), although perhaps not for pictures or videos.
- **Equal rating:** This idea refers to giving users a limited amount of data to consume (without restricting the type of data or websites the free content could count toward), in return for doing something — such as watching a specific number of minutes of

⁸ The author first heard this idea discussed by Sunil Abraham of the Center for Internet Society (India) at the Internet Governance Forum in Istanbul in 2014.

advertisements on the mobile phone. This approach is already being trialled in some African countries (by Mozilla and Orange) and in Bangladesh. In this trial, a specific (capped) amount of data is provided free to the users when they purchase a particular model of a cellular phone. These types of programs enable access to the “full Internet” on a limited basis, and also provide a subsidy (for those willing to watch ads, for example), and therefore should address most of the concerns of net neutrality advocates.

CONCLUSIONS

The debate around zero-rating is intrinsically linked to the topic of net neutrality. Accordingly, it brings together issues of economic competition (what market practices should be allowed/banned), social equity (can the unconnected get online due to zero-rated services?) and rights (do the poor have the right to the full Internet or parts of it?). These are not simple matters to reconcile because the solution differs based on each individual society’s priorities.

However, given that no one really seems to know *conclusively* what the good or bad effects of zero-rating are (although it is possible to see what they could be), one has to take an options-theory approach to regulation and policy making. Is it possible for policy makers and regulators to take action to eliminate the worst known harms, but to be cautious and on the lookout for minor or unknown harms that might emerge, while also allowing some of the positive impacts to happen? Then, when negative effects are observed, is it possible to again take action? The answer is yes — certainly for a competent regulator. This paper proposes scenarios in which the minimal regulatory actions allow for the market to develop and create social welfare while regulators observe and take action if harms do occur. In emerging economies struggling with issues of Internet price, relevance and content, such an approach trying to merge social equity concerns with economic and market realities might be called for.

Zero-rating is an imperfect solution to solve a problem created through policy and regulatory failure. But recognizing this does not mean that regulators, policy makers and other stakeholders can or should be allowed to stop striving for connectivity to the open/full Internet for their people through other means — by enabling high levels of competition (thereby driving down price, differentiating quality of service); increasing locally relevant content and services; and solving the barriers to getting people online.

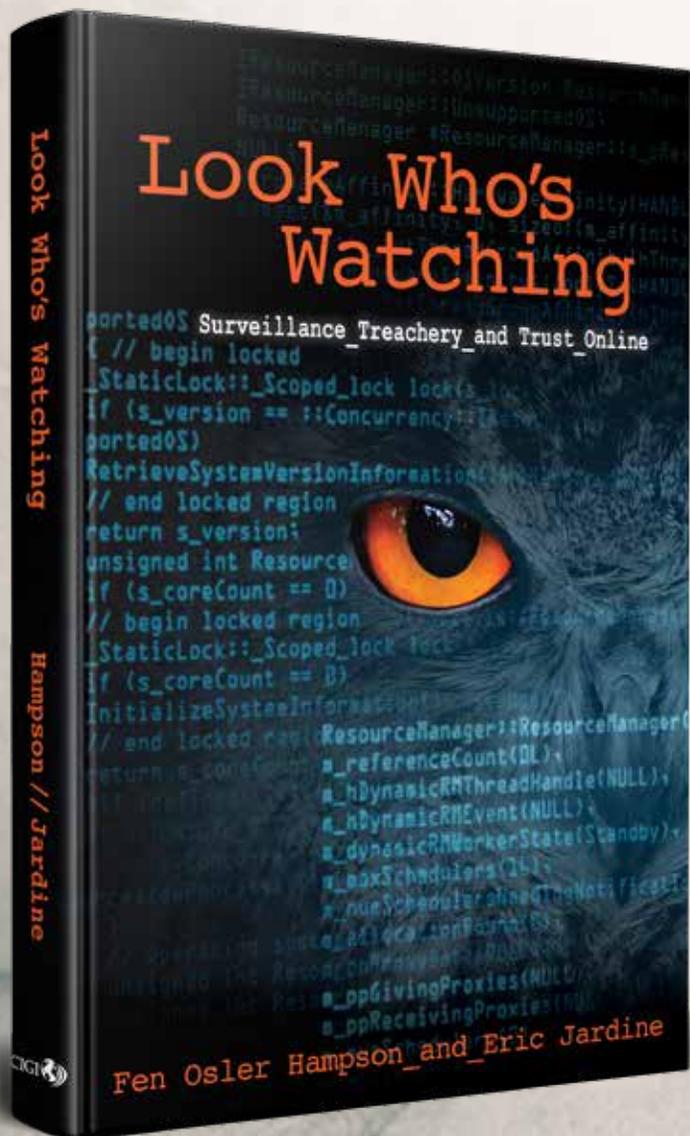
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