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Usage-Based Pricing, Zero Rating, and the Future of Broadband Innovation

by

Daniel A. Lyons *

I. Introduction and Summary

The Open Internet movement began as a means of protecting consumer welfare in cyberspace. The Federal Communications Commission’s Internet Policy Statement, first adopted in 2005, emphasized that consumers should have access to the lawful Internet content of their choice, to run applications and use services of their choice, to connect the devices of their choice to the network, and to benefit from competition among broadband and app providers.¹ Then-FCC Chairman Michael Powell introduced these themes at a policy speech in which he emphasized that “empowering consumers” was “critical to unlocking the vast potential of the broadband Internet.”² *Consumer choice* originally was, and always should be, the guiding principle for policymakers when determining broadband policy.

But a funny thing happened on the path from idea to implementation. The Commission shifted its focus away from *consumers* and toward *edge providers*. When President Obama pushed the Commission to reclassify broadband providers as Title II common carriers, he emphasized the need to protect a “level playing field” for edge providers and to reduce barriers for the hypothetical “next Facebook” – themes that are echoed in the Commission’s recent net neutrality order. The order emphasizes the risk that broadband providers might interfere anticompetitively in upstream markets for Internet-based content and applications. The

Commission explained that rules were necessary because broadband providers have “the economic power to restrict edge-provider traffic and charge for the services they furnish edge providers,”³ which might “reduce the rate of innovation at the edge.”⁴

While many might assume that, in theory, what’s good for Netflix is good for consumers, the reality is more complex. To protect innovation at the edge of the Internet ecosystem, the Commission’s sweeping rules reduce the opportunity for consumer-friendly innovation elsewhere, namely by facilities-based broadband providers. Consumers in Chile recently felt the real-world impact of this tradeoff, as that nation’s telecommunications regulator applied similar rules to outlaw wireless plans that included free access to selected online services such as Facebook, Wikipedia, or Twitter.⁵ These wildly popular plans were aimed at prepaid customers and those with older phones, who could not afford, or otherwise did not want to purchase, a traditional unlimited-access wireless plan. Now, those customers are limited to purchasing a more expensive traditional plan, or none at all. Like the archetypal village in Vietnam, regulators felt they had to destroy consumer choice in order to save it.

Thus the *Open Internet* order allows the FCC to deprive consumers of services they want, in order to protect edge provider markets. Advocates have asked the agency to do just that with regard to two related policy issues: usage-based pricing and zero-rated services. Despite strong arguments that these alternative business models can enhance competition and consumer choice, many net neutrality advocates nevertheless have called for rules prohibiting these practices and limiting consumers to a homogenous “dumb pipe” broadband service. Ominously, the FCC has responded with inquiries targeting AT&T’s Sponsored Data and Data Perks, T-Mobile’s Binge On, and Comcast’s Stream TV programs for further scrutiny. While Chairman Tom Wheeler has stated that these inquiries do not constitute an “investigation” or “an enforcement,” they nonetheless are likely to put a damper on Internet providers’ efforts to meet evolving consumer demand through zero-rating and sponsored data programs. The Commission’s next steps in this inquiry, and its response to advocates’ continuing pressure to impose a uniform “dumb pipe” model on the broadband industry, may determine how far the agency will go to sacrifice consumer choice out of fear that consumer preferences may somehow harm Internet-based edge provider companies.

II. Open Internet, Closed Mind (to Broadband Innovation)

The *Open Internet* order imposes structural rules that limit broadband providers’ ability to offer differentiated services, even in partnership with upstream edge providers. Embedded in these rules is an unjustified bias in favor of existing broadband service models. The 2010 rules made this quite explicit: “These rules are generally consistent with, and should not require significant changes to, broadband providers’ current practices, and are also consistent with the common understanding of broadband Internet access service as a service that enables one to go where one wants on the Internet and communicate with anyone else online.”⁶ In the 2015 rules, the Commission seems willing to entertain the notion that some innovation is permissible within the broadband space, cabined by its awkward and amorphous “no unreasonable interference/disadvantage” standard.⁷ But it has also emphasized the need to “protect” and

“preserve” the “Open Internet,” rhetoric that suggests a bias toward the status quo. Indeed, homogenization of the broadband product seems to be the obvious and intended result of the Commission’s decision to re-label Internet service providers as “common carriers.”

But this assumption about the need for a homogenized broadband experience is at odds with an increasingly heterogeneous customer base. Some of us are light users, and some are heavy. Some visit many websites, and some only use a handful on a regular basis. Some consumers cannot justify paying high prices for a mobile plan that largely duplicates the access they already have at home or at work, but they might pay less for access to a handful of services. And some may not wish to pay for content, but they would gladly enjoy it if the content provider wished to give it to consumers for free. In short, a “one-size-fits-all” broadband model is ill-fitted to today’s diverse user population.

Given this evolution, the Commission’s imprimatur of approval for “current practices” at one moment in time is myopic and potentially harmful. As the market becomes saturated and consumer tastes diversify, providers should innovate to deliver increasing value to customers inadequately served by the traditional model.⁸ Christopher Yoo, a member of the Free State Foundation Board of Academic Advisors, has explained that companies often test new business models without a definitive understanding of the new model’s benefits or drawbacks. Instead they rely on a trial-and-error process to identify better methods of delivering value to consumers.⁹ To protect consumer welfare in the Internet ecosystem, it is insufficient to promote innovation simply among edge providers; the Commission must recognize the value of innovation in broadband service markets as well.

As I have discussed in depth elsewhere,¹⁰ international markets are vividly demonstrating the value of broadband-level innovation. In Latin America and many developing countries, broadband providers offer social media plans that include talk, text, and access to selected social media services such as Facebook or Twitter, at a lower price than a traditional mobile data plan. In Canada, upstart wireless provider TELUS has partnered with Microsoft to offer a Skype-optimized mobile plan. And French provider Orange sought to expand in the United Kingdom by bundling Internet access with the customer’s choice from a menu of available online services such as news, streaming video, or music. A rule limiting consumers to a “dumb pipe” connection would inhibit American consumers’ ability to partake of this global revolution currently taking place for broadband services, particularly in the mobile space.

Given increasingly diverse consumer needs and the growth of international models showing alternative ways to serve customers more effectively, it is odd to see advocates pushing for *less* diversity and *less* choice among American broadband providers – yet that has been the goal of the net neutrality movement. And having successfully limited American broadband innovation in the *Open Internet* order, advocates are now pushing the FCC to close two of the few remaining avenues that the order left open: usage-based pricing and zero-rated services. The Commission has acknowledged strong arguments both for and against both practices. Admittedly, each is susceptible to anticompetitive abuse, as are many other business decisions by providers throughout the Internet ecosystem. But it would be a mistake to counter that risk with per se rules that would pull the reins of innovation even tighter and deprive consumers of alternatives to the status quo.

III. Usage-Based Pricing

Usage-based pricing has become a flashpoint in post-*Open Internet* order broadband policy discussions (where it often goes by the loaded and inaccurate term “data caps”). It has emerged as an alternative pricing strategy to the traditional unlimited flat-rate model. Its growth has been most prominent in the mobile sector, where tiered service plans helped solve the capacity problems created by the smartphone revolution. But several fixed broadband providers are also finding usage-based pricing to be a tool to segment their customer bases more intelligently.

I have discussed usage-based pricing at length in an earlier Free State Foundation *Perspectives* publication.¹¹ There is nothing inherently anti-consumer or anticompetitive about the practice. It simply represents a different way that a provider might spread its network costs across its customer base. The unlimited flat-rate model charges each customer the same amount regardless of use. As the Commission noted in its 2010 rules, “[r]equiring all subscribers to pay the same amount for broadband service, regardless of the performance or usage of the service, would force lighter end users of the network to subsidize heavier end users.”¹² Usage-based pricing mitigates this problem by shifting more network costs onto those who use the network the most.

Critics charge that usage-based pricing can be a tool for anticompetitive behavior. Specifically, they fear that cable companies may adopt usage-based pricing to deter competition from over-the-top video providers such as Netflix and Hulu. Because Internet-based video consumes significant amounts of data, a customer that replaces traditional cable with an Internet-based alternative would experience a significant increase in monthly data consumption – and may not make the switch if this meant a significant increase in the monthly broadband bill.

These critics are correct that some broadband providers may have incentives to engage in anticompetitive behavior – though it’s worth noting that many broadband providers (including DSL and wireless companies) do not have cable affiliates, and many that do (such as Verizon) do not engage in usage-based pricing. But the mere risk of anticompetitive harm alone is insufficient to ban a practice, especially in light of the procompetitive justifications for such a practice. What matters is whether the practice *actually* causes consumer harm. If, for example, a fixed broadband provider enforced a hard monthly limit – a true “data cap” – set near or below the amount of data a typical Netflix consumer would use, and if the consumer had no other alternatives for broadband service, the practice might warrant investigation. But most fixed usage-based plans are far more mild. Comcast, for example, is test marketing a 300GB monthly plan, with a modest \$10 charge for each 50GB above that initial amount. This is hardly a “cap” on monthly service. It is, instead, a use-agnostic way to assure that those who use more data assume a greater share of the network’s total cost.

The real culprit in the anticompetitive scenarios spun by critics is not usage-based pricing; it’s market power. A broadband company with market power does not need usage-based pricing to punish cord-cutters; it could simply raise the price of the traditional flat-rate plan to compensate for the lost revenue. Similarly, a company using speed tiers (a practice that Public Knowledge and others have endorsed as an acceptable form of price discrimination) could set the basic tier

below the speed necessary for HD streaming, and charge a significant premium for HD-capable speeds. In each case, the effect on competition would turn on a highly fact-specific inquiry into the broadband provider's market power and the effect that the pricing strategy has on various parts of the provider's customer base.

But absent proof of anticompetitive harm, broadband companies should be free to experiment with alternative pricing strategies. Consumers benefit from having a variety of broadband access models from which to choose. Consider, for example, the tiered pricing structure of most major postpaid wireless plans. Heavier users can choose plans with higher thresholds before overage charges occur, which translates to a lower price per gigabyte. Lighter users, by comparison, can choose smaller plans with a lower monthly fee. Forcing them both into a one-size-fits-all access plan could be detrimental to both and could increase the digital divide, as some cost-conscious customers would reject an unlimited plan at the unlimited price yet would be willing to pay a smaller price for limited monthly access.

IV. Zero-Rated Traffic

Similarly, several net neutrality advocates seek to prohibit zero-rating of broadband traffic. "Zero-rating" is the practice of allowing customers to consume particular Internet content or services without incurring charges against their monthly data plans. The idea is popular with some edge providers eager to distribute their content to a wider range of consumers. Wikipedia, for instance, has been an unabashed champion of zero-rating, forging partnerships with carriers in several developing countries to make its knowledge base available for free to anyone with an Internet-ready phone. The Wikipedia Zero project, modeled on a similar initiative by Facebook, won a 2013 SXSW Interactive Award for activism.¹³

Net neutrality advocates fear zero-rated traffic for the same reason they sought net neutrality regulation. They fear that the ability to partner with carriers to better deliver edge content to consumers will favor well-capitalized edge providers. According to this theory, companies that can afford to zero-rate their services will gain a competitive advantage over those that cannot. And as with usage-based pricing, broadband providers might use zero-rating to give their affiliated services an advantage over Internet-based competitors.

Of course, zero-rating of traffic is hardly the most significant part of the Internet ecosystem where well-capitalized companies have an advantage over their competitors. For example, large companies such as Google and Microsoft have built huge server farms to cache and distribute their content locally rather than deliver their services over the public Internet. Others like Netflix rely upon private content-delivery networks (or construct their own CDNs). By paying to bypass the public Internet, these companies gain more control over delivery of their product and are less susceptible to congestion, packet loss, and other pitfalls that plague their competitors who cannot afford these alternative delivery models. More basically, Netflix and Amazon are paying millions to develop their own content and to be the exclusive online provider of certain third-party content, striking deals that other video delivery services simply cannot afford to pay. These give them an advantage – but few would say such deals "skew edge provider competition." Rather, most would simply call this "competition."

Similarly, zero-rating plans can improve consumer choice and increase competition. Zero-rating of traffic enhances a consumer's broadband plan. Rather than purchasing a bucket of minutes each month, the consumer gets a bucket of minutes *plus* unlimited access to zero-rated content for the same price. By zero-rating certain traffic, a broadband provider can differentiate itself from its competitors, thus increasing the number of planes of competition among carriers. A carefully-targeted zero-rating plan can target niche customers whose needs are imperfectly met by traditional plans, and who are better off with free unlimited access to the content they value most.

And importantly, zero-rating can improve competition among edge providers as well. AT&T offers a sponsored data program, where any interested edge provider can include an API ("application program interface") that zero-rates app traffic by allowing the edge provider to pay the charges the customer would otherwise incur – a practice that Professor Babette Boliek has likened to couponing in cyberspace. Zero-rated agreements are not the exclusive prerogative of richer edge companies. They can also provide opportunities for newer or smaller startups to make a significant promotional splash. For example, when French streaming music service Deezer sought to enter the British market, it partnered with smaller wireless provider Orange, making Deezer one of the options in Orange's Swapables service. As noted above, the agreement gave Orange a point of differentiation over its wireless rivals. But it also gave upstart Deezer built-in delivery over the Orange network, easy access to Orange's customer base, and low-cost promotional marketing as part of the Swapables program.¹⁴ The partnership allowed Deezer the foothold that it needed to begin taking on market leader Spotify.

T-Mobile: Music Freedom, Binge On

T-Mobile has been the most active American carrier to explore the benefits of zero-rating, and its experiments offer keen insight into the potential benefits of the practice. T-Mobile is smaller than rivals AT&T and Verizon and lacks many advantages that scale can bring, such as greater network capacity and spectrum licenses. In a head-to-head battle for customers over a homogenous product, it is likely to lose, because it cannot match its rivals' lower costs of business (a fact that Sprint is perhaps demonstrating). So to grow, the company has diversified its product to attract customers dissatisfied by traditional offerings from the larger carriers – most notably by zero-rating traffic from streaming music providers. The company recognized that a large niche of consumers regularly stream music to mobile devices and would be attracted to a plan that allows them to do so free. More recently, the company has extended the idea to streaming video through its Binge On promotion, using an algorithm that compresses video to SD quality to optimize delivery over the T-Mobile network.¹⁵

Although many advocates have condemned T-Mobile's innovative business model, none has yet accepted the FCC's invitation to ask whether the service violates the awkwardly-worded "no unreasonable interference/disadvantage" standard. This is likely because the Commission would almost certainly find the practice reasonable. T-Mobile is the third-largest provider in a scale-driven industry. It lacks market power and is in no position to extract super-competitive profits or otherwise harm consumers. Unlimited streaming music (or video) is appealing to a large niche of consumers, who are better off with this option than without. Consumers uninterested in the options available (or uninterested in cross-subsidizing the binge viewing of

their fellow customers) can choose a different plan or a different carrier. T-Mobile now offers a product that its rivals do not, which enhances competition among wireless providers. Moreover, the Commission noted that the CEO of upstart streaming service Grooveshark praised T-Mobile's program for helping make little-known offerings available to a wider customer base.¹⁶ Perhaps for this reason, Chairman Tom Wheeler described T-Mobile's offering as "highly innovative and highly competitive" and therefore "clearly" permissible under the *Open Internet* order.¹⁷

Comcast: Stream TV

Comcast's Stream TV offers a different permutation on the zero-rating issue. Stream allows Comcast Internet customers access to live television from a dozen networks on laptops, tablets, and mobile devices within the customer's home for \$15/month.¹⁸ The service appears to target millennial "cord nevers" who are unlikely to sign up for traditional cable service and who increasingly prefer to watch video on Internet devices rather than on a traditional television set. A Comcast spokesperson recently clarified that in those markets where Comcast offers usage-based pricing, Stream TV consumption does not count against the customer's monthly data limits.¹⁹

Initially, it's important to note that Stream TV likely complies with the *Open Internet* order. As Comcast explained, Stream TV is not a video service delivered over the Internet, like Netflix or Hulu. Rather, it is an IP cable service delivered over the company's managed cable network. The Commission explicitly exempted from the *Open Internet* order IP cable, facilities-based VoIP, and other application-level services that share capacity with broadband access, although it retained jurisdiction to examine whether individual offerings undermine investment, innovation, competition, or end-user benefits.²⁰

Nonetheless, critics argue that the Stream TV offering could "unfairly crush competitors and make it hard for consumers to get rival services from Netflix."²¹ But the fact that some may choose Stream over Netflix is not alone sufficient reason to ban it. The question is not whether Stream is competitive, but whether it is unfairly competitive.

If one considers Stream a substitute for online video like Netflix, then the objection seems obvious. Netflix video counts toward the customer's monthly limit. Stream video does not. Therefore, given the choice, customers will choose Stream, which penalizes Netflix for not being zero-rated.

But if Stream is instead a substitute for traditional cable, as Comcast suggests, the analogy begins to break down. After all, traditional cable viewing has never counted against a customer's monthly data limit, and few, if any, critics argue it should be. And there is much to suggest that Stream is more like traditional cable than Netflix. Like cable, Stream offers a handful of linear cable channels, whereas Netflix and most online video rivals rely upon an on-demand model. Like cable, Stream uses a separate part of the Comcast network for delivery, rather than the channels dedicated to broadband Internet access. And like cable, Stream is only available within the subscriber's home, whereas most over-the-top video can be consumed wherever the customer has Internet access.

Netflix and other over-the-top providers have long thrived alongside traditional cable offerings, despite being subject to monthly data limits. Customers like that Netflix is cheaper than cable and available on multiple devices. Comcast has found a way for cable to match those advantages to meet the tastes of the next generation of video consumers. This new option is a boon, not a curse, for consumers, who now have more options to choose from. Importantly, customers who choose not to watch cable and rely entirely upon Netflix are no worse off now than they were before Stream appeared in the marketplace. But the competitive pressure of an improving cable product will push Netflix to continue to innovate and improve. While Comcast benefits from delivery over a dedicated network, that benefit stems from billions of dollars in infrastructure investment building networks to the home that its non-facilities-based competitors did not incur.

V. Conclusion

Usage-based pricing and especially zero-rating of traffic challenge the long-asserted notion that what's good for edge providers is good for consumers. Some actions by broadband providers, or agreements between broadband and edge providers, might foreclose competition in the edge space. But antitrust scholar Herbert Hovenkamp notes that most vertical integration is "either competitively neutral or affirmatively desirable because it promotes efficiency."²² Some may promote competition in the edge space, as Deezer and Grooveshark would testify. Others may promote greater competition in the broadband provider sector, as Music Freedom does. Or they may offer consumers more options, as Stream TV does. One cannot pass judgment on a class of business innovations based simply upon the generic effect it may have on one company. The regulator must instead engage in a careful study, on a case-by-case basis, of the overall effects that a particular practice may have on the market overall.

This is perhaps why the Supreme Court has long warned that antitrust law protects "competition, not competitors."²³ Contrary to what often appears to be the FCC's objective, the protection of edge providers should not be a goal in itself. It should be pursued only as a tool to protect consumers from harm. The Commission should allow broadband companies to experiment with innovative new offerings such as usage-based pricing and zero-rated traffic, because this experimentation is likely to give rise to consumer-beneficial alternatives to traditional broadband access models. Absent proof of anticompetitive harm, policy should promote innovation that enhances consumers' ability to access the content and services they desire – no matter where in the Internet ecosystem this innovation occurs.

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¹ Appropriate Framework for Broadband Access to the Internet over Wireline Facilities, CC Docket No. 02-33, FCC 05-151, ¶ 4 (Sept. 23, 2005) (emphasis added).

² Michael K. Powell, Chairman, Federal Communications Commission, Preserving Internet Freedom: Guiding Principles for the Industry 3, Remarks at the Silicon Flatirons Symposium (Feb. 8, 2004), available at https://apps.fcc.gov/edocs_public/attachmatch/DOC-243556A1.pdf.

³ In re Protecting and Promoting the Open Internet, GN Docket No. 14-28, ¶ 80 (Feb. 26, 2015), available at https://apps.fcc.gov/edocs_public/attachmatch/FCC-15-24A1.pdf (hereafter “2015 rules”).

⁴ *Id.* ¶ 20.

⁵ See Leo Mirani, When Net Neutrality Backfires: Chile Just Killed Free Access to Wikipedia and Facebook, Quartz, May 30, 2014, available at <http://qz.com/215064/when-net-neutrality-backfires-chile-just-killed-free-access-to-wikipedia-and-facebook/>.

⁶ *Preserving the Open Internet: Broadband Industry Practices*, GN Docket No. 09-191, WC Docket No. 07-52, Report and Order, 25 FCC Rcd. 17905 ¶ 43 (2010) (hereafter “2010 Rules”).

⁷ 2015 Rules, *supra* note 3, at ¶ 21.

⁸ Comments of Christopher S. Yoo, In re Preserving the Open Internet: Broadband Industry Practices, GN Docket No. 09-191, WC Docket No. 07-52, at 13.

⁹ *Id.*

¹⁰ See Daniel A. Lyons, *Innovations in Mobile Broadband Pricing*, 92 U. Denv. L. Rev. 453 (2015), available at http://papers.ssrn.com/sol3/papers.cfm?abstract_id=2418563.

¹¹ See Daniel A. Lyons, *Why Broadband Pricing Freedom is Good for Consumers*, Free State Foundation Perspectives, Vol. 7, No. 32 (2012), available at http://www.freestatefoundation.org/images/Why_Broadband_Pricing_Freedom_Is_Good_For_Consumers_111612.pdf.

¹² 2010 Rules, *supra* note 6, at ¶ 72.

¹³ Monica Riese, SXSW Interactive Awards Announced, Austin Chronicle, Mar. 12, 2013, available at <http://www.austinchronicle.com/daily/sxsw/2013-03-12/sxsw-interactive-awards-announced/>.

¹⁴ See Tim Bradshaw, *Deezer Takes On Spotify with Orange Deal*, FINANCIAL TIMES (Sept. 7, 2011), available at <http://www.ft.com/cms/s/2/66bdf5c-d939-11e0-bd7e-00144feabdc0.html#axzz3p1nlygDb>.

¹⁵ Eli Lubitch, T-Mobile’s Bold “Binge On” Promise Compresses the Competition, BEAMR Blog, Dec. 10, 2015, available at <http://blog.beamr.com/blog/2015/12/10/t-mobiles-bold-binge-on-promise-compresses-the-competition/>.

¹⁶ 2015 Rules, *supra* note 3, at ¶ 151 n. 362.

¹⁷ Jon Brodtkin, T-Mobile’s Data Cap Exemption for Video Gets FCC Chairman’s Approval, ArsTechnica, Nov. 19, 2015, available at <http://arstechnica.com/business/2015/11/t-mobiles-data-cap-exemption-for-video-gets-fcc-chairmans-approval/>.

¹⁸ See Press Release, July 12, 2015, available at <http://corporate.comcast.com/comcast-voices/a-new-streaming-tv-service-from-comcast>.

¹⁹ Jon Brodtkin, Comcast Launches Streaming TV Service that Doesn’t Count Against Data Caps, ArsTechnica, Nov. 19, 2015, available at <http://arstechnica.com/business/2015/11/comcast-launches-online-tv-service-that-doesnt-count-against-data-caps/>.

²⁰ 2015 Rules, *supra* note 3, at ¶ 210.

²¹ Brian Fung, Comcast’s Stream TV is Sparking a Controversy Over the Future of the Internet, *Washington Post*, Nov. 20, 2015, available at <https://www.washingtonpost.com/news/the-switch/wp/2015/11/20/does-comcasts-streaming-tv-service-run-afoul-of-net-neutrality/>.

²² PHILLIP E. AREEDA & HERBERT HOVENKAMP, 3B ANTITRUST LAW: AN ANALYSIS OF ANTITRUST PRINCIPLES AND THEIR APPLICATION ¶ 756a, at 9 (3d ed. 2008).

²³ *Cargill, Inc. v. Monfort of Colo., Inc.*, 479 U.S. 104, 110 (1986) (quoting *Brown Shoe Co. v. United States*, 370 U.S. 294, 320 (1962)) (internal quotation mark omitted).