26 July 2016

Frode Sørensen, Co-Chair
Ben Wallis, Co-Chair
Net Neutrality Expert Working Group
Body of European Regulators for Electronic Communications
Zigfrīda Annas Meierovica bulvāris № 14, 2nd floor
LV-1050 Rīga, Latvia

Re: Academic evidence on outcomes for zero rating and net neutrality policy, EU 2011-2016

Dear Mr. Sørensen and Mr. Wallis:

BEREC has received a record number of comments in its proceeding to create guidelines on net neutrality. A particular set of advocates including SavetheInternet, a number of academics, some start-up advocacies, and even Sir Tim Berners Lee, have made coordinated actions to demand bans on zero rating. Although this follow-up submission is past the official filing deadline, as a fellow academic and researcher who has done extensive international work on this issue, I thought it was important to respond to these recent advocate letters. Moreover I needed to get clearance to share some of my research with you before the official publication date.

In short, there is no evidence that zero rating harms consumers or competition. To the contrary, my research shows that permitting zero rating is beneficial to both consumers and competition. Accordingly, it is important that BEREC maintain a permissive, flexible approach to zero rating.

We all agree on the value of internet and that it would be a terrible thing if startups could not get online. However the question is whether hardening even further the EU's already strong net neutrality law is necessary. Based on the evidence, clearly it is not.

Zero rating programs have been around for more than a decade, and none of these advocates complained. Given that there's no concrete evidence that zero rating harms consumers or competition, it's interesting that zero rating is only in the last two years or so has become an issue. This is because the emergence of mobile broadband brings the potential for a new set of actors to emerge, challenging established players which incidentally are often the ones funding the activists now calling for bans on zero rating.

The hallmark of the telecom regulator is to be at arm's length from politics. It stakes a higher ground based upon expertise and independence. In recognition of BEREC's task to craft a set of guidelines to satisfy a divergent group of stakeholders, I offer some insights from my research to inform your inquiry and to help create evidenced-based guidelines. This research has been conducted over the last four years at the Center for Communication Media and Information Technologies at Aalborg University in Copenhagen, Denmark and is supported with a grant by the Danish Innovation Fund.[1] My policy recommendations represent my own views and not necessarily the organizations with which I am affiliated.

There are hundreds, if not thousands, of zero-rated offers in the EU today, but all together, they represent less than 1 percent of the offers in the marketplace. It would be a shame to ban them, or to restrict them further, particularly because they are used by small and entrant mobile operators to create price and service competition and to lower costs for consumers. My research demonstrates that EU countries which allow greater freedom for partnerships across the Internet ecosystem enjoy more innovation, but where zero rating has been banned (e.g. Slovenia, Netherlands), local mobile app innovation has declined.

My research suggests that BEREC's current proposal to review zero rating on a case by case basis with a number of criteria is already heavy-handed, particularly for small and entrant firms which do not have the resources to participate in

[1] http://innovationsfonden.dk/en

expensive regulatory and bureaucratic investigations. As such BEREC should limit its review to the relevant economic factors which can be supported by evidence and only intervene where harm has been demonstrated. As such please find the following summary of my research which I am happy to detail with further documentation.

Sincerely,

Roslyn Layton
Ph.D. Fellow
Center for Communication, Media and Information Technologies
Aalborg University
A.C. Meyers Vænge, Frederikskaj 12, 3rd Floor
Copenhagen, Denmark 2450

<u>Overview of Research on zero rating and net neutrality in the EU, 2011-2016</u>

I am one of the few academics who has attempted to make international comparisons of net neutrality looking for the empirical evidence[2] of which policy best delivers the stated goals. My forthcoming research further details an attempt to test the efficacy of soft and hard net neutrality rules across some 50 countries. Net neutrality, as proposed by Tim Wu and subsequently adopted as a national policy, can be understood a policy to support third party Internet innovation in the country where it is has been adopted. Europe offers a rich dataset to test the outcome of hard and soft rules given that different countries have pursued different polices over a period of years.

One should hope that the result of the policy is that it increases local content and application development and innovation. Moreover if the belief is that making the rules "harder", whether through the type of policy instrument (legislation versus soft measures) or the provision (explicit bans on zero rating and specialised services versus evidenced-based analysis), then we should see that the countries which take the "harder" approach experience an increase in locally developed content, applications, and services relative to countries which only use "soft" rules. However my analysis replicated with multiple datasets shows that soft rules are sufficient to support local innovation. Hard rules are not only overkill, they deter innovation by crippling the very partnerships that ecosystems need to make innovation known.

For a number of years before the EU's net neutrality law took effect, Sweden, Norway, Denmark, United Kingdom, Switzerland, and France had all adopted soft rules for net neutrality. These rules have been expressed as codes of conduct, multistakeholder dialogues, principles, and self-regulation. These regimes have had success in these countries: the level of local innovation is high; violation is limited, and litigation against the telecom regulator did not occur.

A different approach was taken by Netherlands and Slovenia which imposed hard rules in 2012 by enshrining net neutrality in law. These two countries have experienced a marked decline in locally developed Internet innovation. The development of Slovenian mobile apps has been reduced by half since the hard net neutrality rules took effect, and the overall rank of Slovenia-made apps in leading app stores has fallen by one-third.

My research looks closely at two EU countries, Denmark and Netherlands. While both countries are similar in broadband metrics and socio-economic and geo-demographic factors, each took a different path on net neutrality. Danish operators

[2] "Test of the FCC's Virtuous Circle: Preliminary Results for Edge Provider Innovation and BIAS Provider Investment by Country with Hard Versus Soft Rules", Chapter 13. *Net Neutrality Compendium* Springer, 2016 http://www.springer.com/us/book/9783319264240 and "Zero Rating: Do Hard Rules Protect or Harm Consumers and Competition? Evidence from Chile, Netherlands and Slovenia." Social Science Research Network. August 15, 2015 http://papers.ssrn.com/sol3/papers.cfm?abstract_id=2587542

opted for self-regulation in 2011 while Netherlands imposed hard rules in 2012 and subsequently banned zero rating. But the results on innovation on the two countries could not be more different.

Using data from AppAnnie, Apptopia and ComScore for the period 2011-2016, my research focuses on the 800 most downloaded mobile apps in Denmark and Netherlands over the last five years. Of these apps in total, Denmark has produced 115 apps and Netherlands 102. The countries with soft rules (not counting Denmark) produced 150 apps. The countries with no rules produced 137 apps. The USA produced the most apps, 302. Most telling of all is that countries with hard rules (not counting Netherlands) have produced just 13 apps which are downloaded either in Denmark or Netherlands.

While the difference between Denmark and Netherlands might not seem like a lot, it is significant. Apps have logarithmic distribution, and the ability of a locally made app to enter into the top 200 most downloaded apps for the country is indicative of a high level of revenue, downloads, and traffic. Ceteris paribus, if Netherlands had 13 more apps, its shortfall versus Denmark, it would be equal to the activity of more than 70 percent of Dutch made apps today.

Looking more closely at the top apps created in Denmark and Netherlands today, we see that Danish apps enjoys *three times greater* downloads and monetization than Dutch apps. In fact the top Danish app, Subway Surfers from Danish game publisher Kiloo, enjoys greater downloads, traffic and revenue than the top 20 Dutch apps combined. Kiloo was founded in 2013, two years after the Danish soft net neutrality regime was in place. Few new Dutch apps have emerged since the 2012 hard net neutrality law was passed. More specifically the median rank of a Dutch made app has **fallen from 31.17 to 42.57** while the median rank of Danish apps has **risen from 41.97 to 26.50**. These differences are both numerically and statistically significant. A well-performing app requires some years of trial and error, so it unfortunate that this window of opportunity has closed for the Netherlands.

The results are even more telling when considering the advantage should be with the Netherlands as its population is three times the size of Denmark's and it has more entrepreneurs and engineers. Danes excel not only in making apps for their own population, but in exporting apps to the rest of the world, showing leadership in key categories of games, health/fitness, and entertainment.

There is no reason why the Netherlands should not create and export world-class mobile apps. One key difference between Denmark and Netherlands is that the Netherlands has abridged the commercial freedom of mobile operators. Danish mobile operators enjoy more commercial freedom to build partnerships across the ecosystem, most importantly with local content developers to make offers that go head to head with the American giants Google and Netflix.

The Netherlands by contrast seems like an innovation-free zone. Partnerships between mobile operators and content providers are essentially forbidden. The effect is evident when looking at the data to see few new Dutch mobile apps since the net neutrality law was passed and poor performance of existing apps relative to apps from other countries. Indeed the Dutch regulator, the Authority for Consumers and Markets (ACM), fined Vodafone €200,000 for the zero rating of Netflix competitor HBOGo, a fine that was probably greater than the revenue earned on the mere 3200 customers who signed up for the offer. The app never rose above #450 in the app store rankings where essentially only the top 200 apps matter. Empirically the zero rating of HBOGo never threatened consumers or competition. By banning the offer, ACM has needlessly made 3200 people worse off. Such a draconian response by the telecom regulator chills innovation by telecom operators and app developers and indicates that the country's net neutrality law is overly restrictive.

ACM's decision was likely reluctant and can only be understood in terms of politics in which the utility of some actors is prioritized over others. The Dutch Ministry of Economic Affairs oversees ACM, and Netflix[3] was a key stakeholder in the Ministry's consultation on zero rating in May 2014.[4] Just a few months before, Netflix signed on as the first customer in the

[3] "Consultatie Beleidsregel netneutraliteit, reactie," webpagina, (May 28, 2014), http://www.internetconsultatie.nl/netneutraliteit/reactie/71331718-03d9-43be-9d87-43d2cdff1355.
[4] "Consultatie Beleidsregel netneutraliteit," consultatie, (May 2, 2014), http://www.internetconsultatie.nl/netneutraliteit.

New York office of the Amsterdam Internet Exchange.[5] Netflix also moved its European headquarters from Luxembourg to Amsterdam.[6] Netflix's policy goal appears to be that consumers can only choose flat rate or high mobile data cap mobile broadband packages. Their intervention demands that the government adopt a strict version of net neutrality that the regulator duly enforce.[7] There is no doubt that flat rate packages are welcome to high volume users and some mobile operators chose this market position, but demanding that all packages be as such has the detrimental effect of eliminating the lowest priced offers in the market. This falls hardest on low-volume and budget-conscious users who have different wants and needs from the network than watching streaming video. Alternatively should telecom regulators want to encourage competition, they should embrace offers of zero rated alternatives to Netflix, which accounts for more than a third of Europe's internet traffic.[8] The Dutch have even complained of a Netflix effect[9] in which the company's traffic, overnight, swelled to a majority of the network capacity while only serving a small segment of the population.

Netherlands' anti-zero rating policy has the perverse effect of locking out a competitor that does not have the scale to compete with Netflix, a global company with 83 million customers in 190 countries and marketing budget to match.[10] That a Dutch mobile operator should want to offer Dutch made apps or content for free to its users should not be a crime. Indeed promoting European-made innovation is one of the goals of the Digital Single Market.[11] It bears mention that Netflix celebrates zero rating in the USA on T-Mobile's network[12] and on Australia's iiNet.[13] Such programs have been shown to be win-wins, increasing video traffic across the board, as users spend more time on Netflix and its competitors.[14]

In addition to decreased mobile app innovation, litigation has also resulted in countries with hard net neutrality rules. After 18 months of deliberation, the Slovenian court has just ruled against the telecom regulator Akos on a series of lawsuits which charged that their decisions on zero rating were arbitrary and capricious.[15] The Court declared that the Slovenian net neutrality law cannot be understood a per se prohibition on zero rating.[16] The court also noted that the regulator ignored the economic analysis of the competition authority. A summary of the competition authority's analysis follows.

There is no doubt that the Open Internet discussion is intense, but that is no excuse for BEREC to surrender its high ground as the expert, independent telecom regulator. In fact, if the case of Slovenia is any indication, European telecom regulators may be sued if they don't use the proper economic analysis to address zero rating. It seems prudent from a legal perspective that BEREC should not begin to evaluate a zero rating offer until there is evidence of consumer harm, lost innovation, or increased prices.

That zero rating has been around for more than decade and has been used by a majority of EU operators without rousing the concern of regulators is itself a proof point. It cannot be that a practice used by primarily by Europe's small and entrant mobile operators is suddenly discriminatory. The amount of data that is zero rated on European networks is not only insignificant in itself, it is negligible when compared to the total amount of ever-increasing data that Europeans consume. That BEREC puts so much time to what is essentially a non-issue deprives Europeans of their national regulatory authorities focusing on the more important set of priorities including spectrum and next generation network investment. Indeed, the Slovenian Competition Authority observes that zero rating can help small and entrant operators win new customers, which helps them invest in spectrum and network because they can amortize a fixed cost over a larger customer base. If anything

[5] "Netflix Signs On To New York Open Internet Exchange," *Amsterdam Internet Exchange*, December 2, 2013, https://ams-ix.net/newsitems/124.
[6] http://www.iamsterdam.com/en/business/invest/business-news/netflix-officially-opens-european-headquarters-in-amsterdam
[7] "Besluit van de Minister van Economische Zaken van 11 mei 2015, nr. WJZ/15062267, houdende beleidsregel inzake de toepassing door de Autoriteit Consument en Markt van artikel 7.4a van de Telecommunicatiewet (Beleidsregel netneutraliteit)," officiële publicatie, *officielebekendmakingen*, (May 15, 2015), https://zoek.officielebekendmakingen.nl/stcrt-2015-13478.html.
[8] https://www.sandvine.com/downloads/general/global-internet-phenomena/2015/global-internet-phenomena-africa-middle-east-and-north-america.pdf
[9] http://papers.ssrn.com/sol3/papers.cfm?abstract_id=2417933
[10] https://ir.netflix.com/
[11] https://ec.europa.eu/growth/single-market/digital_en
[12] https://www.youtube.com/watch?v=BvIsZxcV7Y0
[13] http://www.iinet.net.au/about/mediacentre/releases/2015-03-03-quota-free-netflix.html
[14] http://www.p3-group.com/en/wp-content/uploads/2016/04/P3_Binge_On_Insight_Report_1-15-16.pdf
[15] http://www.delo.si/znanje/infoteh/operaterji-bi-lahko-spet-uvedli-nicelno-tarifo.html
[16] http://www.techpolicydaily.com/communications/slovenia-zero-rating-rule-law/

the micromanagement of zero rating amounts to new regulation, something that BEREC itself said it doesn't want. The Nordic telecom regulators are also on record for not wanting more telecom regulation.

The telecom regulators of Denmark, Sweden, Norway, Finland and Iceland in their submission[17] to the European Commission as part of the Digital Single Market explained, "The playing field for all actors in the digital economy needs to be levelled out. To promote innovation and new solutions in the European digital economy, the Nordic regulators agree that the starting point should be *reducing the regulatory burden where possible* (emphasis mine), rather than extending the present sector-specific regulation." The position was further updated in 2016 to recognize that telecom operators are not the proverbial bottlenecks to competitive services.[18] They explain,

> *Previously, the aggregator or distributor role was linked to the network ownership, giving these companies a unique position as owners of a bottleneck resource. Today, we see a development, where the link between the aggregator and network ownership is disintegrating. This development removes the high entry barriers on delivery of content services as aggregator and it opens up for many companies to position themselves in the role as aggregator/content service provider. So far, it is the experience in the Nordic countries that the reduced vertical integration has a positive effect on market dynamics, innovation and investment.*

There is no doubt a deep disappointment among Europeans with Brussels, most notably demonstrated with the exit of UK from the EU. This may come in part from a belief that Brussels is ineffective because special interests win the rules they want regardless of what the Parliament decides. This BEREC consultation on net neutrality appears to give that pessimism more ammunition. The European Parliament rejected an amendment to ban zero rating, but BEREC's guidelines create a de facto ban by creating impossible standards for operators to meet when using zero rating. This is a very risky position for BEREC because not only does it look like BEREC is circumventing the democratic process, but BEREC may run afoul of EU competition law.

There is no doubt that BEREC is under pressure from US-funded activists and the American companies that fund them to deliver a policy that protects the status quo, but BEREC should be forthright that such lobbying should be directed to elected officials. This would restore credibility to BEREC and strengthen its resolve to deliver expert, independent telecom regulation per the laws of the European Union. Such integrity would embolden BEREC on multiple fronts.

Summary of the Slovenia Competition Protection Agency's view of zero rating[19]

The agency recognizes concerns about discriminatory traffic management, but notes that the risk is significantly lower in a transparent and competitive environment. Net neutrality puts emphasis on the requirement that operators transparently disclose their practices regarding managing internet traffic. In a transparent environment, consumers, if unhappy with traffic management practices, can switch providers. They observe that differentiated offerings are important because they are

> *. . . the fruit of competitive advantages and therefore increase efficiency and bring consumers the benefits (i.e. cheaper cinema tickets for students). Thus price discrimination increases the availability of the product to more cost-sensitive consumers and ensures an overall increase in sales volume, thereby lowering average the overall costs and increasing efficiency. The boundary between pro-competitive and anti-competitive conduct can be thin, so borderline cases should be assessed. But intervention is necessary only in cases where economic analysis shows that the injury to the consumers outweigh the benefits to consumers.*

[17] https://erhvervsstyrelsen.dk/sites/default/files/media/nordisk_positionspapir_august_2015.pdf
[18] https://erhvervsstyrelsen.dk/sites/default/files/media/nordisk_positionspapir_juli_2016.pdf
[19] A copy of the reply is not available on the authority's website, however it is referenced in the EU Scoreboard document on the link for Slovenia. "Scoreboard 2015 - Report on the Implementation of the Telecommunications Regulatory Package (per Country)," *Digital Agenda for Europe*, June 19, 2015, http:///digital-agenda/en/news/scoreboard-2015-report-implementation-telecommunications-regulatory-package-country.

The competition authority notes that the incumbent telecom operator did not abuse its market power by making a zero rated offer. This could be tested with an in-depth investigation that would begin with defining the relevant market, in this case the market for data transfer. It notes that Slovenia is a market with at least three mobile providers which will evolve significantly in the coming years. It notes that the market for mobile services is primarily characterized by call services, and with the different prices for calls on and off net, the effect of data transfer services is negligible. Moreover, even though the incumbent has a 50 percent market share and falling, it does not have the power to control the market for Internet applications, even with its zero rated offer. It notes,

> *Vertical relationships can bring benefits to consumers. For example, by offering free Internet encourages the incumbent to invest in expensive exclusive content such as UEFA Champions League. The #2 operator might not have invested EUR 60 million in the acquisition of spectrum if it expected that it would be not be able to grow the market for newly built broadband 'highways' through various campaigns for free use of data transmission.*

It notes further that sports rights and copyrighted content when licensed to a buyer and offered in a zero rated program do not constitute a violation of competition. Moreover the operator's offer of Deezer and a proprietary cloud service does not harm the market for such services, as there are many choices worldwide from which users can access.

As for the price of the offer, the competition authority notes that the operator does not engage in either improving the quality of the zero rated products or degrading other applications, but rather in a form of discount or positive discrimination. To assess this, it is necessary to examine the price and costs of the offer and the services contained within. It observes that the voice is the largest cost driver and that the use of Deezer is negligible, amounting to a few cents out of an offer of €26 per month.

> *The competition authority notes that the emergence of zero rating reflects fierce competition in the mobile marketplace and even with current limits, consumers still have the freedom to decide what kind of content they want.*

It notes further that the net neutrality rules are designed to protect competition for the purpose of the benefit of consumers. It is therefore necessary to determine the effect of zero rating on consumers. No intervention should be made if there is no evidence of consumer harm. The competition authority describes situations in which it considers extreme and necessary for intervention, for example the Microsoft browser case, but the zero rating issue in Slovenia is not one. The authority made a point as well that critics consider the Dutch net neutrality too extreme because operators are restricted from making offers.