

CPB Memo

CPB Netherlands Bureau for Economic Policy Analysis



To : Info Society and Media DG, Electronic Communications Policy
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Subject : Response to public consultation on Internet and net neutrality
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This memo is a response to questions 1 and 2 of the public consultation on the open Internet and net neutrality in Europe, launched by DG Information Society and Media of the European Commission.

Regulation to enforce net neutrality prescribes how network providers are allowed to manage and price traffic on their networks. A central argument against imposing such regulation claims that competition will suffice to discipline networks or ISPs.

For example, in the debate on net neutrality, it is sometimes argued that as long as there is sufficient competition among networks and transparency is required, there is no compelling reason to safeguard network neutrality. The idea is that consumers then would have all relevant information so that they can vote with their feet. In addition, so the argument goes, even if competition is muted, imposing net neutrality will reduce providers' incentives to invest in their networks. This will lead to suboptimal levels of innovation and network capacities, and therefore, to an inefficient allocation of scarce resources.

From an economic perspective, it is of course clear that in general, (sufficiently) competitive markets result in outcomes that are difficult to improve upon by introducing regulation. The question is (i) whether in this situation, competition is sufficiently intense in the first place, and (ii) whether other market failures call for public policy.

Network neutrality and competition

First of all, the telecoms sector is, at best, an oligopoly. Scale economies are so important, especially due to the transition to FTTx networks that the number of network providers with last-mile access is and will remain small, while market forces continue to lead to further consolidation. Thus, although there may be competition between DSL-based networks and

cable operators, one cannot be optimistic about the intensity of competition.¹ Moreover, if providers make their networks “less neutral” by implementing network bias practices, the intensity of competition decreases further. Network operators have incentives to abandon network neutrality in order to charge end users and content providers different prices, based on the value of the content to them.² Such a strategy, which can be implemented by horizontally differentiating the “content profiles” that providers offer, leads to the creation of niche markets and thus less competition. With a small number of networks (e.g. DSL and cable), the effect of access-tiering could be that competition is softened due to horizontal differentiation, while consumers find it more difficult to match their individual preferences to the portfolios (with differentiated content profiles) offered by the networks.

In summary, network bias practices themselves may further reduce competition in an oligopolistic market. Note, however, that some forms of price and Quality of Service differentiation may simply be a response to consumer requirements. Such practices are less likely to have anticompetitive effects. Transparency requirements may be needed here.³

Network neutrality and innovation

Here we turn to another concern, namely firms’ incentives to innovate. The Internet provides a spawning ground for successful new business concepts and software products, which have greatly enhanced welfare. An open and accessible Internet, where network providers do not function as gatekeepers, provides a platform and experimental environment where entrant, start-ups and consumers *user-generated innovation*⁴), can experiment and flourish. An open Internet provides a platform for an explosion of innovation, unrestricted by vested commercial interests.⁵ Thus, the open design of the Internet has made it possible for everyone to launch innovations, and the result is a vibrant network of networks.

Internet-based innovations that created so much welfare have so far occurred under net neutrality. The important question is to what extent net neutrality is an essential ingredient for such innovations to develop. Violation of network neutrality principles will allow network providers to select those innovations they consider profit enhancing. Of course, in a perfect world without asymmetric information and incomplete contracts, this would not harm incentives to innovate. Whether this is also the case in a more realistic setting remains to be

¹ Frieden, R. (2007), “Network Neutrality and its Potential Impact on Next Generation Networks”, mimeo, Penn State University; <http://ssrn.com/abstract=1026635>. Noam, E. (2010), “Regulation 3.0 for Telecom 3.0”, *Telecommunications Policy* 34(1-2), p. 4-10.

² Kocsis, V. en P. de Bijl, 2007, “Network neutrality and the nature of competition between network operators”. 2007, *International Economics and Economic Policy* 4, p. 159-184.

³ Frieden, R. (2007), “Network Neutrality and its Potential Impact on Next Generation Networks”, mimeo, Penn State University; <http://ssrn.com/abstract=1026635>.

⁴ Von Hippel, E. (2005), *Democratizing Innovation*, Cambridge MA: The MIT Press.

⁵ Berners-Lee, T. (2006), “Net Neutrality: This is serious”, Timbl’s Blog, 21 juni; <http://dig.csail.mit.edu/breadcrumbs/blog/4>.

seen. What is at stake is innovation by outsiders and newcomers, including the arrival of future Googles and Skypes. The central issue is that network operators base their decisions on private revenues, and hence do not take into account the enormous value of the Internet for society and its contribution to economic growth.⁶ If network providers hamper these innovations, the potential welfare loss is of an order of magnitude that warrant close scrutiny of the potential negative consequences of abandoning net neutrality.

⁶ Hogendorn, C. (forthcoming), "Spillovers and Network Neutrality", in: G. Faulhaber, G. Madden, and J. Petchey (eds.), *Regulation and the Performance of Communication and Information Networks*, Edward Elgar.