

# Neutral Regulation to Net Neutrality

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The US Federal Communications Commission (FCC) published in April the final rule on its new regulations on “Promoting and Protecting the Open Internet”. This typically goes under the shorter name of “net neutrality”. Unsurprisingly, as it relates to the Internet, the net neutrality debate has received massive attention. A record 4 million comments were submitted to the FCC. President Obama strongly and very openly supported net neutrality regulations.

### **What is the FCC decision about?**

To a US audience, the debate on net neutrality was a debate about the rules and obligations for data carriers in the absence of explicit legal requirements for the data carriers to be “common carriers,” as telephone firms had been defined. For an economist, this debate was defined around three actual categories of behaviors: 1. No blocking; 2. Transparency; 3. Equal treatment of traffic.

The most interesting issues for an economist arise in 3. No Internet Service Provider (ISP) is realistically blocking traffic, and everybody believes transparency is a good thing, while nobody has any idea what transparency means in practice.

Equal treatment of traffic is a hard topic. The opponents of net neutrality like to say that there is nothing to debate. That is factually wrong, as ISPs can and do throttle traffic (especially in wireless networks), and they can and do make investment choices that affect the speed of delivery (especially with heavy streaming content firms), and they have discussed signing contracts that give some traffic a faster path to users (especially for video traffic). The interesting economic question is however whether or not these activities have efficiency benefits.

### **Some economics.**

So, what does the economics of traffic management say? I cannot do justice here to the burgeoning literature on this topic. Economists also have so many hands that results are often nuanced and it is at times difficult to guide policy. But here are a few interesting aspects that I think I have learnt so far.

- **A bottleneck problem.** In a situation where end users subscribe to only one ISP (that is, they “single home” in the economics jargon), the ISP will have a tendency to overcharge the Content Providers (CPs) for “termination”, if the ISP were allowed to do so. The “termination bottleneck” problem comes from traditional telephony regulation, and there is an analogy when charging for access to eye-balls at the point of termination. Importantly, this problem persists also when there is competition among ISPs: contrary to some perceptions, competition among ISPs typically does *not* bring neutrality or reduced incentives to discriminate content. The magnitude of this problems is however reduced if end-users “multi-home” (that is, the CP can reach the same consumer on multiple platforms), and also if the CP has bargaining power, in that it can negotiate its termination fees with the ISP. Models of bargaining between ISPs and CPs are actually lacking in the literature.
- **The “waterbed effect”.** Should the ISP charge, say, a CP for the traffic it generates, it is expected that the subscription fees paid by end users will *decrease* – other things equal. This result is immediately obvious if the ISP is competitive (since its overall profits, from every source, are kept down to a normal level by the competitive process) but it extends also to ISPs with market

power. The decrease in subscription fees is expected because of the two-sided nature of the market. This would be to the advantage of end users, an aspect which is surprisingly forgotten in the policy debate.

- **A “missing” price.** One can cast many aspects of the debate in terms of “contracting with externalities”. An ISP may increase bandwidth to subscribers without taking into account the advertising revenues that will accrue to CPs that will deliver content to such subscribers. Similarly, a CP may introduce new applications desired by subscribers without taking into account the effect this has on congestion of the infrastructure. With suitably many payments between the parties, mild forms of regulation would be neutral themselves: relative prices might change, but not total prices paid/received by the parties involved – with no impact on final allocations. Certain forms of neutrality regulation can lead to real effects only when they cut-off sufficiently many links between ISPs/consumers/CPs: for instance, when there is no price between consumers and CPs, or no price between CPs and ISPs. From this perspective, I criticize recent regulatory decisions to stick to the status quo (where CPs cannot be charged). The lack of regulatory experimentation means that we might never learn how price structures could be if constraints were removed and parties were allowed to negotiate. The problem is also that no regulator wants to be the first one to allow for such changes: let some other country do it first. Then, obviously, no one moves.
- **Platforms for innovation: Investment at the “core” and at the “edge”.** Content and infrastructure are economic complements: they are both needed for the end user. The net neutrality debate is also a discussion about which *type* of investments should be given more importance. A regime switch from the restrictive interpretation of net neutrality regime to one allowing, say, ISPs to charge CPs for prioritisation would increase investment in “core” broadband capacity. This is because the discriminatory regime allows ISPs to extract additional revenues from priority fees to CPs. Interestingly, innovation in services at the “edge” also can increase: some highly congestion-sensitive applications, which were left out of the market under net neutrality, would enter when a priority lane is proposed. The debate should actually refocus on “systems”, rather than being narrowly concerned with one layer only (typically, ISPs, or CPs). Here, there is a big difference between open and proprietary systems. Proprietary systems involve lower transaction costs for affiliated partners, but also narrow the range of innovation by young entrepreneurial firms compared to open and unrestricted platforms.

### **What’s next.**

One thing is easy to predict: there will be appeals to the FCC’s decision. Actually, lawsuits to overturn the FCC’s order have already started. Good for lawyers. Regulators will also have to provide clarifications and interpretations of some key aspects. In particular, it is not clear how to treat when CPs pay to ensure users avoid ISPs’ out-of-bundle charges for consuming their content when users exceed their monthly allowance. Regulators are also introducing distinctions between internet access and “specialised services”. This kind of definitions gives headaches, promotes endless arguing, and creates regulatory loops.

And of course there will be political gaming. The risk is that strong net neutrality regulations, which are against the ISPs’ interest, will be counterbalanced with more

lenient approaches elsewhere. Think of the Comcast-Time Warner Cable merger in the US. Or think of roaming or merger regulations for mobile companies in Europe. These are important decisions as well, but they have nothing to do with net neutrality regulation and traffic management. Let mergers or roaming regulations be discussed on their own merits. They should be neutral to net neutrality.