
Editorial

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Biographical notes: Brigitte Preissl received her PhD in Economics from Frankfurt University. Her 25-year research experience covers innovation systems, service markets, the impact of information technology and the regulation of telecommunication markets. Most of her research experience was gained at the German Institute of Economic Research (DIW) in Berlin. Visiting fellowships in England (University of Warwick and Aston University), the USA (USC Berkeley) and Italy (Università Cattolica, Milan) have complemented her academic itinerary. From 2005 to 2007, she worked as a Senior Economist for Deutsche Telecom. Since 2007, she has been the Editor-in-Chief of *Intereconomics* and *Wirtschaftsdienst*, two economic policy-oriented journals.

The amount of data transmitted via the internet keeps growing at a rapid pace. As long as traffic could be handled in traditional legacy networks this did not cause severe problems. Everyone who was using the internet enjoyed the uncomplicated way of accessing information, downloading content and communicating with the rest of the world. However, when a point was reached in which substantial network investment was required in order to avoid congestion, the question of who should pay for high capacity networks was set on the agenda. The economically efficient answer was that those who use more network capacity should pay more. Now, this idea met serious (and sometimes fierce) opposition. It was argued that differentiating between high-capacity and low-capacity usage would open the door for prohibitive pricing for non-profit internet users, as well as for discrimination of content and of content providers. Hence, the 'neutrality' of the internet with respect to types of content, origin and receiver has been claimed. However, in a 'neutral' setting, capacity problems are solved by queuing (or by algorithms that are undisclosed) with a risk of deteriorating service quality.

The papers on net neutrality in this issue reflect the advancement in the public discussion as they do not take position 'for' or 'against' net neutrality, but present concrete solutions on how to deal with congestion in an economically efficient way without causing damage to the basic nature of the internet.

Ulrike Berger-Kögler and Jörn Kruse argue for a distinction between different kinds of services. While for some interactive services the delays caused by congestion are affecting service quality to a great extent, for other high-volume downloads it is hardly noticeable. On the basis of this insight, they analyse the regulatory solutions adopted by the FCC and the European Union and argue for priority pricing.

A similar solution is presented by Günter Knieps. He suggests a market driven approach as opposed to mandatory net neutrality regulation. Congestion pricing and quality of service differentiation are shown to generate superior results to simple net

neutrality schemes. Prices are to reflect the degree of congestion that is likely to occur in the transmission process. As a result, more complex and differentiated interconnection agreements will be needed among network carriers, such as peering arrangements or partial transit arrangements.

Emin Köksal argues for a network management system which proves to be superior to net neutrality regulation for internet service providers as well as for end users. Similar to many proposals for the handling of internet congestion, he suggests introducing quality differentiation as a basis for capacity pricing. In a two-sided market model, the effects of the two approaches net neutrality and network management are analysed for a monopoly and an oligopoly scenario. The downside of the network management solution, however, is the risk that the non-paying service providers face poor network quality which eventually might drive them out of the market.

All three proposals are worth considering in the debate on adequate policies with respect to net neutrality. They are all based on minimum intervention, high efficiency criteria, but – at the same time – consider positive and negative welfare effects for users and service providers.