

Testimony of J. Gregory Sidak  
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Committee on Commerce, Science, and Transportation  
United States Senate

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Thank you, Mr. Chairman, for inviting me to testify today. I have worked as a lawyer and economist on regulatory and antitrust proceedings in the telecommunications industry for twenty years. In the interest of disclosure, let me say that I have been a consultant to a number of companies in the telecommunications, content, and software industries.<sup>1</sup> Today, however, I am appearing on my own behalf. I do not represent any company, and no one has paid me to prepare this testimony.<sup>2</sup>

“Net neutrality” obligations would require a telecommunications carrier to operate its broadband network so that no packet of information is treated as inferior to others in terms of its urgency of delivery. Under “net neutrality” I can take comfort in knowing that my son’s Internet chatting about what agent Jack Bauer did on last night’s episode of *24* will receive the same priority of delivery as my file transfer of this testimony to the Committee’s staff. The practical effect of “net neutrality” obligations would be to require a telecommunications carrier to recover the full cost of its broadband network connection through a uniform flat-rate charge imposed on all end users.

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<sup>1</sup> Since the early 1990s, they have included Alcatel, AT&T, Bell Atlantic, BellSouth, BT (British Telecom), CanWest Global Communications, Comsat, Deutsche Telekom, Eircom, Ericsson, France Telecom, GTE, Hongkong Telecom, Microsoft, National Association of Broadcasters, Nippon Telegraph and Telephone, NTT West, NTT DoCoMo, Portugal Telecom, Qwest Communications, Recording Industry Association of America, SBC Communications, Siemens, Telecom Italia, Telefónica de España, Telstra, The Walt Disney Company, United States Telecom Association, Verizon Communications, Verizon Wireless, Videsh Sanchar Nigam Limited, and Vodafone. In addition, I advised the Republic of Mexico in the World Trade Organization dispute between the United States and Mexico concerning international telecommunication services, and the Antitrust Division of the U.S. Department of Justice and the Canadian Competition Bureau on antitrust matters concerning telecommunications services.

<sup>2</sup> The views expressed are my own, and not those of Georgetown University.

Companies like Google, eBay, and Yahoo! might believe that such an outcome works to their private economic advantage, but that short-run view would neglect the disincentive that “net neutrality” obligations would create for private investment in the very broadband infrastructure upon which these companies rely to deliver their content and applications to consumers.

Few industries studied by economists have received such intensive theoretical and empirical analysis as telecommunications. Today, regulators in the United States and other OECD nations understand very well how the unique cost characteristics and demand characteristics of telecommunications networks affect market outcomes and the efficacy of regulatory intervention. “Net neutrality” obligations are incompatible with what we know about the economics of telecommunications. To understand the harm that “net neutrality” obligations pose to economic welfare, Congress needs to appreciate six salient economic features of telecommunications networks. These six economic considerations underscore why Congress should not frustrate the ability of a telecommunications company to recover the sunk costs of its broadband network in the manner that least distorts consumer choices.

The first economic consideration is that a broadband network requires substantial sunk investment.<sup>3</sup> Private investors will fund the construction of a broadband network only if there is a reasonable expectation that the company making that investment will recover the cost of its investment, including a competitive return on capital. Sunk investment is not a one-shot deal; sunk investment is made continuously over time. Therefore, as soon as it is understood that a new regulatory obligation or regime like “net

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<sup>3</sup> See, e.g., Jerry A. Hausman & J. Gregory Sidak, *A Consumer-Welfare Approach to the Mandatory Unbundling of Telecommunication Networks*, 109 YALE L.J. 417 (1999).

neutrality” will jeopardize a firm’s recovery of its sunk costs, the capital markets will demand a higher risk-adjusted return. As the cost of capital rises, incremental sunk investment in the network will be more costly for its owner, and the likelihood that the network will be completed according to its originally intended scale will diminish.

The second economic consideration is that a broadband network exhibits economies of scale. The large sunk costs of building a broadband network imply that the marginal cost of providing service to one more consumer is very low. However, marginal cost pricing is insufficient to recover even the average variable cost of the network, much less the average total cost, which would be necessary to recover the sunk costs of building the network. In economic theory, the solution to this problem is to charge consumers a lump sum fee to recover the sunk costs and to price usage at marginal cost. In a regime of regulated pricing, however, this solution is impossible for political reasons because the lump sum fee could be enormous. So firms or regulators attempt to identify what has become known as the “optimal departure from marginal cost pricing.”<sup>4</sup>

The third economic consideration is that a broadband network exhibits economies of scope. In other words, there are synergistic “common costs” to producing multiple products over the same network. The products may have substantially different demand characteristics, including different price elasticities of demand. A multiproduct firm can earn contributions to the recovery of the sunk costs of its broadband network from each of its services. Economic welfare is maximized when the pricing of each such product

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<sup>4</sup> See WILLIAM J. BAUMOL & J. GREGORY SIDAK, TOWARD COMPETITION IN LOCAL TELEPHONY 35-40 (MIT Press & AEI Press 1994); William J. Baumol & David F. Bradford, *Optimal Departures from Marginal Cost Pricing*, 60 AM. ECON. REV. 265 (1970).

makes a contribution to the recovery of sunk costs that is inversely related to its price elasticity of demand. This pricing rule is known as Ramsey pricing.<sup>5</sup>

The fourth economic consideration is that differential pricing, such as Ramsey pricing can increase economic welfare because it enables a firm to lower the price to consumers who would otherwise be priced out of the market if the firm were constrained to charge a higher uniform price. Moreover, differential pricing is commonplace in competitive markets (such as airlines, hotels, retailing, package delivery, personal computers, and book publishing) because competition *compels* firms to adopt rival strategies to lower, to the maximum extent possible, the prices that they charge price-sensitive consumers.<sup>6</sup> It would be perverse to prohibit owners of broadband networks from employing the same differential pricing methodology that is routinely used by firms in competitive markets.

The fifth economic consideration is that telecommunications services have joint demand. For example, a telephone call is valued by both the caller and the recipient, and a visit to a website is valued by both the consumer doing the browsing and the owner of the website. In a “two-sided” market of this sort, the demand that one party has for the product is complementary to the demand that the other party has.<sup>7</sup> Over-the-air television programs are free to the viewer because advertisers pay broadcasters to assemble audiences to receive advertisements. Google searches are free to Internet users because Google sells highly focused advertising that responds to the interests revealed by the Internet user’s search request. Each party in a two-sided market can contribute to the

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<sup>5</sup> Frank Ramsey, *A Contribution to the Theory of Taxation*, 37 *ECON. J.* 47 (1927).

<sup>6</sup> See William J. Baumol & Daniel G. Swanson, *The New Economy and Ubiquitous Competitive Price Discrimination: Identifying Defensible Criteria of Market Power*, 70 *ANTITRUST L.J.* 661 (2003).

<sup>7</sup> See, e.g., David S. Evans, *The Antitrust Economics of Multi-Sided Platform Markets*, 20 *YALE J. ON REG.* 3235 (2003).

recovery of the sunk costs required to build a broadband network. There is no basis in economic theory to presume that it would be socially optimal for end users to pay for all of the cost of building a high-speed broadband network while the companies that deliver content or applications to those same end users over that network—and therefore derive substantial economic advantage from its use—pay nothing.

The sixth economic consideration is that telecommunications networks are susceptible to congestion. For that reason, correct price signals must be used at every possible point in the network so that users who congest the network bear the social cost of their behavior.<sup>8</sup> If, instead, the owner of a broadband network were constrained to charge the same price to every end user, regardless of the amount of network congestion that the user created, the result would be excess demand and reduced supply—which is to say, shortages of bandwidth.

These six economic factors counsel Congress not to frustrate the ability of a telecommunications company to recover the sunk costs of its broadband network in the manner that least distorts consumer choices. We know from Ramsey pricing that the least distortionary method is to charge all persons or businesses that use the network, and to do so in inverse relation to their respective price elasticities of demand. In that manner, revenues earned from persons or businesses with the most price-insensitive demand for broadband connections will permit the telecommunication carrier to reduce prices for consumers who are more sensitive to price, including those with limited disposable income. The result is an expansion of the scale and use of the network. Under differential pricing, intense demanders of broadband delivery—like Google or Yahoo! or eBay—

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<sup>8</sup> See Christopher S. Yoo, *Network Neutrality and the Economics of Congestion*, 95 GEO. L.J. (forthcoming June 2006); J. Gregory Sidak & Daniel F. Spulber, *Cyberjam: The Law and Economics of Internet Congestion of the Telephone Network*, 21 HARV. J.L. & PUB. POL'Y 327 (1998).

probably would pay more for expedited delivery of the advertising that drives their business models. For these users, conventional “best efforts” delivery may be insufficient. In contrast, consumers who are the less intensive users of broadband capacity and who would be satisfied with best-efforts delivery will find it more affordable to subscribe to broadband for Internet access if they do not have to pay for higher network performance than they need. It should come as no surprise that the *New York Times* reported two days ago that America Online and Yahoo! “are about to start using a system that gives preferential treatment to messages from companies that pay from ¼ of a cent to a penny each to have them delivered.”<sup>9</sup>

Congress also should not deny telecommunications carriers the freedom to supplement subscriber revenue with their own advertising revenue. Newspapers, cable television operators, and Internet service providers all have business models that rely on revenues from both advertising and subscriptions. Unless Congress prohibits them from doing so, telecommunications carriers will also develop business models that generate advertising revenue. That ancillary revenue will enable these carriers to reduce further the monthly subscription price for broadband access.

In short, the enactment of “net neutrality” obligations would impose social costs. It would reduce consumer welfare by forcing end users to pay more for broadband Internet access or to forgo the service. At the same time, such obligations would not produce benefits in terms of preventing anticompetitive behavior. A telecommunications carrier already lacks the incentive to block a consumer’s access to lawful content, because content and carriage are complementary goods, not substitute goods. A telecommunications carrier also lacks the incentive to degrade the quality of packets for

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<sup>9</sup> Saul Hansell, *Postage Is Due for Companies Sending E-Mail*, N.Y. TIMES, Feb. 5, 2006.

VoIP services, because that degradation would be quickly detected and could trigger antitrust or business tort litigation.

Finally, the overarching reason why anticompetitive behavior of any sort is implausible is that competition will constrain the market power of any given carrier. In most geographic markets, four or more separate firms will supply broadband Internet access. It will be supplied over the fixed network of the regional Bell operating company or other local telephone company, over the fixed network of the local cable television operator, and over two (if not three) wireless networks in addition to the wireless network affiliated with the local RBOC.

To conclude, the legislative agenda of the “net neutrality” movement ignores the essential cost and demand characteristics of telecommunications networks. It also posits that the current marketplace will produce implausible competitive harms. Congress faces many important questions as it revises the Communications Act, but the imposition of “net neutrality” obligations is not one of them.