



## **Banning Internet Access Price Discrimination Is Bad for Consumers**

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### ***Introduction***

Advocates for regulating rates, services, and network management practices of broadband network access providers refer often to evocative terms and concepts – “openness,” “neutrality,” “equality,” “rights,” “freedoms,” etc. – that, in the words of Lewis Carroll can “...mean so many different things.” The meaning of words here is not a trivial matter, since evolution of the Internet and its contributions to economic growth and development will depend critically on which definitions “are to be masters.”<sup>1</sup>

A recurring theme in the case for applying common carrier type rate and services regulation of Internet access providers is that “discrimination” is bad and markets cannot be trusted to prevent it. Columbia Law Professor Tim Wu, an articulate and frequently cited advocate for Net Neutrality measures, stated: “Network Neutrality is just another way of talking about discrimination.” At a Senate Commerce Committee hearing last year on Internet regulation, Senator Dorgan stated and then asked: “I find it unbelievable that this [idea of nondiscrimination mandates] is controversial. Who on earth is standing up for discrimination?” Most economists and competition policy analysts have for nearly a century not only stood up for discrimination by sellers, but have advocated the same as an element of market conduct necessary to assure high levels of market performance.

The purpose of this *ConsumerGram* is to draw from a representative sample of the literature on the economic welfare impacts of “price discrimination.” We extract from that literature a handful of propositions that taken together refute contentions about pricing network access and use by infrastructure providers – contentions that are put forth as the basis for recommendations that government impose some form of rate regulation to ensure that prices are “fair” and that users are protected.<sup>2</sup>

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<sup>1</sup> When I use a word,” Humpty Dumpty said, in rather a scornful tone “it means just what I choose it to mean -- neither more nor less.” “The question is,” said Alice, “whether you can make words mean so many different things.” “The question is,” said Humpty Dumpty, “which is to be master -- that’s all.” Lewis Carroll, *Through the Looking Glass*.

<sup>2</sup> This essay draws from an earlier piece: Larry F. Darby, *FAQs about Price Discrimination and Consumer Welfare*, ConsumerGram of The American Consumer Institute. Online at: <http://www.theamericanconsumer.org/2000/08/18/faqs-about-price-discrimination-and-consumer-welfare>.

The literature to which we refer in the discussion makes clear, among other things, that service “versioning”, market segmentation, price differentiation and other forms of discrimination among buyers and partners in the value chain a) are the norm in competitive industries, b) are necessary for economic efficiency under cost circumstances prevailing in telecommunications, c) are widely practiced by most firms in the information and communications technology (ICT) sector, d) are not related to market power and are impelled by competitive market forces, e) increase consumer welfare (as measured by consumer surplus) and frequently the economic welfare of all participants, f) are consistent with the requirements for high rates of investment and innovation by facilities providers, and g) raise no issues that require imposition of rate structure regulation by the FCC. Market differentiated rates are superior in all essential respects to rates regulated by traditional means. They are by no means an indicator of market power or indications of consumer exploitation.

### **Distinguishing Economic from Sociopolitical Notions of Discrimination**

We start with an uncontested fact: the term “discrimination” has decidedly different meanings when considered in economic vs. sociopolitical contexts. Among non-economists the term generally carries with it a sense of disgrace, scorn, or contempt. Its definition is also quite loose and highly circumstantial.

*In contemporary public discourse, the notion of discrimination is thoroughly muddled. The chaos stems not only from partisan manipulation but from ambiguities in the concept itself. The most common definitions of "discrimination" contradict each other, and individuals often switch from one definition to another.*<sup>3</sup>

This observation about discrimination is instructive inasmuch as the author could very well have been speaking about the structure of rates for Internet access, but was instead addressing discrimination in the socio-cultural context of race, religion, or sex.

The economic welfare view of discrimination is quite different. Over 80 years ago, Professor J.M. Clark expressed an economic welfare view, while perceptively anticipating the current debate when he wrote:

*Discrimination is the secret of efficiency... [But], discrimination is not solely an economic fact. It raises moral and social issues: it is the tool of favoritism and greed and the vehicle of the highest social justice. It may rouse our righteous resentment or our admiring commendation.*<sup>4</sup>

Discrimination is another word for differentiation in the exercise of discretion, judgment, discernment, insight, acumen, perception, refinement, sophistication, percipience, or distinction. Discrimination allows us to divide good from bad. It reflects

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<sup>3</sup> Curtis Crawford, “Discrimination: A Clear and Consistent Definition” (April 2002). Online at: <http://www.debatingracialpreference.org/DefiningDiscrimination.htm>. An earlier version of this essay appeared in *Academic Questions* 14:3, Summer 2001 as “Rescuing the Concept of Discrimination.”

<sup>4</sup> J.M. Clark, *Economics of Overhead Cost*, University of Chicago Press, Chicago and London, 1923. p. 416 (hereafter, J.M. Clark).

the exercise of choice or simple commonsense in personal or political affairs. It need not reflect bias, prejudice, unfairness, inequity, bigotry, malicious intent, intolerance, exploitation, predation, favoring the favored, fostering injustice, hurting innocent people, or contributing to any other opprobrious outcome.

Net neutrality advocates have relied heavily on arguments that conflate the effects of economic price discrimination with those of sociopolitical and cultural discrimination. As a matter of economic policy, it is absolutely critical to separate the socio-political and moral and ethical baggage from the term discrimination and to focus on its economic elements and welfare implications.

### **Economic Welfare Impacts of Price Discrimination**

It is fair to say that the economics literature on price discrimination offers very little support for the conclusion of net neutrality advocates that the threat of price discrimination warrants imposition of common carrier style rate and service regulation. The following reports a cross section of the economics literature, much of which dates back several decades.

Discrimination Is Required By Scale Economies And Common Costs. The efficiency, welfare maximizing character of prices reflecting marginal costs does not apply to firms with declining costs and a high ratio of fixed (common) to variable costs – characteristics that clearly apply to Internet access providers.<sup>5</sup> Economics 101 teaches that the firm cannot survive with prices set at marginal costs. The conclusion is not new. In the presence of overhead (fixed) costs as a large share of the total, “Discrimination is the secret of efficiency.” The inability of such firms to survive with marginal cost pricing “leads to a system of making each separate section of the business pay the largest possible yield above differential cost.”<sup>6</sup> And, finally, “...discrimination is not a symptom of monopoly, still less of extortionate prices.” It is a natural result of overhead costs, and is found in practically every phase of business.

Price Discrimination Has Historically Been Required By National Telecommunications Policy. Discrimination in the sense of differentiation of products, services, prices or practices is permitted and has routinely been encouraged by the FCC under the Communications Act of 1934. “Carriers” have been required to differentiate rates by class of service, by type or class of user, by section of the country, by volume, and in numerous other, more specific, dimensions. Telecommunications policy has for several decades promoted price discrimination. Application of the law has given carriers wide latitude in varying rates to recover common costs and earn a fair return.<sup>7</sup>

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<sup>5</sup> Fixed and/or common costs are not attributable on a cost causation basis to any particular user. They are shared costs; they must be fully recovered; but, they are not the responsibility of any one user. Thus, the means for their recovery varies widely from industry to industry and from firm to firm. Every method involves a form of “discrimination” in the sense that rates or contributions to overhead are different for different services or users. Any form of homogeneity or markup in pursuit of “neutrality” is nonsensical.

<sup>6</sup> J. M. Clark, p. 416.

<sup>7</sup> Section 202 (a) permits reasonable discrimination, reasonable prejudice, reasonable preference and imposing reasonable disadvantage among different users. FCC policy has been to encourage and in many cases require “just, reasonable and not undue” discrimination.

It has been argued forcefully that “mandated service virtually requires differential pricing.”<sup>8</sup> Thus, “Telecommunications services often involve large fixed costs, low marginal costs, and significant shared costs. If such services are required to be provided to a large number of diverse users, and costs are to be covered without the use of externally provided subsidies, it is very likely that differential pricing will be necessary.”<sup>9</sup> Low prices sufficient to attract large numbers of subscribers will not cover costs, according to Varian. And, “The only way out of this dilemma is to either provide subsidies for customers with low ability to pay, or for the firm to engage in differential pricing.” Put differently, given the cost structure of broadband networks, the goal of “universal broadband access” virtually requires rate discrimination.

Price Discrimination Is Not A Sign Of Market Power. The ability and incentive to discriminate with respect to price and terms of service do not establish the existence of market power. Thus, “Price discrimination among buyers...is ...routine even in highly competitive markets, including hotels, computers, automobiles, books, clothing, groceries, restaurants, telecommunications, and the vast range of other products that offer coupons, rebates, student or senior discounts, quantity discounts, or different prices at different times or places. Indeed, it is hard to think of industries without price discrimination.”<sup>10</sup> Furthermore, price discrimination generally leads to greater output (than for single, uniform prices for uses and users) and contrasts sharply with the well known monopoly practice of restricting output in order to increase profits.

Market segmentation and differential pricing are not counter to market competition, but rather an integral part of the operation of market forces. In a wide variety of circumstances “...it is the very presence of effective competition that forces discriminatory prices on the firm.”<sup>11</sup> Uniform prices (that is prices that are not differentiated with respect to idiosyncratic demand characteristics associated with different uses and users) are NOT sustainable in most industry contexts. Put differently, competition may sometimes ineluctably lead to price discrimination. Thus, “...in a broad range of market types and conditions, where consumers can be separated into distinct groups with different demand elasticities and in which the market’s commodity cannot easily be resold by one group to another, market pressures will prevent any equilibrium at which the price is uniform. Not only will each firm adopt discriminatory prices, but each firm is likely to be forced to adopt a unique vector of prices, each of which is dictated by the market.”<sup>12</sup> And, “...in highly competitive markets, firms may have no choice [but to practice price discrimination] ...”<sup>13</sup> The economics literature is clear. Price

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<sup>8</sup> Hal Varian, “Differential Pricing and Efficiency,” *First Monday—Peer Reviewed Online Journal*, 1996. <http://outreach.lib.uic.edu/www/issues/issue2/different/#SECTION00012>.

<sup>9</sup> Ibid.

<sup>10</sup> Einer Elhauge, “Why Above-Cost Price Cuts To Drive Out Entrants Are Not Predatory—and the Implications for Defining Costs and Market Power”, *Yale Law Journal*, v. 12, 2003, p. 733.

<sup>11</sup> William Baumol, *Regulation Misled by Misread Theory*, AEI-Brookings Joint Center, 2006, p. 2.

<sup>12</sup> Ibid.

<sup>13</sup> Ibid, pp. 2-3.

<sup>13</sup> Ibid, p. 3.

discrimination is not only compatible with effective competition and economic welfare maximization, but it may be necessary to forming a sustainable structure of prices.

Price Discrimination Is The Rule Rather Than The Exception In US Product And Service Markets. Price discrimination may be regarded as a two step process involving separation of the market into clusters of users and subsequent price differentiation among different clusters. Prices may be further differentiated among users within a cluster or for the same user at different time periods or for different volumes. Thus, “Price discrimination among buyers...is...routine.<sup>14</sup> It is “...one of the most prevalent forms of marketing practice.”<sup>15</sup> It is everywhere, since, “Casual observation suggests that price discrimination is common in many industries...”<sup>16</sup> Finally, “...pricing structures designed to accomplish segmentation [among users and uses] are widely used...in the economy.”<sup>17</sup>

Market segmentation and price discrimination are widespread within the ICT sector. They are practiced by virtually all of the major suppliers: Intel, Microsoft, Dell, eBay, Amazon, Google, Yahoo, and others.<sup>18</sup> Practices equivalent to so-called “access-tiering” are common in the ICT sector and in (most) other sectors of the economy.<sup>19</sup>

In explaining and defending price discrimination, Professor Hal Varian, now the Chief Economist for Google, has expressed a view shared by most economists as follows:

*The classic prescription for economically efficient pricing---set price at marginal cost---is not relevant for technologies that exhibit the kinds of increasing returns to scale, large fixed costs, or economies of scope found in the telecommunications and information industries. The appropriate guiding principle in these contexts should be that the marginal willingness to pay should be equal to marginal cost. This*

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<sup>14</sup> Einer Elhauge, “Why Above-Cost Price Cuts To Drive Out Entrants Are Not Predatory—and the Implications for Defining Costs and Market Power,” *Yale Law Journal*, v. 12, 2003, p. 733.

<sup>15</sup> Hal Varian, “Price Discrimination,” *Handbook of Industrial Organization*, vol. 1, (Schmalansee and Willig eds.), North Holland, 1989 at p. 598.

<sup>16</sup> William Baumol, Regulation Misled by Misread Theory, AEI-Brookings Joint Center, 2006, p.1

<sup>17</sup> Michael Levine, “Price Discrimination without Market Power”, *Yale Journal on Regulation*, 2001, p. 2.

<sup>18</sup> “Versioning” is the term of art used to describe quality variation among users in the IT sector. It was coined by Professor Hal Varian. Versioning refers to a form of *quality discrimination* in which sellers purposely structure output and market offers so as to provide different qualities/versions of a good which they then sell at different prices. The whole purpose of versioning is to encourage consumers to cluster themselves in different groups according to their respective willingness to pay and thereby enable sellers to tailor prices according to consumer demand differences. While the term is relatively new, the practice is not. Hal Varian, “Versioning Information Goods”, March 13, 1997 at p. 1. Online at: <http://people.ischool.berkeley.edu/~hal/Papers/version.pdf>.

<sup>19</sup> I use the term “access-tiering” in the same sense as suggested by Professor Lessig in testimony before the Senate Commerce Committee, namely: “By ‘access-tiering,’ I mean any policy by network owners to condition content or service providers’ right to provide content or service to the network upon the payment of some fee.” (Lessig testimony to Senate Commerce Committee, February 7, 2006 at p. 2.)

*condition for efficiency can be approximated using differential pricing, and will in fact, be a natural outcome of profit-seeking behavior.*<sup>20</sup>

Market performance in other “regulated” industries – surface transport, air transport, electric and gas utilities, pipelines, and circuit switched telecommunications – has shown the welfare enhancing properties of price discrimination of this kind is likely to evolve in markets for Internet access and use.<sup>21</sup>

Price Discrimination Is Not Grounds For Rate And Service Regulation. The presence of the ability, incentive and practice of rate and service discrimination by a network service provider is not sufficient grounds to warrant regulatory intervention in the price setting process.<sup>22</sup> Market segmentation and price differentiation among different clusters of use or user is a common means of competing throughout the economy. Price discrimination is not a “sign” of monopoly power and does not provide a principled consumer welfare basis for rate regulation. One expert concluded: “Indeed, it is hard to think of industries without price discrimination..., even though most of these industries are highly competitive or contestable, and the firms in them earn zero economic profit (i.e., a normal rate of return).”<sup>23</sup> Pricing to reflect demand characteristics is commonly done and contributes to economic efficiency. The characteristics of consumer demand are an integral part of efficiency judgments.<sup>24</sup> Whether or not a particular policy is efficient cannot be based on cost considerations alone.

Price Discrimination is Consistent with Investment Incentives Needed to Achieve Universal Broadband Goal. Price discrimination has salutary financial effects inasmuch as it permits cost recovery, reduces risk, allows for the widest diffusion and use of services and thereby encourages investment and innovation. A uniform pricing standard would increase risk, would limit the reach and scope of diffusion of services and would likely not cover costs – all of which are serious deterrents to investment.<sup>25</sup>

Investment analysts are concerned about the impact of net neutrality regulations on investment returns. Investors are somewhat skeptical about prospects that “...the substantial

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<sup>20</sup> Hal Varian, “Differential Pricing and Efficiency,” First Monday—Peer Reviewed Online Journal, 1996 <http://www.sims.berkeley.edu/~hal/people/hal/papers.html>.

<sup>21</sup> Andrew Odlyzko, “Pricing and Architecture of the Internet: Historical Perspectives from Telecommunications and Transportation,” available at <http://www.dtc.umn.edu/~odlyzko/doc/pricing.architecture.pdf>. See also, Andrew Odlyzko, “The Evolution of Price Discrimination in Transportation and its Implications for the Internet” *Review of Network Economics*, Vol.3, Issue 3, September 2004. Online at: [http://www.rnejournal.com/artman2/publish/vol3\\_3/The\\_Evolution\\_of\\_Price\\_Discrimination\\_printer.shtm](http://www.rnejournal.com/artman2/publish/vol3_3/The_Evolution_of_Price_Discrimination_printer.shtm)

<sup>22</sup> Ibid.

<sup>23</sup> Einer Elhauge, “Why Above-Cost Price Cuts To Drive Out Entrants Are Not Predatory—and the Implications for Defining Costs and Market Power”, *Yale Law Journal*, v. 12, 2003, p. 733.

<sup>24</sup> Baumol, William J., and David F. Bradford (1970): “Optimal Departures from Marginal Cost Pricing,” *American Economic Review*, 60(3), June 1970, pp. 265-83.

<sup>25</sup> “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.” (Testimony of J. Gregory Sidak, 2-7-06 before Committee on Commerce, Science and Transportation, US Senate at p. 1.)

investment underway at the [phone companies] to deliver broadband networks to the home will deliver a satisfactory return on the incremental investment,” according to testimony of Luke Szymczak, vice president of JPMorgan Asset Management. Craig Moffett, VP and senior analyst of U.S. cable and satellite broadcasting at Sanford C. Bernstein & Co. in recent testimony opposed network-neutrality mandates by government and warned that:

*...if network owners were barred from creating a “fast lane” on the Internet to generate more revenue to cover capital expenditures, they would have to recover much, if not all, of their cost from subscribers, whose monthly bills would likely rise substantially...Mandated net neutrality would further sour Wall Street’s taste for broadband-infrastructure investments, making it increasingly difficult to sustain necessary capital returns, and it would likely mean that consumers alone would be required to foot the entire bill for whatever network investments do get made.<sup>26</sup>*

Price Discrimination Adds to Consumer Welfare. Current and future (expected) levels of consumer welfare are assured to be greater with demand differentiated (discriminatory) price structures than with uniform prices. Using the present value of consumer surplus is the appropriate consumer welfare metric, economic welfare analysis establishes that demand differentiated prices increase total economic welfare and, more importantly, economic welfare of each class of use or users will under a wide variety of circumstances also be higher.<sup>27</sup> This is true for three reasons related to a) demand effects, b) supply effects and c) non-price effects.

Thus, in lieu of price differentiation, carriers will have to charge a higher average price to cover the full cost of the network. Some consumers (those with a relatively more elastic demand) will not be willing to pay a higher average price, which will repress demand, increase the burden of common costs on other users, and decrease consumer welfare (demand effect). Secondly, because broadband is price elastic, an increase in price will lead to a decrease in revenues. With falling revenue and repressed demand, investors will shun investments in some markets, which will impede broadband build outs, withhold state-of-the-art services from all consumers in some markets and thereby further reduce consumer welfare (supply effect). Finally, without investment supported by differential pricing, consumers will forego not have the option of higher quality services; they will be stripped of savings from joint consumption, and be denied benefits from technical change (non-price effects).

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<sup>26</sup> Testimony of Craig Moffet before the Senate Committee Hearing on Net Neutrality, “Wall Street’s Perspective on Telecommunications”, March 14, 2006. Online at: <http://commerce.senate.gov/hearings/witnesslist.cfm?id=1705>. A hearings summary and commentary is available at: Ted Hearn, “Analysts Question Bell Investments”, *Multichannel News*, March 14, 2006. Online at: <http://www.multichannel.com/article/CA6316081.html?display=Breaking+News>.

<sup>27</sup> The economics literature generally supports the conclusion cited by Varian: “The general impression that follows from this discussion is if price differentiation allows more consumers to be served it will generally increase welfare...Market segmentation that allows markets to be served that would otherwise be neglected is also a case where overall welfare can be expected to be enhanced. Hal Varian, “Differential Pricing and Efficiency” (see footnote 46).

There Is No Evidence that Rate Regulation By Government Will Enhance Consumer Welfare. Technological and economic dynamism of the sector undercuts the ability to forecast future market conditions and, per force, the impact of regulation on market outcomes. Rate regulation is associated with unforeseen and unintended outcomes which invariably are costly. Given the ambiguities and complexity of measuring cost in a dynamic Internet services environment, cost based regulation is assured to be arbitrary, capricious and the source for substantial dynamic inefficiency and waste. Rate regulation is sure to introduce delay, increase uncertainty, add to investment risk and thereby reduce both the rate and likely amount of capital formation on which new services and consumer welfare depend. As one authority put it:

*...political pressure generated by resentment of price discrimination is usually expressed as calls for measures that eliminate the market power assumed to underlie it. And given that perfect regulation is as rare as perfect markets, those measures can easily produce results inferior to those they were intended to remedy.<sup>28</sup>*

### **Concluding Thoughts and Observations**

Price discrimination is practiced throughout the US economy and is generally regarded as a source of economic efficiency that in general creates consumer welfare, when compared to pricing regimes that reflect more homogeneity and uniformity. The practice goes by a variety of names other than price discrimination – demand based pricing, charging what the traffic will bear, willingness to pay, Ramsey pricing, value of service pricing, and others, most of which attract less criticism than those referring in any way to “discrimination.” Discriminatory pricing is taught in business schools in courses on general management, marketing, managerial economics, strategy, or the like. It is ironic that one of the greatest sources of discrimination derives from requirements to treat different entities the same, particularly in the context of the fact that usage by so-called “bandwidth hogs” often amounts to manifold times that of ordinary users. Under net neutrality, nondiscrimination proposals, all subscribers would pay the same rate, without regard to usage or congestion costs imposed on the network. Over 80 years ago an authority on recovering overhead costs of networks put it differently:

*One of the simplest and most common kinds of discrimination occurs through failure to discriminate: that is, charging flat rate amounts where cost and service rendered both vary.<sup>29</sup>*

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<sup>28</sup> Levine at p. 4.

<sup>29</sup> Clark at p. 428.