ROBERT H. BORK

SUITE 1000
1150 SEVENTEENTH STREET N. W.
WASHINGTON, D. C. 20036

January 10, 2003

The Honorable Michael K. Powell
Chairman
Federal Communications Commission
445 12th Street SW, Suite TW-8B201
Washington, DC 20554

Re: *In the Matter of Review of the Section 251 Unbundling Obligations of Incumbent Local Exchange Carriers*, CC Docket Nos. 01-338, 96-98 and 98-147

Dear Chairman Powell:

AT&T has asked me to provide my opinion, from the perspective of antitrust economics, as to the reasonableness of the criteria AT&T has argued should be used to determine "impairment" under section 251(d)(2) of the Communications Act of 1934, 47 U.S.C. § 251(d)(2). As I explain below, the impairment factors advanced by AT&T in this proceeding are reasonable and consistent with established antitrust principles.

In *USTA v. FCC*,[1] the D.C. Circuit held that the Commission's prior impairment analysis was not sufficiently rigorous. In particular, the court held that the standard the Commission used to determine whether an entrant would face a "cost disparity" relative to the incumbent absent unbundled access to the network element in question improperly considered scale economies that apply only during initial stages of entry and, therefore, are merely transitory.[2] The court of appeals, however, made clear that it "did not intend to suggest" that the Act requires "use of the criteria of the essential facilities doctrine" and only permits unbundling of those elements that can be provided by only a single firm as a matter of economics.[3] Thus, *USTA* held only that a UNE must have "some degree" of the "characteristics" of a "natural monopoly" and that the question for the Commission is whether "competitive supply" of an element by "*multiple*" firms would be "wasteful."[4] This reading of *USTA* is reinforced by the Supreme Court's *Verizon* decision, which held that the Act's object is to allow entry by "hundreds of smaller entrants" and

[1] 290 F.3d 415 (D.C. Cir. 2002).

[2] *Id.* at 427.

[3] *Id.*

[4] *Id.*

that unbundling is thus required even if there are some "large competitive carrier[s]" that can duplicate the element.[5]

Accordingly, from a basic antirust viewpoint, the Commission's task in implementing the "impairment" standard is to assess whether entry barriers exist for each particular network element that would prevent *multiple* firms from deploying alternative facilities. Where entry barriers are large, one would not expect to see competitive carriers self-deploying the facility in question. In contrast, where entry barriers are relatively low, the Commission can have a reasonable level of confidence that multiple new entrant competitive carriers can self-deploy the facility in question, and, therefore, that those entrants can still offer meaningful competition to the incumbents without cost-based access to the incumbents' network facilities.

AT&T has relied on three basic categories of impairment: (i) economies of scale and scope; (ii) sunk costs; and (iii) other entry barriers that give the incumbent a substantial cost or operational advantage over the entrant. I consider each in turn.

Economies of scale and scope. Scale economies exist where there are substantial fixed costs (*i.e.*, costs that do not vary with volume) and, therefore, average costs decline as the firm's output of a particular good or service increases. Similarly, scope economies exist where costs decline as the firm offers additional, different goods or services using the same facilities.

It is clearly reasonable for the Commission to consider economies of scale and scope in determining impairment. It is widely recognized that competition can be "wasteful" where scale and scope economies exist.[6] As Professor Kahn puts it "[w]hen the entire demand can most efficiently be supplied via a single set of telephone poles . . . it becomes inefficient to duplicate them and to have two companies digging up the streets at various times instead of one."[7] Indeed, the explanation traditionally given for granting a single firm a monopoly franchise (subject to rate regulation) is because the service in question is characterized by steep scale economies.[8]

And it is because competition by multiple parties would be wasteful that antitrust courts[9] and scholars[10] have concluded that economies of scale can also constitute a potent entry barrier.

[5] *Verizon Communications Inc. v. FCC,* 122 S. Ct. 1646, 1672 n.27 (2002).

[6] *See, e.g.*, Sidney Shapiro & Joseph Tomain, REGULATORY LAW AND POLICY 189-92 (1993).

[7] Alfred Kahn, II THE ECONOMICS OF REGULATION 121-22 (1970).

[8] *See, e.g.*, Sidney Shapiro & Joseph Tomain, REGULATORY LAW AND POLICY 189-92 (1993); Herbert Hovenkamp, FEDERAL ANTITRUST LAW § 1.4 (1994); Stephen Breyer, REGULATION AND ITS REFORM 15-19 (1982); Alfred Kahn, I THE ECONOMICS OF REGULATION 11-12 (1970).

[9] *See, e.g.*, *American Professional Testing Service, Inc. v. Harcourt Brace Jovanovich Legal and Professional Publications, Inc.*, 108 F.3d 1147, 1154 (9th Cir. 1997); *Rebel Oil Co. v. Atlantic Richfield Co.*, 51 F.3d 1421, 1439 (9th Cir. 1999); *Tenneco Inc. v. FTC*, 689 F.2d 346 (2nd Cir. 1982).

[10] Joe Bain, BARRIERS TO NEW COMPETITION, THEIR CHARACTER AND CONSEQUENCES IN MANUFACTURING INDUSTRIES 53-56 (1956); Phillip Areeda & Herbert Hovenkamp, II-A

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Where significant scale economies exist, a dominant incumbent will enjoy a substantial cost advantage over new entrant competitors due to its larger size. Thus, the potential entrant must also be prepared to enter at a large scale. Post entry, however, both the new competitor and the incumbent will face pressure to price towards marginal costs. And because it is ordinarily the case that where there are steep scale economies, marginal costs are below average costs, such competition would make it impossible for the firms to recover all the costs that they incur in producing the good or service in question.[11] New entrants, of course, understand this *ex ante* and could not ordinarily be expected to enter under such circumstances.

I do not mean to suggest that entry is impossible simply because there are *some* economies of scale and scope. For example, as the D.C. Circuit observed, economies of scale that do not exist over the relevant range of demand are unlikely to deter entry if the entrant can achieve viable scale in a reasonable time period. Or, economies of scale might exist but not be steep. On the other hand, an incumbent might be willing to avoid "destructive" price competition and cede some market share where entry is limited due to scale and scope economies in order to maintain existing prices. Of course, as the Commission has recognized, this form of niche entry in which competitors are allowed to exist principally because the incumbent maintains a "price umbrella" cannot be certain to drive prices to competitive levels and, therefore, cannot be sufficient to achieve the purposes of the Act.[12]

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ANTITRUST LAW ¶ 421a at 66 (Supp. 1999); Herbert Hovenkamp, FEDERAL ANTITRUST LAW § 12.4 (1994); Richard Schmalensee, *Economics of Scale and Barriers to Entry*, 89 J. POL. ECON. 1228 (1981).

[11] *See* Michal Gal, *Size Does Matter*, 74 SOUTHERN CALIFORNIA L. REV. 1437, 1445 (2001) ("If [minimum efficient scale] is large relative to demand, and if the cost penalties for operating below MES are substantial, a new firm would have to enter the market at such a large scale that the combined output of all the firms operating in the market could be sold only at substantially reduced prices – perhaps even below average total cost, unless another firm exits the market.").

[12] In Paragraph 55 of the *UNE Remand Order*, 15 FCC Rcd. 3696 (1999), the Commission held that eliminating unbundling where there is only one alternative to the incumbent carrier would create "stagnant duopolies" that would defeat the Act's objective of "creat[ing] competition among multiple providers of local service that would drive down prices to competitive levels." Likewise, in the recent the *Echostar-DirecTV Merger Order*, 17 FCC Rcd. 20559, ¶ 103 (2002), the Commission observed that "existing antitrust doctrine suggests that a merger to duopoly . . . faces a strong presumption of illegality." *See also id.*, Statement of Chairmen Powell ("At best, this merger would create a duopoly in areas served by cable; at worst it would create a merger to monopoly in unserved areas. Either result would decrease incentives to reduce prices, increase the risk of collusion, and inevitably result in less innovation and fewer benefits to consumers. That is the antithesis of what the public interest demands."); Areeda & Hovenkamp, IIA ANTITRUST LAW § 422c at 78 (Supp. 1992) ("Especially in product-differentiated markets, new entrants may find small market niches that have little impact on market prices generally.").

Sunk Costs. It is likewise well-established antitrust economics that sunk costs, the second barrier identified by AT&T, can deter entry. This is true even where scale and scope economies do not exist,[13] but sunk costs are a considered a particularly potent entry barrier when the service in question also is characterized by scale and/or scope economies. Indeed, there is broad agreement in the antitrust economics community that entry into industries characterized *both* by declining average costs *and* sunk costs is extremely difficult and that these industries should be considered natural monopolies.[14]

"[S]unk costs are the acquisition costs of tangible assets that cannot be recovered through the redeployment of these assets outside the relevant market."[15] Some common examples of sunk costs include investments in regulatory approvals, marketing, and specialized assets that cannot be relocated and used for other purposes.[16] Clearly, the greater the level of sunk costs that are necessary to enter a market, the riskier the entry becomes, because a greater percentage of the assets used to provide service will be lost if entry turns out to be non-viable.[17]

In this particular context, there are two reasons why entry into the local telecommunications market that requires sunk costs can be risky. First, to obtain the revenues necessary to recover sunk costs, the entrant must attract a sizeable base of paying customers. In the local telephony market, however, the incumbent carriers already have *in place* the networks necessary to serve *both* existing and future demand. Indeed, incumbent carriers provide telephone service to virtually all residences and businesses in the United States. Thus, to be viable, new entrant carriers must convince substantial numbers of existing customers to switch providers.

Second, a new entrant carrier must not only secure customers, but also must be able to charge those customers prices that are adequate to recover the costs of providing service. The presence of significant sunk costs makes the entrant vulnerable to pricing strategies by the incumbent and, as a result, "potential entry may not be effective in ensuring efficient pricing and product quality."[18] The reason for this is straightforward: the incumbent has already sunk its

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[13] *See* Richard Gilbert, *Mobility Barriers and the Value of Incumbency*, in I HANDBOOK OF INDUSTRIAL ORGANIZATION 491 (Richard Schmalensee and Robert Willig eds., 1989).

[14] *See* William Baumol, John Panzar, and Robert Willig, CONTESTABLE MARKETS AND INDUSTRY STRUCTURE (1982); Dennis Carlton and Jeffrey Perloff, MODERN INDUSTRIAL ORGANIZATION (3rd Ed. 2000); Herbert Hovenkamp, FEDERAL ANTITRUST LAW § 12.4 (1994). *See also* Alfred Kahn, II THE ECONOMICS OF REGULATION 127 (1970) ("That the provision of local telephone service is a natural monopoly is generally conceded.").

[15] Department of Justice/Federal Trade Commission, *Horizontal Merger Guidelines*, § 1.32 (rev. Apr. 1997); *see also Consolidated Rail Corp. v. U.S.*, 812 F.2d 1444, 1457 (3rd Cir. 1987).

[16] *See, e.g., FTC v. Illinois Cereal Mills*, 691 F. Supp. 1131, 1138, 1144 (N.D. Ill. 1988), *aff'd*, 868 F.2d 901 (7th Cir. 1989); *United States v. United Tote*, 768 F. Supp. 1064 (D. Del. 1991).

[17] Phillip Areeda & Herbert Hovenkamp, II-A ANTITRUST LAW ¶ 421c at 67 (Supp. 1999); Herbert Hovenkamp, FEDERAL ANTITRUST LAW § 12.4 (1994).

[18] *See also* Daniel Spulber, REGULATION AND MARKETS 603 (1989); *see also* Jean Tirole, THE

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costs, while the potential entrant has not. In this situation, a potential entrant must fear that the incumbent will respond to its entry by pricing all the way down to its short run marginal costs. To the extent that the entrant would not be able to recover its costs at these lower prices, it will be deterred from entering.

This sunk cost entry barrier is particularly pronounced when there also economies of scale or scope. As discussed, where there are scale economies, the entrant must enter at a large enough scale to match the incumbent's scale economies; otherwise, it will be at a substantial cost disadvantage that makes effective competition impossible. But entry on such a massive scale would swamp the market with excess capacity. That, in turn, will make it more likely that all participants, including the entrant, will need to "price down" to a level that makes it impossible to recover their sunk investments. Again, potential entrants will understand these facts *ex ante* and would rationally choose not to build their own facilities in such situation.

I stress that this is *not* a predatory pricing argument. The point here is that a potential entrant understands that the price that currently exists in the marketplace may not exist post entry. Rather, where there are sunk costs and economies of scale and scope, both the entrant and incumbent will rationally be driven to price at a level that can prevent the entrant from recovering its sunk costs. It is the prospect of this rational economic behavior that deters the entry from happening at all. The Commission itself has recognized precisely this point:

> If entry into an industry requires large sunk costs, the firm that incurs these sunk costs first (the incumbent) can have a tremendous advantage. Potential new entrants may realize that any large scale facilities-based entry into the market will probably force prices to decrease and those prices may be in fact below the point necessary to recover the sunk cost investment. As a result, facilities-based entry will be deterred.[19]

Here, I understand that AT&T has proffered substantial evidence showing that the principal network facilities at issue – loops, transport facilities, and switches – are characterized both by economies of scale and/or scope, and sunk costs. Although I have not reviewed that evidence in detail, from a basic antitrust perspective, such evidence is clearly probative of whether AT&T and other competitive carriers are "impaired" absent unbundled access to these network facilities.

I emphasize that entry is not necessarily impossible where sunk costs exist. Entry may still be possible if the entrant can secure a committed customer base prior to entry and thereby have a reasonable assurance that it will earn revenues that will recover its sunk costs. Likewise, entry may not be risky, despite the need to incur sunk costs, where there is substantial demand that cannot be served adequately by existing capacity. Nonetheless, from an antitrust

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THEORY OF INDUSTRIAL ORGANIZATION 314-23 (1988).

[19] *Section 257 Report*, 12 FCC Rcd. 16802, ¶ 18 n.48 (1997). *See also MCI-BT Merger Order*, 12 FCC Rcd. 15,351, ¶ 162 (1997) (same).

perspective, the existence of sunk costs is clearly a factor relevant to an economically rigorous evaluation of entry. And because such facts are typically a function of the specifics of the competitive landscape in a particular product and geographic market, it would be most prudent to have them be reviewed by regulators who are closest to those markets.

Other Entry Barriers. Finally, I discuss various types of entry barriers that AT&T has termed "classic" entry barriers or "first mover advantages/second mover disadvantages." In each case, AT&T is identifying entry barriers that fit even within Professor Stigler's "narrow" definition of an entry barrier: "a cost of producing (at some or every rate of output) which must be borne by a firm which seeks to enter an industry but is not borne by firms already in the industry."[20]

Entry is simply unlikely where an incumbent enjoys a significant "absolute cost advantage" over the entrant.[21] Regardless of what prices prevail in the market, a potential entrant will understand that, post-entry, the incumbent could simply drop its prices below the entrant's costs. Such a pricing strategy will still allow the incumbent to remain profitable; however, by setting prices below the entrant's costs, the incumbent would make it impossible for the entrant to remain economically viable.[22] The likelihood that the incumbent would engage in such an entry-deterring pricing strategy is particularly high where an incumbent can price discriminate, because that allows the incumbent to lower prices selectively, *i.e.*, only to those customers that could potentially be served by the new entrant, and thus to keep prices high for all other customers.

In its filings in this proceeding, AT&T has proffered evidence showing that, because of the unique characteristics of local networks, in order for competitive carriers to self-deploy switches to serve residential and small business customers, they must incur substantial costs that incumbents do not have to bear. Accordingly, competitive carriers are at a *systematic* cost disadvantage in competing with incumbents without cost-based access to unbundled switching as a network element. Assuming this evidence is well-founded, it demonstrates that competitive carriers are in fact impaired under "classic" antitrust economic principles, because effective competition is unlikely if competitive carriers must incur substantially higher costs than incumbent carriers when using alternative switching functionalities.

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[20] George J. Stigler, THE ORGANIZATION OF INDUSTRY 67 (1968). Other scholars have adopted a much broader definition of entry barrier. *See, e.g.*, Phillip Areeda & Herbert Hovenkamp, II-A ANTITRUST LAW § 420a at 57-58 (Supp. 1992) (an entry barrier is "any factor that permits firms already in the market to earn returns above the competitive level while deterring outsiders from entering").

[21] Jean Tirole, THE THEORY OF INDUSTRIAL ORGANIZATION 306 (1990).

[22] *See* Richard Gilbert, *Mobility Barriers and the Value of Incumbency*, in I HANDBOOK OF INDUSTRIAL ORGANIZATION 493 (Richard Schmalensee & Robert Willig eds., 1989) ("If a potential entrant has a cost disadvantage with respect to an established firm, this is a factor that can allow the established firm to maintain a price above cost.").

Relatedly, AT&T has identified entry barriers that are derived solely from the fact that the incumbent was the first to enter the market, and not from any superior efficiency. As Professor Pitofsky has put it, "[o]ne cannot assume that the market invariably will succeed in dissipating entrenched market power in an acceptable time frame or that superior products will displace inferior products that enjoy first-mover advantages."[23] Although these first mover entry barriers can arise from many sources, they often arise as a result of the action of governmental authorities or private licensing organizations. The hard reality is that incumbent firms are frequently able to secure action from such bodies to impede entry of others.[24] A commonly cited illustration of this point is the medallions that New York City requires in order for an entity to provide taxi service.

The specific examples of first mover advantages/second mover disadvantages offered by AT&T follow this pattern. As first movers, the incumbent telephone companies received rights-of-way from local governments for underground cables and telephone poles and wires with only minimal transaction costs, because persons in the neighborhood or municipality otherwise would not receive *any* telecommunications services. In contrast, local governments often do not see significant benefits in local competition and are not eager to have multiple companies trenching streets. Thus, to the extent that local governments have imposed discriminatory conditions on access to the municipal rights-of-way that competitive carriers need to deploy their own facilities, this shifting of the competitive playing field constitutes a cognizable entry barrier.

This same logic supports AT&T's position that competitive carriers face an entry barrier when seeking to deploy facilities in multi-tenant buildings. Building owners and landlords understandably welcomed and accommodated incumbent carriers that promised to bring telecommunications facilities to their properties for the first time, but, I understand, often view granting building access to competitive carriers as a nuisance. Again, to the extent that the building owners act on these incentives and impose more onerous terms and conditions on competitive carriers relative to incumbents, this constitutes an entry barrier that can deter the deployment of alternative facilities.

Finally, AT&T has proffered evidence showing that, as a consequence of being a second mover entrant, the quality of its services may be inferior. Specifically, in order for a competitive carrier to serve such residential and small business customers using its own switch, the carrier must arrange to have the incumbent break the existing "hardwired" connection between the incumbent's switch and customer's loop, and re-establish a connection between the competitive carrier's switch and the customer's loop. I understand that AT&T's testimony shows that the existing processes for providing this "hot cut" are unreliable and often leave the customer without telephone service for an extended period of time. From the perspective of basic economics, quality disadvantages are no different than cost disadvantages.[25] Even if a new entrant can provide service at the same price as the incumbent, if the quality of its service is

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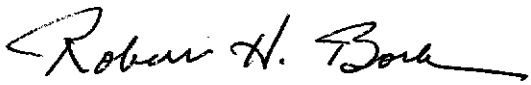
[23] Robert Pitofsky, *Challenges of the New Economy: Issues at the Intersection of Antitrust and Intellectual Property*, 68 ANTITRUST L.J. 913, 916 (2001).

[24] Herbert Hovenkamp, FEDERAL ANTITRUST LAW § 12.4 (1994).

[25] *See* Jean Tirole, THE THEORY OF INDUSTRIAL ORGANIZATION Ch. 2 (1993).

markedly inferior, it will not be able to compete. Accordingly, to the extent that, because of the architecture of local networks, new entrants seeking to self-deploy their own facilities will be unable to provide the same quality service as incumbents. This is an entry barrier that should be considered by the Commission in undertaking its impairment analysis.

Yours truly,



Robert H. Bork

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cc: The Honorable Kathleen Q. Abernathy
The Honorable Jonathan S. Adelstein
The Honorable Michael J. Copps
The Honorable Kevin J. Martin