



DEPARTMENT OF JUSTICE

NETWORK INDUSTRIES AND ANTITRUST

Address by

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It is a pleasure to participate in this Federalist Society program. At the risk, however, of appearing to be an ungracious guest, I will take the liberty of addressing, not the topic described in the Program, but rather the question: “Can the application of sound antitrust principles promote efficiency in network industries?” I do not intend to address whether regulation can promote efficiency in network industries -- except to note that, as a general matter, those of us who believe in competition, and support antitrust enforcement where appropriate to protect competition, are skeptical of broader forms of government regulation and support antitrust intervention in part as a means to enable markets to function with minimal need for such regulation.

I

I assume that the focus today is on whether network industries are somehow different from others, and whether those differences make regulation or antitrust enforcement especially necessary or especially unsuited for promoting efficiency.

Let me cut to the chase: In my view, network industries should not be subject to special antitrust rules. Network industries do not give rise to competition problems that are so unique that they require different or heightened forms of antitrust intervention; nor are the benefits of network industries so enormous or so fragile, or the difficulties of applying antitrust principles to network industries so great, as to warrant special leniency or forbearance from antitrust enforcement. Traditional antitrust principles of general application should be applied to network industries, as to other industries.

I do not mean to suggest that there is nothing which distinguishes network industries from others. To the contrary, network industries have distinctive characteristics. Sound antitrust

enforcement requires careful attention to factual detail, and application of antitrust principles to a network industry thus requires careful attention to the particular characteristics of the industry.

II

The most important characteristic -- indeed, the defining characteristic -- of network industries is that they involve products that are more valuable to purchasers or consumers to the extent that they are widely used. This phenomenon is known as a “network effect” or demand-side economy of scale. It can arise in two ways:

Often, in what are sometimes called “real” or “communications” networks -- like telephones or the internet -- network effects come from interconnection or interoperability. My telephone, for example, is more valuable if everyone else has a phone that can be accessed from my phone.

In other instances, sometimes called “virtual” or “system” networks, network effects arise because, as the number of users of a product or service increases, there is an increase in the number of complements available in the market for that product or service.¹ My VCR, for example, is more valuable to me to the extent that it is in a widely used format for which, because it is widely used, a large number of movies are produced.

Network effects do not exist in a vacuum. Especially in systems networks, they depend importantly on other factors -- in particular, supply-side economies of scale, which exist when the cost to produce a unit of a network complement (such as a tape that works on my VCR) declines, at least to a point, as the number of units produced increases. While these other factors

¹See generally, e.g., M. Katz and C. Shapiro, “Systems Competition and Network Effects,” 8 J. Econ. Perspectives 93 (1994).

need to be taken into account for a complete analysis of network industries, I will focus in my limited time this afternoon on the defining characteristic of such industries -- demand side economies of scale, whether arising from communication benefits or from expanded availability of complements.

Demand side scale economies are a kind of efficiency -- bigger is, at least to some extent, better. Sometimes, but not always, the benefits of scale lead to the existence of monopolies.

The potential demand-side scale economies of a network industry, like economies in any industry, are not always fully realized. As a general matter, they are realized to the extent that there is interconnection within the network -- so that users can access and benefit from one another -- and abundant complements available to users. Attaining these benefits requires, among other things, some form of standardization, so that the various complements and network segments can effectively interoperate.

Often, powerful market forces enable the realization of these benefits. Sometimes, though, transaction costs or large number problems prevent the realization of all potential benefits from a network.

III

The most immediate implication of all this is that, where they exist, network effects are part -- sometimes a very important part -- of the facts that antitrust enforcers and courts should take into account. If powerful enough, network effects could help explain observed industry structure and behavior; and they constitute real efficiencies that, other things being equal, should not be sacrificed.

Network effects are also relevant to antitrust enforcement in two more specific ways:

A

First, network effects can increase the incentive for, and thus the likelihood of, anticompetitive conduct. The very demand-side economies of scale that induce the formation of a network in the first place can serve as barriers to competition against the network, even by those who might offer a superior alternative.

The barrier to competition reflects a large-number or collective-action problem. Just as each user enhances the value of a network to other users, so a rival of an existing network must induce a large number of users to choose its alternative. And just as a large number of users induce suppliers of complements to provide complements for an existing network, so the provider of an alternative often must induce a large number of suppliers to provide complements for the alternative.² The would-be entrant or competitor thus often faces a conceptually ordinary but factually daunting chicken-and-egg problem in attempting to coordinate behavior by large numbers of users and suppliers in order to take advantage of potential network benefits. As Ronald Coase taught us nearly forty years ago, it is all about transaction costs.³

For example, if I were to offer a new, improved form of wireless communications, I would probably have great difficulty signing up customers if I could not offer them access to customers on the existing, ubiquitous wireline telephone network. And if I develop a new VCR

²The difficulties in obtaining abundant complements involve more than just a large number problem. For example, suppliers will be more reluctant to support a new entrant to the extent that doing so requires them to incur sunk costs, i.e., costs that they cannot recover if the new entrant fails.

³See R. Coase, "The Problem of Social Cost," 3 J. Law & Econ. 1 (1960).

technology that is superior to the existing VHS technology, I would probably have difficulty finding many customers until there were a large number of films available for the new technology, and vice versa.

There is nothing inherently bad about this. If the benefits of the new technology, compared to the existing technology, are not enough to induce consumers to pay the switching costs -- to learn, for example, how to use a new VCR device and perhaps to render their existing film libraries obsolete -- then it is not necessarily inefficient for the new technology to fail in the marketplace. The point is not that network effects are bad, but that they create an entry barrier; and entry barriers tend to insulate existing networks from competition and thereby to enhance their market power. Entry barriers increase the likely duration, and thus the value, of market power or monopoly power and thus reduce efficiency.⁴

Let me pause here for a moment. Some of those who argue that network industries should be subjected to more relaxed antitrust scrutiny attack a straw man -- a hypothetical argument that network industries are always characterized by enduring monopoly and surrounded by insurmountable entry barriers. They recount instances in which a first mover or monopoly network firm is supplanted by a new dominant firm to show, evidently, that the barriers are not insurmountable. I have no intention of defending that straw man. My point is a more modest one: Network industries are often associated with entry barriers that facilitate the exercise of market power by incumbent industry leaders. This is especially likely to be the case

⁴I am defining an "entry barrier," in the conventional antitrust sense, as "any factor that permits firms already in the market to earn returns above the competitive level while deterring outsiders from entering." P. Areeda, H. Hovenkamp & J. Solow, Antitrust Law ¶ 420 at 55-56 (1995).

if the network effects are substantial, if the incumbent has monopoly power, if penetration of the potential market by incumbent firms is high, if the incumbent has a large installed base of users, and if there is a large number of complements for the incumbent's product which in aggregate materially increase its value.

Recognizing that network effects tend to increase entry barriers has an important implication for antitrust enforcement: Increased duration or value of market power increases incentives for firms to obtain or maintain such market power, and that in turn increases their incentives to engage in anticompetitive conduct (as well, I might add, as procompetitive conduct) for that purpose.

In addition, network industry entry barriers make predatory strategies for excluding or weakening marketplace rivals more feasible. Such strategies typically involve the loss of profits today in order to drive a rival out of business and, thereafter, to recoup the loss by exercising market power. Increased entry barriers facilitate such recoupment.

B

Network effects have a second implication for antitrust enforcement: They suggest, and thus ought to alert antitrust enforcers and courts to the possibility of, certain types of anticompetitive strategies. Recall that the key attribute of a network industry is demand-side scale economy, and that network economies can create an entry barrier reflecting the large number, collective action problem of inducing users or complement providers to switch from an incumbent network to a new network.

That entry barrier can be ameliorated to the extent that the new entrant or rival network can take advantage of comparable network economies by, for example, having its users

interconnect with the incumbent network or its product interoperate with complements of the incumbent network. So one would expect to find, from time to time, firms engaging in anticompetitive conduct to impede their rivals' access to network economies. Experience has corroborated that expectation.

IV

So far, I have been rather abstract. Let me try now to illustrate some of the kinds of anticompetitive problems that we have observed in network industries and how antitrust principles have addressed them. Roughly speaking, they can be placed into three groups.⁵

A

The first involves conduct that denies or threatens to deny rivals or entrants access to a network that is critical to their commercial success and thus to their viability as competitors.

(1) The most common might be called a "horizontal denial of access." In the Realty Multi-List case, for example, a real estate listing service -- which is a network by which realtors pool, and thus have access to, information about the houses offered for sale by all of them -- in effect refused to permit would-be competitors to join the service. The exclusion significantly weakened the competitors' ability to compete, and the Reagan administration thus obtained a court order that enabled competitors, as well as incumbents, to take advantage of the network economies.⁶

⁵Each of these groups includes conduct that could affect both (i) competition within the network or standard (e.g., for share of wired telephony) and (ii) competition for the standard or for the market (e.g., choice between wireless and wireline telephony).

⁶See United States v. Realty Multi-List (M.D. Ga., April 9, 1982) (Competitive Impact Statement).

(2) A similar but more far-reaching case was the ATT case, which involved both horizontal and “vertical” denials of access.⁷ The analysis, and the role of network effects, in that case are complicated. In a nutshell, AT&T had monopolies in both local and long distance telephone service in most of the country. Other firms were beginning to compete with it in the provision of long distance service; but their ability to do so depended on having access to AT&T’s local telephone network, so that their long distance customers could reach the people they wanted to call. In various ways, AT&T refused or impeded the new firms’ access to its network and, thus, to its local telephone customers. By so doing, it was able substantially to insulate itself from competition in long distance service. The extraordinary remedy achieved by the Reagan Administration in that case required, among other things, that all long distance providers have equal access to AT&T’s local telephone networks. The remedy opened up the long distance telephone markets to competition.

(3) Both the Realty Multi-List case and the AT&T case involved exclusion of competitors from monopoly networks, and the remedies in those cases required that competitors be given access to the networks. In last year’s WorldCom/MCI merger, access concerns were addressed, instead, by a once-and-for-all structural remedy.

The case involved the nascent internet backbone business, the business that connects internet users and websites. When the matter came to the Antitrust Division, there were many providers of internet backbone services, no one of which was ubiquitous, and the largely unregulated business functioned effectively because each of the major providers had a roughly

⁷See United States v. ATT (D.D.C., Jan. 8, 1982) (Competitive Impact Statement).

comparable incentive to provide access to the others -- much the way the realtors in the Multi-List case pooled their listings -- so that all of them could share in the enhanced network effects.

Both WorldCom and MCI were among the largest providers of internet backbone services. If their internet businesses were combined by the merger, the resulting entity would, in effect, leapfrog the others. By suddenly, and for reasons unrelated to any superiority of their networks, becoming much larger than the other backbone providers, the combined WorldCom/MCI network would need to interconnect with other networks less than those networks would need to interconnect with it. The combined network would thus be less likely to interconnect on even terms; it might take less care to ensure the quality of the interconnection, or it might insist on being paid by the smaller networks. The result could have been an interference with the process by which the benefits of network effects were diffused throughout the industry and could have enabled the combined WorldCom/MCI network to achieve industry-wide dominance for reasons unrelated to any superiority of its network.

The matter never reached litigation. In order to resolve concerns about the distortion of the competitive process that the merger could create, the parties restructured their transaction by divesting MCI's internet business to a third party and thus preserving the rough parity among internet backbone providers that had previously existed.⁸ This structural relief preserved network benefits, prevented an artificial creation of market power, and avoided more intensive government intervention into the marketplace.

B

⁸See Department of Justice press release, "Justice Department Clears WorldCom/MCI Merger After MCI Agrees to Sell Its Internet Business" (July 15, 1998).

Another type of anticompetitive strategy that we have observed in network industries involves foreclosing or weakening businesses which, when combined with other assets, could provide a competitive alternative to a dominant or monopoly network. This kind of competitive problem, which is sometimes called vertical foreclosure or exclusion in antitrust parlance, is not unique to network industries, but it has been used in them.

(1) One kind of vertical foreclosure involves tying a monopoly product to another product. For example, a recent Antitrust Division case involved a dominant ATM network that required participating banks -- which had enormous incentives to participate in the network because of its almost ubiquitous access to customers -- to use certain data processing services provided by the network.⁹ The tying arrangement impeded the development of third party data processors, which were necessary in order for small banks to access other ATM networks, and thus prevented the establishment of competing networks.

(2) Vertical foreclosure in network industries can also take the form of agreements between a network and providers of complements that prohibit the providers, in whole or in part, from making their complements available to other firms that might need them in order to compete against the network. Exclusionary agreements of this type could range from mergers to more modest contractual arrangements.

For example, FTD, the floral delivery network, used to prohibit member florists from participating in competing floral delivery services. After that explicit prohibition was prohibited, it offered financial incentives to induce its members not to collaborate with other

⁹See United States v. Electronic Payment Services (D. Del., April 21, 1994) (Competitive Impact Statement).

networks. The effect of the new program was the same -- to make it more difficult for competing networks to flourish.¹⁰

C

The final type of anticompetitive conduct I want to mention involves restricted access to network standards. Recall that standards -- that is, uniform protocols shared by network participants -- are critical to realizing network effects. Standards are necessary for interconnection with users -- so that, for example, both my phone and your phone work on the telephone network -- and for interoperability with complements -- so that, for example, all VHS tapes work on all VCR machines. Not surprisingly, there have been instances in which firms in network industries have engaged in anticompetitive tactics in order to give themselves preferential access to controlling standards at the expense of competitors and sometimes at the expense of superior standards.

Manipulation of standards can take many forms. Recent cases have suggested at least three:

First, a recent Federal Trade Commission case involved a firm that misled a standards-setting group by denying that it had any patent rights that might give it exclusive or preferred ability to exploit a proposed standard. Had the firm's scheme succeeded, the firm would, in effect, have owned the industry standard.¹¹

¹⁰See United States v. FTD, 1996-1 Trade Cas. ¶ 71,394 (E.D. Mich. 1995).

¹¹See Federal Trade Commission press release, "Dell Computer Settles FTC Charges; Won't Enforce Patent Rights for Widely Used Computer Feature" (November 2, 1995).

In other cases, including cases decided by the Supreme Court, parties have sought to manipulate the standard-setting processes in order to induce standards-setting organizations to adopt their proposed standards rather than others that might have been superior.¹²

And in other cases, parties have made excessively broad intellectual property claims in an effort to deny competitors opportunities to develop interfaces that would enable them, in effect, to take advantage of de facto industry standards and thereby to compete more effectively against dominant providers.¹³

V

Obviously, I cannot catalog in a few minutes here all of the kinds of anticompetitive conduct that one might expect to find in network industries. The inventiveness and creativity of those who engage in strategies to best their rivals are no less impressive than the ingenuity of market-driven entrepreneurs in developing new products and finding new ways to contribute to our economic welfare.

Nor do I mean to suggest that all efforts to preclude rivals from access to network economies are anticompetitive. Most are probably benign. Many, for example, are legitimate efforts to prevent free-riding. It depends on the facts.

Antitrust law embodies a modest prescription for government intervention into the marketplace. It is intended to prohibit private arrangements that interfere with the competitive

¹²See Indian Head, Inc. v. Allied Tube & Conduit Corp., 486 U.S. 492 (1988); American Society of Mech. Eng'rs. v. Hydrolevel Corp., 456 U.S. 556 (1982).

¹³See Lotus Development Corp. v. Borland International, Inc., 49 F.3d 807 (1st Cir. 1995), add'd per curiam by an equally divided court, 116 S.Ct. 804 (1996).

marketplace and create or maintain market power to the detriment of consumer welfare and overall economic efficiency. Sound antitrust enforcement can promote economic efficiency by deterring such arrangements; and it can do so in network industries, as well.