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Remedies and Regulation in Network Industries

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My objective is to present a perspective on remedies in network industries that is informed by the American experience with antitrust law and sector-specific regulation. With respect to the latter, I will draw most of my examples from telecommunications, which was the subject of major deregulatory legislation in 1996.

The legal and economic understandings of a "remedy" are not synonymous in American usage. In law, a remedy is the corrective measure that a court orders following a finding of liability. With the exception of interlocutory relief, such as preliminary injunctions or temporary restraining orders (which might apply to a proposed merger, for example), legal remedies are retrospective in their orientation. They seek to right some past wrong. They may do so through the payment of money (whether that is characterized as the payment of damages, fines, disgorgement, or something else). Or they may seek to do so through a mandated change in market structure, as in the case of divestiture, or in the imposition of affirmative or negative duties, as in the case of "behavioral" injunctions. The *Microsoft* case[1] presented the tradeoff between these various remedial alternatives, as Howard Shelanski and I have explained.[2]

Industry-specific regulation, such as regulation of the telecommunications industry by the Federal Communications Commission (FCC), is an alternative to reliance on liability rules. Therefore, it is not obvious what a "remedy" is in a traditional regulated network industry—at least if we are employing the standard American meaning of a legal remedy.

In contrast to these legal connotations of a remedy, the economic meaning of a remedy emphasizes market failure. The market failure may

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1 United States v. Microsoft Corp., 253 F.3d 34 (D.C. Cir. 2001) (*en banc*) (*per curiam*).

2 Howard A. Shelanski & J. Gregory Sidak, *Antitrust Divestiture in Network Industries*, 68 U. CHI. L. REV. 1 (2001).

result from the unchecked exercise of market power, or from the uncompensated generation of an external cost or benefit, or from an insufficiency of information with which to make efficient choices concerning consumption, production, or investment. Whereas lawyers think of a remedy as what to do after a finding of liability, economists think of a remedy as what to do after a finding of market failure. The two approaches overlap perfectly if legislators and courts make liability rules that are triggered only after a finding of market failure. Of course, if legislators and courts actually did so, the *Journal of Law & Economics* would be a very slim volume that would have ceased publication years ago.

The difference between the legal and economic conceptions of remedy highlights another important distinction—namely, the difference between *ex ante* and *ex post* interventions in the market. Under the *ex post* approach, a remedy is imposed if and only if liability is first proven. And it is the government or a private plaintiff that bears the burden of proving liability. This arrangement describes the operation of monopolization law under the Sherman Act,[3] as in *Microsoft.*

In contrast, the *ex ante* approach imposes a remedy before any specific finding of liability. The rationale for this prophylactic approach may be one or more of the following considerations:

- the probability of anticompetitive behavior in the absence of the prior restraint is high
- the magnitude of the harm from such behavior would be great
- the likelihood and magnitude of offsetting efficiency justifications for the behavior are low
- the danger of false positives is small.

This kind of reasoning can be found in dominant-carrier regulation practiced in the United States and other nations. For example, a Bell operating company (BOC) in a given state may not offer long-distance service from one local access and transport area (LATA) to another until the BOC makes an arduous showing under section 271 of the Telecommunications Act that its market entry will not harm competition in the local access market.[4] Sometimes this *ex ante* imposition of remedial duties cannot even be justified on the basis of dominance, though it surely is asymmetric. The classic example is the imposition of a resale obligation on an incumbent local exchange carrier's provision of digital subscriber line (DSL) service, despite

[3] 15 U.S.C. § 1 *et seq*.

[4] 47 U.S.C. § 271. For an empirical assessment of the detrimental effect of section 271 on prices in interLATA markets, see Jerry A. Hausman, Gregory K. Leonard & J. Gregory Sidak, *Did Bell Company Entry into Long-Distance Telecommunications Benefit Consumers?*, 69 Antitrust L.J. 463 (2002).

the fact that cable modem service offered by cable operators holds twice the market share as DSL.[5]

How should we choose between the *ex post* and *ex ante* approaches? The first consideration is surely which regime is better able to gather and process the information necessary to determine whether the remedy being sought is indeed beneficial to consumer welfare rather than antithetical to it. This is the central difficulty with the FCC's framework for mandating the unbundling of network elements and the pricing of them at prescribed rates based on the regulator's estimates of the total element long-run incremental cost (TELRIC).[6] This experience could fill an entire conference. As Jerry Hausman and I have argued, the short lesson to take from the TELRIC experience is that, whether the FCC admits it or not, it has interpreted the Telecommunications Act to create a competitor-welfare standard rather than a consumer-welfare standard for deciding what must be unbundled and how it must be priced.[7]

So the TELRIC experience suggests a second consideration for choosing between *ex ante* and *ex post* regimes for imposing remedies in network industries: Who will make decisions about industry-specific regulation? Is the decision maker independent and impartial? Does the regulator act strategically in terms of his use of administrative procedures, as Chairman Reed Hundt admitted he did in his adoption of the FCC's unbundling rules in 1996?[8] Would a regulator or court that had a broader portfolio of industries be less inclined to pursue a controversial remedy against a particular set of firms in a particular industry?

One example comes to mind. The federal courts in the United States have almost never imposed an open-access regime in the scores of antitrust cases brought under the essential facilities doctrine.[9] Yet, open-access regimes are the norm among industry-specific regulators at the state and federal level. Perhaps the difference can be explained by selection bias: maybe the antitrust cases are almost always frivolous. But perhaps, as an alternative explanation, the rejection of this particular remedy reflects the differing degrees to which industry-specific regulators are subject to pressures from specific competitors. Or it may reflect raw political pressures, which, in my

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[5] *See generally* Robert W. Crandall, J. Gregory Sidak & Hal J. Singer, *The Empirical Case Against Asymmetric Regulation of Broadband Internet Access*, 17 Berkeley Tech. L.J. 953 (2002).

[6] Implementation of the Local Competition Provisions in the Telecommunications Act of 1996, First Report and Order, 11 F.C.C.R. 15,499 (1996), *vacated in part sub nom.* Iowa Utils. Bd. v. FCC, 120 F.3d 753 (8th Cir. 1997) (Hansen, J.), *rev'd in part and aff'd in part sub nom.* AT&T Corp. v. Iowa Utils. Bd., 525 U.S. 366 (1999) (Scalia, J.).

[7] *See* Jerry A. Hausman & J. Gregory Sidak, *A Consumer-Welfare Approach to the Mandatory Unbundling of Telecommunications Networks*, 109 Yale L.J. 417 (1999).

[8] Reed E. Hundt, You Say You Want a Revolution: A Study of Information Age Politics 154 (Yale Univ. Press 2000).

[9] *See* Abbott B. Lipsky, Jr. & J. Gregory Sidak, *Essential Facilities*, 51 Stan. L. Rev. 1187 (1999).

view, are incorrectly dismissed as not being significant in so arcane a field as telecommunications regulation. Or the proclivity to choose a particular remedial framework could reflect the personal ambitions of regulators.

There is an intermediate institutional design for imposing remedies in network industries in the United States that has grown with the speed and tenacity of a weed. It is the consent decree. The Antitrust Division (and to a lesser extent, the Federal Trade Commission) sues a company or group of companies for violating the antitrust laws. The case is then settled pursuant to a consent decree. In other words, issue-specific litigation leads to a negotiated, prospective regime of company-specific regulation. If a single firm is the object of the antitrust case, and if it is prominent enough in its industry (I will avoid using the loaded term "dominant"), then the consent decree becomes the *de facto* asymmetric regulation of the entire industry. The most obvious example is the Modification of Final Judgment,[10] by which the federal judiciary governed the telecommunications industry after the breakup of the Bell System in January 1982 until Congress enacted the Telecommunications Act 14 years later, in February 1996.[11] A more recent example, of course, is the *Microsoft* case, whose remedial structure following a settlement between the Antitrust Division and Microsoft remains the subject of continuing litigation in federal court.

The consent decree is an amalgam of the *ex post* and *ex ante* approaches. This characteristic explains why respected constitutional scholar Michael McConnell, whom President George W. Bush nominated to be a federal appellate judge, wrote an article challenging the constitutionality of consent decrees.[12] He considered them a commingling of essentially *ex post* law enforcement powers belonging to the Executive Branch and *ex ante* legislative powers belonging to Congress, which then were handed over to the Judiciary to oversee.

American telecommunications deregulation provides other current examples of the combination of *ex ante* and *ex post* regulatory models. I mentioned earlier the process under section 271 of the Telecommunications Act by which a Bell operating company may apply to enter the interLATA market. Such applications are reviewed by the FCC and the relevant state public utilities commission, obviously under an *ex ante* approach. For these regulatory commissions, the status quo is the continuation of an entry barrier. That is a kind of prospective remedy, though a foolish one in my opinion. Setting aside the wisdom or folly of the remedy, it seems odd that the Antitrust Division of the Justice Department participates in this process. Although the Division

[10] Modification of Final Judgment, *reprinted in* United States v. Am. Tel. & Tel. Co., 552 F. Supp. 131, 226–34 (D.D.C. 1982) (Greene, J.), *aff'd sub nom.* Maryland v. United States, 460 U.S. 1001 (1983).

[11] Pub. L. No. 104–104, 110 Stat. 56.

[12] Michael W. McConnell, *Why Hold Elections? Using Consent Decrees to Insulate Policies from Political Change*, 1987 U. Chi. Legal F. 295.

has expertise in telecommunications, it is an enforcement body. It executes the law on an *ex post* basis—by applying an existing legal standard to a set of facts that have already occurred. The Antitrust Division is not a legislative body that exercises the power to establish rules regulating prices, entry, and other terms and conditions of competition in specific industries.

The conflict between *ex post* antitrust remedies and *ex ante* telecommunications regulation also has arisen in a set of cases that is virtually certain to go to the Supreme Court. These are the "Goldwasser" cases, named after the first case in a series of conflicting lower court rulings.[13] The issue is whether a Sherman Act claim for monopolization is available to a competitive local exchange carrier (CLEC) that alleges that the incumbent local exchange carrier (ILEC) has failed to comply with the FCC's unbundling and pricing regulations. It is a fair question to ask why it is necessary to have both *ex ante* and *ex post* remedies to address the perceived market failures that motivated passage of the Telecommunications Act of 1996.

Let me shift the subject slightly. So far I have discussed only private firms in network industries. But many network industries, such as postal services, still have state-owned enterprises dominating them. With public enterprises in network industries, the causes of competitive concern and the range of remedial policy instruments are different. As David Sappington and I have argued, state-owned enterprises have a greater incentive than private, profit-maximizing firms to engage in predatory pricing and anticompetitive network discrimination.[14] In principle, state ownership of enterprise is supposed to internalize regulatory decisions within managerial decisions. At a stylized level, the state-owned enterprise is assumed to maximize some specification of social welfare, which presumably would include consumer welfare.

With respect to state-owned enterprises, the feasible set of remedies in cases of market failure get truncated because of at least three factors. First, the state's conflicting interest in maximizing the firm's value in anticipation of its privatization may impose practical political constraints on the intensity and invasiveness of potential remedies designed to increase competition. Second, where independent regulators do exist, as in the case of the Postal Rate Commission in the United States, the regulator may be weak, both legally and politically, especially given the influence of the large

[13] Goldwasser v. Ameritech Corp., 222 F.3d 390 (7th Cir. 2000) (Wood, J.). For representative decisions that show the divergence of opinion on this legal question, see Covad Commc'ns Co. v. Bellsouth Corp., 299 F.3d 1272 (11th Cir. 2002) (Barkett, J.); Law Offices of Curtis V. Trinko v. Bell Atl. Corp., 305 F.3d 89 (2d Cir. 2002) (Katzmann, J.); Cavalier Tel., LLC v. Verizon Va., Inc., 208 F. Supp. 2d 608 (E.D. Va. 2002) (mem.).

[14] David E. M. Sappington & J. Gregory Sidak, *Are Public Enterprises the Only Credible Predators?*, 67 U. Chi. L. Rev. 271 (2000); David E. M. Sappington & J. Gregory Sidak, *Incentives for Anticompetitive Behavior by Public Enterprises*, 22 Rev. Indus. Org. 183 (2003); David E. M. Sappington & J. Gregory Sidak, *Competition Law for State-Owned Enterprises*, 71 Antitrust L.J. 479 (2003).

work force that a state-owned enterprise often employs. Third, at least in the United States, the doctrine of sovereign immunity may bar private parties from pressing antitrust claims against the state-owned enterprise. For these reasons, it is important to keep state ownership in mind when examining the feasible set of remedies in network industries.

Let us return to the distinction between *ex ante* and *ex post* remedies in network industries. Given the choice between *ex ante* dominant firm regulation and *ex post* antitrust litigation, which approach has been more intellectually forceful in shaping what I will broadly call the "remedial orientation of competition policy"? In 1982, it was clearly the case that its embrace of economic analysis made antitrust law intellectually dominant over industry-specific regulation in the United States. More than any of the FCC proceedings that preceded it, the antitrust case against the Bell System is considered (sometimes for the wrong reasons) the defining moment in reorienting the telecommunications industry toward deregulation. The diffusion of ideas flowed from antitrust to the regulatory agencies.

Then something happened, and the direction of policy innovation reversed. Today, American antitrust law and its notions of feasible remedies in network industries are influenced by the theories of market failure predicated on network effects.[15] Those theories were developed at Berkeley and Stanford in the 1980s. They began influencing thinking on telecommunications regulation, and by the early 1990s they dominated policy formation at both the FCC and the Antitrust Division, when the Berkeley and Stanford theorists came to Washington. Even the practice of antitrust law evolved over that period into more of an administrative practice, characterized by numerous policy statements and guidelines issued by the Antitrust Division and FTC that resembled the prospective rulemakings at the FCC. In relative terms, antitrust became less a body of actual law written by courts deciding specific cases on an incremental basis, and more a body of regulation taking the form of generalized statements of abstract principles, promulgated by a bureaucracy. The culmination of that process was the *Microsoft* antitrust case, by which the Antitrust Division installed itself, whether it intended to or not, as overseer of a regime of dominant firm regulation of the software industry. Given the rapid technological change in software, that de facto regulation was necessarily prospective and hypothetical.

So it is now natural to speculate about how the FCC's crowning achievement since 1996—namely, the Supreme Court's vindication of the agency's

[15] *See* Michael L. Katz & Carl Shapiro, *Technology Adoption in the Presence of Network Externalities*, 94 J. Pol. Econ. 822 (1986); Joseph Farrell & Garth Saloner, *Installed Base and Compatibility: Innovation, Product Preannouncements, and Predation*, 76 Am. Econ. Rev. 940 (1986); Joseph Farrell & Garth Saloner, *Standardization, Compatibility, and Innovation*, 16 RAND J. Econ. 70 (1985); Michael L. Katz & Carl Shapiro, *Network Externalities, Competition, and Compatibility*, 75 Am. Econ. Rev. 424 (1985).

TELRIC pricing rules in 2002 in the *Verizon* case[16]—will influence the development of antitrust law concerning remedies in network industries. In particular, how will TELRIC pricing affect the development of antitrust law concerning Microsoft? The influence may prove to be substantial.

There is an obvious relationship between an *ex ante* regulation requiring unbundling of network elements and an *ex post* antitrust rule penalizing the failure to offer a product or functionality on an unbundled basis. The latter is the antitrust doctrine concerning tying arrangements, which was so contentious in the *Microsoft* case. When read together, *Verizon* and *Microsoft* have potentially broad implications for antitrust remedies relating to bundling and unbundling of products having substantial sunk costs and network complementarities, including intellectual property. The traditional antitrust case law on tying is not much help in the context of intellectual property and other sunk-cost investments that exhibit network effects. In this respect, such sunk-cost assets cannot really be treated the same as widgets in bundling cases. I have three observations in this regard.

First, to repeat the obvious after the D.C. Circuit's 2001 decision in *Microsoft*, the economic subtleties of product bundling in network industries lend themselves better to analysis under the monopolization principles embodied in section 2 of the Sherman Act[17] than to the more linguistic formulations of liability in section 1 of the Sherman Act[18] and section 3 of the Clayton Act.[19] Along these lines, the separate-product analysis in tying cases is less likely to be fruitful in cases involving intellectual property, such as computer software, than in cases involving widgets. The strategic motivation for bundling might have nothing to do with conventional theories of tying predicated on leveraging or price discrimination. Furthermore, the attempted preservation of a monopoly over the tying product—whether it is an operating system, a primary patent, a broadband Internet conduit, or the like—is hard to evaluate in economic terms when forced into traditional tying law.

Second, although I am certainly a critic of the *Microsoft* case, I strongly encourage scholars, enforcement agencies, and courts to refine David Sibley's theory of "partial substitutes," which was essential to the government's theories of liability and remedies in that case.[20] Sibley provided perhaps the most innovative theory of antitrust liability since the raising rivals' cost literature emerged more than a decade earlier. But the theory's eventual exposition

[16] Verizon Commc'ns Inc. v. FCC, 535 U.S. 467 (2002) (Souter, J.).
[17] 15 U.S.C. § 2.
[18] *Id.* § 1.
[19] *Id.* § 14.
[20] Declaration of David S. Sibley ¶¶ 44, 49, United States v. Microsoft Corp. (filed D.D.C. May 15, 1998) (No. 98-1233); *see also* J. Gregory Sidak, *An Antitrust Rule for Software Integration*, 18 Yale J. on Reg. 1 (2001) (critiquing Sibley's theory of partial substitutes).

in Franklin Fisher's testimony, and in the government's subsequent briefs, left the impression that a formal economic model has yet to be presented.[21] We do not have a formal explanation in consumer demand theory for how a complement turns into a substitute. Yet this metamorphosis is a recurring theme in the discussion of remedies in network industries. In telecommunications, for example, the leasing of selected unbundled elements at regulated prices is vigorously defended by CLECs and regulators as complements to subsequent facilities-based entry, not a substitute for it.

Third, if we take tying law seriously in the context of network industries, we arrive at a serious pricing problem at the stage of fashioning a remedy. This pricing problem is likely to be much more challenging when the bundled products consist almost entirely of intellectual property, because of its zero marginal cost. Presumably, a prohibition against tying does not mean that a firm may not offer *A* and *B* in a bundle. Presumably, the prohibition means only that the firm must also offer *A* and *B* separately. Call *A* the tying product, which is a bottleneck of some sort. Call *B* the tied product, which is competitively supplied. How much of a discount off the bundled price must the firm therefore offer when it is compelled by antitrust law to sell *A* on an unbundled basis? When is a high price demanded for an unbundled version of *A* itself an antitrust violation?

This question is closely related to the one that the FCC and the Supreme Court addressed in the *Verizon* case concerning TELRIC-based pricing of unbundled network elements. If TELRIC-based pricing is reasonable to impose on a former statutory monopolist subject to rate regulation that has not committed any antitrust violation, then it is doubtful that a court in an antitrust case would have qualms about applying TELRIC to an unregulated monopolist found to have violated section 2 of the Sherman Act by its unlawful bundling of software. There are, of course, many alternative pricing rules that might be employed to fashion the remedy in such a tying case, but surely TELRIC rules the day and will be pursued by plaintiffs and prosecutors because it is most favorable to their cause.

How then would antitrust law implement a TELRIC approach to fashioning the unbundling remedy in a case of software integration? One approach is the top-down, avoided-cost calculation: What is the long-run average-incremental cost (LRAIC) of *B* that is avoided when *A* is unbundled? Subtract that LRAIC from the previous bundled price to determine the permissible unbundled price of *A*. But, if the telecommunications experience

[21] *See* Declaration of Franklin M. Fisher at 8 n.3, United States v. Microsoft Corp. (filed D.D.C. May 12, 1998) (No. 98-1233) ("Microsoft's bundling of IE with the Windows software it distributes through retail channels is a similar effort to weaken Microsoft's browser competition in order to protect Microsoft's dominance in operating systems."); Direct Testimony of Franklin Fisher ¶¶ 22, 81, United States v. Microsoft Corp. (D.D.C. 1999) (No. 98-1233); *see also* Franklin M. Fisher, *The* IBM *Case and* Microsoft: *What's the Difference?*, 90 Am. Econ. Rev. (Papers & Proc.) 180 (May 2000).

is any guide, the objection will be raised that the bundled price incorporates monopoly rent and inefficiency, and that these components must be subtracted also. It will also be argued that product *B* should contribute substantially to the recovery of the defendant's common costs.

The defendant in such a case will argue in rebuttal that the cost that it avoids when selling *A* without *B* bundled to it is trivial if the provision of *B* exhibits economies of scale—since, by assumption, it will still be lawful for the firm to offer a bundled version of *A* and *B*. The defendant can further be expected to argue that there may be new incremental costs of unbundling (perhaps making the net avoided cost negative), and naturally there will be a dispute over who shall pay those incremental costs of unbundling.

The other remedial approach is a bottom-up calculation of the LRAIC of product *A*, in addition to which the defendant should be allowed to recover a reasonable share of common costs, including a competitive return on capital. In principle, the top-down and bottom-up approaches should yield equivalent results. However, if they do not in practice, obvious strategies will emerge between plaintiffs and defendants over which approach is the proper test. The experience in telecommunications is that regulators implement the two pricing calculations in ways that permit divergent results, and that there is no acknowledgment by regulators or courts of the strategic behavior that such a divergence induces. The controversy over whether ILECs have a duty to offer all network elements as a platform, priced at the sum of the TELRIC prices, would not exist if not for this methodological inconsistency tolerated by regulators.

In short, the *Verizon* case concerning TELRIC pricing will likely influence the shape of antitrust remedies in product integration cases. In the intellectual property area, we can expect to see more monopoly-preservation tying cases, relying on Sibley's theory of partial substitutes. These cases will immerse the litigants and the courts in TELRIC-like questions of the pricing of the tying product on an unbundled basis. The sunk-cost character of intellectual property will make these remedial proceedings highly contentious and highly consequential, for the desired remedy might succeed in appropriating quasi rent rather than preventing the defendant from earning true economic rent. Nonetheless, the remedial experience in American telecommunications since 1996 suggests that plaintiffs and prosecutors will prevail at the end of the day.