European and American Approaches to Antitrust Remedies and the Institutional Design of Regulation in Telecommunications(*)

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1. Introduction

In the United States and the European Union, the topic of remedies in network industries cuts across antitrust law and sector-specific regulation, including telecommunications. The legal and economic understandings of a "remedy" are not always synonymous. In both legal systems, a remedy is the corrective measure that a court or an administrative agency orders following a finding that one or several companies had either engaged in an illegal abuse of market power (monopolization in the US and abuse of dominance in the EC) or are about to create market power (in the case of mergers). With the exception of merger control where remedies seek to prevent a situation from occurring, 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, or something else). Or they may seek to do so through a mandated change in market structure ("structural" remedies), as in the case of divestiture, or in the imposition of affirmative or negative duties ("behavioral" remedies). *United States v. Microsoft Corp* (U.S. Court of Appeals for the D.C. Circuit, 2001). presented the tradeoff between these various remedial alternatives (Shelanski and Sidak, 2001, p. 1) .

Industry-specific regulation is an alternative to reliance on antitrust-based remedies. Both the US and the EC have heavily relied on sector-specific regulation. A leading example is the telecommunications field, in which highly detailed legislation has been adopted. This legislation is further developed through additional regulations adopted by the Federal Communications Commission (FCC) in the US and the national telecommunications authorities in the EU. In addition, state public utilities commissions (PUCs) in the US regulate retail rates for landline services and implement on a localized basis the general framework established by Congress and the FCC for the pricing of unbundled access to the incumbent's network. The state PUCs sometimes retard deregulation, and the EU, in contrast, has attempted to end retail regulation and totally replace it with "bottleneck" regulation of the wholesale (input) market.

We put "bottleneck" in quotes because of a potentially major difference between the US and EU approach in this respect. The US starts from the essential facilities doctrine and only differentiates via the "necessary and impair" standard, to be discussed below. However, duplication usually voids the bottleneck property. In contrast, the EU considers markets for bottleneck services and lets NRAs analyze whether firms have significant market power {"SMP") positions in such a market. Thus, one could have duplication and still trigger regulation. The two approaches may not be so different in their outcome because the EU market definition includes items like the persistence of entry barriers and the impossibility to overcome the bottleneck problem through competition policy and because the US "necessary and impair" standard could conceivably be applicable under (imperfect) duplication.

In contrast to these legal connotations of a remedy, the economic meaning of a remedy emphasizes market failure. The market failure may 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 illegal conduct,[1] 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 an illegal conduct is first proven. And it is the government or a private plaintiff that bears the burden of proving their case. This arrangement describes the operation of monopolization law under the US Sherman Act or the concept of abuse of a dominant position in the EU.

In contrast, the ex ante approach imposes a remedy before any specific finding of illegal conduct. 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; and
- The danger of false positives is small.

Although ex ante remedies are generally imposed through sector-specific regulation, such remedies may also be imposed on the basis of antitrust rules. This is, for instance, the case where remedies are imposed a condition for clearance of a merger between telecommunications operators. In both the US and the EU, antitrust enforcement authorities have used merger control procedures as a way to extract significant concessions from the merging entities. As far as institutional design is concerned, remedies in network industries can thus come from two main sources: ex ante or ex post enforcement, and/or sector-specific regulation. As one of us has written elsewhere, there are interactions between antitrust and sector-specific regulations and these have to be taken into account when addressing the issue of remedies. Moreover, as will be seen below, both antitrust and sector-specific remedies can be influenced by decisions or, more generally, analytical tools developed in other sectors (see Géradin and Kerf, 2003).

Against this background, this paper seeks to explore the issues of remedies and institutional design of regulation in a comparative manner by reference to US and EU law. Part 2 analyzes the US model and Part 3 the EU model. Part 4 contains a conclusion.

2. The US Model

This part is divided in four sections. Section 2.1 provides illustrations of ex ante and ex post remedies in telecommunications. As will be seen, the reliance on consent decrees

1. We refer to the term "illegal conduct" rather than "liability" as it is more neutral and is more adapted to competition law discussions in the EC legal order where antitrust actions often take place in the context of administrative proceedings where the term liability is not used.

makes the border between ex ante and ex post remedies thin as such decrees can be seen as an amalgam (hence, the concept "hybrid" remedies) between the ex ante and the ex post approaches. Section 2.2 argues that, over the last two decades, antitrust law has evolved into another form of regulation as it now relies on numerous policy statements and guidelines that resemble the type of prospective rulings made by regulatory agencies. Section 2.3 outlines the risk that the approach followed by the FCC in its Local Competition Order and recently vindicated by the Supreme Court in the Verizon case could affect the development of antitrust-based remedies in network industries. Finally, Section 2.4 argues that, by attempting to impose the TELRIC model to US trading partners, the US Trade Representative has turned itself into a telecommunications regulator. We also argue that this process lacks legitimacy and could have an unintended "boomerang" effect on US telecommunications operators.

2.1. Ex Ante,Ex Post, and Hybrid Remedies

The US epitomizes the use of heavy-handed ex ante regulation, which originates from the adoption of the 1996 Telecommunications Act and a large number of implementing provisions.

For instance, this Act seeks to overcome the obstacles raised by the lack of competition in the local loop by imposing a series of obligations on telecommunications carriers involved in local exchange. Section 251 of the 1996 Act imposes a series of duties on telecommunications carriers involved in local exchange. Section 251 requires each "telecommunications carrier" to interconnect with other carriers.[2] In addition to interconnection, all Local Exchange Carriers (LECs) are barred from either prohibiting or imposing discriminatory conditions on the resale of telecommunications services.[3] They are also required to provide "number portability" and "dialing parity",[4] as well as access to their poles, conduits and other rights of ways to competing providers of telecommunications services.[5]

Additional obligations are imposed on Incumbent Local Exchange Carriers (ILECs).[6] In addition to all of the duties listed in the preceding paragraph, these ILECs are required to provide, at just and reasonable rates, interconnection "at any technically feasible point with the carrier's network".[7] They must also provide competitors "unbundled" network elements upon request.[8] In addition, the Act requires ILECs to

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2. Section 251 defines "telecommunications carriers" to include incumbents and new local exchange carriers. 47 USC § 251(a)(1).

3. 47 USC § 251(b)(1).

4. 47 USC § 251(b)(2) and (3).

5. 47 USC § 251(b)(4).

6. "Incumbent Local Exchange Carriers" denote the local carriers in existence when the Act was adopted.

7. 47 U.S.C. § 251(c)(2)(B). In practice, this means that incumbents must interconnect with all carriers upon request, at the locations they specify, while other carriers may interconnect with each other indirectly, i.e. by each carrier connecting to the incumbent.

8. 47 USC § 251(c)(3). "Unbundled access" means the availability of access to distinct parts of the incumbent's network, at an appropriately lower cost than access to all elements of the

offer for resale "at wholesale rates any telecommunications service that the carrier provides at retail to subscribers".[9] Finally, an ILEC must permit firms seeking interconnection to locate their equipment on the ILEC's premises (collocation).[10]

In addition, Sections 271 and 272 of the Telecommunications Act address the BOCs' entry into the long-distance market.[11] Section 271 allows the BOCs to provide long-distance services to their own customers provided they have concluded, with one or more competitors, interconnection agreements that satisfy the requirements of Section 271(c)(2)(B), the so-called "competition checklist".[12] The requirements contained in this list essentially relate to the interconnection obligations imposed in Section 251. The BOCs' ability to offer long-distance services is thus conditioned on meeting their interconnection obligations, thereby giving them an incentive to open their local service areas to competitors.[13]

The obligations imposed by Section 251 were made even more intrusive by the implementing orders adopted by the FCC. In its first Local Competition Order, the FCC determined which network elements ILECs had to make available to their competitors on an unbundled basis. In addition, it set forth a methodology to be used by state utility commissions in establishing rates for interconnection between competitors which have each established their own facilities and for the purchase of unbundled elements (when one competitor has not established full-fledged facilities). The Order concludes that this pricing methodology must be based on the incumbent's Total Element Long-Run Incremental Cost (TELRIC).

Both the determination of the elements that need to be offered of an unbundled basis and the TELRIC pricing methodology have been criticized by one of us in a series of papers. Hausman and Sidak argue that regulators should ask whether an ILEC could exercise market power over end-users by restricting competitors' access to a requested telecommunications network element in a particular geographical market. If the market for services to end users is competitive, then the justification for mandatory unbundling could not be to increase consumer welfare. Because the Hausman-Sidak proposed approach would focuses on the effectiveness of competition in the end-user services

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network. Thus, a competitor can purchase only those network components and functions that it needs to offer its services.

9. 47 USC § 251(c)(4)(a).

10. 47 USC § 251(c)(6).

11. Generally on section 271, see Sloan (1998).

12. 47 USC § 271(c)(2)(B). Alternatively, if a BOC has not received a qualifying interconnection request within a designated period of time, the BOC can satisfy this requirement by providing a statement of generally-available terms and conditions that complies with the competition checklist and that "has been approved or permitted to take effect by the (relevant) state commission." *Id.*

13. There are two additional conditions: (i) Section 271(d)(3)(C) states that the FCC may not approve a BOC's application unless it determines that "the requested authorization is consistent with the public interest, commerce and necessity"; and (ii) even with the competitive checklist in place, Section 272 requires that a BOC creates a separate affiliate to provide long-distance services. 47 USC § 272(a)(1). This separate affiliate must operate independently from its BOC parent, keeping separate books and records and having separate offices, directors and employees. 47 USC § 272(b)(2) and (3). In order to prevent illegitimate subsidies, all transactions between an affiliate and its BOC parent must be "on an arm's length basis" Id. at § 272(b)(5).

market, rather than on the ability of a particular competitor to earn profits, it would use consumer welfare, rather than competitor welfare, as its touchstone. Once regulators order a network element to be unbundled, Hausman and Sidak argue that its price should be based on the element's real option value.

In essence, 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 (Hausman and Sidak, 1999).

Reliance on a competitor welfare standard can also be observed with respect to the imposition of a resale obligation on an ILEC's provision of digital subscriber line (DSL) service, despite the fact that cable modem service offered by cable operators holds twice the market share as DSL (Crandall, et. al., 2002). In this case, ex ante remedial duties are imposed in the absence of any dominance on the part of the ILEC. As will be seen below, this absurd approach could not have been implemented under the new EC framework on electronic communications where dominance must be established before intrusive regulatory requirements are imposed on an incumbent.

Besides sector-specific regulation, ex ante remedies can also be imposed in the case of mergers, which need to be cleared by both the FCC and the DoJ. Over the last ten years, many mergers took place in the telecommunications and cable sectors.[14] Most of these transactions were cleared provided that the parties accepted to comply with conditions, both of "structural" and "behavioral" nature. For instance, in June 2000, the FCC approved the Bell Atlantic-GTE merger (FCC, 2000), subject to the obligation for the merged company to transfer substantially all of GTE's Internet business into a separate public company.[15] The merged entity had also to comply with 25 merger conditions designed to enhance local phone competition in the markets in which Bell Atlantic or GTE is the incumbent local exchange carrier (ILEC), strengthen the merged company's incentives to enter local phone markets outside of its territories, and promote equitable and efficient advanced services deployment.[16]

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14. They include mergers between: (i) BOCs (for example, the mergers between Bell Atlantic and NYNEX, SBC and Pacific Telesys, and SBC and Ameritech); (ii) BOCs and non-BOCs local exchange carriers (for example, the mergers between SBC and SNET and Bell Atlantic and GTE); (iii) long-distance operators (for example, the merger between WorldCom and MCI and the failed merger between WorldCom/MCI and Sprint); (iv) long-distance and/or international operators (for example, the mergers between WorldCom and MCI, and between AT&T and BT); (v) long-distance operators and cable companies (for example, the merger between AT&T and TCI, and AT&T and Media one); (vi) long-distance operators and competitive local access providers (e.g. the merger between AT&T and Teleport), (vii) wireless carriers (for example, the merger between Airtouch and Vodafone); and (viii) a BOC and a long-distance operator (for example, the merger between Qwest and US West). For a discussion of these mergers, see Waters (1999).

15. This condition was necessary to guarantee compliance with Section 271 which forbids a BOC company, such as Bell Atlantic, from provide long distance voice or data services to customers in its service territory before it demonstrates that its local market is open to competition. At the time the transaction was cleared, Bell Atlantic has only received authorization to offer long distance services in New York State.

16. For a summary of these conditions, see http://www.fcc.gov/ba_gte_merger/conditions.txt.

Ex post remedies can be imposed to telecommunications operators by the antitrust enforcement authorities. The Antitrust Division (and to a lesser extent, the Federal Trade Commission) can sue a company or group of companies for violating the antitrust laws. If the violation of such laws is established, a deferral court can then impose remedies taking the form of fines and monetary damages, as well as behavioral and structural remedies.

The frontier between ex ante and ex post remedies is, however, thin as antitrust cases are often 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 (we 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,[17] by which the federal judiciary governed the telecommunications industry after the antitrust breakup of the Bell System in January 1982 until Congress enacted the Telecommunications Act in February 1996.[18] 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 more than a decade ago Professor (now Circuit Judge) Michael McConnell questioned the constitutionality of consent decrees (McConnell, 1987). He regarded them as 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. We 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 the prospective remedy, though a foolish one in our opinion.

The tension between ex post antitrust remedies and ex ante telecommunications regulation also has arisen in a set of cases known as the *Goldwasser* cases (U.S. Court of Appeals for the 7th Circuit, 2000),[19] named for the first case in a series of conflicting lower court rulings. The Supreme Court has granted certiorari in one such case, *Trinko*, for the October 2003 Term.[20] The issue in these cases 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

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17. Modification of Final Judgment, *reprinted in* United States v. AT&T Co., 552 F. Supp. 131, 226-34 (D.D.C. 1982), *aff'd sub nom.* Maryland v. United States, 460 U.S. 1001 (1983).

18. Pub. L. No. 104-104, 110 Stat. 56 (codified as amended in scattered sections of 15, 18, and 47 U.S.C.).

19. For representative decisions that show the divergence of opinion on this legal question, see Covad Communications Co. v. BellSouth Corp., 299 F.3d 1272 (11th Cir. 2002); Law Offices of Curtis V. Trinko v. Bell Atl. Corp., 294 F.3d 307 (2d Cir. 2002), *cert. granted*, 123 S. Ct. 1480 (2003); Cavalier Tel., LLC v. Verizon Va., Inc., 208 F. Supp. 2d 608 (E.D. Va. 2002).

20. Supreme Court, 2003. *Law Offices of Curtis V. Trinko*, 294 F.3d 307

both ex ante and ex post remedies to address the perceived market failures that motivated passage of the Telecommunications Act of 1996.

Finally, the tension between antitrust and sector-specific regulation is also collapsing at the institutional level where, on the one hand, the Antitrust Division of the Department of Justice is taking care of issues that should normally been taken care of by a regulatory agency and, on the other, the FCC is ruling on issues that should typically be dealt with by antitrust authorities only. The first issue can be illustrated by the DoJ's involvement in the Section 271 process described above. Setting aside the wisdom or folly of the remedy, it seems odd that the Antitrust Division participates in this process. Although the Division has expertise in telecommunications, it is an enforcement body. It executes laws 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 of adopting rules regulating pricing, entry, and other terms and condition of competition in network industries.

The second issue can be illustrated by the intervention of the FCC is merger proceedings (Géradin and Kerf, 2003). The Antitrust Division is the most experienced authority when it comes to analyzing whether a merger risks substantially lessening competition. Moreover, unlike the FCC, it has a horizontal view of merger control and it is important to maintain a minimum coherence across merger decisions across sectors. On the other hand, the FCC's intervention in telecommunications merger cases increases the length of the review process and involves a great deal of duplication (and thus costs). It also raises the risk of contradictory decisions. In the Bell Atlantic/NYNEX merger, for instance, the Antitrust Division did not raise any objections (U.S. Department of Justice, 1997). By contrast, the FCC only allowed the merger after imposing several conditions (Federal Communications Commission, 1997). This increases uncertainty in the market place. In our opinion, it would be preferable to concentrate merger review in the hands of the Antitrust Division, which seems best placed to handle merger review in a consistent fashion. Our position is not isolated. It is supported by at least one former FCC Commissioner and by several influential Congress members. In a series of speeches and articles in the press, former FCC Commissioner Harold Furchtgott-Roth argued that the review of mergers between telecommunications firms should be left to the Antitrust Division (Furchgott-Roth, 2000; Furchgott-Roth, 1999).

Let us shift the subject slightly. So far we 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. State-owned enterprises have a greater incentive than private, profit-maximizing firms to engage in predatory pricing and anticompetitive network discrimination (Sappington and Sidak, 2000; Sappington and Sidak, 2003a; Sappington and Sidak, 2003b). 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 gets 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 political influence of the large 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.[21] For these reasons, it is important to keep state ownership in mind when examining the feasible set of remedies in network industries. We will see that the situation is different in the EU.

2.2. Antitrust as a New Form of Ex Ante Regulation?

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"? Twenty years ago, 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 (Katz and Shapiro, 1986; Katz and Shapiro, 1985; Farrell and Saloner, 1986; Farell and Saloner, 1985).[22] 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 Federal Trade Commission that resembled the prospective rulemakings at the FCC (Melamed, 1995). 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. As will be seen, a similar evolution can be observed in the EU. 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.

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21. The Supreme Court granted certiorari for the October 2003 Term in a case in which the Ninth Circuit had denied the U.S. Postal Service sovereign immunity. See U.S. Court of Appeals for the 9th Circuit 2003.

22. This phenomenon has received little attention from scholars. For two timely and thoughtful exceptions, see Géradin and Kerf, 2003 and Farrell and Weiser, 2003.

2.3. The Shifting Balance of Influence between Antitrust and Sector-specific Regulation: Telecommunications Law's Potential to Shape Antitrust Remedies in Network Industries

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 TELRIC pricing rules in 2002 in the *Verizon* case (Supreme Court, 2002)—will influence the development of antitrust law concerning remedies in network industries. How, for example, 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. We 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[23] than to the more linguistic formulations of liability in section 1 of the Sherman Act[24] and section 3 of the Clayton Act.[25] 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 may 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 certainly critical of the *Microsoft* case, we 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 (Sibley, 1998).[26] Much of the government's economic theory in the 1999 trial of Microsoft focused on an elaborate version of this theory of anticompetitive tying. This economic theory was first presented in detail in Sibley's pretrial declaration on behalf of the government in May 1998.[27] There, Sibley proposed that Microsoft's actions to put in place contracting restrictions and to distribute the Internet Explorer (IE) browser tied to its Windows operating system (OS) for free were an attempt to preserve its OS

23. 15 U.S.C. § 2.
24. *Id.* § 1.
25. *Id.* § 14.
26. See also Sidak's (2001) critique of Lawrence Lessig's application of Sibley's theory of partial substitutes.
27. See Sibley, 1998).

monopoly.[28] To support his argument, Sibley pointed to the case of a monopoly with allegedly exclusionary practices in a complementary market that it serves, where the general conclusion has been that:

> if the price level in the complement's market is limited by competitive forces, then in the absence of efficiency justifications . . . , the monopolist's control over the bottleneck input does not give it any profit incentive to restrict or exclude a competitor's product in the complement's market . . . [because] . . . control over the bottleneck input allows the monopolist to extract value from consumers no matter whose version of the complementary good the consumer buys.[29]

Applied to the Microsoft case, Sibley stated, the bottleneck input is its operating system, while the complementary product is the browser.[30] He maintained that the threat to Microsoft's alleged OS monopoly arose because browsers expose their own applications programming interfaces (APIs), a condition which enables browsers to serve as a software applications platform independent of the underlying OS; in turn, the existence of a competing platform would break down the so-called "applications barrier to entry" in the PC operating systems market. A new entrant in the OS market, Sibley reasoned, "would not have to then create an installed base of software applications complementary to its OS and comparable to Microsoft's in its size and use in order to succeed."[31] Instead, applications that were written to the browser platform would be accessible to a user employing any OS that supported that browser.

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 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.[32] 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 a complement to subsequent facilities-based investment, 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

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28. *Id.*

29. *Id*. at ¶ 44.

30. *Id*.

31. *Id*.

32. See Fisher, 1998 ("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."), Fisher, 1999, and Fisher, 2000.

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 a high price is demanded for an unbundled version of *A*, does that price itself become an antitrust violation?

This question is closely related to the one that the FCC and the Supreme Court addressed in the *Verizon* case concerning pricing of unbundled network elements based on total element long-run incremental cost (TELRIC) (see Hausman and Sidak, 1999; Sidak and Spulber, 1997a; Sidak and Spulber, 1997b). 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 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 (see Ingraham and Sidak, 2003).

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 may succeed in appropriating quasi-rent rather than preventing the defendant from earning true economic rent. Nonetheless, the remedial experience in American telecommunications regulation since 1996 suggests that plaintiffs and prosecutors will prevail at the end of the day.

2.4. The US Trade Representative as Regulator

A final regulatory design takes the form of bilateral or multilateral trade agreements (Rohlfs and Sidak, 2002). On February 15, 1997, seventy countries working within the framework of the World Trade Organization (WTO) agreed on a multilateral reduction of regulatory barriers to competition in international telecommunications services (WTO, 1997).[33] At the time, the signatory nations to the WTO agreement on telecommunications services represented markets generating ninety-five percent of the $600 billion in global telecommunications revenues (Andrews, 1997; Swardson and Blustein, 1997). Beginning January 1, 1998, those nations started a phased process to open their telecommunications markets to competition. Since 1997, the U.S. government has attempted to use the WTO agreement on telecommunications services as a vehicle for "exporting" American principles of telecommunications regulation to other nations.

In 1997 the United States took the position that the WTO agreement on telecommunications services requires signatory nations to follow the FCC's practices on interconnection pricing under the Telecommunications Act of 1996.[34] That effort has culminated in the initiative by the Office of the United States Trade Representative (USTR) to use the implicit threat of trade sanctions to influence Japan's domestic regulatory policy on the pricing of mandatory competitor access to the unbundled elements of the local network belonging to the operating companies of Nippon Telegraph and Telephone Corporation (NTT) (see Rohlfs and Sidak, 2002). The USTR's efforts against Japan have not been an isolated case. The USTR has sought to place detailed interconnection requirements in a bilateral treaty with Singapore, and it has initiated a WTO arbitration proceeding against Mexico over telecommunications pricing issues in what is the very first WTO case of any sort under the General Agreement on Trade in Services.

The USTR's expertise lies in negotiating trade agreements. "The Trade Representative shall have primary responsibility . . . for developing, and for coordinating the implementation of, United States international trade policy" and "shall serve as the principle [*sic*] advisor to the President on the impact of other policies of the United States Government on international trade."[35] The USTR's expertise is not access pricing, telecommunications economics, antitrust law, or industrial organization. It appears that the USTR was, and may still be, unaware that almost continuously since 1996, many American experts on telecommunications policy have doubted that American consumers have benefited from the very FCC policies that USTR would have Japan, Singapore, Mexico, and other nations emulate. Commenting on the applicability of the U.S. model of telecommunications liberalization to other nations, Robert Crandall wrote in 1997 that "[t]he most contentious single issue in implementing the 1996 Telecommunications Act in

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33. For an analysis of the WTO agreement on telecommunications services, see Sidak, 1997, Graham and J. David Richardson, 1999, and Harwood et al., 1997.

34. Pub. L. No. 104-104, 110 Stat. 56. (Feb. 8, 1996).

35. Reorganization Plan No. 3 of 1979, *reprinted in* 19 U.S.C. § 2171(b)(1) (1982).

the United States is the measure of cost to be used in setting rates for wholesale unbundled elements (Crandall, 2000).” Not surprisingly, the FCC’s policy in this area has generated continuous litigation since 1996, including two Supreme Court cases, and is too unresolved for the United States to force on its trading partners. Yet, despite that irresolution, interconnection pricing is today the very aspect of the Telecommunications Act of 1996 that the USTR aggressively seeks to impose on other nations in the name of enforcing the WTO agreement on telecommunications services.

It is unlikely that the USTR has the detailed knowledge, the expertise, and the proper incentives to negotiate trade agreements on interconnection pricing. The public policy issues associated with telecommunications regulation are far more complex than those associated with steel or bananas. One should question the propriety of using the USTR to influence the domestic regulatory policy of another country on a topic as complex as the efficient pricing of mandatory access to unbundled network elements. The USTR’s power to formulate trade policy on this subject resides in officials who are unlikely to possess the economic expertise and resources necessary to evaluate the consumer-welfare implications of the policies that they would have Japan and other nations adopt. For these reasons, the USTR cannot credibly make the interconnection pricing policies of another nation a legitimate concern of U.S. trade policy.

Moving from process to substance, the USTR’s negotiating positions implicitly espouse a competitor-welfare approach to telecommunications regulation rather than a consumer-welfare approach. It is understandable that USTR would want to promote the interests of American companies. But in this case, it is promoting the interests of a subset of American carriers while ignoring the interests of other American telecommunications carriers as well as American producers of telecommunications equipment.

No American carrier will want to invest in building a network in a less-developed country if it knows that it will immediately have to lease unbundled network elements to a competitor at a price calculated, after considerable debate, on the basis of long-run average incremental cost. The disincentive to investment will not produce any sales of telecommunications equipment by American producers. How is that outcome a good trade policy for *any* constituency in the United States? It certainly does not help consumers in the less-developed country.

Congress, the Administration, and the FCC should beware of the USTR boomerang. Section 252(i) of the Communications Act provides: “A local exchange carrier shall make available any interconnection, service, or network element provided under an agreement approved under this section to which it is a party to any other requesting telecommunications carrier upon the same terms and conditions as those provided in the agreement.”[36] It will surely be argued, on the basis of section 252(i), that treaty obligations that the United States undertakes pursuant to a bilateral agreement apply to domestic carriers as well. In other words, uncompensatory pricing policies for unbundled network elements that USTR succeeds in imposing on Singapore, for example, will become the new standard that U.S. competitive local exchange carriers seek to have imposed by domestic regulators on U.S. incumbent local exchange carriers. Suddenly, a career bureaucrat in USTR will have overridden Congress and the FCC and the federal courts. To make matters worse, judicial review of USTR actions seems difficult if not impossible under D.C. Circuit precedent (Rohlfs and Sidak, 2002).

36. 47 U.S.C. § 252(i) (2000).

3. The EC Model

For most of the 20th century, network industries were considered to be natural monopolies, a situation which justified the granting of exclusive rights to an operator (Géradin and Kerf, 2003). Unlike in the US where such monopolies were (with the exception of postal services) run by private companies regulated by independent agencies, European States opted for a public monopoly model (Frieden, 2001).

In the early 1980s, the public monopoly model was challenged on the ground that, even if network industries contained some bottlenecks (for example, the local loop), many products and services were potentially competitive and, thus, should be open to competition.[37] Moreover, European governments were under pressure from industry and consumer associations to liberalize these sectors, as it was felt that competition would generate better products and services at lower prices. Finally, the European Commission considered that public monopolies organized on a national basis were impeding the flow of goods and services and were incompatible with the internal market. The Commission thus engaged into a wide program of market opening reforms in the aviation, energy, postal services and telecommunications sector (Blum et. al., 1998). The Commission's liberalization strategy essentially relied on three pillars: (i) removal of monopoly rights through liberalization directives; (ii) adoption of "pro-competition" regulatory frameworks through harmonization directives; and (iii) application of antitrust rules.

A major difference between the US and the EU approaches to telecom regulation is the unsystematic nature of the US approach compared to the systematic EU framework. (Marcus, 2003) This difference is largely based on the history (path dependence) and institutions, which make it hard to draw realistic policy consequences. The EU had the luxury that it was driven by the vision of a common market for services that required liberalization and harmonization. Also, it was developed with less political—and, in particular, procedural—interference than the US approach. This difference explains, for example, why the US has such a hard time in developing a unified approach to all parts of the telecommunications sector, including Internet access, cable television, and the like.

The following discussion is divided into four sections. Section 3.1 explores ex ante and ex post remedies in telecommunications. As in the US, we will see that the border between ex ante and ex post remedies is thin and that some remedies appear as an amalgam between these two kinds of remedies. Section 3.2 argues that, as in the US, EC antitrust law has taken a regulatory tone with the multiplication of notices and guidelines, which resemble the prospective rulings made by regulatory agencies. Section 3.3 shows that antitrust concepts and principles play a central role in the new EC framework on electronic communications. Finally, Section 3.4 observes that, unlike the US Trade Representative, DG Trade does not behave like a telecommunications regulator. However, the enlargement process allows the EC to progressively expand the number of nations to which its regulatory principles in the area of telecommunications and in other network industries will apply.

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37. Géradin and Kerf, 2003. Communication by the Commission of 30 June 1987, Towards a Dynamic European Economy: Green Paper on the Development of the Common Market for Telecommunications Services and Equipment, COM(87) 290.

3.1. Ex Ante, Ex Post, and Hybrid Remedies

As in the US, the EC combined the removal of monopoly rights with the adoption of pieces of legislation designed to address the "bottlenecks" that would prevent the arrival of competition in the telecommunications sector.[38]

For instance, Directive 97/33 on interconnection provides that telecommunications operators which have significant market power (hereafter, the "SMP operators")[39] have to meet all reasonable requests for access to the network, including at access points other than the network terminations points offered to the majority of end users.[40] In addition, Regulation 2887/2000 on local loop unbundling provides that all SMP operators had to meet all reasonable requests for unbundled access to their local loops and related facilities under transparent, fair, and non-discriminatory conditions.[41] This Regulation also states that the prices charged by these operators for unbundled access to the local loop and the related facilities should be set on the basis of cost orientation.[42] These obligations are good examples of asymmetric regulation, as they only bear on SMP operators defined in the interconnection directive as operators that have "a share of more than 25% of a particular telecommunications market in the geographical area in a Member States in which it is authorized to operate".[43] Although the SMP threshold was low, this legislation essentially aimed at the incumbents the market power of which had to be controlled to facilitate entry in liberalized telecommunications markets.

This regulatory framework played a major role in helping to create competition in the telecommunications market, although lack of competition can still be witnessed in several market segments.[44] Unlike the US telecommunications regulatory framework, the EC model proved to be quite flexible as it is based on a decentralized approach whereby the implementation of EC legislation is carried out by the national regulatory authorities (hereafter, the "NRAs"), rather than by a European Telecommunications Agency (Géradin, 2001). In the EC, there is thus no equivalent of the FCC, which would adopt painfully detailed regulatory requirements to be implemented by

38. Some pieces of legislation were also aimed at addressing universal services and consumer protection issues. See, for instance, Directive 97/51 of 6 October 1997 amending Directives 90/387 and 92/44 for the purpose of adaptation at a competitive environment in telecommunications, (1997) O.J. L 295/23; Directive 98/10 of 26 February 1998 on the application of ONP telephony and on universal service for telecommunications in a competitive environment, (1998) O.J. L 101/24.

39 Under the former regulatory framework (i.e., the regulatory framework, which preceded the new regulatory framework on electronic communications), considered as having SMP all operators, which held 25% or more market shares in a given market. Under the new framework, SMP is assimilated to the concept of "dominance" as understood in EC competition law.

40. Article 4.2 of Directive 97/33 of 30 June 1997 on interconnection in telecommunications with regard to ensuring universal services and interoperability through application of the principles of Open Network Provision (ONP), (1997) O.J. L 199/32.

41. Id. at Article 3.2.

42. Id. at Article 7.2.

43. Id. at Article 4.3.

44. See P. Larouche, *Competition and Regulation in European Telecommunications*, Hart Publishing, 2000, Communication from the Commission of 19 November 2003, Ninth Implementation Report, COM(2003) 715.

telecommunications operators located in the EC. In addition, EC legislation never formally required NRAs rely on the LRIC model (we have seen above, that it prescribes pricing regimes be "cost oriented"), although it has recommended that NRAs opted for such a model.[45] The flexibility of this model is to be valued, but some observers argue that the national variations it allowed could compromise the completion of an integrated telecommunications market spanning across Europe.

In the late 1990s, the Commission engaged in the process of reviewing this regulatory framework and came up with the so-called 1999 Review, a report outlining the future of EC telecommunications (now referred to as "electronic communications") regulation.[46] This report contains broad sets of proposals to adapt the existing regulatory framework to new technological (the process of convergence) and market (growing competition) circumstances. Interestingly, the Commission appears to range on the side of the growing consensus that competition law and principles should progressively replace sector-specific regulation. The Commission observes that the aim of the Review is "to create a regulatory regime which can be rolled back as competition strengthens, with the ultimate objective of controlling market power through the application of Community competition law".[47] Eventually, the 1999 Review led to the adoption of the new EC regulatory framework on electronic communications. This new framework will be analyzed in Section 3.3 below.

As already illustrated in the US section of this paper, antitrust rules (hereafter referred to as "competition rules", as this is the terminology used in the EC) can also be applied to impose ex ante remedies. This is the case when the Commission is asked to clear joint ventures (hereafter, "JVs") or mergers, which raise competition law concerns. Merger control is an area where the Commission has been particularly active this last decade as it has been asked to clear a large number of transactions involving telecommunications and media operators (Garzaniti, 2003). Most of these transactions were cleared without difficulty, but some of them required more detailed attention as they raised competition law concerns. Several transactions were prohibited on the ground that they would create irreparable damage to competition.[48] However, most of the problematic mergers were eventually cleared after the parties offered substantial remedies to the Commission. The measures took the form of both structural remedies that stimulate network competition (for example, cable divestiture) and behavioural remedies that ensure competitors to the merging entities will have sufficient access to

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45. Commission Recommendation of 8 January 1998 on interconnection in a liberalized telecommunications market (Part 1 – Interconnection Pricing), (1998) O.J. 73/42, last amended by Commission Recommendation of 22 February 2002, (2002) O.J. L 58/56, at §3; Commission Recommendation of 25 May 2000 on unbundled access to the local loop: Enabling the competitive provision of a full range of electronic communications services including broadband multimedia and high speed Internet, (2000) O.J. L 156/44 at Article 1(6).

46. European Commission, Towards a New Framework for Electronic Communications Infrastructure and Associated Services: The 1999 Review, Com (1999) 539.

47. Id.

48. In total, six transactions were prohibited by the Commission: Case No. M.469 *MSG Media Service* (1994) O.J. 1994, L 364/1. Case No. M. 490 *Nordic Satellite Distribution* (1995) O.J. 1996, L 53/20. Case No. M 553 *RTL/Veronica/Endemol (I)* (1995) O.J. 1996, L 134/32. Case No. M.993 *Bertelsmann/Kirch/Premiere* (1998) O.J. 1999, L 53/1. Case No. M. 1027 *Deutsche Telekom/BetaResearch* (1998) O.J. 1999, L 53/31. Case No. M. 1741 *MCIWorldCom/Sprint*.

key inputs, such as content, local loop, or set top boxes (de Streel, 2003). For instance, in *Vodafone/Mannesman*, the Commission only cleared the merger after the parties submitted commitments to de-merge Orange Plc and to give other mobile operators access to their inter-operator roaming tariffs and wholesale services.[49]

Competition law authorities can also intervene ex post, which is the core business, as ex ante analysis is limited to the clearance of JVs and mergers. Like in other industries, the European Commission engaged many procedures on the basis of Article 82 of the EC Treaty (which prohibits abuse of dominance). For instance, it initiated a variety of proceedings, including cases of exclusionary abuses (for example, refusal to provide access to the fixed local infrastructure to competitors),[50] as well as exploitative abuses (for example, excessive pricing of retail services).[51] Another illustration of the ex post approach can be found in the Commission's reliance on the so-called sector enquiries, a rarely used procedure pursuant to which the Commission enquires on a whole market, rather on specific companies. The Commission launched a sector enquiry in 1999 with the purpose of successfully examining three markets: the provision and pricing of leased lines,[52] mobile roaming services,[53] and the provision of access to and use of the residential local loop.[54]

Yet, as we have seen in the US section, the border between the ex ante and ex post approaches may be quite thin. For instance, in the competition cases examined above, the Commission generally chose to transfer when possible these cases to the NRAs on the ground that they would be able to handle these matters by enforcing sector-specific legislation.[55] Ex post intervention based on competition rules has thus been prolonged by an application of ex ante sector-specific regulatory regimes. This suggests ex post and ex ante regimes are seen by the Commission as alternative tools to control market power in telecommunications. However, where a matter can be properly dealt with by the NRAs, competition cases should be passed on to them.

If one goes one step further, we could even say there is a blurring of the distinction between sector-specific regulation and competition law. Clearance of JVs and mergers has often been used by the Commission to further regulatory objectives. For instance, in *Atlas*, a JV between France Telecom and Deutsche Telekom, the Commission granted a five-year exemption that provided inter alia that France and Germany liberalize alternative infrastructures, a requirement that was not yet imposed by EC

49. Case No. M. 1795 (2000) *Vodafone/Mannesmann,* IP/00/373 of 12 April 2000.

50. See, Commission Decision of 21 May 2003, *Deutsche Telekom*, OJ 14.10.2003 L 263/9 (price squeeze between wholesale and retail local access charges); Commission Decision of 16 July 2003, *Wanadoo*, not yet published IP/03/1025 (predatory price in the retail market for broadband Internet access).

51. IP/98/707 of 27 July 1998 (Commission launching four cases for excessive and discriminatory fixed termination charges originated from mobile and eight cases for excessive fixed retention charges).

52. IP/99/786 of 22 October 1999; IP/00/1043 of 22 September 2000.

53. IP/00/111 of 4 February 2000; MEMO/01/262 of 11 July 2001.

54. IP/00/765 of 12 July 2000.

55. See, for instance, IP/98/763 of 13 August 1998 and IP/99/279 of 29 April 1999 (Commission launching seven cases for excessive accounting rates, but subsequently passed them to the NRAs, which imposed substantial price reductions).

telecommunications legislation.[56] Similarly, the Commission cleared the *Telia/Telenor* merger after the Swedish and Norwegian governments committed to introduce local loop unbundling in their countries—that is, more than a year ahead of Regulation 2887/2000, which imposes local loop unbundling to the fifteen Member States.[57] It is subject to question whether the Commission should use merger control to advance its regulatory agenda.[58] In any event, these cases show the close ties between governments and business in network industries as the Member States in question agreed to anticipate EC regulatory requirements in order to help national champions to obtain clearance from the Commission.

This naturally leads us to talk about the situation of State-owned enterprises active in network industries. This issue is particularly important in the EC since European nations have historically opted for the public monopoly model in most network industries. Although privatisation programs have significantly reduced public participation in sectors, such as telecommunications and air transport, State ownership remains dominant in postal services and rail transport. In the US section, we argued that several factors may constrain the ability to impose remedies on State-owned companies. In the EC, the close links between postal and rail operators and their governments made it difficult for the EC to engage into market-opening reforms combined with regulatory remedies, although the most recent legislation shows encouraging signs.[59] However, the European Commission initiated a large number of cases against postal, as well as to a lesser extent rail, operators to place an end on abusive practices, including cross-subsidization, discrimination, predatory pricing, excessive pricing, tying, refusal to supply, etc. The numerous proceedings against Deutsche Post illustrate the tough line taken by the Commission in the postal sector.

3.2. Antitrust as a New Form of Regulation

The prior section concluded that on several occasions, the European Commission used its powers to review JVs and mergers to achieve regulatory objectives. Looking at this from a different angle, one could also say that the Commission decisions over telecommunications JVs and mergers appear very much like catalogues of regulatory requirements listing things that the merging entities should or should not do in the future. Merger decisions thus very much look like prospective regulatory regimes.

Another illustration of this prospective approach can be found in the various guidelines and notices adopted by the Commission in the area of telecommunications. In 1991, at the outset of the liberalization process, the Commission adopted guidelines on

56. Case no. 35.337, *Atlas* (1996) O.J. 1996, L 239/23.

57. Case no. M. 1439, *Telia/Telenor* (1999) O.J. 2001, L 40/1.

58. For a discussion of this issue in the electricity sector, see Piergiovanni, 2003.

59. Directive 2002/39/EC of the European Parliament and of the Council of 10 June 2002 amending Directive 97/67/EC with regard to the further opening to competition of Community postal services, (2002) O.J. L 176/21; Directive 2001/12/EC of the European Parliament and of the Council of 26 February 2001 amending Council Directive 91/440/EEC on the development of the Community's railways, (2001) O.J. L 85/13.

the application of EC competition rules to the telecommunications sector.[60] In 1998, at the time the telecommunications market was completely liberalized, the Commission issued a Notice on the application of competition rules to access agreements in the telecommunications sector.[61] In 2000, at a time when the pervasive domination of the incumbent on the local loop was increasingly seen as impeding a rapid development of broadband access in Europe, the Commission issued a Communication on the application of competition rule to the unbundling of the local loop[62]. In these instances, telecommunications operators are prospectively informed of the way the Commission intends to apply competition rules to certain practices.

One could, of course, argue that a basic distinction between guidelines and regulatory requirements is that the former do not have the binding of the latter. This distinction is more apparent than real as operators are generally well advised to follow Commission guidelines on pain of being subject to competition law investigations. Commission guidelines may thus have a greater legal significance that their "soft law" status would tend to suggest. Let us now turn to this new regulatory framework.

3.3. The Shifting balance of influence between antitrust and sector-specific regulation: Competition law concepts penetrating sector-specific regulation

In the US section, we saw that antitrust law was probably no longer the driving force in terms of shaping the telecommunications sector. In fact, the Government did not initiate any antitrust proceedings in this sector since the adoption of the 1996 Telecommunications Act and virtually all the proceedings initiated by competitive local exchange providers against the BOCs failed. We also observed that the approach followed by the FCC in its Local Competition Order and vindicated by the Supreme Court in 2002 in *Verizon* could influence the development of antitrust-based remedies in network industries.

The reverse situation is currently taking place in the EC. First, since the complete opening of the telecommunications sector on 1 January 1998, EC competition law has played a major role in shaping the telecommunications sector (Ungerer). Moreover, competition law concepts and principles are at the core of the new regulatory framework on electronic communications adopted by the EC in 2002 and which entered into force in July 2003. As we have seen in Section A, the 1999 Review proposed a vision whereby sector-specific regulation would be progressively rolled-back, market power being exclusively controlled by competition law. This vision is to a large extent translated into the new framework, although we will see that sector-specific regulation will retain a significant importance, at least in the next few years.

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60. Commission Guidelines on the application of EEC Competition rules in the Telecommunications sector, O.J. 6.9.1991, C 233/2.

61. Commission Notice on the application of competition rules to access agreements in the telecommunications sector O.J. 22.8.1998, C 265/2C.

62 Communication from the Communication of 26 April 2000 on the Unbundled access to the local loop, OJ 23.9.2000 C 272/55.

The new regulatory framework is composed of 5 directives: one framework directive[63] and four specific directives respectively dealing with authorisations,[64] universal service,[65] access and interconnection,[66] and data protection and privacy in the telecommunications sector.[67] In order to take into account the so-called "convergence" between the telecommunications, media, and information technology sectors, this framework not only covers telecommunications, but all forms of electronic communications and services to the exclusion of content-related aspects, which are dealt with by separate legislation.

The new framework is based on the so-called SMP regime.[68] Pursuant to this regime, regulatory obligations can be imposed on operators holding SMP in one given market after a four-step analysis, which requires coordinated efforts of the European Commission and the NRAs.

First, the Commission periodically adopts a Recommendation,[69] which identifies, in accordance with the principles of competition law, the products and services markets within the electronic communications sector, the characteristics of which may be such as to justify the imposition of regulatory obligations set out in specific directives.[70] In its Recommendation, the Commission identifies three criteria that have to be taken into account for a market to be selected to be analyzed by the NRAs: (i) the presence of high and non-transitory entry barriers whether of structural, legal or regulatory nature; (ii) the presence of a market structure such that the market does not tend towards effective competition within the relevant time frame horizon; and (iii) the application of competition law alone would not adequately address the market failure(s) concerned.[71]

The first criterion appears to be in full line with economic theory as we know that high barriers to entry are one of the key factors when it comes to assessing the presence of market power. As interpreted in the Recommendation, the second criterion can be used to narrow down the scope of markets falling under the first criterion. Indeed, the Recommendation explains that "[e]ven when a market is characterized by high barriers to entry, other structural factors in that market may mean that the market tends towards

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63. Directive 2002/21 on a common regulatory framework for electronic communications networks and services, 2002 O.J. L 108/33.

64. Directive 2002/20 on the authorization of electronic communications networks and services, 2002 O.J. L 108/21.

65. Directive 2002/22 on universal service and users' rights to electronic communications networks and services, 2002 O.J. L 108/51.

66. Directive 2002/19 on access to, and interconnection of, electronic communications networks and associated facilities, 2002 O.J. L 108/7.

67. Directive 2002/58 concerning the processing of personal data and the protection of privacy in the electronic communications sector, 2002 O.J. L 201/37.

68. For a good discussion of this regime, see (de Streel, 2003).

69. Commission Recommendation of 11 February 2003 on relevant product and service markets within the electronic communications sector susceptible to ex ante regulation in accordance with Directive 2002/21/EC of the European Parliament and of the Council on a common regulatory framework for electronic communications networks and services, O.J. 8.5.2003 L 114/45.

70. Article 15(1) of the Framework Directive.

71. §§ 9-16 of the Recommendation.

an effectively competitive outcome within the relevant time horizon".[72] The Recommendation then states that this may for instance be the case "in markets with a limited, but sufficient number of undertakings having diverging cost structures and facing price-elastic demand".[73] The third criterion will be discussed below.

The combined analysis of the three criteria suggests that markets characterized by the presence of high entry barriers (first criterion), which is not compensated by a dynamic market structure (second condition) should generally be selected unless the situation can be dealt with adequately by competition law remedies (third criterion). The prime targets for selection will thus be markets having a natural monopoly nature or oligopolistic features, especially when there is a risk of collective dominance.[74]

Second, taking "utmost" account of this Recommendation and the Commission guidelines on market analysis, the NRAs define relevant markets appropriate to national circumstances, in particular, relevant geographic markets within their territory, in accordance with the principles of competition law (Rey, 2002).

Third, the NRAs analyze relevant markets, where appropriate in cooperation with the national competition authorities, to determine whether they are competitive or not.[75] This amounts to determining whether one or several operators hold SMP in a given market. In this context, Article 14(2) of the Framework Directive provides that an undertaking is deemed to have SMP "if either individually or jointly with others, it enjoys a position equivalent to dominance, that is to say a position of economic strength affording it the power to behave to an appreciable extent independently of competitors customers and ultimately consumers". This provision includes word by word the standard understanding of dominance stemming from the European Court of Justice competition case-law.[76] There is some logic in using the same tools to define markets under both competition law and sector-specific regulation, although this may raise some issues that will be discussed below. In any event, this is an improvement on the prior regime, which considered as having SMP all operators that enjoyed 25% or more market shares in a given market. The threshold for SMP was thus particularly low (hence, running the risk of over-regulation) and set in a rather inconclusive manner as one knows that market share is only one of the factors indicating market power.

Fourth, when the NRA concludes that the market is effectively competitive, it cannot impose or maintain any specific obligations on the operators active in this market, and in cases where sector-specific obligations already exist the NRA must withdraw them.[77] Conversely, when the NRA determines that a relevant market is not effectively competitive, it must first identify operators with SMP on that market and impose specific obligations on them from the menu of remedies proposed by the directives.[78] For instance, when an operator is found to have SMP on a wholesale

72. Id. At §14.

73. Id.

74. Commission Guidelines on market analysis and the assessment of significant market power under the Community regulatory framework for electronic communications networks and services, OJ 11.7.2002, C 165/6. For an analysis of collective dominance telecommunications, see Rey, 2002.

75. Id. at Article 16(1).

76. See Case 27/76, United Brands, (1978) ECR 207.

77. Id. at Article 16(3).

78. Id. at Article 16(4).

market (for example, the provision of local loop elements), the NRA must at least impose one, but can also impose several remedies among those provided in the so-called Access Directive. The remedies include obligations of transparency, non-discrimination, accounting separation, access to network infrastructures, or price control. When an NRA imposes one or several remedies, it must ensure they are proportionate to the policy objectives identified.[79]

This short description of the SMP regime deserves some remarks.

First, this regime requires a co-operation between the Commission and the NRAs, pursuant to which both levels of power have a key role to play. The system seems thus more decentralized than the US system (where key regulatory decisions are entrusted to the FCC and little is left to the PUCs, which is one of the factors that led to litigation against the FCC's Local Competition Order). Under the new regime, NRAs will take decisions over market definition, identification of SMP operators, market analysis, and the choice of remedies, although in taking these decisions it will have to take into account the soft law instruments adopted by the Commission.

Second, this regime relies heavily on the principles of competition law.[80] For instance, we have seen that the NRAs must define relevant markets in accordance with the principles of competition. We have also seen that the definition of SMP that is relied upon in the directives is identical to the notion of dominance as defined in EC competition law. The reliance on common principles for competition law inquiries and sector-specific regulation makes sense, especially when both sets of rules are called to apply in the same markets, sometimes in a parallel manner. Some authors have, however, noted that when identifying SMP for the purpose of assessing the competitiveness of a market, NRAs are working on a different set of assumptions than competition authorities acting in a competition case (Bak, 2003).[81] Indeed, a finding of SMP on the basis of Article 14(2) of the Framework Directive will lead to the automatic imposition of one or several remedies, whereas a finding of dominance in an Article 82 case does not lead by itself to the imposition of remedies, as remedial action will only take place when an abuse has been found. The impact of a finding of SMP/dominance is thus different. In addition, an investigation of abuse of dominance is based on a set of findings reflecting the undertaking's position and behaviour in a market over a given period of time in the past, while under the new regulatory framework ex ante obligations arise (and are withdrawn) as a result of forward-looking market analysis based on existing market conditions. Moreover, given its forward-looking nature, the analysis of dominance will often work on the basis of predictions or speculations than on existing evidence. Potential competition and supply substitutability will thus be central to such analysis, while demand substitutability may play a reduced role, although this is a key criterion for EC competition law.

Although this line of argument is interesting, it only reassesses something that we could already observe before the adoption of the new regulatory framework just by looking at the ex ante and ex post analyses carried out by competition law authorities. In fact, every time a competition law authority has to adopt ex ante remedies in relation to

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79. §118 of the Commission guidelines on market analysis.

80. For a discussion of the alignment of sector-specific regulation on competition rules, see Larouche, 2002.

81. See also Commission Guidelines on market analysis, §§ 24-32.

a dominant operator (for example, in the context of a merger), the analysis of dominance will be different than from the dominance analysis is carried out in the context of an ex post inquiry (for example, in the context of an Article 82 case). This seems to suggest that, when competition law authorities or NRAs are involved in the imposition of ex ante remedies, they should err on the side of prudence, as the analysis of dominance on which it is based will often be speculative and lead to dramatic consequences for the operators involved whereas they have not committed any competition law infringement.

Third, under the new regime, sector-specific regulation has a subsidiary role—that is, it should be adopted only when competition law remedies would not suffice to address the identified market failure. For instance, we have seen that in its Recommendation on relevant markets, the Commission identifies among the criteria that have to be taken into account for a market to be selected to be analyzed by the NRAs, the relative efficiency of competition law remedies alone to address the market failure identified compared to the use of ex ante regulation. To impose regulatory requirements, the NRAs must demonstrate that regulation is better able to address the market failure in question than competition law. Thus, the SMP regime gives preference to ex post competition law, which is less intrusive than sector-specific regulation.

Fourth, the SMP regime provides for mechanisms to ensure that sector-specific regulatory requirements will remain only as long as they are necessary to correct a market failure. For instance, we have seen above that when an NRA discovers that a relevant market is effectively competitive it cannot impose or maintain any sector-specific obligations, but it should also withdraw all existing obligations. This creates a process whereby, as markets become competitive, regulation will progressively fade away. This system of market-by-market sunset clauses seems more effective than Section 160 of the 1996 US Telecommunications Act, which operates the other way round as it enables the FCC to forbear from applying provisions of this Act if it determines that forbearance from enforcing these provisions "will promote effective competition". Use of Section 160 is, however, restricted with respect to some of the provisions of the Act, and it also requires that a series of strict conditions be met.[82] Moreover, this provision leaves a lot of discretion to the FCC. The EC is much more radical since, as soon as a market is effectively competitive (essentially a question of fact rather than of appreciation), the NRA has no choice but to withdraw from sector-specific regulation. Section 160 of the 1996 Act also requires the FCC to review, every two years, all of its rules that apply to telecommunications service providers and determine whether any are no longer necessary in the public interest.[83] Section 161 then directs the FCC to repeal or modify unnecessary rules. However, the two-year time span between each revision is too long, and the public interest criterion is too vague. In practice, the FCC does not really attempt to review all of its regulations pursuant to section 160, for the task, if taken literally, would consume virtually all of the agency's resources.

Although the above-described European regime presents many attractive features, it remains to be seen how it will be applied in practice. The definition of the relevant markets, the determination of whether such markets are competitive or not, the identification of operators with SMP, and the imposition of remedies on such operators,

82. See 47 USC § 160 (a)-(d).
83. For a discussion of § 161, see Furchtgott-Roth, 1998.

is done by the NRAs. Although the NRAs will have to take into account the Commission guidelines on market analysis and the Commission Recommendation on relevant markets, national variations will thus occur.

As the set of ex ante remedies among which the NRAs will have to make their choice to correct market failures is set in specific EC directives, it is worth having a look at such directives to see whether the obligations they contain follow a competitor-welfare or a consumer-welfare standard, the latter we believe being preferable to the former. In this respect, Article 12 of the Access Directive is somehow troublesome as it provides that an NRA could impose on SMP operators to grant access to specific facilities and/or associated services, inter alia in situations where the NRA considers that "denial of access would *hinder* the emergence of a sustainable competitive market at the retail level, or would not be in the end-user's interest".[84] While the second part of the sentence places emphasis on consumer interest, the first part seems to impose a softer (that is, easier to meet by access seekers) test than the one imposed under competition law, which requires that access be only granted to "essential" facilities.[85] Under sector-specific regulation, SMP operators could thus be forced to grant access to non-essential facilities on the ground that such access would be desirable to stimulate competition in retail markets. We very much hope that the NRAs will interpret the test contained in Article 12 in a manner compatible with the requirements of competition law.

3.4. DG Trade as a Regulator?

In the US section, we argued that, by attempting to impose the TELRIC model to US trading partners, the US Trade Representative has turned itself into a telecommunications regulator. The situation is different in the EC as, to the best of our knowledge, the Trade Directorate of the European Commission has never used bullying tactics on the EC's trading partners to impose the EC telecommunications framework on them. The EC's more relaxed attitude can be explained by several reasons. First, the US has generally been more concerned than the EC about the deficits created by the regime of international accounting rates. The US suffers from huge accounting rate settlement imbalances with a number of countries.[86] The WTO case initiated by the US against Mexico is thus more aimed at addressing such settlement imbalances than influencing another nation's policy. Second, some US carriers have been particularly aggressive in terms of gaining market shares in key parts of the world, such as Asia. High interconnection fees unavoidably compromise their business ambitions. The decentralized implementation approach that is followed in the EC may also be a reason explaining the different attitudes between the two trade blocks. As the European Commission does not impose any pricing mechanisms on the Member States, but only sets the principles that have to be complied with by the NRAs in their decisions (for example, cost orientation), it would be odd for the Commission to impose LRIC or other pricing models on its trading partners.

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84. Emphasis added.

85. See Case C-7/97, Bronner 1998 ECR I-7791. Generally on the essential facilities doctrine, see Lang, 2000.

86. Cowhey, 2004.

On the other hand, the enlargement process gives the European Commission another means to influence regulatory policies in other countries. On 1 May 2004, ten new nations will become members of the EU and, as result, will have to implement in their national law, if it is not already done, the whole body of EC legislation, including the new regulatory framework on electronic communications. Moreover, aspiring candidate nations, such as Turkey, will also have every incentive to adopt the EC's new regulatory framework, as regulatory convergence is a pre-condition for joining the EU. Finally, in its recent "Wider Europe" Communication, which seeks to define the EU's line of action with a series of neighbouring nations in Central and Oriental Europe and the Middle East and North African region, the Commission also expresses its desire for a greater degree of regulatory convergence between these nations and the EU. This does not mean that the Commission will seek to impose specific regulatory choices, such as a model of interconnection pricing on these nations, as uniformity over such choices is not even imposed on the NRAs of the Member States, but it will allow EC electronic communications law to influence foreign regimes in a deeper and more-lasting sense.[87]

4. Conclusion

This chapter has examined remedies and the institutional design of regulation in a comparative manner by reference to US and EC law. In both systems, a variety of remedies has been imposed on "dominant" telecommunications operators to control their market power and facilitate the arrival of competition. These remedies have often been controversial, as they were seen as too harsh by some and too lax by others. Few would dispute that these remedies have played a major role in shaping, for good or for worse, the telecommunications sector on both sides of the Atlantic.

There are several similarities in the approaches followed by the US and the EC in their remedial efforts. First, the US and the EC have relied on a combination of ex ante and ex post remedies to control market power in the telecommunications. Yet, both regimes have also developed "hybrid" remedies, which represent an amalgam between the ex ante and the ex post approaches. For instance, as illustrated by the MFJ, consent decrees have been used by the Antitrust Division as a way to regulate the telecommunications sector. In both US and EC, the remedies imposed as a condition for merger clearance often take the form of long lists of behavioural requirements, which can be hardly distinguished from prospective regulatory requirements. Although we agree that antitrust rules be used to maintain a competitive market structure, we question the use of antitrust remedies to reshape the telecommunications sector or achieve specific regulatory objectives. Very often, operators are under no position to negotiate, and the clearance process turns into a game of regulatory extortion.

Second, the growing amalgam between antitrust and regulation can also be illustrated by the increasing reliance by antitrust authorities on guidelines, policy statements, notices, and other tools containing abstract statements of the way these authorities plan to address anti-competitive conduct, which may arise in the future. In this context, they very much act like a bureaucracy adopting prospective rulings than as antitrust authorities deciding cases on the basis of past events. In the future, antitrust

87. Communication of the Commission, "Wider Europe–Neighborhood: A New Framework for Relations with our Eastern and Southern Neighbours", COM(2003)104 final.

could be much less of a litigation practice, than a regulatory compliance exercise whereby adepts go through checklists of predetermined regulatory interpretations.

There are also significant differences between the US and EC regimes of remedies in telecommunications. First, regulatory remedies have generally been more intrusive in the US than in the EC. The combination of the 1996 Telecommunications Act and the FCC's implementing orders has produced an extremely dense regulatory framework regulating certain categories of operators' behaviours in the most excruciating detail. Although the EC regulatory framework adopted in the EC in the 1990s was also heavy-handed, the new regulatory framework has clear deregulatory features, as it relies on a market-by-market system of sunset clauses and allows regulation only when antitrust law remedies are not sufficient to address the identified market failure(s). The new EC regulatory framework no longer imposes remedies on predetermined categories of operators, but on operators holding "SMP", this latter concept corresponding to the notion of "dominance" under EC competition law. The EC system seems thus better equipped to limit the imposition of ex ante remedies to circumstances where market failures can be identified. No other circumstance should warrant ex ante regulatory intervention.

Second, in recent years, antitrust rules have played a greater role in the EC than in the US in telecommunications. Although the US government has not initiated any major telecommunications antitrust lawsuit since the MFJ, the European Commission has launched proceedings to address a variety of anticompetitive behaviours in telecommunications. Moreover, although it is true that US antitrust increasingly takes a regulatory tone, antitrust principles have not much penetrated sector-specific regulation. On the contrary, there is a risk that regulatory models developed by the FCC (such as the controversial TELRIC pricing methodology) could influence the design of antitrust remedies in the future. By contrast, EC antitrust principles play a crucial role in the new regulatory framework on electronic communications: key regulatory decisions, such as market definition, identification of SMP operators, and the adoption of remedies must be adopted in conformity with antitrust principles. There is also a clear understanding in the EC that sector-specific regulation is to progressively give way to antitrust law.

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