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United States Telecommunications Trade Policy: Critique and Suggestions

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UNITED STATES TELECOMMUNICATIONS TRADE POLICY: CRITIQUE AND SUGGESTIONS

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As just about everyone has realized by now, we are in the midst of a telecommunications revolution.[1] That revolution is partly the creature, and partly the driver, of a move for the deregulation of telecommunications services and equipment markets in the more advanced countries. It is also partly the creature, and partly the driver, of tremendous growth in the technology of telecommunications, particularly as involves the marriage of computing and communications functions.

One of the main features of this revolution is an enormous change in the perceived importance of telecommunications as an item of international trade. In the old days of regulated monopolies and largely stagnant technology (days that began in the late 1920s and ended sometime around 1960), there was hardly any trade to speak of in telecommunications goods and services, and what little existed was not seen as having any great strategic importance. Now, the telecommunications sector is (rightly) seen as being "at the heart of the struggle for leadership in high technology,"[2] and it is a source of considerable discussion and international friction.

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1. For excellent descriptions of this phenomenon see NATIONAL TELECOMMUNICATIONS AND INFORMATION ADMINISTRATION, TELECOM 2000: CHARTING THE COURSE FOR A NEW CENTURY (1988) [hereinafter *Telecom 2000*]; I. POOL, TECHNOLOGIES OF FREEDOM (1983).

2. J. ARONSON & P. COWHEY, WHEN COUNTRIES TALK: INTERNATIONAL TRADE IN TELECOMMUNICATIONS SERVICES 11 (1988) [hereinafter ARONSON & COWHEY]. For a related view, see M. BORRUS, F. BAR, P. COGEZ, A. THORESEN, I. WARDE & A. YOSHIKAWA, TELECOMMUNICATIONS DEVELOPMENT IN COMPARATIVE PERSPECTIVE: THE NEW TELECOMMUNICATIONS IN EUROPE, JAPAN AND THE U.S. (Berkeley Roundtable on the International Economy Working Paper No. 14, 1985) [hereinafter BORRUS]:

> [T]he telecommunications industry and the new networking infrastructures that are emerging are powerful agents of economic growth . . . . For example, the Commission of the European Communities (EEC) estimates that every dollar invested in current generation telecom infrastructure produces 1.5 dollars of increased economic activity. This is one of the highest known indirect industrial multiplier effects . . . .

Id. at 6-7 (footnote omitted).

The telecommunications sector is uniquely important to international trade because it is not only a source of considerable trade in itself[3] but also an essential input for international trade in services of other kinds. In fact, the ongoing boom in international services trade owes a great deal—if not its very existence—to the explosion in technology and the decline in prices of international telecommunications. As the Office of Technology Assessment notes, "[c]heap and reliable international communications mean that an American engineer on site in a foreign country can tap into the piping design layout for a petroleum refinery, change a hanger, and calculate the seismic response in a few minutes."[4] Similarly, much of the explosion in worldwide financial services stems from the much greater ease of international telecommunications today.[5]

While the growth of information technology, telecommunications services, and services trade is no doubt a good thing, not all of the consequences are positive. Though improved telecommunications make services exports easier, they also facilitate services imports and the flat-out export of telecommunications and white-collar jobs.[6] One of the first examples of service job export was that of data entry for Mead Data Central's LEXIS service: Advance copies of case decisions were air-expressed abroad, keypunched by low-paid foreign operators, and returned on magnetic tape to the United States.[7] More recently, other companies have followed suit in higher technology fields, with Texas Instruments putting a software development facility in Bangalore, India, and a Chicago publisher having manuscripts typeset in Barbados.[8] In both instances, these facilities relied on inexpensive telecommunications links to the United States.[9] And, for an example

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3. Telecommunications services accounted for $121 billion in the United States in 1987, amounting to 2.67% of the Gross National Product. BUREAU OF THE CENSUS, U.S. DEPARTMENT OF COMMERCE, STATISTICAL ABSTRACT OF THE UNITED STATES 426 (1990) (current dollars). Although (obviously) domestic telephone services are not traded internationally, international telecommunications services still amounted to a respectable $1.25 billion in 1989. FEDERAL COMMUNICATIONS COMMISSION, STATISTICS OF COMMUNICATIONS COMMON CARRIERS 202 (1989-90).

4. OFFICE OF TECHNOLOGY ASSESSMENT, U.S. CONGRESS, INTERNATIONAL COMPETITION IN SERVICES 16 (1987).

5. *See, e.g., id.* at 91-93; OFFICE OF TECHNOLOGY ASSESSMENT, U.S. CONGRESS, EFFECTS OF INFORMATION TECHNOLOGY ON FINANCIAL SERVICES SYSTEMS 191-219 (1984); *see also* Merges & Reynolds, *Toward a Computerized System for Negotiating Ocean Bills of Lading*, 6 J.L. & COM. 23 (1986) (describing systems for trading cargoes at sea such as Chase Manhattan's SeaDocs and the Nordic countries' NORDIPRO that depend heavily on computing and telecommunications capabilities).

6. *See 'Global Offices' on Rise as Firms Shift Service Jobs Abroad,* Wash. Post, Apr. 20, 1989, at E1, col. 1.

7. *See id.*

8. *See id.*

9. *See id.*; *see also* G. FEKETEKUTY, INTERNATIONAL TRADE IN SERVICES 45-

likely to strike readers of this Review close to home, some law firms are now exporting legal work to lower priced markets overseas.[10]

With considerations such as this being added to concerns about the U.S. trade position in telecommunications equipment, it is no surprise that the telecommunications arena has been the focus of considerable international tension. The United States has challenged the international satellite monopoly held by INTELSAT, a consortium that it helped found,[11] has engaged in market opening talks with foreign nations around the world,[12] has debated whether the Federal Communications Commission should impose sanctions against countries guilty of unfair trade practices in telecommunications,[13] and—most significantly of all—has included telecommunications as the *only* industry-specific part of the 1988 Omnibus Trade Act.[14] In short, telecommunications has risen to the top of the United States priority list in international trade and also has become the focal point of a great deal of tension and concern.

This article discusses how that situation came into being, what the United States is trying to accomplish in its telecommunications trade policies, and what is right and wrong with that approach. Most importantly, it discusses the clash of domestic deregulatory policies based on the economic interests of *consumers* of telecommunications equipment and services with international trade policies based on the economic interests of *producers* of those goods and services (and of the workers employed by those producers). The article suggests the need for a new and integrated strategy that recognizes the tradeoffs between these two kinds of concerns and also recognizes that U.S. strategy in both areas needs to acknowledge the growing convergence of computing and communications, and the growing political importance of these technologies, in order to be effective. First, though, is a short history of the international telecommunications field and the role of nations in its regulation and development.

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56 (1988) (describing importance of telecommunications to international trade in services).

10. J. Grant, *Global Trade in Services: A Corporate Perspective on Telecommunication and Data Services,* in ELECTRONIC HIGHWAYS FOR WORLD TRADE: ISSUES IN TELECOMMUNICATION AND DATA SERVICES 111 (P. Robinson, K. Souvant & V. Govitrikar eds., 1989).

11. G. REYNOLDS & R. MERGES, OUTER SPACE: PROBLEMS OF LAW & POLICY 202-26 (describing U.S. policy regarding international satellite systems separate from INTELSAT).

12. *See, e.g.*, Report on Telecommunications Market-Oriented Sector-Selective (MOSS) Discussions (Aug. 18, 1986).

13. *Regulatory Policies and International Telecommunications*, 2 F.C.C. Rcd. 1022 (1987).

14. Omnibus Trade and Competitiveness Act of 1988, Pub. L. No. 100-418, §§ 1371-82, 102 Stat. 1107, 1216 (codified as amended at 19 U.S.C.A. §§ 3101-11 (West Supp. 1991)).

Growth of the International Telecommunications Marketplace

Until just over one hundred years ago, international communications meant "mail," and its regulation was neither extensive nor particularly important. With the invention of the telegraph, however, this began to change. The first international telecommunications conference was the inaugural meeting of the International Telegraph Union (ITU) in 1865.[15] The ITU (later to become the International Telecommunications Union) grew out of a regrettable tendency by European nations to stop telegraph traffic at their borders and require messages to be hand carried through customs and retransmitted from within the other nation.[16] Requiring international telegraph traffic to stop at a national border and then be resent from the other side created additional jobs, of course, and allowed a certain amount of national security control over messaging, but at ruinous cost in delay and service degradation.

With the establishment of the International Telegraph Union, such practices came to an end. Within a relatively short time, telegraph lines linked the world's major cities, and, by World War I, the telegraph network reached virtually everywhere.[17] Meanwhile, the invention of the telephone was leading to the spread of voice networks as well.[18] By the 1920s it was possible (at staggering expense) to place telephone calls from the United States to Europe via High Frequency radio.[19] A key division in the international telecommunications world, which was to hold for over 50 years, then developed. The division was between the International Record Carriers (IRCs), who provided the transmission of written messages, and the voice carriers who carried ordinary telephone traffic.[20]

Both the IRCs and the voice carriers enjoyed a comfortable freedom from competition. Domestically, voice services (and usually record services as well) were provided on a monopoly basis. In the United States, the voice provider was the Long Lines Division of AT&T, a privately owned but heavily regulated company. In almost every other country, the provider was a state run Postal, Telephone, and Telegraph authority (PTT).[21] An elaborate network of cross-

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15. For a clear history of the ITU from its beginnings see G. CODDING & A. RUTKOWSKI, THE INTERNATIONAL TELECOMMUNICATION UNION IN A CHANGING WORLD 3-55 (1982).

16. *See* Branscomb, *Global Governance of Global Networks: A Survey of Transborder Data Flow in Transition*, 36 VAND. L. REV. 985, 995 (1983).

17. J. SAVAGE, THE POLITICS OF INTERNATIONAL TELECOMMUNICATIONS REGULATION, 28-40 (1988).

18. *Id.*

19. *Id.*

20. *Id.* at 31.

21. *See, e.g.*, ARONSON & COWHEY, *supra* note 2, at 26-29 (describing

subsidies held down telephone rates for ordinary residential subscribers by drawing on income from inflated long distance charges paid mostly by business users. Many PTTs generated so much revenue this way that they were able not only to subsidize local telephone service but also managed to pay substantial sums into the general treasury to finance other governmental activities.[22] In addition, many PTT operations served other social purposes such as maintaining employment by overstaffing, supporting local telecommunications equipment manufacturing enterprises through preferential purchasing, and putting powerful telephone workers unions at the disposal of the party in power.[23]

The international communications scene was similarly genteel and sedate. International communications were handled by joint ventures between national monopolies. Once again, prices for international services were inflated in order to subsidize other activities.[24] The creation of the international communications satellite consortium, INTELSAT (for the International Telecommunications Satellite Organization), suggested the potential for competition between it and the owners of undersea cables, but because INTELSAT's owners were for the most part the same national monopolies who owned the cables, such competition was notably unpronounced.[25]

For many decades, these competitive restrictions probably did little harm. The technology for providing what is elegantly known in the trade as POTS (Plain Old Telephone Service) allowed economies of scale to predominate, maintaining a true natural monopoly, and the ability to provide any other services awaited the development of technology more advanced than the electromechanical systems of the day. Because most economic activity centered on the production and consumption of goods, and because the business world mostly operated at a slow enough pace to be accommodated by the mails, the harm realized by overpriced long-distance service was counterbalanced

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"regulatory bargain" in the United States and other countries); Reynolds, Review Essay, *Speaking With Forked Tongues: Mercantilism, Telecommunications Regulation, and International Trade*, 21 LAW & POL'Y INT'L BUS. 119 (1990); *see also* ORGANIZATION FOR ECONOMIC CO-OPERATION AND DEVELOPMENT, TELECOMMUNICATIONS: PRESSURES AND POLICIES FOR CHANGE 28-51 (1983).

22. *See* ARONSON & COWHEY, *supra* note 2, at 26-29.

23. *Id.*

24. *Id.* at 8-9.

25. For more on INTELSAT, its ownership structure, and its impact (or lack thereof) on international telecommunications competition see G. REYNOLDS & R. MERGES, *supra* note 11, at 202-26 (1989); E. KWEREL & J. MCNALLY, PROMOTING COMPETITION BETWEEN INTERNATIONAL TELECOMMUNICATION CABLES AND SATELLITES (Federal Communications Commission Office of Plans & Policy Working Paper No. 19, Jan. 1986); Aronson & Cowhey, *The Great Satellite Shootout*, REGULATION, May-June 1985, at 27-35; Staple, *The New World Satellite Order: A Report from Geneva*, 80 AM. J. INT'L L. 699 (1986).

by the benefits of using long-distance revenues to subsidize local rates. The telephone network expanded to include almost everyone, making the system more valuable to all who used it.[26] Life was easy for regulators, consumers were happy, and economists and policy analysts paid little attention to telecommunications issues.

Such regulatory golden ages do not last forever, and this one was no exception. As the new technology of computers began to creep into the world of telecommunications and *vice versa*, the neat regulatory distinctions of previous years were threatened.[27] The public telephone network, traditionally thought of as "a simple Euclidean structure, with an inside and an outside . . . ,"[28] began to change and to be seen as a far more complex collection of markets.[29] Simultaneously, a new enthusiasm for deregulation became popular (especially in the United States), and regulators, economists, and policy analysts began to look at the telecommunications industry as a fertile arena for analysis and experimentation.[30] In response to both the increasing spirit of deregulation and the blurring of regulatory distinctions, the Federal Communications Commission and U.S. courts began to chip away at the traditional Bell System monopoly, establishing new industry sectors open to competition.[31] Much more slowly, other nations began to do the same.

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26. *See* J. MEYER, R. WILSON, A. BAUGHCUM, E. BURTON & L. CAOUETTE, THE ECONOMICS OF COMPETITION IN THE TELECOMMUNICATIONS INDUSTRY, 27-28 (1980).

27. For a discussion of these new technologies see TELCOM 2000 *supra* note 1, at 75-87; P. HUBER, THE GEODESIC NETWORK: 1987 REPORT ON COMPETITION IN THE TELEPHONE INDUSTRY (1987) [hereinafter HUBER REPORT]; ARONSON & COWHEY, *supra* note 2, at 6-9, 189-213.

28. HUBER REPORT *supra* note 27, at 1.6.

29. *Id.* The old structure was considered one in which clear divisions could be made between the networks because each one was dependent on another for support. The more complex, new network has more nodes leading into more lines, allowing today's smart switches and terminals to emit and receive traffic and information from many sides. *Id.*

30. *See, e.g.*, BORRUS, *supra* note 2, at 8-15.

31. The Federal Communications Commission opened up domestic long distance competition private line services in its *Above 890* decision, which allowed Microwave Communications, Inc. (now known by its initials as "MCI"), to enter the private line business by establishing a microwave link between St. Louis and Chicago. Allocation of Microwave Frequencies in the Bands Above 890 Megacycles, 27 F.C.C. 359 (1959); *see* Specialized Common Carriers, 29 F.C.C.2d 870 (1971); *In re* Applications of Microwave Communications, Inc., 18 F.C.C.2d 953 (1969) (decisions allowing creation of specialized systems offering long distance communications service connecting to the local telephone company network); *see also* MCI Telecommunications Corp. v. FCC, 561 F.2d 365 (D.C. Cir. 1977), *cert. denied*, 434 U.S. 1040 (1978) (usually referred to as the *Execunet I* case); MCI Telecommunications Corp. v. FCC, 580 F.2d 590 (D.C. Cir.), *cert. denied*, 439 U.S. 980 (1978) (*Execunet II*) (allowing MCI and others to enter competition with AT&T in the sale of long distance services directly to the public).

Following is a discussion of the deregulatory process in the United States, and how it differed (and continues to differ) from those in other countries. After discussing the process of U.S. domestic deregulation and efforts to export that deregulation to international markets, I will contrast that process with the United States growing concern with its position in the international markets for communications equipment and services and its efforts to protect that position. I will then discuss the many ways in which these two policies clash and suggest some ways of addressing this problem.

Opening Up the Domestic U.S. Market

Beginning in the early 1970s the Federal Communications Commission (and, to a lesser degree, other branches of government such as the Department of Justice) concluded U.S. economic interests, meaning primarily the interests of consumers, would be better served by a less regulated market for telecommunications services. The guiding principle in this deregulation was a view of the network as having internal and external submarkets.

In effect, the telecommunications network was viewed as consisting of regulated services such as transmission, switching, and call processing. External to the network (and unregulated) were such ancillary items as Customer Premises Equipment (CPE) (providing a number of services including general computing, data encryption, and complete in-house switching and call accounting for major corporations), enhanced services (including online databases like LEXIS or Dialog and packet switching for data), software, and products (such as telephones and modems) designed simply for attachment to the public network.[32]

This distinction made some amount of sense at the time it was developed. Because (it was assumed) a 1956 antitrust consent decree prevented AT&T from engaging in data transmission businesses other than regulated monopoly communications services, the public switched telephone network was not designed to handle data: data transmissions are best handled over digital facilities, but the public network was designed to handle voice-type analog transmissions. Using the public network for data transmission required costly items such as modems and private lines and still often produced unacceptably high error rates.[33] As a result, separate data networks developed in parallel to the public switched telephone network. Because the consent decree

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32. This division was developed in the Federal Communications Commission's *Computer II* proceeding. *See In re* Amendment of Section 64.702 of the Commission's Rules and Regulations, *Final Decision*, 77 F.C.C.2d 384 (1980) (*Computer II* or *Second Computer Inquiry*).

33. Modems received their name because they *mo*dulate the digital signals

barred AT&T from entering the computer market (despite considerable expertise in the area), most forms of specialized Customer Premises Equipment were made by outside companies, although AT&T's in-house manufacturing arm, Western Electric, remained the primary source for Central Office Switches (of which AT&T was by far the largest U.S. buyer) and customer handsets.

The Federal Communications Commission moved to reinforce the distinction between internal and external networks by allowing AT&T to engage in many unregulated, nonnetwork lines of business (*i.e.*, "enhanced services" and the provision of Customer Premises Equipment, but imposing sharp limits on how it did so.[34] In order to keep AT&T from using those sectors of the market in which it had monopoly power (*i.e.*, those involving "basic services") to gain an unfair advantage in competitive sectors, the Commission imposed a regime known as "structural separation." This meant the competitive services would be provided by a separate subsidiary of AT&T, which came to be known as AT&T Information Systems (AT&T-IS). AT&T-IS was forbidden from owning transmission facilities or becoming involved in other "bottleneck" monopoly areas,[35] while AT&T's local operating companies (*i.e.*, the local telephone companies themselves) were forbidden from providing enhanced services.[36]

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employed by computers (which consist purely of on-off pulses) into analog signals consisting of audible tones that can be transmitted by ordinary telephone lines and then *demo*dulate them back to digital signals at the other end. Specifically, modems transmit in rapid sequence either a high-pitched tone (taking the place of the "on" pulse in digital signals) or a low-pitched tone (which takes the place of the "off" pulse); when receiving these tones, they reverse the process and convert the high- and low-pitched tones back to on-off signals. For a concise and clear—but far more technical than the preceding—explanation of why modems are necessary and how they work see J. FIKE & G. FRIEND, UNDERSTANDING TELEPHONE ELECTRONICS at 9-1 to 9-22 (1987). For the purposes of this discussion all that need be understood is that modems are generally slower, more expensive, and less accurate in their transmission of data (because of telephone line noise—a serious problem on public switched lines, and a significant one even on higher quality "private lines") than are dedicated digital data networks.

34. *Computer II*, *supra* note 32, at 457-87.

35. *See In re* Amendment of Section 64.702 of the Commission's Rules and Regulations, *Memorandum Opinion and Order*, 84 F.C.C.2d 50, 78 (1980) (*Reconsideration Order*); *see also* Computer & Business Equip. Mfrs. Ass'n, *Report and Order*, 93 F.C.C.2d 1226 (1983); 47 C.F.R. § 64.702(d)(2) (1990).

36. *Id.*; *see also* American Tel. & Tel. Co., Petition for Waiver of Section 64.702 of the Commission's Rules and Regulations, *Memorandum Opinion and Order*, 88 F.C.C.2d 1 (1981) (*Memorandum Opinion and Order*). The thorniest questions appeared in the context of protocol conversion, something that remains true today. The *Reconsideration Order* affirmed the status of protocol conversion as an enhanced service, except when part of delivering basic network services. *Reconsideration Order*, *supra* note 35, at 60. The reasoning was that protocol conversion is available in the competitive market from a number of sources and

As a further restriction, the Commission required the parent and subsidiary companies to maintain separate officers and accounting systems, and it placed sharp limits on sharing of staff and technology.

This was an innovative attempt to deal with the problems posed by the convergence of telecommunications and data processing, but it left many problems. Some were definitional: Trying to decide what was a "basic" versus an "enhanced" service, for example, turned out to be harder than it might have seemed. Others involved the lost efficiencies resulting from the forced separation between provision of basic and enhanced services. For example, voice storage was designated an enhanced service because the Commission believed competitive providers could furnish it efficiently.[37] It turned out, however, that only the network operator (that is, the telephone company) had access to sufficient economies of scope and scale to make voice mail worthwhile, and thus consumers were denied the opportunity to obtain such services via the telephone network.[38] Instead, consumers turned to a near-substitute, purchasing billions of dollars worth of telephone answering machines, virtually all imported from abroad, with predictable effects on the United States telecommunications trade balance.

In addition, the philosophy of the Commission's *Computer II* decision was to ensure that the enhanced service operations of the

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hence should not be part of basic common carriage.

This issue was addressed again in the 1983 *Protocols Order*, which concluded protocol conversion should be considered an enhanced service, but waiver requests should be liberally granted where doing so would promote efficiencies and user transparency was not otherwise available. Communications Protocols Under Section 64.702 of the Commission's Rules and Regulations, *Memorandum Opinion, Order, and Statement of Principles*, 95 F.C.C.2d 584, 590-91, 593-96 (1983) (*Protocols Order*). Of particular concern were "internetwork" protocol conversion and those conversions inherent in the provision of basic switched and packet services. The Commission was of the opinion that addition of protocol conversion to basic network services might in many cases further important goals without anticompetitive effects, and some conversions could not be done economically outside the network. On the other hand the Commission feared locating all protocol conversion within the network might lead to an ossification of technology and deprive consumers of the innovation that could take place only in a competitive environment. *Id.* at 592-96.

37. *Reconsideration Order*, *supra* note 35, at 53-60; *see also Memorandum Opinion and Order*, *supra* note 36, at 31.

38. *See* Third Computer Inquiry, *Report and Order*, 104 F.C.C.2d 958, 971-73, 1109-12 (1986), *vacated sub nom.*, California v. FCC, 905 F.2d 1217 (9th Cir. 1990).

In *California v. FCC*, the Ninth Circuit vacated the *Computer III* order and remanded to the FCC for further proceedings. The order was vacated in regard to two issues: (1) the elimination of structural separation requirements without what the court considered an adequate record, and (2) pre-emption of state regulation. At this writing the Commission has reinstated the other aspects of *Computer III* not struck down by the Court, particularly the Open Network Architecture provisions. *See Final Order* 56 Fed. Reg. 964 (1991).

Bell System were forced as far outside the network as was any other customer. By forcing AT&T's own enhanced services operation, AT&T-IS, to deal with AT&T as just another customer, albeit a wealthy and technologically advanced one, the Commission hoped that AT&T-IS' demands would encourage AT&T to develop network capabilities that would benefit other enhanced services operations as well, thus "bootstrapping" the network into a more advanced stage adapted to data and enhanced services, rather than the voice-only configuration it previously had held.

Unfortunately, it did not work. AT&T-IS was underpowered as an engine of progress, and its officers (former monopolists all) proved poorly adapted to competition.[39] The result was that consumers were still missing out on the new products, new services, and lower prices that would have been available in a freer market. The United States trade balance suffered as well because customers supplied themselves with capabilities not available through the communications network by buying equipment, usually from foreign firms, as in the case of the answering machines previously mentioned.

The problems with *Computer II* might have been solved, but, before the opportunity arose, matters were disrupted by a bombshell from an unexpected quarter: the consent decree settling an antitrust suit brought against AT&T by the Department of Justice.[40] That decree, known as the Modified Final Judgment (MFJ) because it technically constituted an alteration of the earlier 1956 consent decree,[41] demolished the very underpinnings of the *Computer II* regime. The old, integrated, national telephone company, controlled by AT&T and popularly known as the Bell System, was shattered. The twenty-two local telephone companies, known as Bell Operating Companies (BOCs) were separated from AT&T and placed under the control of seven newly created Regional Holding Companies (RHCs).[42] The newly truncated AT&T retained the long-distance operations of the old Long Lines Division and the manufacturing operations of Western Electric and retained title to AT&T-IS, which was later merged back into AT&T proper.

It was obvious that *Computer II* was poorly adapted to the new environment, in spite of frantic efforts by the Commission to adapt

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39. *See generally* R. Crandall & B. Owen, *The Marketplace: Economic Implementations of Divestiture,* in DISCONNECTING BELL: THE IMPACT OF THE AT&T DIVESTITURE (H. Shooshan, III ed. 1984).

40. United States v. Western Elec. Co., 552 F. Supp. 131 (D.D.C. 1982), *aff'd sub nom.* Maryland v. United States, 460 U.S. 1001 (1983).

41. *See* United States v. Western Elec. Co., 1956 Trade Cas. (CCH) ¶ 71,134 (D.N.J. 1956).

42. These companies were American Information Technologies (Ameritech), Bell Atlantic, BellSouth, NYNEX, Pacific Telesis (PacTel), Southwestern Bell, and U.S. West.

its rules.[43] Thus, after some floundering, the Commission developed a new approach, embodied in its *Computer III* proceeding.[44]

With a candor unusual among administrative agencies (or other entities, for that matter), the Commission recognized that the *Computer II* regime had not worked out. Because the *Computer II* rules did not allow "facilities that create or implement 'enhanced services' . . . to be integrated with facilities for common carrier communications," the Commission found, "there has been a denial to the public of efficient services that can be created through such integration and their benefits."[45] The Commission also acknowledged that the problem of defining what services counted as basic or enhanced was a difficult one, and it solicited comments on what should be done.[46]

After extensive public comments, the Commission adopted a new regulatory structure that abandoned the separatist approach in favor of an integrated network subject to regulations designed to promote competition. Structural separation was replaced with a series of nonstructural safeguards (addressing cost allocation, protection of confidential customer information, technical disclosures, and nondiscriminatory installation and maintenance)[47] together with both short-term and long-term changes in network architecture designed to address many of the problems previously experienced.

For the short term, those changes involved Comparably Efficient Interconnection (CEI). The CEI requirement provides AT&T and the BOCs, in order to be permitted to offer an enhanced service without using a separate subsidiary, must file a CEI plan for that service. The CEI plan ensures the availability of CEI to competing Enhanced Services Providers (ESPs) when the carrier begins offering its own enhanced service to the public, the availability of basic services involved to competitors on the same basis that they are available to the carrier itself, the ability of other parties to resell the carrier's services on an "unbundled" basis, and the commitment by the carrier to take steps to minimize transport costs[48] to its competitors or,

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43. *See, e.g.*, Furnishing of Customer Premises Equipment and Enhanced Services by Am. Tel. & Tel. Co., *Order*, 102 F.C.C.2d 655 (1985) (*AT&T Structural Relief Order*).

44. Third Computer Inquiry, *Report and Order*, 104 F.C.C.2d 958 (1986), *vacated sub nom.* California v. FCC, 905 F.2d 1217 (9th Cir. 1990). *See* note 38, *supra*.

45. Third Computer Inquiry, *Notice of Inquiry*, 50 Fed. Reg. 33,581, 33,582 (1985).

46. *Id.* at 33,604-05.

47. *Third Computer Inquiry*, 104 F.C.C.2d at 1068. These safeguards were designed to prevent a monopolist with control over rate-regulated local transport from (at least theoretically) using it to disadvantage competitors. *Id.* at 1068-70. They were largely rejected by the U.S. Court of Appeals for the Ninth Circuit. *See* note 38, *supra*.

48. The "transport" referred to is the transport of calls and data, not physical transportation.

alternatively, to charge itself the same amount for transport as it charges its competitors.

CEI is a merely transitional step. For the long term the FCC has developed a structure known as Open Network Architecture (ONA). ONA is designed to extend to *all* services, whether offered by AT&T or the BOCs, the same safeguards that CEI imposes for individual services. Once ONA is implemented both AT&T and the BOCs will be allowed to offer any enhanced service on an unseparated basis without the need to file a CEI plan.

ONA is designed to open the network architecture so that it is self-enforcing in preventing discrimination. When fully implemented ONA will allow competitors access to the telephone network on a basis identical to that enjoyed by the network's operators. This will facilitate a transition to the expected "Intelligent Network" of the future,[49] in which capabilities are dispersed throughout the network according to demand and in which different parts of the network, even if controlled by different parties, function together seamlessly. For example, in an Intelligent Network, a new service might be located in a centralized processor (known as a "feature node") serving a broad area in order to concentrate demand, but might be "migrated downward" to individual switches as demand picks up so as to minimize transport costs.[50] With ONA fully implemented and supported by intelligent network architectures, this migration could be achieved even if the feature node and the switch were owned by different parties, and, indeed, might occur automatically as the network sensed changing demand patterns. The result would be an enormous gain in flexibility and efficiency, accompanied by greatly reduced difficulties in introducing new services.

The above discussion traces the way in which telecommunication liberalization has progressed to date in the United States and provides

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49. The term "Intelligent Network" refers to the sort of blend of computing and communications described here. The term Integrated Services Digital Network (ISDN) is used to describe the means by which such an intelligent architecture would be implemented. The initial stage, or "basic" ISDN, would consist of a customer interface (replacing the current single voice channel) made up of three channels: 2 "B" channels of voice grade (64,000 bits per second data rate) and one "D" channel of medium speed data grade (16,000 bits per second data rate). These three channels would have the same address (phone number) but could be divided in a number of ways to allow voice, data, and network signalling to be sent simultaneously, thus supporting a wide variety of services. The exact contours of both Intelligent Network Architectures and ISDN are still subject to considerable debate both in the United States and abroad. As is discussed further on, the nature of these contours has important strategic as well as technical ramifications, which is one of the main reasons for the debate. For a good survey of these issues see TELECOMMUNICATIONS MANAGEMENT PLANNING: ISDN NETWORKS, PRODUCTS AND SERVICES (R. Heldman ed. 1987).

50. *Id.*

some sense of how that liberalization has been as much the result of technological and market imperatives as of regulatory philosophy. Despite all of its difficulties (particularly those stemming from the AT&T divestiture), the effort largely has been successful and has contributed to making the United States telecommunications sector one of the most diverse and flexible in the world, offering consumers access to a wider variety of services, usually at lower prices, than are available anywhere else.[51]

In saying that the U.S. deregulatory effort was a success, however, it must be added that it succeeded when judged by its own terms. The architects of the U.S. strategy, both at the FCC and in Judge Greene's court, had as their goal the opening up of the market and the freeing of consumers to purchase many goods and services at the lowest possible price. What almost no one involved in the process seems to have considered was the impact of the various market-opening steps on the United States international trade position. This impact on U.S. producers (and on their employees, suppliers, investors, and other stakeholders) was to prove stunning, although it is not clear whether this impact was the result of American technological and marketing *hubris* (typical for the time) or the American tendency to ignore all things foreign (still typical today, alas).

When the Federal Communications Commission deregulated the provision of CPE consumers gained the ability to purchase products such as telephone handsets and answering machines at prices substantially below those charged by the Bell System. When the Bell System itself was broken up as part of a settlement engineered by Department of Justice antitrust lawyers, most of the parts of the old Bell System (*i.e.*, the twenty-two BOCs and their seven regional parents) were freer to purchase equipment from sources other than Western Electric—and, indeed, had every reason to do so in order not to depend on a single supplier and sometime competitor for all their needs. The BOCs diversified their purchasing as quickly as possible in order to avoid dependence on AT&T, whom they suspected might limit the kinds of products available in order to boost sales. In one instance, BOC representatives found their suspicions confirmed and accused AT&T of delaying the introduction of "add-on" devices designed to allow older, nonelectronic switches to serve more than one long-distance carrier. Such delays would have served AT&T in two ways: By disadvantaging its long-distance service competitors and by forcing the BOCs to purchase new switches (many of them from AT&T) in order to meet the "equal access" requirements of the Modified Final Judgment effecting the AT&T divestiture.[52]

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51. *See Telecommunications Survey*, THE ECONOMIST, Oct. 17, 1987, at 9.

52. *See, e.g., id.*; U.S. v. Western Elec. Co., 552 F. Supp. 131, 196 (D.D.C. 1982) ("equal access" requirement).

Telecommunications Trade: Developing U.S. Concerns

The increased competition that resulted from the previously discussed regulatory and market changes brought prices down, which benefited consumers, but (naturally enough) after decades of AT&T monopoly, the only non-AT&T sources for such equipment of any consequence were foreign companies. The result was a dramatic shift in the United States balance of trade in the telecommunications field, which led to increased concern about telecommunications trade matters.[53]

Some History

Historically, the United States has pursued a largely *laissez-faire* approach to international trade matters, both in general and with regard to the telecommunications industry. Before the breakup of the old Bell System there was no real cause for U.S. concern regarding telecommunications trade: the volume of trade overall was comparatively small (because the Bell System procured almost exclusively from its own in-house manufacturing operation, Western Electric), and the United States consistently ran a trade surplus.[54] After the AT&T divestiture and the more-or-less contemporaneous FCC action opening up the market for Customer Premises Equipment (CPE),[55] all of that changed. Within a few years U.S. markets were flooded with foreign equipment, and American companies faced stiff (and sometimes fatal) competition in the markets for handsets, key systems, and private branch exchanges (PBXs)[56] while worrying about threatened competition for the Central Office switch market.[57]

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53. "The U.S. trade balance in telecommunications equipment declined from a surplus of $1.1 billion in 1978 to a $2.6 billion deficit in 1988. The deficit improved to $1.9 billion in 1989." U.S. DEP'T OF COMMERCE, U.S. TELECOMMUNICATIONS IN A GLOBAL ECONOMY: COMPETITIVENESS AT A CROSSROADS, 37 (1990) [hereinafter COMPETITIVENESS AT A CROSSROADS].

54. Until 1983, when it registered a $500 million deficit, the United States maintained trade surpluses in telecommunications equipment. *Id.* at 73. "The growth in our telecommunications trade deficit has been the result of rapid import growth that has generally outpaced more gradual increases in exports. Imports increased 240 percent between 1982 and 1988, compared with a 77 percent increase in exports." *Id.*

55. *See generally AT&T Structural Relief Order, supra* note 43.

56. "PBXs are switches located on customer premises and used for handling telephone traffic and data." *See* COMPETITIVENESS AT A CROSSROADS, *supra* note 54, at 54.

57. *See Breakup Seen Opening Up U.S. Market to Japanese*, COMPUTERWORLD, Mar. 12, 1984, at 73.

Not surprisingly, much of this competition came from Japan, whose own domestic market (also not surprisingly) remained at least as closed as the U.S. market had been before its liberalization. Empowered by the closed nature of the Japanese market, its dominant member, Nippon Telegraph & Telephone (NTT), traditionally has purchased almost exclusively from a small number of favorites. This practice left other companies (such as U.S. producers) without a market.[58] Beginning in 1978, as the telecommunications trade imbalance between the United States and Japan grew, the United States made strenuous efforts to open the Japanese market for the benefit of American companies; while those efforts received steadily higher priority they bore little fruit.[59]

One outcome of those efforts was a 1980 bilateral agreement on procurement between the United States and Japan.[60] That agreement called for nondiscriminatory procurement by NTT, and NTT did, in fact, put in place procedures to implement the agreement. Actual purchases, however, showed no substantial change: NTT purchases of foreign equipment remained at around one or two percent of total annual procurement in the years following.[61] According to U.S. producers the changes in formal regulations brought about by the NTT agreement were not matched by changes in the behavior of NTT bureaucrats. A Japanese decision to begin privatizing NTT aggravated the problems; many new procedures and standards proposed for the new private entity would have reduced further the already slim opportunities for foreign sales in Japan.[62]

The United States, through concerned members of Congress, responded by introducing legislation that would have required tough sanctions against countries that refused to open their telecommunications markets[63] and, through the Administration, by commencing negotiations aimed at securing improved access to Japanese markets. Those negotiations, designated MOSS (for Market-Oriented Sector-Selective) had as their first priority opening of the Japanese markets for telecommunications terminal equipment and U.S. network serv-

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58. *See* Howell, Benz & Wolff, *International Competition in Information Technologies: Foreign Government Intervention and the U.S. Response*, 22 STAN. J. INT'L L. 215, 231 (1986).

59. *Id.* at 232; *see Telecommunications Survey*, *supra* note 53, at 24-25.

60. Howell, Benz & Wolff, *supra* note 58, at 232.

61. *Id.* at 232 n.66.

62. *Id.* at 233. The proposed procedures, institutions, and standards would have effectively barred U.S. sales to both NTT and non-NTT telecommunications companies in Japan. *Id.*

63. *See* S. 2618, 98th Cong., 2d Sess., 130 CONG. REC. S5142 (daily ed. May 1, 1984) (bill introduced by Senator Danforth that would have sharply increased—to Smoot-Hawley levels—the tariffs on telecommunications equipment imported from countries with closed markets).

ices.[64] When the talks seemed to go nowhere Congress reacted fiercely, threatening import restrictions and increased duties on Japanese telecommunications products. Senator John Danforth introduced a far reaching telecommunications trade bill that would have provided for "fast track" retaliation against Japan for breach of the NTT procurement agreement.[65] The Japanese responded by adjusting the proposed privatization legislation to avoid new barriers to U.S. sales, a move that was widely welcomed in the United States despite the obvious efficacy of the barriers already in existence. The efforts of Congress and the Administration had little practical effect, and U.S. penetration of the Japanese market remained limited.[66]

Though there were other, less heated disputes with other countries, the Japan experience is typical. U.S. efforts to open foreign markets, despite considerable political heat and effort, have met with limited success at best. There are several reasons for this, all of which boil down to two factors: An excessive concern with particular product lines as opposed to development of a universal strategy aimed at promoting the United States overall position in information technologies and the implementation of domestic regulatory policies without regard to the effect those policies might have on international trade.

Trade Negotiations and U.S. Trade Law

Tariff negotiations are inherently conducted on a product-by-product basis, as any reading of the Tariff Schedules of the United States will reveal.[67] Even where general formulas are involved, the item-by-item nature of the tariff schedules tends to promote a narrow and overly focused approach that centers on a few specific items. The result is that progress on select items is often bought at the price of backsliding on others—and many times the items on which progress is made are not those of greatest importance to opening of information industry trade in general.

United States trade laws have a similarly narrow focus, growing out of an old-fashioned view of what constitutes international trade.

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64. *See* Howell, Benz & Wolff, *supra* note 58, at 235. Terminal equipment, also known as Customer Premises Equipment, "is located on the user's premises and is used to transmit information through the network from one user to another." ARONSON & COWHEY, *supra* note 2, at 27-28. Examples are modems and facsimile equipment. *Id.* A specific topic of the talks was value-added services, also known as value-added networks (VANs), which are services based on new communications technologies. *See id.* at 85.

65. *See* S. 942, 99th Cong., 1st Sess., 131 CONG. REC. S4334-37 (daily ed. Apr. 17, 1985).

66. *See* Howell, Benz & Wolff, *supra* note 58, at 236-37.

67. UNITED STATES INT'L TRADE COMM'N, HARMONIZED TARIFF SCHEDULE OF THE UNITED STATES (1991).

Both the antidumping law[68] and the countervailing duty law[69] focus on "a class or kind of foreign merchandise," making it virtually impossible for actions under them to address broader issues. Because actions under those laws are usually brought by individual companies or industry sectors, they are far more likely to focus on narrow problems affecting a single part of the U.S. industry rather than on overall strategic issues. The results may favor specific industries or companies within the United States but may not help—or may even harm—the overall condition of the U.S. economy.

The utility of so-called "Section 301" actions is a bit broader, but not much.[70] Because Section 301 of the Trade Act of 1974 was intended to remedy the excessively narrow focus of other trade laws, it confers sweeping powers on the President to "take all appropriate and feasible action within his power" in response to any foreign practice that "is unjustifiable and burdens or restricts United States commerce."[71] Section 301 could, in theory, support a wide variety of creative and far reaching actions to promote free trade, but it has been used almost exclusively as a means to attack foreign practices similar to those addressed by the antidumping and countervailing duty laws by erecting product-specific barriers.

A similar failure to treat trade issues broadly has afflicted even sector-wide negotiations such as MOSS[72] and MAFF.[73] Although negotiators often start out with a mandate to deal with broad (if not always broad enough) areas, the realities of horse trading soon take hold. In the absence of an overarching strategy beyond "get all you can," negotiators naturally begin bargaining over particulars. The

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68. 19 U.S.C. § 1673 (1988). The antidumping law provides for the imposition of an antidumping duty on foreign products, which the Federal Trade Commission deems as having been dumped at artificially low prices in U.S. markets and thereby injuring U.S. industry. *Id.*

69. 19 U.S.C. § 1671(a) (1988). The countervailing duty law provides that where a foreign country, person, or entity "is providing, directly or indirectly, a subsidy with respect to the manufacture, production, or exportation of a class or kind of merchandise imported, or sold (or likely to be sold) for importation into the United States . . ." and the Federal Trade Commission deems it injurious or threatening to U.S. industry, "there shall be imposed upon such merchandise a countervailing duty . . . ." *Id.*

70. So called because they are brought under Section 301 of the Trade Act of 1974, Pub. L. No. 93-618, 88 Stat. 1978, 2041 (codified as amended, 19 U.S.C. § 2411 (1988)).

71. 19 U.S.C. § 2411(a)(B)(ii) (1988).

72. Market-Oriented Sector-Selective (MOSS) talks were held with Japan in 1986 and 1987 regarding a number of trade areas including telecommunications. *See* U.S. GENERAL ACCOUNTING OFFICE, U.S.-JAPAN TRADE: EVALUATION OF THE MARKET-ORIENTED SELECTIVE SECTORS TALKS (1988).

73. Market Access Fact Finding (MAFF) talks were held with a number of European and Scandinavian countries in 1986 and 1987. *See generally* Smart, *Administration Trade Initiatives*, BUS. AM., May 26, 1986.

resulting patchwork may not benefit U.S. industries as a whole, or more open international trade in general. Indeed, without a broad and well thought-out strategy, it is sometimes difficult to know what constitutes success.

New Telecommunications Trade Legislation

Some progress *has* been made on the trade law front. The new trade law[74] mandates investigations by the United States Trade Representative (the U.S.T.R.) regarding telecommunications products as a whole.[75] That is the good news. The bad news is that the trade bill's focus is still overly circumscribed, as it concentrates on "mutually advantageous market opportunities"[76] only in the "telecommunications product"[77] area; worse yet, "telecommunications product" is rather narrowly defined by reference to certain tariff schedule items encompassing only traditional telecommunications devices such as switches, handsets, and answering machines.[78] This means the U.S.T.R., in determining whether the United States enjoys "mutually advantageous market opportunities," may not be able to note that, for example, heavy imports of answering machines *from* country X are balanced by heavy exports of, say, computers designed for providing voice mail service *to* country X. This overly narrow view could lead to punitive actions unjustified by the circumstances, which could subject U.S. industries to retaliation to the resulting detriment of the overall U.S. market.

This excessively narrow focus might lead not only to unnecessary retaliation but also prevent the U.S.T.R. from acting on behalf of equally important U.S. information industries that do not fall within the tariff listings included in the bill. Thus, unless the U.S.T.R. takes a sufficiently broad view in its investigations and determinations, the main effect of the bill simply may be a subsidy to some U.S. information industries at the expense of other U.S. information industries. This is a typical result of the overly specific focus in trade matters that has harmed U.S. technology sectors in general and the information industries in particular.

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74. Omnibus Trade and Competitiveness Act of 1988, Pub. L. No. 100-418, 102 Stat. 1107 (codified as amended at 19 U.S.C.A. §§ 3101-11 (West Supp. 1991)).

75. The trade law mandates that the U.S.T.R. shall conduct an investigation to identify priority foreign countries. *See* 19 U.S.C.A. § 3103 (West Supp. 1991). It also provides that the U.S.T.R. shall review the operation and effectiveness of every trade agreement in force with the United States. 19 U.S.C.A. § 3106(a)(1) (West Supp. 1991).

76. *See* 19 U.S.C.A. § 3101(b)(5) (West Supp. 1991).

77. *Id.*

78. *Id.* at § 3102(2).

The Fragmentation of U.S. Policymaking

The problems with U.S. trade law and with the inherent character of trade negotiation, described above, might be manageable if administration of the various applicable laws were centralized in a single body with broad experience and expertise and with a mandate to promote global free trade in general and the United States *overall* position in particular. Unfortunately, the situation is far less positive. Responsibilities for different parts of the information industry are divided among a number of governmental agencies. These agencies have varying degrees of expertise, varying client industries, and different ideas about what is good for the United States. They are also subject to relatively little central control.

For the reasons set out above, such a system is far from ideal. It is, however, about all that can be expected absent a coherent national policy designed to address trade issues in the information age. As an illustration of the kind of problems that the current fragmented system can create, the following section will discuss the Federal Communications Commission's effort to inject itself into the debate and its attempt to develop a U.S. trade policy in this area. This section also will explain why the FCC's effort, though well-motivated, accomplished little.

The FCC's International Trade Efforts

Having to some degree created the problem by deregulating U.S. markets without considering the impact on the United States balance of trade, the FCC then made some effort to remedy the situation by attempting to develop a U.S. model for international trade. The FCC began this effort in its *Regulatory Policies and International Telecommunications* proceeding.[79] Unfortunately, that proceeding only serves to demonstrate the inadequacy of the current system for formulating (much less executing) telecommunications and trade policy.

The FCC's inquiry grew out of two items, one general and one specific. The general item was increasing penetration of the United States telecommunications market (especially the switching sector) by foreign companies without any corresponding access for U.S. companies to foreign markets. The specific event that triggered it was the failure of a U.S. company (AT&T, in cooperation with Phillips)

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79. Regulatory Policies and International Telecommunications, *Notice of Inquiry and Proposed Rulemaking*, 2 F.C.C. Rcd. 1022 (1987).

to secure a strategic position in France by being allowed to purchase CGCT, a small French switch manufacturing firm.[80]

The Commission thus asked for comments on two questions. First, it asked what considerations should be used in determining the openness to competition of various foreign markets. The Commission suggested it should consider the following factors: (1) How open the foreign markets were to entry by new players; (2) whether there was discrimination against foreign companies; (3) how the foreign countries treated technological innovation; and (4) considerations of comity in respecting different foreign customs, regulatory structures, and social needs.[81]

Second, it asked whether evaluations based on these factors should be used as the basis for trade actions by the FCC itself.[82] The Commission proposed to undertake responsibility for telecommunications trade matters and to assume a direct role in trade enforcement. In order to effectuate this role, it also proposed sweeping reporting requirements under which carriers and enhanced services providers would have to report on their ownership, and foreign-owned carriers and ESPs would have to report traffic and revenues. Meanwhile, manufacturers and common carriers would have to file reports with the Commission that would allow it to determine the extent to which foreign suppliers were penetrating the U.S. market.[83]

Hardly anyone liked the idea: nearly every response the Commission received was negative.[84] Many felt the Commission lacked

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80. Before the French government awarded the sale, there had been fierce and highly politicized competition between AT&T and the West German firm Siemens. Both American and West German officials hinted darkly about adverse consequences to the French should the deal be awarded to their rival. Predictably enough, the French wound up allowing a neutral third bidder, the Swedish L.M. Ericsson, to purchase CGCT. Because Ericsson's technology was at least as good as (and arguably better than) that possessed by the two larger rivals there was little room for direct protest. The defeat, however, marked one of several in a row for AT&T and reinforced the belief that U.S. companies were not getting a fair shake abroad. *See* STAFF OF HOUSE SUBCOMM. ON OVERSIGHT AND INVESTIGATIONS OF THE COMM. ON ENERGY AND COMMERCE, 100TH CONG., 1ST SESS., MAJOR ISSUES IN UNITED STATES-EUROPEAN COMMUNITY TRADE (Comm. Print 1987) (reporting on the committee's investigation into the fairness of the award).

81. 2 F.C.C. Rcd. at 1022.

82. *See id.*

83. *Id.* at 1035-36.

84. Among those filing comments against the plan were Ameritech, Contel, Bell Atlantic, IBM, ADAPSO, Ericsson, Digital Equipment Corporation, Telenet, and two U.S. government agencies, the Department of Justice and the National Telecommunications and Information Administration, an arm of the Commerce Department. *See* Regulatory Policies and International Telecommunications, *Order on Reconsideration*, 4 F.C.C. Rcd. 323, 326-37; Regulatory Policies and International Telecommunications, *Report and Order and Supplemental Notice of Inquiry*, 4 F.C.C. Rcd. 7387, 7391-94, 64 Rad. Reg. 2d (P & F) 976, 978-79 (1988) (*Reciprocity Report*).

authority to proceed on matters of international trade in the absence of a direct legislative mandate; others thought the Commission would be ineffective in such a role even if it possessed the legal authority to undertake it. Both groups were correct.

As recently as a few years earlier, when political sentiments differed, the Commission itself had been in doubt of its authority under Section 214 of the Communications Act[85] to address matters of international trade.[86] Trade matters are generally left to the Executive, and the prospect that independent agencies might become separate sources of trade policymaking is hardly consistent with that scheme.[87]

Even if it possessed such authority the FCC would be far too small a gun to be of much use in trade matters. The real heavy-gun trade statutes, such as Section 301,[88] allow the President to take action of all kinds, affecting any foreign industry he chooses, to remedy unfair foreign trade practices. The FCC's certification authority under Section 214,[89] on the other hand, would only permit the exclusion of foreign communications equipment or services from the United States market, a cost that foreigners might well be willing to bear in order to keep their own markets closed. This limitation in the FCC's ability to impose sanctions would render it incapable of implementing an important stratagem: the generation of additional pressure within a foreign political system by inflicting pain on other industry sectors (by, for example, imposing tariffs on cassette players or almonds) that have nothing to gain from the restrictive practice in question.

The FCC ultimately retreated from its position on possible retaliation,[90] and ultimately the reporting requirements were allowed to die on the vine as well.[91] The Commission's inquiry, however, serves as an excellent case study in the inadequacy of current U.S. law and regulatory structures for dealing with the problems of information industries.

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85. Communications Act of 1934, ch. 652, 48 Stat. 1064 (codified as amended at 47 U.S.C. § 151-613 (1988)).

86. *See Reciprocity Report*, *supra* note 84, 64 Rad. Reg. (P & F) at 996.

87. *Cf.* United States v. Curtiss-Wright Export Corp., 299 U.S. 304, 319 (1936) ("In this vast external realm, with its important, complicated, delicate and manifold problems, the President alone has the power to speak or listen as a representative of the nation.") While this *dictum* might be open to question under other circumstances, the obvious need for a unified strategy in the international trade field certainly argues against reading international trade authority into the general language concerning "public interest" of Section 214 of the Communications Act.

88. *See* Section 301 of the Trade Act of 1974, *supra* note 60-61 and accompanying text.

89. Section 214 of the Communications Act as amended, *supra* note 85.

90. *See Reciprocity Report*, 64 Rad. Reg. (P & F) at 991.

91. *Id.* at 990.

Toward a Strategic Policy for the Information Industry

Up to this point the discussion has centered on the problems created by two shortcomings in U.S. information trade policy: (1) The lack of an understanding that information industries should be viewed as a whole and not artificially separated into different sectors; and (2) the lack of any coherent strategy to address information age trade issues from a total-industry perspective. The following discussion will explore what can be done about these problems and will suggest both a model for future behavior and a set of specific steps, short of implementation of the entire model, as a transition. First, however, is a brief discussion of new international trade theory and how it applies.

New Theories of International Trade

Traditional analysis of international trade matters has turned on questions of "comparative advantage."[92] The assumption was that some nations, because of particular endowments of resources or social structure, would have natural advantages at producing some goods and natural disadvantages at producing others. The key to prosperity, it was thought, was simply the elimination of all barriers to trade. This elimination would allow market forces to push nations toward doing what they do best. If some nations refused to open their markets, they would pay the price in terms of inefficiencies.[93]

Under this theory, market opening measures did not require much thought: if free trade was good, then any step toward it must necessarily be good too. Thus, even a patchy and sporadic market opening policy would do some good and could do no harm.

Economic behavior in the real world often has not squared with that predicted by the classic "comparative advantage" critique. Many countries, such as Japan, seemed able to create their own comparative advantage where none had existed before. Also, patchwork market opening strategies seemed to do more harm than good, often leading to the demise of leading industries in order to confer a modest benefit on less important ones.[94] Thus, many economists have begun discussing the notion that nations should have strategic policies for dealing with trade issues. These strategies involve market opening

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92. R. GILPIN, THE POLITICAL ECONOMY OF INTERNATIONAL RELATIONS 22 (1987).

93. *Id.* at 173-75.

94. *See, e.g.*, deKeiffer, *The Ripple Effect of Trade Relief: The Steel Example*, 6 J.L. & COM. 47 (1986).

efforts based on notions of overall strategy and designed to impact not just isolated industries but the economy as a whole.[95]

The new theories, loosely grouped under the term "strategic trade theory" are diverse but have several characteristics in common. On what might be termed the procedural side, they emphasize that the second best alternative to fully open trade may not be partially open trade, particularly where it is other countries that decide the makeup of the mix.[96]

This procedural approach draws heavily on economic thinking[97] to the effect that improving efficiency in one of several inefficient markets may bring no overall improvement and may make things worse. As Arthur Leff graphically describes it:

> [I]n complex processes (which most social processes are) a move in the right direction is not necessarily the right move. To pick a simple example, if I am on a desert island, subsisting solely on cocoanuts and oysters and beginning to hate it a lot, and across the bay from me there is another island, lush and fertile, I do not improve my position in life by swimming half way across.[98]

Unfortunately, most U.S. policy seems to involve swimming halfway, leaving many U.S. industries at sea. Certainly most strategic trade theorists seem to think so, and events appear to be bearing them out for the most part.[99]

In a more substantive vein, most strategic trade theorists stress that the general formulas of neoclassical economics—which argue strongly that pure free trade policies are always beneficial even where they are not reciprocated—break down precisely with regard to industries generally regarded as essential to national prosperity such as electronics,[100] aerospace,[101] biotechnol-

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95. *See* S. Cohen, D. Teece, L. Tyson, & J. Zysman, *Competitiveness,* in 3 PRESIDENT'S COMMISSION ON INDUSTRIAL COMPETITIVENESS, GLOBAL COMPETITION: THE NEW REALITY 8 (1985) ("The notion that comparative advantage can be created and not, as static trade theory suggests, just revealed, lies behind the concerted government strategies to create international advantages that are the core of development policy."); *see also* STRATEGIC TRADE POLICY AND THE NEW INTERNATIONAL ECONOMICS (Paul R. Krugman ed. 1986) (survey of strategic trade policy thinking).

96. For a good example of this approach in policy-paper format see R. KUTTNER, MANAGED TRADE AND ECONOMIC SOVEREIGNTY (Economic Policy Institute, 1989).

97. *See, e.g.*, R.G. Lipsey & K. Lancaster, *The General Theory of Second Best*, 24 REV. ECON. STUD. 11 (1956).

98. Leff, *Economic Analysis of Law: Some Realism About Nominalism*, 60 VA. L. REV. 451, 476 (1974).

99. *See* R. KUTTNER, *supra* note 96.

100. *See, e.g.*, T. HOWELL, W. NOELLERT, J. MACLAUGHLIN & A. WOLFF, THE MICROELECTRONICS RACE (1988); R. NELSON, HIGH TECHNOLOGY POLICIES: A FIVE NATION COMPARISON (1985).

101. R. NELSON, *supra* note 100; Reynolds & Merges, *Toward an Industrial Policy for Outer Space: Problems and Prospects of the Commercial Launch Industry* 29 JURIMETRICS J. 7 (1988).

ogy,[102] and other industries characterized by dramatic economies of scale and scope, steep learning curves, and (as a result, once mature) significant entry costs.[103]

Without at all doing justice to a rich and rapidly developing literature in this area,[104] I believe that it is possible to draw the following practical points. First, in the absence of some overarching system of international trade that ensures the absence of "unnatural" barriers designed to promote domestic industries, we should consider pursuing a "second best" solution, recognizing that such a solution may not necessarily look very much like the ideal (but unattainable) "best" solution. Second, in pursuing this solution we should bear in mind that some sectors may be more important—and hence more worthy of our limited store of resources and attention—than others.

Logically, U.S. efforts should shift from halfhearted and patchy attempts to promote a truly free and universal system that may be illusory to efforts to maximize our present system and to minimize the likelihood of egregiously unfair practices in the most important industry sectors. This would be a strategic trade policy, not simply an opportunistic (or politically reactive) one.

Theory and Practice

While "strategic" thinking may at times degenerate into little more than claims for special protection or treatment for whatever industry is speaking at the time, the basic point is sound. Trade policy should be based not on simplistic principles that treat each product line and each foreign country practice as independent but on a sophisticated view that stresses the interconnectedness of different industries and the fact that national needs and policies necessarily differ.[105]

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102. Merges, *Why the U.S. Should Tackle Today Its Crisis of Tomorrow*, Fin. Times, July 2, 1987, at 21.

103. The best known (and one of the clearest) discussion of these issues is Krugman, *Import Protection as Export Promotion: International Competition in the Presence of Oligopoly and Economies of Scale,* in MONOPOLISTIC COMPETITION AND INTERNATIONAL TRADE (H. Kierzkowski ed. 1984).

104. *See, e.g.*, P. KRUGMAN & M. OBSTFELD, INTERNATIONAL ECONOMICS: THEORY AND POLICY (1988); STRATEGIC TRADE POLICY AND THE NEW INTERNATIONAL ECONOMICS (P. Krugman ed. 1986); Stegemann, *Policy Rivalry Among Industrial States: What Can We Learn from Models of Strategic Trade Policy?*, 43 INT'L ORG. 73 (1989).

105. *See* R. NELSON, *supra* note 100, at 8-12 (stressing "connectedness" of various aspects of high technology industries and the need to keep that in mind: "The term *system* connotes a recognized strong interdependence between components . . . . In a systems technology, an advance in one part of the system may not only permit but require changes in other parts.").

What would a strategic trade policy for the information industries look like? It is hard to say because the United States never has attempted to undertake the task. Such a policy, however, would have several key characteristics. *First*, it would recognize the interdependence of various technologies and industries. In assessing trade flows between nations it would not simply look at the dollar value of particular products flowing back and forth but the role of those products in the global market. For example, exports of some high-value products like Central Office Switches or custom chips might be dwarfed in dollar value by imports of telephone handsets or DRAMs (for dynamic random access memories), but that might not mean (given the importance of new technology and economies of scope) the U.S. industry would be better off if it could trade places with foreign handset manufacturers.

Second, it would recognize U.S. competitiveness often depends on cooperation with foreign companies, and policies that frustrate such cooperation harm the United States as well as foreign nations. *Third*, it would take account of technological change and recognize categories developed in the past may not adequately describe the present. For example, given the rapidly evolving nature of information technologies, the arbitrary division of products into "telecommunications" or "computer" products makes increasingly less sense.[106] Trade policies that focus on one item or the other will miss the point, especially given the importance of new network architectures that integrate general purpose computers into the public switched telephone network.

In short, a truly strategic trade policy would require trade and regulatory officials to understand the complex and interdependent network of technologies and markets and to be able to estimate the impact of those projects in the future. Unfortunately, such a policy would be very difficult to implement, which is probably why U.S. regulators have not tried very hard to do so. Such a policy also would be risky because imperfect knowledge could lead to unforeseen consequences. As Arthur Leff notes: "If a state of affairs is the product of *n* variables, and you have knowledge of or control over less than *n* variables, if you think you know what's going to happen when you vary 'your' variables, you're a booby."[107]

This is a problem. If the theory of the second best suggests that incomplete moves toward free trade under a *laissez-faire* regime may be counterproductive, it also suggests that incomplete moves toward strategic trade under a more *dirigiste* regime are no more likely to

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106. *See generally* OFFICE OF TECHNOLOGY ASSESSMENT, U.S. CONGRESS, INFORMATION TECHNOLOGY R&D: CRITICAL TRENDS AND ISSUES 320-35 (1985) (discussing overlap and merger between telecommunications and computer technologies).

107. Leff, *supra* note 98, at 476.

be successful. But we have to do *something*: even ignoring the problem is action of a sort. So what do we do? I suggest a strategy that should be simple to execute and easy (both politically and technically) to implement, but that will do *some* good even if imperfectly achieved.

A Worldwide Freedom-Based Strategy: Exporting Deregulation

The United States has produced the world's most vibrant and open domestic telecommunications market, to the enormous benefit of American consumers. As discussed above, this was hardly an accident but the result of deliberate and concentrated effort over time. Because foreign entities have lagged behind the U.S. in opening markets, U.S. producers now operate at something of a competitive disadvantage: U.S. markets are open to foreign competition while foreign markets—even in comparatively liberal countries like Great Britain or (believe it or not) Japan—are far less open to American companies.

There are two possible responses to this situation. One is to attempt to close U.S. markets again; the other is to try hard to open foreign markets. I recommend the second.

Recommending opening foreign markets is easy, of course, but doing it is something else—particularly, as readers will recall, when I have suggested earlier that the U.S. trade-negotiating system is not at its best in these circumstances. An intelligent approach to opening up foreign telecommunications need not play to the weaknesses of the American system but instead must capitalize on its strengths.

How do we do this? Put simply, we must stress the importance of open telecommunications systems to economic growth and individual freedom. Fortunately enough, these two interests (both in the telecommunications arena and, it seems, almost everywhere else) go hand in hand.

In terms of individual freedom the advantages of open telecommunications markets should be obvious: Why should an individual have to obtain permission from state officials to hook up a modem? The importance of open telecommunications, however, goes farther than that. Increasingly, the electronic communications networks—whether carrying telephone, television, electronic mail, or facsimile—are the world's main conduit for carrying news and political communications. In Panama under the Noriega dictatorship, dissidents evaded military censorship by faxing in news stories and photocopying them for distribution.[108] Similarly, Chinese students in the United States and throughout the world used facsimile machines, computer

108. *See Panamanians Use Technology to Balk Censor*, N.Y. Times, Feb. 14, 1988, at 13, col. 1.

bulletin boards, and China's modern automatic telephone system (including cellular networks throughout the more prosperous coastal provinces—coincidentally, those most sympathetic to the rebellion) to distribute uncensored news about the Tiananmen Square massacre in Beijing and to coordinate responses and the escape of those being sought by the government.[109] The importance of international telecommunications in coordinating the Kuwaiti resistance is well known,[110] and, in the Soviet Union, we are beginning to see the growth of a "hacker culture" viscerally hostile to centralized control of information.[111]

Governments, in spite of the current trend toward democracy and openness, may well fear the loss of sovereignty that open communications entail.[112] But they also will fear the drastic economic costs of resisting open communications. Information, more than most goods, is of considerable political importance. Governments since time immemorial have sought to control the flow of information (both among their citizens and between their countries and foreign lands) for political purposes. Until recently, the exercise of such control was, in an economic sense, largely free. There were exceptions: The English practice of licensing and closely controlling printers, for example, caused an enormous amount of that nation's publishing business to flow overseas, particularly to the Netherlands where printers labored under much lighter restrictions.[113] The value of printing to the 17th and 18th century British economy, however, was minor; information industries today are of considerably greater importance, not only in themselves but as a vital input for other industries of all sorts.

Over the long run we are likely to see a growing realization that in an economy dominated by services an open, flexible, and reasonably priced telecommunications network is essential for competitiveness. This realization should undercut efforts to limit the openness of such networks whether those efforts are motivated by political *or* economic concerns. In the early days of railroads, various localities attempted to promote their own interests by creating "gaps" in the railways that would result in boosted revenues for local hotels, drayage concerns, and so on. The folly of such efforts was satirized

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109. *See China's Fax Invasion*, N.Y. Times, June 20, 1989, at A22, col. 1; Hewitt, *How 'Operation Yellow Bird' Opened China's Cage Door*, Wash. Post Nat'l Weekly, June 17-23, 1991, at 24, col. 1.

110. *See, e.g.*, Murphy, *Diverse Groups Defied Iraqi Invaders*, Wash. Post, Apr. 7, 1991, at A1 (describing use of portable satellite phones, fax machines, and other advanced communications technologies to coordinate Kuwaiti resistance).

111. *See* Rogers & Bogert, *Red Hackers, Arise!*, NEWSWEEK, Mar. 20, 1989, at 58.

112. Wriston, *Technology and Sovereignty*, 67 FOREIGN AFF. 63, 65-67 (1988).

113. I. POOL, TECHNOLOGIES OF FREEDOM 15 (1983).

by one 19th century writer who facetiously proposed a "negative railway" consisting of nothing *but* gaps so as to enrich every town along its course. Soon enough railway gaps were recognized as simply a way for one sector of the economy to extract money from others while producing a net loss for the economy as a whole.[114]

Given some time, people will recognize obstructive and inefficient telecommunications regulations fall into the same category, and the maintenance of first-class telecommunications networks (free from burdensome mercantilist or political restrictions) is as crucial to national competitiveness in the services arena as the maintenance of first-class seaports, railroads, and highways is to competitiveness in the sale of goods. Few nations will be willing to bear the economic cost of such restrictions; those that are will find themselves falling behind the rest of the world at an ever-increasing pace, their growing economic backwardness making them less and less of a threat to their neighbors and more and more an embarrassment to their own people.

This trend is probably inevitable, but the United States can give it a healthy shove and, in doing so, can benefit its own information industries, which in many cases are (precisely because of the competition they already have endured) better positioned to take advantage of global openness in information services than those of any other nation. In pushing this trend, the United States can take advantage of several strengths: Its well-developed user communities (including the vast number of large and politically powerful multinational companies headquartered in the United States); and its position of moral leadership in the information industries and in the area of open communications generally.

As to the first strength, a pro-user stance will enlist an enormous number of allies among large corporations—especially, but not only, those in the banking and financial services sectors—who must do business in many countries. Those allies are not limited to American corporations; in this area, corporate interests transcend national boundaries. It should be easy to generate coalitions that will work to end burdensome regulations and promote decentralized, user-controlled networks, as these efforts will be in the interests of all users.[115]

The second aspect, capitalizing on the United States moral leadership, is harder to describe succinctly but is no less important for that. Despite all its flaws and its own occasional tendencies toward censorship and prior restraint,[116] the United States is generally rec-

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114. The economist Frederic Bastiat. *See* R. HEILBRONER, THE WORLDLY PHILOSOPHERS 179-80 (6th ed. 1986) (describing Bastiat's "negative railway" proposal).

115. *See generally* Grant, *supra* note 10.

116. For an example of one such, see Merges & Reynolds, *News Media*

ognized as the world's most free telecommunications environment, and rightly so. Our voice will be heard on these issues and will be more influential if it is heard in the context of user freedom than if it is heard in the narrower—and more obviously self-serving—arena of trade negotiations.

In a sense, I am recommending that we take a step backward to take several forward: having complained that we are not paying enough attention to trade issues, I am suggesting that most of our attention be devoted not to the trade arena but to the regulatory battlefield. I believe that if we do battle there in support of open networks we will reap the rewards tenfold in the form of increased opportunities for U.S. information industries abroad. We can, in the words of the cliche, do well by doing good.

This policy has an added advantage the twin trade strategies of *laissez-faire* and neomercantilism do not: it is worth doing even if it is not entirely successful. Free trade or mercantilism are means, not ends: good only so far as they produce good results—more wealth for society. Free (or at least freer) communications, on the other hand, are a good in themselves. Thus, even if we do not succeed in boosting the fortunes of U.S. firms abroad we will have accomplished something worthwhile if we manage to open up communications networks around the world; even if we do not do well out of it, we will still have done well. This kind of robustness is much to be desired in a policy aimed at a subject as difficult and chancy as international telecommunications trade.

I think it likely, however, that U. S. firms will in fact benefit from a pro-user strategy. We have seen, since the opening of the Eastern Bloc, the way in which companies forged by free markets can successfully enter markets previously dominated by state-controlled entities—witness the success of McDonald's and Pizza Hut in Red Square, for example. American information industries have operated in a freer market than any other; they should thus be better able to flourish in newly opened markets than state-controlled information providers. Those markets are, however, more likely to be opened in the name of foreign consumers than in the name of American producers, just as Soviets are probably more indignant about their right to buy a Big Mac than about McDonald's right to sell one.

Satellites and the First Amendment: A Case Study in the Treatment of New Technologies, 3 HIGH TECH. L.J. 1 (1989).