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INNOVATIVE TELECOMMUNICATIONS SERVICES AND THE BENEFIT OF THE DOUBT

WARREN G. LAVEY*

INTRODUCTION

Many policy-makers are looking to innovative telecommunications and telecommunications-based information services¹ to foster economic growth, improve education and health care, and benefit the public.² Regulation can spur or delay such innovation. Unfortunately, well-intentioned regulators too often impede exciting innovative services when the potential harm to the public interest from these services is minuscule. Moreover, the potential benefit to the public interest obtained through the burdens imposed by regulators on the innovative services is minuscule, too.

This Article analyzes regulatory hurdles to the introduction of innovative services by telecommunications common carriers. The focus is limited to service offerings which (1) provide new capabilities to users, and (2) have projected revenues and costs over the first year that are small for the carriers proposing these offerings (a "drop in the bucket").³ For such services, there should be a short-term regulatory framework which permits speedy introduction and profit incentives for successful offerings without substantial cost, time, or disclosure burdens imposed by regulators. Additionally, there should be a complementary long-term framework for adjusting the regulation of innovative services that have successfully grown but do not face substantial competition.

The short-term framework should give the "benefit of the doubt" to the innovative services. Because of their small revenues and costs for one or more years after introduction, these services are unable to significantly affect rates for "basic" telephone services by undermining support mechanisms or by causing or

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1. See *infra* Section I.A for a description of some of these innovative services. See also Communications Act of 1934, as amended, 47 U.S.C. § 157 (1989) (declaring national policy of encouraging "the provision of new technologies and services to the public").

2. See *infra* Section I.A & notes 13-16.

3. While a service offering may be small for the carrier proposing it, the offering may be large relative to a particular market niche. Nevertheless, the regulatory framework developed in this Article should apply to such an offering. The offering could not have a substantial impact on the carrier's other services (through cross-subsidies, contributions, or usage diversion). As for protecting the market niche against anticompetitive practices, rates would have to be above long-run marginal cost, regulators would quickly check for unlawful practices such as restrictions on resale or bundling, and there would be opportunities for further review through the complaint process. See *infra* Section III.

generating cross-subsidies. If necessary, subsequent prospective adjustments to cost and revenue allocations could be made for new services that successfully grow. Under the long-term framework, rates could be adjusted to make contributions to universal service programs and otherwise to assure just and reasonable charges. Compared to delaying the introduction of services for regulatory scrutiny of cost and revenue allocations, this approach would make the innovative services available to consumers earlier, provide stronger incentives for carriers to implement innovative services, and give regulators more solid estimates of costs and demand to determine reasonable long-term rates.

The analysis in this Article is divided into three sections. Section I discusses innovative services and the types of regulatory obstacles that arise when regulators try to meet the goals of universal service, reasonable rates, competition, and efficiency. Section II analyzes three recent regulatory decisions (by the North Carolina Utilities Commission ("NCUC"), Florida Public Service Commission ("FPSC"), and California Public Utilities Commission ("CPUC")) which impede innovative services, and two decisions by the Federal Communications Commission ("FCC") which come closer to this Article's approach to innovative services. Finally, Section III describes a two-phase regulatory approach which would promote innovative services while protecting other regulatory concerns.

I. INNOVATIVE SERVICES AND REGULATORY OBSTACLES

This Section provides background for the analysis of regulatory approaches to innovative services. Part A describes the types of offerings addressed as "innovative services" in this Article, and Part B addresses the policy concerns that underlie the regulation of these services and often impede the implementation of them.

A. *Description of Innovative Services*

Telecommunications common carriers have clearly moved beyond providing only point-to-point voice communications services via wires.⁴ Recent offerings include mobile radio services based on cellular and microcell technologies;⁵ storing and forwarding voice, electronic, and facsimile messages ("mail") through

4. See, e.g., CITIZENS LEAGUE, WIRING MINNESOTA: NEW STATE GOALS FOR TELECOMMUNICATIONS 3-6 (1989) [hereinafter MINNESOTA REPORT]; RCG/HAGLER, BAILLY, INC., TELECOMMUNICATIONS TECHNOLOGY DEPLOYMENT ANALYSIS AND MASTER PLAN DEVELOPMENT, REPORT FOR THE TENNESSEE PUBLIC SERVICE COMMISSION I-1, I-10 (1990) [hereinafter TENNESSEE REPORT]; Valovic, *Electronic Information Services: The Impact on Corporate Users*, TELECOMMUNICATIONS 51 (Oct. 1990).

5. Cellular Communications Systems, 86 F.C.C.2d 469 (1981), *modified*, 89 F.C.C.2d 58, *further modified*, 90 F.C.C.2d 571 (1982); Amendment of the Commission's Rules to Establish New Personal Communications Services, 5 F.C.C. Rcd. 3995 (1990) ("PCS").

software features in the carriers' computerized switches;⁶ two-way interactive video hook-ups; call forwarding, call waiting, and three-way calling;⁷ electronic access to directory and yellow pages listings;⁸ gateways for interactive computer services ("videotext");⁹ and data communications with protocol ("format") conversions performed by a carrier's switch.¹⁰ Many other advanced telecommunications offerings are expected in the near future.¹¹

Nationwide, telecommunications common carriers frequently request authority from federal and state regulators to introduce innovative services pursuant to a statute or rule.¹² These innovative services provide new capabilities to users. They differ from other new offerings which merely reprice the capabilities offered through existing services, such as volume discounts or different billing standards (e.g., flat-rate versus measured usage billing, six-second versus

6. See Expedited Application of Pacific Bell (U 1001 C), a corporation, for Approval of Store and Forward Service for Facsimiles, Decision 90-07-052 (Cal. P.U.C., July 18, 1990) ("*Pacific Bell Fax S/F*"); Alternative Regulatory Frameworks for Local Exchange Carriers, 107 Pub. Util. Rep. 4th (PUR) 1, 81 (Cal. P.U.C., 1989) ("*Alternative Regulatory Frameworks*"), modified, Decision 90-04-031 (Cal. P.U.C., Apr. 11, 1990).

7. See GTE South, Docket No. P-19, Sub. 232 (N.C.U.C., June 8, 1990) (voice messaging services, including call forwarding-busy and forwarded call information).

8. See Southwestern Bell Telephone Company, Petition for Waiver of Section 69.4(b) of the Commission's Rules, DA 90-838 (F.C.C., June 15, 1990) (new switched access rate element for an electronic directory assistance service); US West Communications, Petition for Waiver of Part 69 of the Commission's Rules to Provide Electronic White Pages Service, DA 90-1203 (F.C.C., Sept. 14, 1990)(same).

9. See United States v. Western Elec. Co., 1988-1 Trade Cas. (CCH) ¶ 67,918, at 57,622 (D.D.C. 1988) (modifying antitrust consent decree to allow the Bell Companies to provide gateways to improve access to information services and to decrease information storage and transmission costs).

10. In 1980, the FCC defined basic service as a "pure transmission capability over a communications path that is virtually transparent in terms of its interaction with customer supplied information"; an enhanced service "combines basic service with computer processing applications that act on the format, content, code, protocol or similar aspects of the subscriber's transmitted information, or provide the subscriber additional, different, or restructured information, or involve subscriber interaction with stored information." Amendment of Section 64.702 of the Commission's Rules and Regulations (Second Computer Inquiry), 77 F.C.C.2d 384, 387, 420, recon., 84 F.C.C.2d 50 (1980), further recon., 88 F.C.C.2d 512 (1981), aff'd sub nom. Computer and Communications Indus. Ass'n v. FCC, 693 F.2d 198 (D.C. Cir. 1982), cert. denied, 461 U.S. 938 (1983); Furnishing of Enhanced Services and Customer-Premises Equipment by Communications Common Carriers, 47 C.F.R. § 64.702 (1989). As used in this Article, innovative services include basic as well as enhanced services offering users new capabilities.

11. See generally National Telecommunications and Information Admin., U.S. Dep't of Commerce, *Comprehensive Study of Domestic Telecommunications Infrastructure*, 55 Fed. Reg. 800 (Jan. 9, 1990) [hereinafter NTIA]; PACIFIC BELL'S RESPONSE TO THE INTELLIGENT NETWORK TASK FORCE REPORT (1987); Lavey, *Universal Telecommunications Infrastructure for Information Services*, 42 FED. COMM. L.J. 151, 152 (1990).

12. See, e.g., ILL. ANN. STAT. ch. 111 2/3 para. 13-501 (Smith-Hurd 1988) ("No telecommunications carrier shall offer or provide telecommunications service unless and until a tariff is filed with the Commission which describes the nature of the service, applicable rates and other charges, terms and conditions of service. . . ."); *Pacific Bell Fax S/F*, Decision 90-07-052 at 20 (Cal. P.U.C., July 18, 1990) ("As a condition on any grant of authority to offer FAX S/F service, Pacific should be required to file a FAX S/F tariff by advice letter pursuant to General Order 96-A, which will not take effect without Commission approval.").

one-minute billing increments).¹³ Although repriced offerings often provide benefits to consumers, they involve different issues than services with new capabilities. The recommendations in this Article are limited in application to offerings providing new capabilities to users.

Typically, innovative services are introduced amidst great uncertainty about the demand and costs for the service, and the features necessary to make the services attractive. These uncertainties make it difficult to develop rates through a formula based on expected costs and demand.¹⁴ Furthermore, pricing flexibility—upward as well as downward—for innovative services is necessary for carriers to respond to emerging market conditions. Unforeseen costs, competitive substitutes, customer acceptance difficulties or ease, etc., could warrant price adjustments. Regulatory constraints on price changes in the early phases of innovative services deter carriers from investing in the facilities and marketing the services.

Policy-makers point to innovative telecommunications and telecommunications-based information services as key to regional economic growth as well as to United States competitiveness in the world economy.¹⁵ Furthermore, these new services are viewed as critical to the delivery of education, health care, public safety, and other quality of life enhancements.¹⁶

Some regulators, including FCC Chairman Alfred C. Sikes, and other experts, have expressed concern about the slow introduction of innovative services in the

13. See *Private Line Rate Structure and Volume Discount Practices*, 97 F.C.C.2d 923, 948 (1984); *Guidelines for Dominant Carriers' MTS Rates and Rate Structure Plans*, 50 Fed. Reg. 42,945 (Oct. 23, 1985), 59 Rad. Reg. 2d (P&F) 70 (1985) (optional toll calling plans) ("*Optional Calling Plans*"); *Investigation of Experimental Extended Measured Service*, 111 Pub. Util. Rep. 4th (PUR) 252 (Mo. P.S.C., 1990); *Investigation of Providing Extended Area Service (EAS) for the Exchanges of Spirit Lake and Bayview/Athol and Examining the Current Rate Structure of Toll-PAC Service of GTE Northwest, Inc.*, Case No. GTE-T-89-7, Order No. 23095 (Idaho P.U.C., 1990) (optional discounted toll plans); *Notice and Application of South Central Bell Telephone Company for Adoption and Implementation of a Rate Stabilization Plan for its Mississippi Operations*, Order, 89-UN-5453 NF89-149 (Miss. P.S.C., 1980) (optional area calling plan); *Alternative Regulatory Frameworks*, 107 Pub. Util. Rep. 4th (PUR) at 70-72 (approving expansion of local calling areas from eight to twelve miles).

The distinction in this Article between "innovative" and other new services differs from the FCC's distinction between "new" and "restructured" services in a recent proceeding. According to the FCC:

an offering increasing customer options should be classified as new, while an offering that represents a change in an existing method of charging or provisioning, without increasing the range of alternatives, should be classified as restructured. . . .

. . . .
A new service may, but need not, include a new technology or new functional capability.
. . . Many new services are, in essence, repriced versions of already existing services.

Policy and Rules Concerning Rates for Dominant Carriers, 4 F.C.C. Rcd. 2873, 3116, 3123 n.1103 (1989) ("*FCC Price Caps*"). See *infra* Section II.D.

14. For discussion of reasonable rates, see Section I.B, *infra*.

15. See NTIA, *supra* note 11, at 804-05; MICHIGAN GOVERNOR'S TELECOMMUNICATION TASK FORCE, CONNECTIONS: A STRATEGY FOR MICHIGAN'S FUTURE THROUGH TELECOMMUNICATIONS at 13 (May 1990); NATIONAL TELECOMMUNICATION AND INFORMATION ADMIN., U.S. DEP'T OF COMMERCE, NTIA TELECOM 2000: CHARTING THE COURSE FOR A NEW CENTURY 57-61 (1988) [hereinafter NTIA TELECOM 2000]; Lavey, *supra* note 11, at 158-69.

16. See NTIA, *supra* note 11, at 805-06; NTIA TELECOM 2000, *supra* note 15, at 99-113.

United States and the consequent harm to the United States economy, society, and residents.¹⁷ Major regulatory changes, including replacing traditional rate-base/rate-of-return regulation with earnings incentives (such as price caps), are aimed at spurring carriers to introduce innovative services and to invest in advanced network capabilities.¹⁸

There are many companies which provide types of telecommunications-based information services, such as databases on publicly traded corporate securities and shop-at-home services.¹⁹ Most of these firms are not regulated by state public utility commissions or the FCC, and are not affiliated with regulated telecommunications common carriers. Nevertheless, regulated common carriers play a unique and important role in developing innovative telecommunications services and making them universally available. The regulated common carriers include: (1) local exchange telephone companies ("LECs") which operate largely as franchised monopolies; (2) cellular radio carriers which hold one of two FCC licenses to serve specified areas using certain radio spectrum; and (3) inter-exchange carriers ("IXCs"), the largest being American Telephone and Telegraph Company ("AT&T"), which is regulated as a dominant carrier by the FCC and many states.²⁰ Section I.B, which follows, explains some of the regulatory policies affecting these carriers' ability to provide innovative services.

One final note in this description of innovative services is that a few of the newer services are more controversial than the vast bulk of innovative services. The privacy concerns surrounding caller identification service (whereby the number of the calling line is displayed on the called party's terminal equipment) is one example of a highly controversial service.²¹ The regulatory approach

17. See Remarks of Alfred Sikes Before the 1990 Regulatory Summit (Apr. 25, 1990); Sikes, Statement on Proposed Legislation to Change the Manufacturing, Information Services, and Jurisdictional Provisions of the AT&T Consent Decree (Mar. 7, 1990); Remarks of Alfred Sikes before the Columbia Institute Conference on High Technology and the Future of American Economy (Sept. 11, 1989) (available at the California Western Law Review office); Remarks of FCC Commissioner Sherrie Marshall: Huck Finn and the Intelligent Network (June 25, 1990); *Should the U.S. Free the Baby Bells?*, BUS. WK., Mar. 12, 1990, at 118; NATIONAL ECONOMIC RESEARCH ASSOCIATES, TELECOMMUNICATIONS INFRASTRUCTURE, PRODUCTIVITY, AND ECONOMIC DEVELOPMENT (Apr. 9, 1990); DARBY ASSOCIATES, CAPITAL FORMATION IN U.S. TELECOMMUNICATIONS (May 24, 1990).

18. *FCC Price Caps*, 4 F.C.C. Rcd. at 2923; Policy and Rules Concerning Rates for Dominant Carriers, Second Report and Order, F.C.C. 90-314, at 16-17 (released Oct. 4, 1990) ("*LEC Price Caps*") ("We do not subscribe to the view . . . that our rate of return system necessarily discourages innovation. Our view is that rate of return does not provide sufficient incentives for broad innovations in the way firms do business. Incentive regulation, by creating incentives for carriers to become more productive, generates powerful motives to innovate, and is a better way of regulating.")

19. *E.g.*, Journal Phone (a service of Dow Jones & Co., Inc.), Prodigy (a service of International Business Machines Corp. and Sears, Roebuck & Co., Inc.), and Nexis (a service of Mead Data Corp.).

20. See Competition in the Interstate Interexchange Marketplace, 5 F.C.C. Rcd. 2627, 2628 (1990) ("*AT&T Rulemaking*"); AT&T Communications of Michigan, Inc., Case No. U-9327 (Mich. P.S.C., Sept. 26, 1989) (denying request for streamlined regulation for AT&T equivalent to nondominant facilities-based interexchange carriers).

21. See *Barasch v. Pennsylvania P.U.C.*, Pa. Commonw. Ct. Nos. 2270 C.D. 1989, 2268 C.D. 1989, 2324 C.D. 1989, 2371 C.D. 1989, Opinion (filed May 30, 1990) (holding that caller identification service is an unlawful trap-and-trace device under Pennsylvania statutes); Proceeding on Motion of the Commission to Review Issues Concerning Privacy in Telecommunications, Notice

described in Section III would give regulators the opportunity to impose appropriate delays in the introduction of the few innovative services raising such controversial and novel issues. Additionally, some innovative services will encounter delays, not because of their proposed capabilities, but because these services depend on new allocations of radio spectrum.²² The regulatory approach described in this Article does not deal with spectrum allocations.

B. Policy Concerns

Regulators consider many policies when reviewing an innovative service proposed by a regulated common carrier. This discussion, however, is limited to four principal policies that affect such reviews: universal service, reasonable rates, competition, and efficiency. Unfortunately, when well-intentioned regulators pursue these policies, they often impose on innovative services unnecessary cost, time, and disclosure burdens which are contrary to the public interest.

1. *Universal Service.* Federal and state regulators, pursuant to explicit statutory goals²³ or regulatory interpretation of the "public interest," attempt to promote the widespread availability of telephone service (typically measured in terms of percentage of households with local telephone service).²⁴ These efforts usually entail two broad programs as well as one narrow program.

One of the broad programs involves charging all residential subscribers low ("affordable") local service rates.²⁵ Under this program, residential subscribers pay far less than business subscribers for local service, and toll services pay for a substantial share of the transmission and switching network used jointly to provide local and toll services. The second broad program supports local and

Requesting Comments, Case 90-C-0075 (N.Y.P.S.C., Jan. 31, 1990); Calling Number Delivery, Request by Joseph Baer for Rulemaking in Order to Establish Uniform, Nationwide Rules for Calling Number Delivery, Notice of Petition for Rulemaking, RM-7397 (F.C.C., June 18, 1990).

22. National Telecommunications and Information Admin., U.S. Dep't of Commerce, *Comprehensive Policy Review of Use and Management of the Radio Frequency Spectrum*, 54 Fed. Reg. 50,694 (Dec. 8, 1989) [hereinafter NTIA Spectrum Review]. See also *supra* notes 3 & 5.

23. 47 U.S.C. §151 (1989) (declaring national policy "to make available, so far as possible, to all the people of the United States a rapid, efficient, Nation-wide, and world-wide wire and radio communication service with adequate facilities at reasonable charges"); Lavey, *supra* note 11, at 155 n.11.

24. See *Alternative Regulatory Frameworks*, 107 Pub. Util. Rep. 4th (PUR) at 46-47 ("our universal service goal has been to maintain affordable rates for basic service, high levels of customer penetration for connections to the local telephone network, and availability of high quality services"); STAFF OF THE FEDERAL-STATE JOINT BOARD, MONITORING REPORT, CC Docket No. 80-286, at 10-11 (July 1990) [hereinafter MONITORING REPORT]; NTIA, *supra* note 11, at 816-18; NTIA TELECOM 2000, *supra* note 15, at 78-82; Lavey, *supra* note 11, at 154-55.

25. See *Alternative Regulatory Frameworks*, 107 Pub. Util. Rep. 4th (PUR) at 47 ("Our regulatory policy has been to make low basic service rates possible historically by pricing other services such as toll rates and, more recently, access charges significantly above cost."); Lavey, *The Public Policies that Changed the Telephone Industry into Regulated Monopolies: Lessons from Around 1915*, 39 FED. COMM. L.J. 171, 175-76, 189-90 (1987) [hereinafter *Franchises*].

toll service rates in high cost, typically rural areas.²⁶ Since most toll rates are geographically averaged and many toll-access rates are pooled and supported across geographic areas,²⁷ toll services pay for a large share of network costs in high-cost areas. The narrow program makes lower initial connection rates and local service rates available to low-income people based on criteria approved by both federal and state regulators, and with funding from both interstate and intrastate services.²⁸

These programs operate through funds or pools which allocate costs and revenues among telecommunications services, customer groups, carriers, and areas. Carriers charge higher rates for certain telecommunications services (e.g., toll services or local services other than basic residential), and use these revenues to support the low rates for some other services. The amount of contribution to the universal service programs varies from service to service and usually is not clearly identified.

Various methods are used to arrive at rate designs for services with rates supported by universal service programs, and for services with rates contributing to such support. These methods include rules for allocating costs and revenues, explicit surcharges, and setting rates for local residential service to cover a residual revenue requirement.²⁹

Regulators often scrutinize rates for innovative services to determine whether they make an "adequate" contribution to the universal service programs.³⁰ Yet, what constitutes an adequate contribution is seldom based on well-established standards. Moreover, given the price elasticity of demand for innovative services

26. *Franchises*, *supra* note 25, at 174-75, 187-89; 47 C.F.R. §§ 36.601-41, 69.116 (1989) (high cost fund); 47 C.F.R. §§ 69.2(y), 69.612(a) (1989) (long-term support); MONITORING REPORT, *supra* note 24, at 96-99. These programs funded by revenues from telecommunications services are supplemented by the federal Rural Electrification Administration telephone loan programs. Lavey, *supra* note 11, at 173-74.

27. See *AT&T Rulemaking*, 5 F.C.C. Rcd. at 2649; *FCC Price Caps*, 4 F.C.C. Rcd. at 3132-34; Tariff Filings by Raleigh/Durham MSA, Fayetteville MSA, United Telespectrum, and Centel Cellular Company to Establish Rates for Wide Area Call Reception, Docket No. P-100, Sub. 109, Order Denying Motion for Reconsideration at 5 (E.N.C.U.C., Oct. 10, 1990) ("*WACR Recon. Order*") ("[T]here is a complex web of cross-support in telecommunications. The LECs assist each other in meeting the universal service goal through uniform tariffs and intraLATA pooling. The IXCs contribute through access charges.")

28. As of July 1990, forty-eight states, the District of Columbia, and Puerto Rico were participating in some type of federal lifeline assistance program for low-income people. MONITORING REPORT, *supra* note 24, at 54-59. See also 47 C.F.R. § 69.117 (1990); Amendment of Part 69 of the Commission's Rules Relating to the Assessment of Charges for the Universal Service Fund and Lifeline Assistance, 4 F.C.C. Rcd. 6134 (1989); MTS and WATS Market Structure, Amendment of Part 67 of the Commission's Rules and Establishment of a Joint Board, Recommended Decision and Order, 2 F.C.C. Rcd. 2324 (1987), Report and Order, 2 F.C.C. Rcd. 2953 (1987), Memorandum Opinion and Order on Reconsideration and Order Inviting Comments, 3 F.C.C. Rcd. 4543 (1988). See also Establishment of Telephone Lifeline Rates for all Regulated Local Exchange Carriers in the State of Utah, Case No. 85-999-13 (Utah P.S.C., Dec. 17, 1986, *reh'g denied* Feb. 4, 1987).

29. Residual ratemaking sets rates for one service based not on costs that are allocated to that service by some methodology, but rather on the carrier's total revenue requirement minus its revenues from other services. If rates for the other services are set to generate support for the residually-priced service, the latter's rate is often below the level indicated by some cost methodologies.

30. See *infra* Section II.A.

(which is probably much higher than that of basic local service), a larger contribution suppresses demand for the innovative services.³¹ This inquiry often leads to speculative estimates of calling volumes diverted to the innovative service from other services that make high or low contributions to these programs.³²

Also, universal service goals frequently lead regulators to require that carriers make their innovative services available to a wide range of subscribers at the same time, or soon after they are introduced. While in the long run, such requirements may be necessary to maximize network efficiency and social welfare,³³ in the short run, such requirements can impede experimentation with innovative services.³⁴

2. *Reasonable Rates.* In addition to the effects of new rates on universal service programs, carriers must show that new rates satisfy statutory standards—generally, rates must be "just, reasonable and nondiscriminatory."³⁵ Rates must not be so low as to require cross-subsidies³⁶ (except when warranted by goals such as universal service) or be anticompetitive ("predatory").³⁷ Nor should consumers receiving a service be required to pay unreasonably high rates. But, as discussed above,³⁸ some rates are set high enough to generate support for other rates. Additionally, regulators often examine the discriminatory effect of offerings with different rates for different subscribers, or even the same rate

31. See *infra* Section II.C.

32. See *infra* Section II.A.

33. See MINNESOTA REPORT, *supra* note 4, at 39 (recommending that the Minnesota legislature "[a]dopt a state telecommunications policy calling for the completion of an advanced technology, broadband telecommunications network throughout the state by the year 2005"); TENNESSEE REPORT, *supra* note 4, at I-12 (recommending full, rapid deployment in rural as well as urban counties of intelligent network, integrated services and broad-band capabilities).

34. See Lavey, *supra* note 11, at 161 & n.31 (FCC allowed the Bell Operating Companies to introduce Open Network Architecture offerings initially in selected areas, with a schedule for phased introduction of capabilities throughout a carrier's geographic service area. This approach is designed to avoid possibly inefficient investments in a new, unproven architecture where massive introduction is neither necessary or desirable.).

35. See, e.g., 47 U.S.C. §§ 201(b), 202(a); ILL. ANN. STAT., ch. 111 2/3, paras. 9-101, 9-241 (Smith-Hurd 1988); *Western Union Int'l, Inc. v. FCC*, 568 F.2d 1012, 1018 (2d Cir. 1977), *cert. denied*, 436 U.S. 944 (1978); *American Trucking Ass'n v. FCC*, 377 F.2d 121, 130 (D.C. Cir. 1966), *cert. denied*, 386 U.S. 943 (1967); *Long-Run Regulation of AT&T's Basic Domestic Interstate Services*, 95 F.C.C.2d 510, 517-21 (D.C. Cir. 1983).

36. Standards for cross-subsidy often are vague, can differ substantially, and generally depend on arbitrary cost allocations. See Faulhaber, *Cross-Subsidization: Pricing in Public Enterprises*, 65 AM. ECON. REV. 966 (1975); Larson, Monson & Nobles, *Competitive Necessity and Pricing in Telecommunications Regulation*, 42 FED. COMM. L.J. 1, 12-18 (1989).

37. See Areeda & Turner, *Predatory Pricing and Related Practices Under Section 2 of the Sherman Act*, 88 HARV. L. REV. 697 (1975); Larson, Monson & Nobles, *supra* note 36, at 18-20; Larson & Sievers, *On the Ineffectiveness of Price Floors in Telecommunications Regulation*, 25 WILLAMETTE L. REV. 89 (1989).

38. See *supra* Section I.B.1.

for different subscribers.³⁹

The most common approach used to determine whether new rates are reasonable involves forecasts of costs and demand. Cost-justifying rates requires determining the costs caused by an innovative service (incremental or marginal costs) and typically the share of the carrier's common costs that should be covered by the service according to prescribed accounting procedures (which include arbitrary allocations of common or overhead costs).⁴⁰ The forecasts of costs and demand as well as the cost allocations are usually fertile ground for manipulation, disputes, and delays.⁴¹ Opponents to a tariff filing for an innovative service (often competitors or users of other services) can allege that the filing carrier allocated costs caused by the innovative service to basic services, failed to cover a fair share of common costs, did not impute costs applicable to competitors, or derived a low rate by overstating likely demand.

Some cost allocation methods assign such high costs to innovative services that, in light of their price elasticity of demand caused by competition or the "discretionary" (non-essential) nature of the offering, any prospects for their success in the marketplace are reduced. Thus, carriers have little incentive to undertake the investment risk to introduce them. Similarly, some rate regulation effectively imposes a low ceiling but no floor on the carrier's potential earnings from innovative services. Under this type of regulation, high earnings from an innovative service lead regulators to decrease rates for basic services; thus, the innovative service's earnings do not raise the carrier's total earnings. In contrast, regulators may shield ratepayers from the impact of unsuccessful innovative services and require the carrier's shareholders to bear associated costs. Subsequent regulatory adjustments may disallow losses from an unsuccessful innovative service from costs covered by basic services as not "used and useful" investments and expenditures. Consequently, innovative services might instead lower the carrier's total earnings.

At a minimum, the carrier must prepare expensive and time-consuming studies for review by regulators. Often, regulatory filing requirements force carriers to reveal sensitive competitive information. Less regulated competitors may not

39. *Alabama Elec. Coop., Inc. v. FERC*, 684 F.2d 20, 27-28 (D.C. Cir. 1982); *AT&T Communications, Revisions to Tariff FCC No. 12*, 4 F.C.C. Rcd. 4932 (1989), *recon.* 4 F.C.C. Rcd. 7928 (1989).

40. See Kahn & Shew, *Current Issues in Telecommunications Regulation: Pricing*, 4 YALE J. REG. 191, 219-20 (1987); J. BONBRIGHT, A. DANIELSEN & D. KAMERSCHEN, *PRINCIPLES OF PUBLIC UTILITY RATES* 109-23 (2d ed. 1988) [hereinafter J. BONBRIGHT]; A. KAHN, 1 *THE ECONOMICS OF REGULATION* at 79 (2d ed. 1988); AT&T, *Manual and Procedures for Allocation of Costs*, 86 F.C.C.2d 667 (1981), *aff'd sub nom. MCI Telecommunications Corp. v. FCC*, 675 F.2d 408 (D.C. Cir. 1982).

41. See, e.g., *AT&T Communications, Inc., Revisions of Tariff F.C.C. Nos. 260, 266, 267, 268, 270, 273 and 274 to Establish Rates and Regulations for ACCUNET Packet Service*, 101 F.C.C.2d 144, 165, 56 Rad. Reg. 2d (P&F) 1503, 1506-07 (1984) (1985) ("The prospect that eventual demand increases will recoup the interim revenue foregone by discounted rates is too speculative to support preferential pricing. . ."); *AT&T Communications, Inc., Revisions to Tariff F.C.C. Nos. 4, 9 and 10 (ACCUNET Packet Service)*, Mimeo No 3264 at ¶ 69 (Mar. 25, 1986) (while AT&T's demand projections seemed overly optimistic, "any attempt to anticipate the accuracy of competing projections would be an exercise more speculative than useful."), 2 F.C.C. Rcd. 588, 590 (1987); 2 F.C.C. Rcd. 5231 (1987).

have to make such detailed, public filings.⁴² Accordingly, regulation may deprive certain carriers of a headstart and other market advantages they deserve because of their investment in research, development, and marketing. As a result, highly regulated carriers will be less likely to invest in new technologies.

Recently, regulatory commissions have adopted methods of rate regulation which depart from traditional cost analysis.⁴³ These regulatory reforms recognize the benefits of giving carriers some pricing flexibility, streamlining the burdens of rate regulation for regulators and carriers, and replacing cost-plus regulation with profit incentives for efficiency and innovation.

3. Competition. Federal and state regulators embrace competition, in at least some telecommunications offerings, as a tool to promote low rates and high quality under certain market conditions.⁴⁴ The level of competition in distinct telecommunications services varies and depends on both regulatory decisions and underlying economics.

Several examples illustrate regulatory reactions to competition. Competition is intense in most geographic areas for customer premises ("terminal") equipment, many information ("enhanced") services,⁴⁵ and paging services. Although AT&T faces strong competition in many long distance services, it has the largest market share, and some operational, marketing, and cost advantages derived from its historic monopoly position, as well as special service and rate obligations imposed by regulators.⁴⁶ In cellular radio services, the FCC has established a duopoly in each service area, with regulators generally treating each carrier as facing substantial competition.⁴⁷ As a final illustration, state legislation and regulation generally authorize only one local exchange service

42. See Policy and Rules Concerning Rates for Competitive Common Carrier Services and Facilities Authorizations Thereof, 85 F.C.C.2d 1, 5 (1980) ("[S]ignificant costs . . . are inflicted on society by the loss of dynamism which can result from regulation. . . . Effective competition is clearly curtailed when firms are required to give advance notice of innovative marketing plans and have those initiatives be subject to public comment and regulatory review.").

43. See *infra* Section II.D. for a discussion of the FCC's regulation of AT&T using price caps. See, e.g., REGULATORY RESEARCH ASSOCIATES, INC., STATE TELECOMMUNICATIONS-ALTERNATIVE RATEMAKING PLANS, REGULATORY FOCUS (Feb. 21, 1990); *FCC Price Caps*, 4 F.C.C. Rcd. at 2881 ("price caps represent a regulatory approach that is superior to rate of return because price caps are better suited to encouraging efficiency and innovation in the provision of services. . . ."); Application of Wisconsin Bell, Inc. for an Investigation of Its Proposed Rates and Tariffs, Docket 6720-TR-10 4 (Wis. P.S.C., Sept. 5, 1990) ("*Wisconsin Bell*"); Review of Financial Data as Filed by Wisconsin Bell Inc., 32-34, 6720-TI-102 (Wis. P.S.C., June 15, 1990); *Alternative Regulatory Frameworks*, 107 Pub. Util. Rep. 4th (PUR) at 116; Promulgating an Experimental Plan for the Optional Regulation of Telephone Companies, Case No. PUC880035 (Va. P.U.C., Dec. 15, 1988); Generic Proceeding to Consider Intrastate Incentive Regulation, Docket No. 90-266-C, Order No. 90-849, at 5-8 (S.C. P.S.C., Sept. 5, 1990). See also Lavey & Gavillet, *Regulation of Small Exchange Telephone Companies: Lighter Burdens in 17 States*, 6 TELEMATICS 1-6 (Jan. 1989).

44. See NTIA, *supra* note 11, at 814; *FCC Price Caps*, 4 F.C.C. Rcd. at 2887-88.

45. See *supra* Section IA & note 8.

46. See *AT&T Rulemaking*, 5 F.C.C. Rcd. 2627.

47. See Cellular Lottery Rulemaking, 98 F.C.C.2d 175 (1984), *recon.*, 101 F.C.C.2d 577, 58 Rad. Reg. 2d (P&F) 677 (1985); Cellular Radiotelephone Utilities, Decision 90-06-025 (Cal. P.U.C., June 6, 1990); CELLULAR TELECOMMUNICATIONS INDUSTRY ASSOCIATION, CTIA STATE BY STATE REGULATORY UPDATE (May 1990).

provider for residential subscribers in each service area.

This scenario of varying levels of competition has two implications for the regulation of innovative services. For those services that face or could face competition in the future, the question is whether the rates are anticompetitively low. Regulators are concerned about carriers cross-subsidizing competitive services by shifting costs to, or revenues from, their monopoly services.⁴⁸ Also, in offering competitive or potentially competitive services, is the carrier taking advantage of any monopoly facilities or services in ways or at rates that are not available to its competitors? Although it is subject to reconsideration following an appellate court reversal, the FCC's *Third Computer Inquiry* with its rules for Comparably Efficient Interconnection and Open Network Architecture illustrates this concern.⁴⁹

Again, these competitive concerns *can* often delay or deter the implementation of innovative services. Justifying their actions in terms of competitive concerns, regulators often raise the rates of a heavily-regulated carrier for an innovative service, delay its introduction, obtain information about the carrier's costs and related market studies, thus reducing the carrier's headstart advantages.

4. *Efficiency.* As a fourth major policy goal, regulators promote efficient use of telecommunications facilities and services.⁵⁰ Efficiency leads to lower rates, wider availability of telecommunications capabilities, better service quality, and greater use of the scarce radio spectrum.

Concerns about efficiency often lead regulators to review the planned use of transmission and switching facilities network configurations for innovative services.⁵¹ In particular, regulators are concerned about "uneconomic bypass" whereby a service utilizes one configuration of facilities and services instead of a second, even though the latter has lower underlying network costs.⁵² The

48. *FCC Price Caps*, 4 F.C.C. Rcd. at 2939-43; Lavey & Carlton, *Economic Goals and Remedies of the AT&T Modified Final Judgment*, 71 GEO. L.J. 1497, 1508-12 (1983).

49. In deciding to replace requirements of structural separation between basic and enhanced services with nonstructural safeguards, the FCC required the Bell Operating Companies to tariff unbundled basic service capabilities and to use these tariffed capabilities for their own enhanced services. Amendment of Sec. 64.702 of the Commission's Rules and Regulations (*Third Computer Inquiry*), 104 F.C.C.2d 958 (1986) ("*Phase I Order*"), 2 F.C.C. Rcd. 3035 (1987) ("*Phase I Recon. Order*"), 3 F.C.C. Rcd. 1135 (1988) ("*Phase I Further Recon. Order*"), 2 F.C.C. Rcd. 3072 (1987) ("*Phase II Order*"), 3 F.C.C. Rcd. 1150 ("*Phase II Recon. Order*"), 4 F.C.C. Rcd. 5927 (1989) ("*Phase I Second Further Recon. Order and Phase II Further Recon. Order*"), *rev'd in part sub nom.* *California v. FCC*, 905 F.2d 1217 (9th Cir. 1990); *Computer III Remand Proceedings*, F.C.C. 90-283 (released Aug. 6, 1990). See also *Policy and Rules Concerning Rates for Competitive Common Carrier Services and Facilities Authorizations Therefor*, 98 F.C.C.2d 1191, 1198-99 (1984) (*Fifth Report and Order*) (nonstructural safeguards for LECs to offer interexchange services).

50. 47 U.S.C. § 151 (1989) (declaring national policy to make available efficient communication service). See generally *NTIA Spectrum Review*, *supra* note 22; *PCS*, 5 F.C.C. Rcd. at 3995.

51. See *infra* Section II.A.

52. See, e.g., *MONITORING REPORT*, *supra* note 24, at 316-26; *Provision of Competitive Telecommunications Services*, 97 Pub. Util. Rep. 4th (PUR) 432, 444-47 (Me. P.U.C., 1988); *Telephone Services that Bypass Local Exchange or Toll Networks*, 70 Pub. Util. Rep. 4th (PUR) 1 (N.Y.P.S.C., 1985), *aff'd*, 73 Pub. Util. Rep. 4th (PUR) 1 (N.Y.P.S.C., 1986); *Investigation into Effects of Competition Upon Local and Toll Exchange Service*, 54 Pub. Util. Rep. 4th (PUR) 175,

choice may be distorted when regulatory decisions set the rate for using the latter far above its costs or restrict the capabilities offered through that configuration of facilities and services.

A regulatory decision barring provision of the innovative service via a configuration utilizing uneconomic bypass can promote efficient usage of existing networks and maintain support for universal service programs. However, such a decision can delay the introduction of, boost the cost of, and consequently suppress demand for, an innovative service which would benefit subscribers. Also, such routing may impair the quality of the innovative service by delaying connections and increasing the likelihood of blocked calls or noise. These regulatory actions require difficult, expensive, and time-consuming analyses of network facilities and the use of various configurations.

In many cases, the goal of efficiency works in unison with the goals of universal service, reasonable rates, and competition. However, Section II, which follows, will illustrate that some innovative services create a conflict among these regulatory concerns.

II. ILLUSTRATIVE REGULATORY OBSTACLES IMPEDING INTRODUCTION OF INNOVATIVE SERVICES

This Section examines four types of regulatory obstacles to innovative services: (A) restrictions on the availability of, and the allocations of costs to, wide area cellular service by the NCUC; (B) rate regulation and revenue allocations for voice mail and other information services by the FPSC; (C) pricing of touch-tone service by the CPUC; and (D) rate regulation in the context of price caps by the FCC. These obstacles illustrate the need for a streamlined short-term regulatory framework as well as possible regulatory adjustments in the long-term framework described in Section III.

A. Wide Area Cellular Service in North Carolina

The NCUC dealt with an innovative cellular service known as "wide area call reception" ("WACR") in May 1990.⁵³ A form of call forwarding or automatic call routing,⁵⁴ this service allows callers to reach cellular subscribers by calling their regular local cellular numbers even when the cellular subscribers are traveling outside of their local service areas. A cellular carrier's switches, in effect, find a called party for the caller by searching multiple service areas or by

182 (Cal. P.U.C., 1983).

53. Tariff Filings by Raleigh/Durham MSA, Fayetteville MSA, United TeleSpectrum, and Centel Cellular Company to Establish Rates for Wide Area Call Reception, Docket No. P-100, Sub. 109 (N.C.U.C., May 11, 1990) ("*WACR Order*"), *WACR Recon. Order*, Docket P-100, Sub. 109 (E.N.C.U.C., Oct. 10, 1990).

54. See *United States v. Western Electric Co., Inc.*, Civ. No. 82-0192 (D.C. Cir. Sept. 12, 1990) (LEXIS, Genfed library, dist. file) (allowing Bell Companies to provide cellular services with automatic call routing on a limited geographic basis).

reference to a database which stores information on where the subscriber is located. This new service provides convenience for calling and called parties, and also increases network efficiency by eliminating a caller's multiple calls to different service areas in trying to reach a cellular subscriber.

Operationally, a cellular carrier proposed to provide WACR by carrying the calls directly between the cellular switches, such as by a microwave link. Under this configuration, a cellular-to-cellular call would not use an LEC's services, and a landline-to-cellular call would use an LEC's services on only one end. Prior to this service, the NCUC required that calls between cellular service areas be routed via a traditional IXC ("landline"). This indirect routing was often inefficient (utilizing more transmission and switching facilities than WACR's direct routing between cellular switches) and reduced the quality of transmission (in terms of longer time to establish a connection, higher probability of blocking, and more noise). But, IXCs' toll services contributed heavily to universal service programs by paying LECs' access charges and using LECs' access services on both the originating and terminating ends of a long distance call. By requiring cellular carriers to use IXCs, which in turn paid LECs these high access charges, regulators guaranteed that landline-to-cellular, cellular-to-landline, and cellular-to-cellular calls also contributed to universal service programs through payment of access charges to LECs on both ends.

In the NCUC proceeding, cellular carriers argued that they should be able to offer WACR with direct routing and to limit the charges paid to LECs to the economic cost of the interconnected services actually provided by LECs to cellular carriers.⁵⁵ Also, cellular carriers asserted that imposing higher charges on their innovative service would suppress demand and impair the viability of the service.⁵⁶ In contrast to the small expected usage and revenue of WACR, the landline services that contribute to universal service programs were large.⁵⁷ Thus, cellular carriers argued that WACR would not divert a noticeable amount of usage or revenues, if any, from services that support these programs,⁵⁸ at least in its initial year.

After a year of regulatory delay following the carrier's tariff filing, the NCUC approved WACR, but limited it to a narrow geographic area and imposed surcharges on the service to support universal service programs. Predictably, the delay and disclosures of information during the course of this proceeding eliminated many of the headstart advantages for the cellular carrier who developed this innovative service.⁵⁹

Stating its policy of promoting new telecommunications capabilities, the NCUC concluded that "WACR represents a natural, perhaps inevitable,

55. *Hearing In the Matter of General/Telephone Wide Area Call Reception*, Docket No. P-100, Sub. 109, vol. 1, at 87 (N.C.U.C., Nov. 28, 1985).

56. *Id.* at 87.

57. *Id.* at 87-88.

58. *Id.* at 82.

59. As noted in Section I.B.3, *supra*, the FCC has granted cellular licenses to two competing firms in each geographic service area.

technological and structural evolution by which calling parties can obtain more expeditious access to called parties over a wider calling area.⁶⁰ However, the NCUC refused to treat WACR as what it was, an innovative service sure to remain small during its first year and of somewhat doubtful viability. Instead, the NCUC envisioned WACR as part of a vast "conceivable" (but by no means certain or imminent) future development that could undermine the viability of the universal service programs and landline carriers.

While WACR represents a technological advance, from another perspective it can be viewed simply as a more sophisticated method by which a cellular company can offer long distance service. . . .

. . . .

It is certainly conceivable that as the costs to cellular companies decline and the cost of cellular telephones continues to decrease, cellular companies will increasingly compete with [IXCs] for toll calls.⁶¹

Based on this vision of WACR as a large service diverting many calls from landline IXCs, the NCUC required that WACR make contributions to support universal service programs comparable to those of landline IXCs using the LEC's access services on both ends of a call. The NCUC initially even required contributions from cellular-to-cellular calls that do not interconnect with the landline network,⁶² but on reconsideration decided not to impose this charge pending future examination.⁶³

On the surface, these charges appear to foster fair competition between cellular carriers and IXCs, as well as stable universal service programs. Yet, the charges and the associated regulatory proceedings suppressed demand for and delayed a service that, without a doubt, did not threaten universal service or the viability of landline carriers over its first or second years in the market. Moreover, these charges could not significantly contribute to universal service programs during the WACR's initial years.

A better approach would have been to grant cellular carriers broad authority to offer telecommunications services, and to allow expeditious introduction of WACR with payments to landline carriers covering the economic costs of interconnections for WACR. Using this approach would have avoided concerns about cross-subsidies from landline services to WACR without imposing impediments to the availability and success of an innovative service. Also, this approach would not cause any noticeable harm to the universal service programs, the viability of landline carriers, or competition during this initial period. If WACR grew into the substantial force in the marketplace that the NCUC found

60. *WACR Order*, Docket No. P-100, Sub. 109 at 5 (N.C.U.C., May 11, 1990).

61. *Id.* at 5-6, 10.

62. *Id.* at 9.

63. *WACR Recon. Order*, Docket P-100, Sub. 109 at 5 (E.N.C.U.C., Oct. 10, 1990).

"conceivable," prospective adjustments to rates (imposition of access charges) could have been made through subsequent regulatory proceedings. This is the approach that the NCUC took, on reconsideration, to imposing access charges on cellular-to-cellular calls.⁶⁴ Cellular carriers would be on notice that the NCUC might impose such charges in the future, thereby reducing the probability that the carriers would construct uneconomic bypass facilities based on the assumption that services using such configurations would permanently avoid contribution to universal service programs.

B. Information Services in Florida

In September 1989, the FPSC ordered that LEC-provided information services⁶⁵ are subject to full tariff regulation.⁶⁶ The tariff regulation may involve expensive studies and lengthy disputes over whether rates cover a "full share" of a carrier's common costs, and whether rates are nondiscriminatory or anticompetitive. This FPSC decision was part of a proceeding designed to guide the orderly, efficient introduction and evolution of information services.⁶⁷ While the FPSC held that it had jurisdiction to regulate some other types of information services providers,⁶⁸ it imposed such tariff regulation only on LEC-provided information services.

The FPSC's decision to regulate LEC-provided information services was based on three findings.⁶⁹ First, since the market for information services is competitive, but still in its infancy, the FPSC assumed that a competitive market would

64. *Id.* ("[I]f in the future the growth of this type of case results in a genuine threat to the loss of revenues to the LECs and to universal service and evidence is presented to the Commission to that effect, the issue may be re-examined.")

65. The FPSC found that it could not define information services precisely, and would proceed on a case-by-case basis. An Investigation into the Statewide Offering of Access to the Local Network for the Purpose of Providing Information Services, Order No. 21815 at 12 (F.P.S.C., Sept. 5, 1989) ("*Florida Order*"). The FPSC cited:

a vast array of services that use the telecommunications system to transmit information or, that enhance, modify, or redirect transmissions in ways not directly related to telephonic transmission. These services take various forms including telephone answering services, data base retrieval, value-added networks and other services oriented towards the storage manipulation and transmittal of information—either voice or data.

Id. at 6. The FPSC's order was based on the assumption that the FCC lacked the authority to preempt state regulation of LEC-provided enhanced services which originate and terminate in the same state. The FCC had preempted state regulation of enhanced services, but this preemption was reversed by the Ninth Circuit Court of Appeals after the FPSC's order. *California v. FCC*, 905 F.2d 1217 (9th Cir. 1990).

66. *Florida Order*, Order No. 21815 at 49 (F.P.S.C., Sept. 5, 1989).

67. *Id.* at 8. See also *supra* Section I.B.2 and 3.

68. *Florida Order*, Order No. 21815 at 17-18 (F.P.S.C., Sept. 5, 1989).

69. *Id.* at 8.

make information services available rapidly and efficiently.⁷⁰ Competition depends on non-LEC providers which usually rely on LEC basic transmission services. The FPSC reasoned that, although non-LEC providers of information services do not deserve to be "protected" from competition by regulators, regulators should not allow LECs to disrupt the existence and growth of non-LEC providers.⁷¹

Second, the FPSC found that it should particularly encourage LECs to offer information services.⁷² While the FPSC was concerned about LEC involvement in information services,⁷³ the FPSC did not conclude that the market for information services would be more competitive, innovative, or efficient if LECs were excluded.

Third, the FPSC foresaw two dangers from LEC-provided information services. One danger is shifting costs from information services to monopoly services which causes rates for monopoly services to rise (cross-subsidies). A second, related danger is using the deep pocket of monopoly services to support anticompetitive (predatory) pricing of information services.⁷⁴ The FPSC found that the "nonstructural safeguards" adopted by the FCC in the *Third Computer Inquiry*⁷⁵ were inadequate, and that tariff regulation of LEC-provided information services was necessary.⁷⁶

The FPSC clearly overlooked less burdensome regulatory methods to protect against cross-subsidies and predatory pricing, and failed to consider the deterrent to innovation it was creating. Two other methods could prevent rate increases for monopoly services and predatory pricing without the resultant delays, expenses, and deterrents to innovation associated with full tariff filings for innovative services. The first method is the full rate case applicable to LECs' basic telephone services. This type of proceeding involves examination of an

70. *Id.* The benefits of competition compared to a natural monopoly approach for expanding the availability of telecommunications capabilities and telecommunications-based information services is subject to debate. See NTIA, *supra* note 11, at 818. See generally J. PANZAR, THE CONTINUING ROLE FOR FRANCHISE MONOPOLY IN RURAL TELEPHONY (NW. Univ. 1987); J. PANZAR, THE ECONOMICS OF TELECOMMUNICATIONS INFRASTRUCTURE ENHANCEMENT (NW. Univ. 1990).

71. *Florida Order*, Order No. 21815 at 21, 27 (F.P.S.C., Sept. 5, 1989). In fact, the goal of minimal disruption for non-LEC providers led the FPSC to reject a change from flat rates to usage based pricing for LEC services used by these providers. Southern Bell Telephone and Telegraph Company argued that the flat rates were subsidized. The FPSC decided against increasing the contribution toward LEC joint and common costs from services utilized by these providers. *Id.* at 33-34.

72. *Id.* at 8.

73. *Id.* at 48.

74. *Id.*

75. The FCC's rules involved nondiscriminatory, unbundled interconnections (Comparably Efficient Interconnection and Open Network Architecture), disclosure of information on network services, protection of customer proprietary network information, and accounting rules for allocating costs between basic and enhanced services. *Third Computer Inquiry*, 104 F.C.C.2d at 1010-11, 1026.

76. *Florida Order*, Order No. 21815 at 48 (F.P.S.C., Sept. 5, 1989). The FPSC's decision to impose tariff regulation may be related to gaps in the record. The order states that the LECs opposed tariff regulation solely because the information services market is competitive, and the LECs demonstrated no harm from tariff regulation of other competitive services or from future tariff regulation of LEC-provided information services. *Id.* at 49.

LEC's total revenue requirement (rate base and expenses) for regulated services as well as its allocations of costs to individual services.⁷⁷ Any *substantial* attempt by a carrier to raise basic service rates to cover costs associated with innovative services could be detected in a proceeding on basic service rates. Then, such attempted rate increases could be disallowed and the innovative services would have no impact on basic service rates. The FPSC has overstated the likely impact of any innovative service on basic service rates during its first year or two, while it is small. Similar audits would be effective in a regulatory review to determine whether basic service rates should be lowered or whether refunds should be made.

A second method would allow tariffs for innovative services to go into effect quickly but subject to a possible later complaint investigation.⁷⁸ If the regulatory commission determines in the complaint investigation that the tariff was unlawful, the carrier would have to withdraw the tariff, and refund any overcharges to customers or impute higher revenues from this service. An expeditious complaint process would deter unlawful pricing, and given the small size of most initial offerings of innovative services, would adequately protect consumers and competition⁷⁹ without delaying the introduction of new capabilities.

Finally, the FPSC should be criticized for failing to recognize LECs as sources of innovative information services, and not merely sources of information services that duplicate those available from other providers. If LECs solely seek to provide information services that were previously or simultaneously offered by many other firms, then deterrents and delays for LECs hurts consumers only if LECs are the most efficient providers. However, when LECs seek to provide capabilities not available from other firms in the marketplace, deterring or delaying innovative services by LECs through full tariff review will deprive customers of new capabilities. The public interest in having innovative services quickly available and in encouraging carriers to develop new capabilities warrants some risk-taking by regulators when allowing LECs to price innovative services.

C. Touch-Tone Service in California

The CPUC's handling of touch-tone service in 1984⁸⁰ and 1989⁸¹ illustrates

77. See Petitions of Southern Bell Telephone and Telegraph Company for Rate Stabilization Orders and Other Relief, Case No. 88-0069TL (F.P.S.C., Oct. 13, 1988).

78. Some states allow this approach for competitive services offered by any carrier, and the FCC allows this approach for services offered by nondominant carriers. See, e.g., ILL. ANN. STAT., ch. 111 2/3, paras. 13-502, 13-506 (Smith-Hurd 1988); Policy and Rules Concerning Rates for Competitive Common Carrier Services and Facilities Authorizations Therefor, 95 F.C.C.2d 554, 577-82 (1983) ("*Competitive Carrier Rulemaking Fourth Report and Order*").

79. See *infra* Section III. An up-front check on predatory pricing involves a showing with the tariff filing that price exceeds long-run marginal cost.

80. Application of General Telephone Co. of California, a Corporation, for Authority to Increase Certain Intrastate Rates and Charges for Telephone Services; and Related Matters, Decision No. 8407108 (Cal. P.U.C., July 18, 1984) ("*1984 Order*").

the problems that can arise from regulatory decisions to treat innovative services as major sources of contributions for universal service programs.

Three facts about touch-tone service are necessary as background for this discussion. First, touch-tone service is required to access many information services and is increasingly viewed as a feature of telephone service that should be universally available.⁸² Second, a subscriber's use of touch-tone service as compared to non-tone (including rotary dialing) actually saves an LEC costs because touch-tone service reduces switch holding times while a caller is dialing.⁸³ Third, because touch-tone service has become a popular feature and is priced as a "premium nonessential service,"⁸⁴ it contributes a substantial and growing amount of revenues to California LECs. For General Telephone Company of California ("General"), this service generated revenues of about \$7.3 million in 1984 and \$21 million in 1989.⁸⁵

In 1984, General proposed to eliminate the charge for touch-tone service. The CPUC instead increased the rate from 50 to 85 percent for various subscriber classes. The CPUC refused to characterize touch-tone as an element of basic service: "Rather, it is the optional threshold service needed for a host of other optional enhancements and capabilities."⁸⁶ The CPUC agreed with two of the

81. *Alternative Regulatory Frameworks*, 107 Pub. Util. Rep. 4th (PUR) at 70-72. See also *Wisconsin Bell*, Docket 6720-TR-10 at 37-40 (Wis. P.S.C., Sept. 5, 1990) (directing Wisconsin Bell to "make the transition to ubiquitous residential Touch-Tone capability as quickly as possible and to recognize the right of individual customers to request and receive Touch-Tone service in the interim without a service charge or monthly rate." However, this Commission retained Touch-Tone charges for business lines and trunks in order to avoid raising rates for other services that would be necessary to cover the lost revenues.).

82. The California Intelligent Network Task Force recommended that touch-tone service be part of a "package of specific network applications services deemed by law or regulation to be essential in everyday life . . .," and defined as an element of universal service. PACIFIC BELL'S RESPONSE TO THE INTELLIGENT NETWORK TASK FORCE REPORT at 23 (1987). The CPUC observed in 1989:

Pacific [Bell] also submits that provision of free residential Touch Tone service would enable all Californians to participate in the Information Age and thus aid in avoiding the creation of an information rich/ information poor society. Moreover, Pacific states that businesses would be encouraged to develop new services that require the use of Touch Tone, thus meeting our goals of encouraging technological advance and full utilization of the network.

....
 Many customers also agreed with Pacific's view that residential use of Touch Tone has increased to the point where it should be considered a basic service.

....
 As the Intelligent Network Task Force reminds us, ordinary residents have an increasing need for information services to be delivered by the local network.

Alternative Regulatory Frameworks, 107 Pub. Util. Rep. 4th (PUR) at 70-71.

83. 1984 Order, Decision No. 8407108 at 29 (Cal. P.U.C., July 18, 1984).

84. *Id.* at 30 ("optional threshold service").

85. *Id.* at 29-30; *Alternative Regulatory Frameworks*, 107 Pub. Util. Rep. 4th (PUR) at 71. This increase in touch-tone revenues is attributable to higher charges (65 cents monthly for all subscribers before 1984 raised to \$1 for residential and \$1.20 for business by 1989), greater penetration of this service, and more access lines served.

86. 1984 Order, Decision No. 8407108 at 30 (Cal. P.U.C., July 18, 1984).

reasons for high touch-tone charges argued by Pacific Bell Telephone Company ("Pacific Bell").⁸⁷ (1) high touch-tone charges support the availability of low-priced exchange service for those who do not need or want enhancement; and (2) the charges are a contribution from those who want enhanced services to partially defray the capital cost of new technology central office equipment which facilitates them.⁸⁸ Accordingly, the CPUC raised charges for the relatively new capability, thus, increasing its contribution to universal service programs, but impeding network efficiency and access to information services.

Five years later, the CPUC faced a proposal by Pacific Bell to eliminate touch-tone charges. Unlike its 1984 decision, the CPUC, in the 1989 Order, accepted the argument that touch-tone is a necessary capability that should be provided at no extra charge over basic service rates.⁸⁹ However, in light of the large revenue impact of this decision, the CPUC deferred eliminating this charge until a supplemental rate design proceeding took place.⁹⁰ As of October 1990, the CPUC has yet to order this change.

The CPUC's experience with touch-tone service demonstrates three points about innovative services. First, some innovative services offer capabilities that subsequently become viewed as part of universal service goals. Because of the initial low level of marketplace acceptance and regulatory inertia, it may take several years after the service is initiated for regulators to accept the expanded definition of basic service. Second, while an innovative service is growing and has not yet been accepted as an element of basic service, there is an increasing temptation for regulators to raise rates to help support universal service programs. Third, the second point (high rates for a new capability) can interfere with the first point (eventually treating the capability as part of basic service with rates supported by universal service programs or based on marginal cost). It is easier to expand the definition of basic service to include a capability that has been priced at or near cost than a capability that has been making a large contribution above cost.⁹¹

Regulators cannot be expected to perfectly identify, at the time of initial offerings, which new capabilities eventually will become viewed as elements of basic service. However, the possibility that any new capability will so evolve provides regulators with a reason to refrain from pricing a new capability to generate a large contribution for universal service programs. In the early years of the innovative service, its contribution to universal service programs will be small, regardless of the pricing, because of its low penetration in the marketplace. If market penetration grows, its potential contribution also grows, but so

87. *Id.*

88. *Id.*

89. *Alternative Regulatory Frameworks*, 107 Pub. Util. Rep. 4th (PUR) at 71.

90. *Id.* at 72.

91. Regulators have to face the group of users who claim that they do not want the added capability and benefit from the low basic service rates supported in part by high charges for that capability. While many users would benefit from a reduced charge for the capability, this group would pay higher rates for basic service.

does the likelihood that the innovative service will become an element of basic service which should not be priced far above marginal cost.

D. Price Cap Plan at the FCC

A final illustration of regulatory obstacles to innovative services appears in the FCC's Orders which implemented price caps (or incentive regulation) for AT&T⁹² in 1989 and for certain LECs in 1990.⁹³ Price caps employ a broad-based formula reflecting economy-wide cost inflation adjusted for historic industry-wide productivity gains and other factors to adjust a carrier's rates annually so as to keep them just and reasonable over a multi-year plan. This approach to ratemaking departs from the traditional focus on the carrier's actual costs. The logic behind the change in ratemaking was to remedy the negative aspects of the traditional cost-plus approach. In particular, cost-plus regulation fails to provide the maximum incentives for carriers to pursue efficiency and innovation, and invites prolonged accounting disputes as regulators attempt to prevent cross-subsidies and unreasonable prices. In contrast, price caps provide earnings incentives for carriers to cut costs and to introduce innovative services. Also, price caps reduce both the incentives for, and the ability of carriers to engage in, shifts of costs and revenues across services.⁹⁴

The FCC's price caps apply an index for the weighted average rate of a carrier's total regulated services (or baskets of services) as well as a band of pricing flexibility to limit a specific service's price from one year to the next.⁹⁵ Of concern here is how the FCC deals with the initial pricing of services in the category it defines as "new." The FCC requires that prices for new services be incorporated into price caps not at their introduction, but rather at the first annual price cap tariff filing following completion of the base period in which they are introduced.⁹⁶

The FCC lumps together in the category of new services those services which offer new capabilities⁹⁷ as well as repriced services which add options for customers.⁹⁸ This decision is flawed and detracts from an overall commendable regulatory reform. Besides being a lax approach to limitations on pricing flexibility for innovative services that successfully grow, this approach will cause excessive delays and initial cost support burdens.

To explain these shortcomings, new services are regulated in three phases under the FCC's Order. First, initial prices are established by a net revenue contribution test. This test reflects the costs caused by, and revenues from, a

92. *FCC Price Caps*, 4 F.C.C. Rcd. at 3115-29.

93. *LEC Price Caps*, F.C.C. 90-314 (Oct. 4, 1990).

94. *FCC Price Caps*, 4 F.C.C. Rcd. at 2907-13, 2922-33.

95. 47 C.F.R. §§ 61.42-49 (1989).

96. *FCC Price Caps*, 4 F.C.C. Rcd. at 3116, 3127-28; 47 C.F.R. §§ 61.42(d), 61.46(b) (1989).

97. Innovative services is the term used in this Article.

98. *FCC Price Caps*, 4 F.C.C. Rcd. at 3116, 3123.

new service as well as the service's impact on the costs and revenues of other services.⁹⁹ The initial rate for a new service would be allowed to go into effect if it is projected to increase a carrier's net revenues over about thirty-six months after the offering goes into effect on a present value basis.¹⁰⁰ Generally, the net contribution test allows lower rates for new services than the "fully distributed costs" standard,¹⁰¹ which had been used for all interstate rates prior to 1985¹⁰² and is commonly applied by federal and state regulators to determine whether new rates for established offerings are cost justified. The net revenue contribution test also allows, but does not require, rates above the fully distributed cost standard. Traditional regulation generally would find such rates unreasonably high and unlawful.¹⁰³

A carrier must support its net revenue projections with detailed information about demand, cost, revenues, elasticity, and cross-elasticities. A full explanation is required as to all assumptions, estimates, and cost allocation methods employed. The FCC refuses to apply streamlined tariff review to new services. Instead it requires a forty-five-day notice period "to determine whether a new service raises issues of anticompetitive or discriminatory behavior or unjust and unreasonable rates."¹⁰⁴

The second phase of regulation continues until the service is incorporated into price caps.¹⁰⁵ A carrier can refile rates, adjusted upward or downward without limit as long as they satisfy the net revenue contribution test. Also, the carrier must file quarterly reports comparing actual operating results with projections. Finally, the FCC may require a change in the rate for a new service following an investigation or complaint.¹⁰⁶

The FCC's third phase of regulation incorporates the new service into price caps. The FCC's rules provide for pricing flexibility for a specific rate in a band of roughly five percent upward or downward per year around the average price change.¹⁰⁷ Greater adjustments are possible if the carrier shows "substantial cause" for a higher rate or that a lower rate covers the service's average variable cost.¹⁰⁸

The FCC's rules are commendable in four ways. First, initial prices are set with flexibility as long as they satisfy the net revenue contribution test. Prices

99. This is called cross-elastic effects.

100. "The increase must be projected to occur within the lesser of the following time periods: 24 months from the incorporation of the service into an annual price cap filing, or 36 months from the effective date of the service." *FCC Price Caps*, 4 F.C.C. Rcd. at 3127; 47 C.F.R. § 61.49(g) (1989).

101. J. BONBRIGHT, *supra* note 40, at 480-89.

102. The FCC adopted the net revenue contribution test for certain types of offerings in 1985 in *Optional Calling Plans*. See Larson, Monson & Nobles, *supra* note 36, at 20-31.

103. J. BONBRIGHT, *supra* note 40, at 109.

104. *FCC Price Caps*, 4 F.C.C. Rcd. at 3127.

105. *Id.* at 3116.

106. *Id.* at 3127.

107. 47 C.F.R. § 61.47(e)-(g) (1989); *FCC Price Caps*, 4 F.C.C. Rcd. at 3065-67.

108. 47 C.F.R. § 61.49(c)-(d) (1989).

are not constrained to cover fully distributed costs or required to make a large contribution to basic services, and an innovative service is not limited in its potential to add to the carrier's total profits. Second, the rules provide a period for rate adjustments by the carrier or the FCC in light of emerging demand and cost conditions. Again, the net revenue contribution test provides a low floor for the rate and gives the carrier pricing flexibility. Third, the carrier must file quarterly reports to assist the FCC in monitoring a new service and in determining whether the carrier has a strong record of predicting the demand and costs for its new services. Finally, the price cap plan gives a carrier ongoing profit rewards from innovative services that successfully grow. Consequently, carriers will have more incentive to develop and market risky innovative services.

However, the FCC rules for innovative services could have been improved significantly if the FCC had distinguished innovative services (offering new capabilities and small for the carrier at least in their initial years) from repriced services. This distinction between services is not difficult to draw and is worth the effort in terms of promoting innovation.

One improvement would flow from the fact that innovative services would have little, if any, impact during the initial years on the demand and costs for the carrier's other services.¹⁰⁹ Little is gained from considering future cross-elastic effects for an innovative service with new capabilities. Also, multi-year projections of demand and costs for an innovative service are likely to be highly speculative, more so than the projections for a repriced service with established capabilities. Accordingly, the FCC's multi-year net revenue contribution test could be simplified for innovative services to a long-run marginal cost test.¹¹⁰

Next, concerns about cross-subsidies, discrimination, or anticompetitive pricing are far less serious for innovative than for repriced services. Some repriced services will become large during their initial years. Furthermore, the loss to consumers from delaying a service with new capabilities is likely to be greater than that associated with a repriced service. Additionally, a headstart over competitors is probably more important with an innovative service than with a repriced service. For these reasons, the forty-five-day notice period for innovative services should be shortened, perhaps to between one and fourteen days. The complaint process would be available to address in further depth the lawfulness of tariffs for innovative services.

A final point concerns the test for pricing innovative services after their introduction. The FCC's order applies the net revenue contribution test as a floor and does not apply a rate ceiling until the services are incorporated into

109. For a discussion of WACR, see Section II.A, *supra*.

110. See Kahn & Shew, *supra* note 40, at 225-26. Although certain different cost standards—long-run or short-run, marginal, incremental or average variable can produce somewhat different results, this Article does not attempt to distinguish among them; considerations of measurement problems and regulatory review as well as economic theory are relevant. See also J. BONBRIGHT, *supra* note 40, at 410-77. Hereinafter, references to a long-run marginal cost test include similar tests. Start-up expenses such as research, development, and introductory marketing costs could be amortized in the calculation of such a cost standard.

price caps. Afterwards, the FCC will not order a rate increase as long as the rate covers the service's average variable cost, and will not order a rate decrease as long as the rate is within the permissible band. This approach is reasonable for innovative services subject to competition, where a carrier's pricing flexibility is checked by market forces. But, other innovative services evolve from small, discretionary and noncompetitive offerings to large, noncompetitive services, as illustrated by touch-tone services. With the FCC's weak regulatory checks on rates, carriers have substantial pricing flexibility for such services—permanently.

Regulators should not, even several years after introduction of a successful innovative service, eliminate a carrier's profit incentive for innovation¹¹¹ or destroy a carrier's ability to adjust rates for changing market conditions. Nevertheless, regulators should review innovative services which successfully grow to a substantial size and should consider whether their rates are unreasonably high as well as whether the services make a sufficient contribution to the carrier's basic service rates.¹¹² At some point, regulators should examine how charges for a new capability relate to universal service programs—should these charges help support basic service rates, or should they be lowered to support greater market penetration of a capability which should be universally available?

III. REGULATORY APPROACH TO PROMOTE INNOVATIVE SERVICES

This Section explains a two-phase regulatory approach to promote innovative services: a short-term framework and a long-term framework. As illustrated by the recent regulatory decisions discussed in Section II, regulatory obstacles to innovative services appear in several forms. Impediments arise in: (1) barring an innovative service or an efficient network configuration for an innovative service because of concerns regarding impacts on universal service programs and established carriers;¹¹³ (2) requiring that the initial prices for innovative services substantially exceed their marginal costs to help support universal service programs and meet the carrier's overall revenue requirement;¹¹⁴ (3) delaying the introduction of innovative services for full tariff review of cost and demand projections, terms, and how the service is provided;¹¹⁵ (4) requiring the disclosure of competitively sensitive information, and the filing and review of inherently speculative multi-year projections of demand and costs;¹¹⁶ (5) imposing unequal regulatory burdens on competitors' innovative services;¹¹⁷

111. As explained in Section III.B, *infra*, price caps can help achieve long-term incentives for innovation better than traditional cost-based regulation.

112. In a price cap framework, the adjustment for contributions to basic services from innovative services which successfully grow can be made through the level of a "consumer productivity dividend," i.e., annual downward adjustments to rates reflecting a presumed or targeted contribution. *FCC Price Caps*, 4 F.C.C. Rec. at 3001-02.

113. Cellular WACR in North Carolina.

114. Cellular WACR in North Carolina and touch-tone service in California.

115. LEC-provided information services in Florida and new services at the FCC.

116. LEC-provided information services in Florida and new services at the FCC.

117. LEC-provided information services in Florida.

and (6) failing to re-evaluate prices of innovative services as they grow to determine whether they are too high (monopolistic or inconsistent with an expanding definition of universal service) or too low (not making sufficient contribution to universal service programs or the carrier's overall revenue requirement).¹¹⁸

Many of these regulatory obstacles flow from the regulators' failure to distinguish innovative from repriced services, as well as initial regulatory treatment of each innovative service as though it is already a major market force accounting for a large portion of the carrier's operations. The following regulatory framework attempts to avoid these problems by limiting its application to innovative services which are expected to start out as a small part of a carrier's operations, and by requiring periodic re-evaluations and adjustments to regulations.

A. Short-Term Framework

When an innovative service is introduced and while it remains small, regulation should possess five characteristics: (1) expeditious effectiveness of tariffs after filing; (2) filing requirements limited to a showing that rates cover long-run marginal costs; (3) an incentive plan which allows the carrier to retain profits derived from the innovative service; (4) complaint process for claims of discrimination or predation; and (5) a reporting system to monitor demand, costs and revenues.

1. *Expeditious Effectiveness.* New capabilities which the carrier makes available to users through an initially small offering should not be delayed by long notice periods (e.g., forty-five days or several months) or requirements of hearings. Rather, initial tariff filings for innovative services usually should be allowed to go into effect in fourteen days or less. Regulators could extend this period if: (1) they found that the innovative service poses unusually controversial issues (e.g., caller identification service);¹¹⁹ (2) the carrier shows that the rate covering the service's costs is seriously deficient; or (3) the terms of the offering are unlawful (e.g., restrictions on resale or bundling).

Four mechanisms would facilitate expeditious effectiveness of initial tariffs for innovative services. First, carriers could apply previously approved general methods for allocating costs to innovative services.¹²⁰ Next, the carrier could file monitoring reports. Third, a complaint process would be available for users, competitors, or regulators to initiate proceedings for the purpose of scrutinizing an offering in greater detail after it went into effect. Finally, the second phase (long-run framework) would kick in if the service grew into a significant market

118. New services at the FCC and, for several years, touch-tone service in California.

119. See *supra* discussion in Section I.A.

120. See Separation of Costs of Regulated Telephone Service from Costs of Nonregulated Activities, 2 F.C.C. Rcd. 1298, *recon.*, 2 F.C.C. Rcd. 6283 (1987), *further recon.*, 3 F.C.C. Rcd. 6701 (1988), *aff'd sub nom.* Southwestern Bell Corp. v. FCC, 896 F.2d 1378 (D.C. Cir. 1990).

force,¹²¹ to provide procedures for re-examining rates and terms of an initial offering.

2. *Cost Standards.* The cost standard for an innovative service's initial tariff should be limited to protecting against predatory pricing and cross-subsidies.¹²² A long-run marginal cost test would service this purpose.¹²³ Requiring a carrier to price above this standard would suppress demand for an innovative service, and perhaps deter a carrier from developing and introducing it. Also, when a carrier faces unregulated or less heavily regulated competitors for the service, requiring that the carrier charge a higher price could impair its ability to compete. As a result, the carrier would be subject to less competition (higher prices and less pressure to develop innovative features) and suffer lost revenues.

During the initial phase, regulators should not establish the maximum lawful rate, such as one based on fully distributed cost. If the offering involves new capabilities with unproven market acceptance, there would probably be substantial price elasticity of demand. Consequently, the carrier has a strong incentive not to set the initial rate unreasonably high. Any profits the carrier earns from the service in this introductory phase are important incentives for developing and introducing new capabilities. Subsequent adjustments to the rate could be made if the service successfully grows and the capabilities become viewed as a basic, noncompetitive service rather than as a discretionary or competitive service.

During its first year or so, an innovative service would not make significant contributions to universal service programs or to covering a carrier's common costs. Nor would the innovative service divert substantial usage from large, established services during this initial period. The introduction and early growth of an innovative service should not be stymied by regulatory attempts to obtain the same (and often poorly measurable) contribution to universal service programs from new services as from the larger, established services. Nor should innovative services be handicapped by regulatory rate-setting based on either fully distributed costs with arbitrary allocations of common costs or by speculative analysis of whether the demand and cost projections properly account for cross-elastic effects on other services for several years into the future.

As for a cost-based floor on an innovative service's initial price, even a

121. For a discussion of when this level occurs, see Section III.B, *infra*.

122. This component of the regulatory framework is unnecessary when a carrier faces competition for all of its offerings. In that case, a carrier should not be burdened with cost justification for tariffs and any concerns about predatory pricing should be addressed through the regulatory complaint process and/or the antitrust laws. See Policy and Rules Concerning Rates for Competitive Common Carrier Service and Facilities Authorizations Therefor, 85 F.C.C.2d 1, 5 (1980); *Atlantic Richfield Co. v. U.S.A. Petroleum Co.*, 110 S. Ct. 1884, 1891 (1990) ("When a firm . . . lowers prices but maintains them above predatory levels, the business lost by rivals cannot be viewed as an 'anticompetitive' consequence of the claimed violation."); *Matsushita Elec. Indus. Co. v. Zenith Radio Corp.*, 475 U.S. 574, 588-91 (1986) (predatory pricing is rarely attempted); *Town of Concord v. Boston Edison Co.*, 915 F.2d 17 (1st Cir. 1990) (regulation reduces the risk of a price squeeze creating anticompetitive harms).

123. See *supra* Sections I.B.2 and II.D.

long-run marginal cost test depends on projections of costs and demand that are likely to be speculative for an innovative service. The potential harm to competitors and consumers from the initial rate possibly falling below long-run marginal cost are small, especially if these are the less cumbersome tools of the proposed complaint process, monitoring reports, and second phase reexamination. Accordingly, regulators should impose on carriers a light burden of proof in supporting their projections.

3. *Profit Incentives.* As an incentive for innovation, carriers should be allowed to retain profits derived from innovative services during their introductory period. Losses from innovative services should be borne by carriers symmetrically, rather than being offset by higher rates for established services. This can be achieved through several approaches.

Under traditional rate regulation, innovative services during their initial period could be treated as unregulated ("below the line") offerings; thus, their revenues and allocated costs could not be considered in rate cases. As a variation on this approach, profits as well as losses from innovative services would be considered only when a carrier proposes to increase its rates for basic services. This variation allows regulators to assure ratepayers that a carrier is not increasing rates for basic services while reaping untapped profits from innovative services.

Under regulation providing for a sharing of earnings between ratepayers (refunds) and the carrier's shareholders (retained earnings), earnings from innovative services could be excluded from the sharing. The same treatment could be used under regulation providing for full refunds to ratepayers of earnings over a certain level or automatic rate adjustments. A less desirable alternative would apply a low percentage for refunds to ratepayers (e.g., ten percent) multiplied by high earnings from these services. Using this alternative, any such showing of initial profits from innovative services would lessen incentives for innovation and lead to accounting disputes over how these earnings should be computed.¹²⁴

Under pure price cap regulation, profits from all services—whether established, repriced, or innovative—are retained by the carrier. This form of regulation achieves the desirable objective of providing profit incentives for innovative services. However, any automatic downward adjustment to price caps should not reflect a presumed contribution from innovative services during the initial period. Such an adjustment would be unreasonable in light of the higher risks of loss from innovative services during this initial period.

4. *Complaint Process.* The complaint process would back-up the streamlined review of initial tariffs and give the "benefit of the doubt" to demand and cost

124. See *Wisconsin Bell*, Docket 6720-TR-10 at 92 (Wis. P.S.C., Sept. 5, 1990) ("Establishing a productivity target based on a dollar amount . . . avoids the administrative difficulty and expense associated with calculating and distributing shared earnings.").

projections.¹²⁵ Also, the complaint process would function together with the monitoring reports to document actual market experience as an innovative service grows. For example, questions of discrimination in the use of a carrier's other services, in the offering's availability to users, or in its rates could be addressed through the complaint process. Similarly, estimates of demand and costs could be examined more thoroughly during an administrative hearing if a complainant can make a *prima facie* showing that a rate falls below the carrier's long-run marginal cost. An administrative finding of unlawfulness would require amendments to the tariff, withdrawing the offering, payment of compensatory damages, or disallowance of certain costs from the revenue requirement for basic services.

To be effective, the complaint process must move quickly.¹²⁶ Even if the initial tariff for an innovative service is later found unlawful, users, competitors, or the carrier would suffer little harm from the short period during which the tariff was effective.

5. *Monitoring Reports.* Finally, the short-term regulatory framework should require carriers to file monitoring reports quarterly or semi-annually. Frequent reports on the demand costs and revenues for innovative services would facilitate regulatory review to determine whether the rates satisfy the cost standard, whether a complaint and investigation is warranted, or whether a service is growing so successfully that the initial phase is coming to an end. A carrier could request confidential treatment of certain information.

B. Long-Term Framework

Regulations should clearly specify the factors that determine when a commission would change its regulatory approach from the short-term framework described in Section III.A to the long-term framework explained in this Section. This criteria could be based on a period after introduction of an innovative service (one or two years) or a level of revenues shown by the monitoring reports.¹²⁷

When an innovative service has successfully grown, four issues arise which would not come into play under the streamlined approach of the short-term regulatory framework. Should the service contribute to universal service programs and the carrier's common costs like other services in order to support

125. See Policy and Rules Concerning Rates for Competitive Common Carrier Services and Facilities Authorizations Therefor, 95 F.C.C.2d 555, 577 (1983) (Fourth Report and Order). Regulatory commissions' complaint processes function through either hearings before an administrative law judge (hearing examiner) or a paper record.

126. 47 U.S.C. § 208(b)(1) (1990); ILL. ANN. STAT. ch. 111 2/3, para. 13-502(b) (Smith-Hurd 1990).

127. See *Pacific Bell Fax S/F*, Decision 90-07-052 at 19 (Cal. P.U.C., July 18, 1990) (allowing innovative service to go into effect for one year under experimental framework); *WACR Recon. Order*, Docket P-100, Sub. 109 at 5 (E.N.C.U.C., Oct. 10, 1990) (Unspecified level of future growth by an innovative service that may warrant an adjustment to regulation.).

reasonable rates for basic services and avoid uneconomic diversion of usage? Are the service's rates unreasonably high? Should some portion of the service's profits flow through to ratepayers? Should the service be encompassed within universal service programs, such as by making the capability available to all residential subscribers as part of basic local service?

The availability of a supplemental regulatory process for re-evaluating services and their rates is critical to the reasonableness of a streamlined short-term framework. The subsequent regulatory process should first address the threshold issue of whether the service faces substantial competition from other providers. If so, the service should be deregulated because additional regulatory burdens would be inconsistent with and not viable in the marketplace. If substantial competition does not exist, additional regulatory burdens may be in the public interest. This Section describes the proposed long-term framework for noncompetitive innovative services that successfully grow. Three parts are discussed—rates, profits, and other terms.

1. Rates. The short-term framework applies a floor of long-run marginal cost and no ceiling for rates. However, for an innovative service that successfully grows, both a higher floor and a ceiling may be reasonable.

The higher floor would be justified based on two considerations both relating to the size of the offering. First, rates for many other services include a regulatory-imposed or regulatory-encouraged contribution to universal service programs. A service which is a substantial component of the carrier's operations and the marketplace without such a rate additive could divert usage from the other services, which would lead to uneconomic impacts on network utilization and undermine support for the universal service programs. Second, even without substitution across services, a large innovative service nonetheless could make a substantial contribution to universal service programs.

Nevertheless, concerns about rate additives remain in terms of inefficiently suppressing demand for new capabilities and reducing carriers' incentives for innovation. Any rate additive should be modest, and regulators should strive for consistency in contributions from innovative services that successfully grow. Consistency in this regard will promote more efficient decisions by carriers in developing network configurations for and marketing their innovative services.¹²⁸ The new floor could reflect a specific charge applied to other services (e.g., a universal service fund surcharge) or a fairly arbitrary adjustment to rates.

As for a rate ceiling, some regulatory check may be necessary where a service has grown and competition is weak. Again, regulators should be sensitive to the impact of rate adjustments on carriers' incentives to develop and introduce other innovative services. The ceiling could be based on a loose profit test. For example, under traditional rate of return regulation, earnings from the service, calculated by using its fully distributed cost, should not exceed 500 basis points

128. For a discussion of WACR and access charges, see Section II.A., *supra*.

above a carrier's cost of capital.¹²⁹

2. *Profits.* The short-term framework has carriers retain all, or almost all, of the profits as well as losses from innovative services. For services that successfully grow, however, less of the profits should be retained by the carriers.

Under traditional rate regulation, the services could be treated along with other regulated (above the line) offerings. With a shared earnings plan, a larger percentage of high earnings would be refunded to ratepayers from these services than from innovative services in their initial phase. Under pure price caps regulation, a factor used to adjust prices downward above and beyond historic productivity levels (a "consumer productivity dividend") could reflect a presumed benefit from innovative services in this phase.¹³⁰ This adjustment to price caps should be estimated to share such benefits between ratepayers, through lower rates) and shareholders (through a reasonable prospect that innovative services will raise a carrier's earnings above its cost of capital for providing just established services).

The approach of traditional rate base/rate of return regulation is less desirable than a shared earnings or price caps plan because it eliminates profits from innovative services in this phase, and thus limits carriers' incentives for future innovation. Regulation should not limit carriers' profit incentives for innovation to the profits during the initial phase. Often, there will be no profits during that period.

3. *Other Terms.* Finally, the long-term framework should deal with questions of whether the capability is adequately available throughout the carrier's service area and whether the capability should be incorporated in the basic local service offering's rate. Regulators must be able to expand the definition of universal service and accordingly adjust how new capabilities are offered. In examining a carrier's rates for, and profits from, an innovative service in this phase, regulators should also consider the demand for the service and how its capabilities relate to use of other services. Consumer groups as well as carriers should be invited to comment on the importance, availability, and options for pricing an offering.

CONCLUSION

Innovative telecommunications services are an important part of our economic and social future. Thus, encouraging the development, introduction, and growth of new capabilities should be an important regulatory goal. However, too often, well-intentioned regulators impede the introduction of innovative services by imposing excessive limitations, cost burdens, and delays.

129. Under price caps regulation, this test could be applied once when a service's revenues first reach a given level or at a certain time after introduction (perhaps when a service is incorporated into a carrier's price cap). Rates which are reasonable at that point would thereafter be treated along with rates for established services, with no ongoing monitoring of their profits.

130. *FCC Price Caps*, 4 F.C.C. Rcd. at 3001-02.

This Article has proposed a two-phase regulatory approach which promotes innovative services while protecting other regulatory concerns. The first phase streamlines regulatory obstacles to innovative service development to make new capabilities quickly available to users. The second phase applies to innovative services that successfully grow but remain noncompetitive. Regulations in the second phase would be developed while the service is in the marketplace, and would impose more limitations on rates, profits, and how the service is offered.

This two-step framework could readily be adopted by state regulatory commissions and the FCC. In fact, many aspects of this approach already have been applied. While this approach demands fewer administrative resources than are typically applied by regulators to innovative services, it should substantially increase the availability of innovative services to consumers. Policies aimed at promoting advances in telecommunications networks and services should not ignore the possible benefit of such regulatory reforms.