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Regulatory Arbitrage Strategies and Tactics in Telecommunications

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Recently several states have launched investigations of certain MCI telephone call routings based on competitors' claims that the company eliminated or reduced payments it should have made.[2] The MCI investigations may uncover instances of unlawful practices designed to shore up revenues, reduce payments to local exchange carriers for call delivery, avoid tax liability and shift local exchange access payment burdens to other carriers. Perhaps more significantly the investigations may trigger closer scrutiny of numerous strategies and tactics used by telecommunications carriers to reduce payments they make to other carriers. Also, this scrutiny may call attention to how carriers exploit inconsistent regulatory treatment of functionally the same services. A fuzzy line separates lawful efforts to achieve least cost routing of traffic on one hand, and deliberate efforts unlawfully to reduce or avoid financial obligations by deceiving other carriers as to where a call originated on the other hand.[3]

Regulatory asymmetry occurs when telecommunications service providers offer identical services, but incur different government oversight burdens. More extensive regulation, the duty to pay higher regulatory or legislative fees, and subsidy obligations may apply to carriers based on artificial classifications of services they offer such as geographical scope (intrastate versus interstate) and type (telecommunications as a stand alone service

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[2] *See, e.g.*, Stephen Labaton, *MCI Disputes Fraud Claim By AT&T*, N.Y. TIMES, Aug. 5, 2003, at C1; Christopher Stern, *WorldCom Says Its Probe Refutes AT&T Claim; Bankrupt Phone Firm Tells Court No Evidence Was Found That It Disguised Calls to Avoid Fees*, WASH. POST, Aug. 5, 2003, at E1.

[3] *See* Barnaby J. Feder, *The Line Between Cost Management and Deceit*, N.Y. TIMES, July 29, 2003, at C1.

versus one where telecommunications is a minor element of an information service). Additionally, inconsistent regulatory treatment may occur based on carrier classifications using historical market share and perceptions of its market power. Existing "legacy" regulatory classifications[4] have established arbitrary dichotomies based on which regulatory agency has jurisdiction, what services qualify for promotion through favorable regulatory treatment, and how carriers and regulators decide to allocate costs.

Regulatory arbitrage[5] results when stakeholders, such as telecommunications service providers as MCI, exploit differences

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[4] The FCC has expressed a reluctance to apply legacy regulation when conditions change. "Given our attempts to reduce the regulatory burden on [incumbent local exchange carriers] ILECs, we are especially reluctant to impose similar legacy regulation on new competitive carriers." Access Charge Reform, 16 F.C.C.R. 9923, 9940 (2001). "I hope that, in future proceedings, the Commission will be quicker to recognize that the reflexive extension of legacy regulations to nascent technologies often harms the public interest." Provision of Improved Telecommunications Relay Services and Speech-to-Speech Services for Individuals with Hearing and Speech Disabilities, 18 F.C.C.R. 4761, 4774 (2003).

[5] The FCC typically refers to regulatory arbitrage without providing a definition. "We recognize that the existing intercarrier compensation mechanism for the delivery of this traffic, in which the originating carrier pays the carrier that serves the ISP, has created opportunities for regulatory arbitrage and distorted the economic incentives related to competitive entry into the local exchange and exchange access markets." Implementation of the Local Competition Provisions in the Telecommunications Act of 1996, Intercarrier Compensation for ISP-Bound Traffic, Order on Remand and Report and Order, 16 F.C.C.R. 9151, 9152 (2001). One definition provided by the Commission characterizes regulatory arbitrage as "businesses making decisions based on regulatory classifications rather than on customers' preferences and innovative and sustainable business plans." Inquiry Concerning High-Speed Access to the Internet Over Cable and Other Facilities, Internet Over Cable Declaratory Ruling, 17 F.C.C.R. 4798, 4846 (2002). Another FCC definition is "profit-seeking behavior that can arise when a regulated firm is required to set different prices for products or services with a similar cost structure." Developing a Unified Intercarrier Compensation Regime, 16 F.C.C.R. 9610, 9616 n.18 (2001) [hereinafter Bill and Keep Carrier Compensation Proposal] (referencing PATRICK DEGRABA, BILL AND KEEP AT THE CENTRAL OFFICE AS THE EFFICIENT INTERCONNECTION REGIME 1 ¶ 2 n.3 (F.C.C., O.P.P. Working Paper No. 33, 2000)); Patrick DeGraba, *Central Office*

in legislative and regulatory classifications to accrue financial and competitive advantages achieved by avoiding regulatory burdens, or by foisting payment obligations onto other carriers.

This article will examine tactics designed to exploit regulatory arbitrage with an eye toward identifying areas where inconsistent regulatory treatment distorts the competitive marketplace without offsetting public interest benefits. The article concludes that legislatures and regulators should eliminate opportunities to avoid regulatory burdens through routing and service classification tactics unless compelling reasons persist for maintaining regulatory asymmetry. The Federal Communications Commission and state public utility commissions have established numerous service definitions, territorial and cost allocation policies based on public policy or political considerations that have become unsustainable in light of technological developments. Many of these policies now have costs that exceed the public benefits particularly in light of the competitive distortions they create and the flawed justifications and assumptions underlying the policies.

I. The Death of Distance

Technological developments in telecommunications and information processing increasingly make it unsustainable for operators to charge distance sensitive (mileage based) rates.[6] Much of the installed plant costs incurred by telecommunications carriers does not vary as a function of usage.[7] Historically the FCC and state regulatory agencies have encouraged carriers to recover non-traffic sensitive costs on a metered basis[8] and to

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Bill and Keep as a Unified Inter-Carrier Compensation Regime, 19 YALE J. ON REG. 37 (2002).

[6] *See* FRANCES CAIRNCROSS, THE DEATH OF DISTANCE: HOW THE COMMUNICATIONS REVOLUTION WILL CHANGE OUR LIVES (1997).

[7] Non-traffic sensitive plant requires triggers costs that do not vary with the degree of use. For example, the costs of procuring and installing a telephone jack do not vary with the amount of calls made via that particular component.

[8] The FCC acknowledged the need to recover non-traffic sensitive costs on a flat-rate basis. "[N]on-traffic-sensitive costs—costs that do not vary with the amount of traffic carried over the facilities—should be recovered through flat-rate charges, and traffic-sensitive costs should be recovered through per-minute

recover many types of both non-traffic sensitive and traffic sensitive costs by averaging the different costs triggered by high and low volume users. [9] Cost averaging provides a simple "rough justice" solution to complex cost allocation problems,[10] but it blunts cost differences among carriers, routes and users. Inefficient and inequitable investment recovery would occur if carriers charged usage or mileage based charges to recoup such

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charges. This approach fosters competition and efficient pricing." Access Charge Reform Price Cap Performance Review for LECs, 18 F.C.C.R. 14,976, 14,977 (2003), *available at* 2003 WL 21544089.

[9] Implicit subsidies in telecommunications "result, in large part from rate averaging between rural and suburban/urban areas and the recovery of certain non-traffic sensitive costs through traffic sensitive per minute rates, which over-recovers costs from higher volume users, often business customers." Review of the Section 251 Unbundling Obligations of Incumbent Local Exchange Carriers, CC Docket No. 01-338, 2003 WL 22175730, at *17078 n.509 (F.C.C. Aug. 21, 2003); *see generally* Access Charge Reform, Price Cap Performance Review for Local Exchange Carriers, Low-Volume Long Distance Users, Federal-State Joint Board On Universal Service, 15 F.C.C.R. 12,962, 12,971–72 (2002) (CALLS Order) (describing how high-volume users bear a greater share of the non-traffic sensitive costs than low-volume users), *aff'd in part, rev'd in part, and remanded in part sub nom.* Tex. Office of Pub. Util. Counsel v. Fed. Communications Comm'n, 265 F.3d 313 (5th Cir. 2001).

[10] The 1996 Act requires cost averaging to achieve universal service objectives:

> Consumers in all regions of the Nation, including low-income consumers and those in rural, insular, and high cost areas, should have access to telecommunications and information services, including interexchange services and advanced telecommunications and information services, that are reasonably comparable to those services provided in urban areas and that are available at rates that are reasonably comparable to rates charged for similar services in urban areas.

47 U.S.C. § 254(b)(3) (2003). Additionally,

> the rates charged by providers of interexchange telecommunications services to subscribers in rural and high cost areas shall be no higher than the rates charged by each such provider to its subscribers in urban areas. Such rules shall also require that a provider of interstate interexchange telecommunications services shall provide such services to its subscribers in each State at rates no higher than the rates charged to its subscribers in any other State.

Id. § 254(g).

sunk and embedded costs. High volume users would overcompensate the carrier while low volume users would underpay.

Carriers should not bother to measure the distance between call originator and call recipient if the cost of such metering exceeds the cost differences in handling traffic of different distances. Telephone companies, particularly long distance carriers, typically average long and short haul traffic costs so that they can offer a single, flat rate for all calls. Data communications, including Internet-mediated services, have similar distance insensitive cost characteristics.

Distance and traffic volume insensitivity means that telecommunications and Internet service providers can offer a single per minute or monthly rate for all calls within a wide geographical area, e.g., the entire United States for long distance telephone companies and the entire world for Internet Service Providers ("ISPs"). Such a "postalized" rate averages whatever cost differentials that still exist.[11] Acknowledging the largely sunk investment in telecommunications plant, some carriers now offer a flat monthly rate for unlimited local and long distance calls. Such "All You Can Eat" pricing[12] has become standard for Internet access in the United States, and ISPs have never priced access based on the distance separating users and the sources of content, or between senders and recipients of electronic mail.

The death of distance largely erodes the rationale for using geography or political boundaries as the basis for differences in how carriers allocate costs and price services. Indeed many of the

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[11] For example, carriers typically still incur different, mileage-based carriers when they lease a dedicated line of varying distances. Local exchange carrier line transport charges are mileage-based when a single carrier leases a line instead of sharing it with other carriers.

[12] ISPs initially offered unlimited Internet access to stimulate demand and considered unused network capacity as available for loading at little if any additional cost. Such promotional pricing does not burden heavy users with higher charges even though such rates could help ISPs recover fixed costs. Absent congestion ISPs could consider the incremental cost of handling more traffic as near zero.

reasons for such differences never had a justification on the basis of cost as opposed to other political, social or public policy factors:

> [E]fficiency has not been the only goal of intercarrier compensation rules. For example, in order to encourage universal services, . . . [the Federal Communications] Commission and state regulators historically set access charges [paid to local exchange carriers] above cost. By doing so, they hoped to be able to keep local telephone rates low, and thus telephone penetration rates high.[13]

Federal and state telecommunications regulators previously saddled long distance callers, especially ones making intrastate calls, with higher rates than local telephone service consumers. Over-priced long distance call revenues made it possible for local exchange telephone companies ("LECs") to offer possibly below cost local services and to tap into subsidies for achieving universal service objectives including intentionally below cost service to rural residents, the poor and residents of tribal lands.[14]

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[13] Bill and Keep Carrier Compensation Proposal, *supra* note 5, at 9623.

[14] "The Universal Service Fund now encompasses four programs that support telecommunications services nationwide. These include: Low-Income, High-Cost, Schools and Libraries, and Rural Health Care. Link-Up America (Link-Up) and the Lifeline Assistance Program (Lifeline) are part of the Fund's Low-Income Program." Federal Communications Commission, *Get Connected: Afford-A-Phone, Background, available at* http://www.fcc.gov/cgb/getconnected/background.html (last modified Aug. 16, 2002) (on file with the North Carolina Journal of Law & Technology).

> Consumers qualifying for Link-Up America support are eligible to save up to 50% on initial installation fees, not to exceed $30 per household. In other words, up to $30 of the first $60 of their initial hook-up bill. Participants may also work with their telephone company to establish a deferred payment schedule for remaining costs of up to $200. Consumers living on American Indian or Alaskan Native tribal lands may also qualify for an additional $70 to defray initial connection charges.
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> . . . .
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> The Lifeline Assistance Program enables eligible low-income consumers to save from at least $6.75 to $9.50 on their basic monthly telephone service fee depending on the state where the consumer lives. Residents of tribal lands may be eligible

Distance insensitivity in telecommunications also eliminates the rationale for having different charges for accessing the same local exchange facilities on the basis of whether the call crosses domestic or international borders, originates via a wireless or wireline carrier, or traverses the Internet. Yet LECs continue charging different rates largely because regulatory policies force them to do so, or political factors favor their decision to over- or under-price a particular service.

Set out below is a continuum of LEC access costs from lowest to highest:

- the exchange of traffic between an ISP and a LEC typically triggers no per minute access charge, because the ISP qualifies as an information service provider exempt from LEC access charge payment obligations making it possible for the ISP to receive and terminate calls via metered business telephone lines;[15]
- the exchange of traffic between LECs occurs on a reciprocal basis using zero cost, (bill and keep);[16]

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for an additional $25 in savings on their basic monthly phone bill.

Id.

[15] "Since 1983, the Commission has consistently and consciously permitted enhanced service providers, a category that now includes Internet service providers (ISPs) to connect to their customers using local business lines." Implementation of the Local Competition Provisions in the Telecommunications Act of 1996, 14 F.C.C.R. 3689, 3690 n.1 (1999); *see also* MTS and WATS Market Structure, 97 F.C.C.2d 682, 715 (1983) (describing how the implementation of high carrier rates would experience severe rate impacts). "Enhanced service providers use interstate access but pay local business exchange service rates." Implementation of the Local Provisions in the Telecommunications Act of 1996, 14 F.C.C.R. at 3690 n.1.

[16] Bill and Keep, sometimes referred to as Sender Keep All refers to an interconnection arrangement where a carrier agrees to accept traffic from another carrier in exchange for a reciprocal agreement. The carriers make no financial payments to each other. "The sharing of traffic over the interconnected networks forming the Internet on a statistical and un-metered 'settlements' (or 'bill & keep') basis was a hallmark of early federal agency involvement in the development of the Internet. This system of traffic carriage free of charge became known as 'peering.'" BARBARA ESBIN, INTERNET OVER CABLE: DEFINING THE FUTURE IN TERMS OF THE PAST 20 (F.C.C., O.P.P. Working Paper No. 30, 1998), *available at* 1998 WL 567433.

negotiated, or regulatory-agency prescribed rates typically at a rate several decimal places below one cent;[17]

- the exchange of traffic between long distance, i.e., interexchange carriers ("IXCs") and LECs occurs on a uniformly tarriffed basis with rates that have declined substantially, but still significantly exceed the reciprocal rates paid by LECs;[18] New Competitive Local Exchange Carriers ("CLECs") typically charge IXCs higher access fees than Incumbent Local Exchange Carriers ("ILECs");[19]

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[17] Section 251(b)(5) of the Telecommunications Act of 1996 requires all local exchange carriers "the duty to establish reciprocal compensation arrangements for the transport and termination of telecommunications." 47 U.S.C. § 251(b)(5) (2001). For examples of the quite small rates ILECs charge for local facilities, see National Regulatory Research Institute, *A Survey of Unbundled Network Element Prices in the United States* (July 2003), *at* http://nrri.org/documents/Matrix0703all.pdf (comparing loop and port rates as well as tandem switching and transport rates for state access lines) (on file with the North Carolina Journal of Law & Technology); Jeffrey H. Rohlfs & J. Gregory Sidak, *Exporting Telecommunications Regulation: The United States-Japan Negotiations on Interconnection Pricing*, 43 HARV. INT'L L.J. 317, 340 (2002) (listing the local interconnection rates for selected states in 1999).

[18] In 2000, the FCC adopted an industry proposed access charge regime that increased user fees but reduced interexchange carrier access charge payments to ILECs to a target range of 0.55 cents for the Regional Bell Operating Companies and GTE, 0.65 cents for other LECs subject to price cap regulation, and 0.95 cents LECs operating in areas with low subscriber densities. For example, the Commission approved lower switching and transport access services to a target range of 0.62. "We also adopt target rates of 0.55 cents for the BOC price cap LECs and GTE, 0.95 cents for very low-density price cap LECs, and 0.65 cents for other price cap LECs." *See* Matter of Access Charge Reform, 15 F.C.C.R. 12,962, 13,029 ¶162 (2000), *rev'd in part by* Texas Office of Public Utility Counsel v. Fed. Communications Comm'n, 265 F.3d 313 (5th Cir. 2001) (No. 00-60434), *cert. denied by* Nat'l Ass'n of State Util. Consumer Advocates v. Fed. Communications Comm'n, 535 U.S. 986 (2002), *on remand to* Cost Review Proceeding for Residential and Single-Line Business Subscriber Line Charge (SLC) Caps, 17 F.C.C.R. 10,868 (F.C.C. Jun. 5, 2002), *available at* 2002 WL 1213038.

[19] "Our review of the record reveals that CLEC access rates vary quite dramatically and, on the average, are well above the rates that ILECs charge for similar service." Access Charge Reform, Reform of Access Charges Imposed by Competitive Local Exchange Carriers, 2001 WL 431685, ¶ 22 (F.C.C. Apr. 7, 2001); *see also* Access Charge Reform Price Cap Performance Review for Local Exchange Carriers, 15 F.C.C.R. 12,962, 13,028 (2000) (describing how

- the exchange of traffic between a wireless carrier and a wireline LEC carrier depends on whether the call appears to be a local exchange of traffic (even if originated at a long distance), or one involving a conventional long distance call making the range variable;[20]
- the exchange of international long distance traffic on routes lacking significant competition occurs on a per minute accounting rate,[21] ranging from a few cents to more than

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the commission's current price cap plan allows price cap LECs flexibility to determine tandem-switch rates), *partially reversed sub nom.* Tex. Office of Pub. Util. Counsel v. Fed. Communications Comm'n, 265 F.3d 313 (5th Cir. 2001), *cert. denied*, 535 U.S. 986 (2002), *on remand*, Cost Review Proceeding for Residential and Single-Line Business Subscriber Line Charge (SLC) Caps, 17 F.C.C.R. 10,868 (2002).

[20] For example, in 2001 Sprint PCS charged AT&T 2.8 cents per minute to deliver AT&T long distance calls to Sprint PCS subscribers. Petitions of Sprint PCS and AT&T Corp. For Declaratory Ruling Regarding CMRS Access Charges, WT Docket No. 01-316, Declaratory Ruling, 17 F.C.C.R. 13,192 (2001). This rate matched what major wireline LECs charged interexchange carriers, but ran counter to the traditional access pricing mechanism for wireless carriers where subscribers of the wireless carrier compensate it for the cost of both sending and receiving calls:

> CMRS carriers have never operated under the same calling party's network pays (CPNP) compensation regime as wireline LECs. Under a CPNP regime, LECs are compensated for terminating calls by the carrier of the customer that originates the call, not by the customer receiving the call. In contrast, since the advent of commercial wireless service, and continuing today, CMRS carriers have charged their end users both to make and to receive calls. Until 1998, when Sprint PCS first approached AT&T and other IXCs about payment for terminating access service, all CMRS carriers recovered the cost of terminating long distance calls from their end users, and not from interexchange carriers. . . . The fact that the industry practice for 15 years has been for CMRS carriers to recover costs from their end users, together with the highly competitive nature of the interexchange market, makes it unlikely that an IXC that does not pay access charges to CMRS carriers somehow "overcharges" its customers.

Id. at 13,198.

[21] For background on the international long distance telephone toll revenue division process see ROB FRIEDEN, MANAGING INTERNET-DRIVEN CHANGE IN INTERNATIONAL TELECOMMUNICATIONS ch. 9.1 (2001); Robert M. Frieden,

one dollar which covers long haul and local carriage;[22] even for routes where an accounting rate settlement does not occur, the rates for call delivery widely varies; and

- the exchange of international long distance traffic with a foreign wireless operator may trigger a termination charge exceeding fifty cents just for using the networks of both the wireline LEC and a wireless carrier.[23]

Arguably the costs incurred by LECs do not vary significantly when their networks originate or terminate traffic that traverses the same facilities. Yet even if the traffic types above were to travel the same facilities—and they typically do—the access charges imposed vary substantially. Such cost differentials have little, if any, basis in rational cost allocation and recoupment, but occur as a result of cost attribution: the purposeful loading or unloading of costs onto functionally the same traffic switching and routing functions based on political, social and public policy rationales.[24]

Falling Through the Cracks: International Accounting Rate Reform at the ITU and WTO, 22 TELECOMM. POL'Y 963, 963–75 (1998) (describing how heightened attention to international calling rates at the ITU and WTO has led some observers to conclude that carriers soon will impose cost-based termination charges).

[22] *See* Federal Communications Commission, IMTS Accounting Rates of the United States 1985–2003 (Oct. 1, 2003), *available at* http://www.fcc.gov/ib/pd/pf/artsweb.xls (on file with the North Carolina Journal of Law & Technology).

[23] If the U.S.-outbound call is terminating on the network of a mobile provider in the foreign country, there is an additional termination charge passed back through to the U.S. carrier, under "calling party pays," when the call is handed-off to the foreign mobile provider for termination. U.S. providers generally recoup these mobile termination costs from U.S. consumers through rate surcharges. Examples of the highest current per minute mobile surcharges [above the international long distance charge] include: $0.28 for France; $0.22 for Haiti; $0.32 for Panama; $0.22 for the United Kingdom; and $0.33 for Uruguay.

International Settlements Policy Reform International Settlement Rates, Notice of Proposed Rulemaking, 17 F.C.C.R. 19,954, 19,979 (2002).

[24] For example, before the FCC sought more scientific and accurate cost allocations between interstate and intrastate jurisdictions it used a "gross allocator" to split local exchange carrier plant investment between the interstate

The FCC has acknowledged inconsistency in the rates LECs charge:

> Interconnection arrangements between carriers are currently governed by a complex system of intercarrier compensation regulations. These regulations treat different types of carriers and different types of services disparately, even though there may be no significant differences in the costs among carriers of services. The [existing] interconnection regime that applies in a particular case depends on such factors as: whether the interconnecting party is a local carrier, an interexchange carrier, a [Commercial Mobile Radio Service] carrier or an enhanced service provider; and whether the service is classified as local or long distance, interstate or intrastate, or basic or enhanced.[25]

It may have made sense, on political or social equity grounds, to load up costs onto wealthy long distance and wireless callers when such services were luxuries enjoyed mostly by elites. But now a far larger set of users incur higher charges, or qualify for subsidized rates. Cost attribution provides a quasi-scientific basis for targeting subsidies, but its calibration has limits resulting in overinclusive and underinclusive groups of subsidy payers and recipients.[26] As a result, subsidies flow unnecessarily to some

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jurisdiction and intrastate jurisdiction. "[T]he gross allocator, [is] a factor that allocates subscriber plant costs between the intrastate and interstate jurisdictions, 75 percent and 25 percent, respectively." Jurisdictional Separations Reform and Referral to the Federal-State Joint Board, 15 F.C.C.R. 13,160, 13,168 n.40 (2000).

[25] Bill and Keep Carrier Compensation Proposal, *supra* note 5, at 9613.

[26] For example, universal service subsidies to any local exchange carrier operating in a high cost, typically rural area, benefits all subscribers of that carrier regardless of their individual financial status. "[A]ny policy that attempts to increase subscribership levels by reducing the price of customer access is likely to have only limited success, particularly if the program does not target specific beneficiaries." David L. Kaserman & John W. Mayo, *Cross-Subsidies in Telecommunications: Roadblocks on the Road to More Intelligent Telephone Pricing*, 11 YALE J. ON REG. 119, 140 (1994).

beneficiaries with ample financial resources to pay the full costs, and also burden some individuals who should not have to subsidize the unwarranted beneficiaries. To its credit, the FCC has expressed reservations whether its cost allocation policies can jointly serve economic efficiency goals and public policy objectives.[27]

Cost attribution also creates subsidy beneficiaries and payers among carriers.[28] If the subsidy obligation is substantial,

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[27] With the passage of the [Telecommunications] Act [of] 1996, and its mandate for opening all telecommunications markets to competition, it is no longer clear that intercarrier compensation rules can serve all of these multiple goals. For example, Congress, in passing the 1996 Act, recognized that the implicit subsidies historically contained in access charges are not sustainable in competitive local telecommunications markets. Accordingly, Congress in the 1996 Act directed this Commission and the states to reform universal service, and in particular, to eliminate implicit subsidies contained in access charges and instead make all universal service support explicit.

Bill and Keep Carrier Compensation Proposal, *supra* note 5, at 9623.

[28] Interstate access charges are imposed by local exchange carriers (LECs) to recover the costs of providing access to their networks for interstate and long-distance service. The Commission has long recognized that, to the extent possible, interstate access costs should be recovered in the manner in which they are incurred. In particular, non-traffic-sensitive costs–costs that do not vary with the amount of traffic carried over the facilities–should be recovered through flat-rate charges, and traffic-sensitive costs should be recovered through per-minute charges. This approach fosters competition and efficient pricing. The Part 69 rules governing access charges, however, have not been fully consistent with this goal. For example, the costs of the common line or loop that connects an end user to a LEC's central office should be recovered from the end user through a flat charge, because loop costs do not vary with usage. Yet the subscriber line charge (SLC), a flat monthly charge assessed directly on end users to recover interstate loop costs, has been capped since its inception due to affordability concerns. Historically, LECs recovered their remaining common line costs through per-minute carrier common line (CCL) charges imposed on interexchange carriers (IXCs) which, in turn, passed these

the paying carrier becomes saddled with a financial burden that can adversely affect its ability to offer competitive rates, upgrade facilities, secure debt financing and attract investors. Beneficiaries of subsidies may have bolstered opportunities to offer lower rates, but they might just as easily capture the benefits without flowing them to consumers and without making necessary plant investments. Absent compelling reasons, regulatory agencies should not create policies that competitively support or handicap carriers.

II. Cost Attribution Creates Regulatory Arbitrage Opportunities and Incumbents Retaliate

When telecommunication service providers incur different local exchange access charges for the same usage, the competitive playing field tilts to their advantage or disadvantage. Rather than acquire market share and profits based on superior performance, carriers can secure a competitive advantage simply by qualifying for lower cost access even as competitors offering functionally the same service have to pay more. The cost of access as shaped by regulatory policy becomes a vehicle for arbitrage: the ability to exploit differences in a cost of doing business to secure a competitive advantage.

When regulatory arbitrage distorts the competitive marketplace, disadvantaged stakeholders retaliate. Regulatory gridlock and endless litigation result when stakeholders with ample financial resources object to real or perceived handicaps.[29] Worse

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> charges on to their customers in the form of higher long distance rates. By making the end-user rate for long distance calls more expensive, CCL charges artificially suppressed demand for interstate long distance services. CCL charges also created significant implicit subsidies flowing from high-volume to low-volume users of interstate long distance services, which have a disruptive effect on competition in the markets for local exchange and exchange access services.

Access Charge Reform Price Cap Performance Review for LECs, 2003 WL 21544089, at *14977–78 (F.C.C. Jul. 10, 2003).

[29] *See, e.g.*, Implementation of Local Competition Provisions in Telecommunications Act of 1996, 15 F.C.C.R. 3696, 3712 (1999), *on remand,*

yet, these burdened stakeholders begin to think they should not continue complying with longstanding, fundamental responsibilities established by law, in light of their perception that the regulatory process has confiscated resources by forcing them to make facilities available to competitors at rates below cost.

For example, the Regional Bell Operating Companies ("RBOCs"), BellSouth, Qwest, SBC and Verizon, have vigorously objected[30] to regulatory burdens imposed by the Telecommunications Act of 1996[31] ("'96 Act") which targets them for particularly extensive facilities access and interconnection responsibilities. The '96 Act requires the RBOCs to interconnect with competitors and to lease them portions of the RBOCs' networks at rates well below what the RBOCs would like to charge. Because state and federal regulators have intervened in setting the price of such access, the rates fall well below what the RBOCs would demand in arm's length negotiations or as would occur in a deregulated, market-driven environment. Accordingly, the RBOCs claim[32] that the rates they have to charge are below

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U.S. Telecom Ass'n v. Fed. Communications Comm'n, 290 F.3d 415, 422–28 (D.C. Cir. 2002), *cert. denied*, 538 U.S. 940 (2003); Review of the Section 251 Unbundling Obligations of Incumbent Local Exchange Carriers, Report and Order on Remand and Further Notice of Proposed Rulemaking, 18 F.C.C.R. 16,978 (2003), *errata*, 18 F.C.C.R. 19,020 (2003), *partially rev'd and rem'd*, United States Telecom Ass'n v. Fed. Communications Comm'n, No. 00-1012, slip op. (D.C. Cir. Mar. 2, 2004).

[30] *See* Implementation of the Local Competition Provisions in the Telecommunications Act of 1996, 11 F.C.C.R. 15,499 (1996), *aff'd in part and vacated in part sub nom.* Competitive Telecomm. Ass'n v. Fed. Communications Comm'n, 117 F.3d 1068 (8th Cir. 1997); Iowa Utils. Bd. v. Fed. Communications Comm'n, 120 F.3d 753 (8th Cir. 1997), *aff'd in part and remanded*, AT & T v. Iowa Utils. Bd., 525 U.S. 366 (1999), *on remand* Iowa Utils. Bd. v. Fed. Communications Comm'n, 219 F.3d 744 (8th Cir. 2000) (*Iowa Utils.* II), *rev'd in part sub nom.* Verizon Communications, Inc. v. Fed. Communications Comm'n, 535 U.S. 467 (2002).

[31] Telecommunications Act of 1996, 47 U.S.C. §§ 251–710 (2001).

[32] *See, e.g.*, SBC Communications, Inc. v. Fed. Communications Comm'n, 981 F. Supp. 996, 1006–08 (N.D. Tex. 1997) (agreeing with an ILEC that provisions in the '96 Act constituted "punishment" and, thus, provisions resulted in an unconstitutional "bill of attainder."), *rev'd*, 54 F.3d 226 (5th Cir. 1998), *cert. denied*, 525 U.S. 1113 (1999); *see also* BellSouth Corp. v. Fed. Communications Comm'n, 162 F.3d 678, 691–93 (D.C. Cir. 1998) (concluding

cost, confiscatory and an unconstitutional taking of their property.[33] The RBOCs also claim that the '96 Act requirements so create subsidies for CLECs that the RBOCs have little incentive to invest in facility upgrades.[34]

Despite the Supreme Court's determination that the RBOCs failed to prove any prescribed rate as uncompensatory,[35] these

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specific regulatory requirements imposed on the Regional Bell Operating Companies did not violate Constitutionally granted equal protection, because they are not a protected class and government had a rational basis for singling them out for special requirements).

[33] The academic literature has split on the issue of whether a taking has occurred. *See* J. Gregory Sidak & Daniel F. Spulber, *Deregulatory Takings and Breach of the Regulatory Contract*, 71 N.Y.U. L. REV. 851, 933–37 (1996) (arguing that a taking has occurred); *cf.* David Gabel & David I. Rosenbaum, *Who's Taking Whom: Some Comments and Evidence on the Constitutionality of TELRIC*, 52 FED. COMM. L.J. 239, 252–54 (2000) (arguing that a taking has not occurred); E. Sanderson Hoe & Stephen Ruscus, *Taking Aim at the Takings Argument: Using Forward-Looking Pricing Methodologies to Price Unbundled Network Elements*, 5 COMMLAW CONSPECTUS 231, 240 (1997) (arguing that a taking has not occurred).

[34] If the incumbent LEC, the putative owner of the local network, no longer can recover the costs of investments that it would make on a forward-looking basis—let alone keep any economic rents accruing to such investments—then entrants become free riders and the incumbent LEC's incentive to make further investment in the local exchange network evaporates.

J. Gregory Sidak & Daniel F. Spulber, *The Tragedy of the Telecommons: Government Pricing of Unbundled Network Elements Under the Telecommunications Act of 1996*, 97 COLUM. L. REV. 1081, 1161 (1997). "[M]andatory unbundling confers a second-mover advantage and substantially decreases a CLEC's incentives to make a sunk investment." Thomas M. Jorde et al., *Innovation, Investment, and Unbundling*, 17 YALE J. ON REG. 1, 21 (2000).

[35] At the outset, it is well to understand that the incumbent carriers do not present the portent of a constitutional taking claim in the way that is usual in ratemaking cases. They do not argue that any particular, actual TELRIC rate is "so unjust as to be confiscatory," that is, as threatening an incumbent's "financial integrity."

Verizon Communications v. Fed. Communications Comm'n, 535 U.S. 467, 523–24 (2002) (citing Duquesne Light Co. v. Barasch, 488 U.S. 299, 307, 312 (1989)). "Indeed, the incumbent carriers have not even presented us with an

carriers persist in arguing that state regulatory agencies and the FCC have unfairly tilted the competitive playing field against them. The RBOCs' claim of unfairness has credibility not because the prescribed access rates will result in their financial ruination, but more generally because the RBOCs have had to comply with common carrier network access duties even as some competitors have managed to evade such requirements.[36] For example, the RBOCs face common carrier regulation as telecommunications

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instance of TELRIC rates, which are to be set or approved by state commissions and reviewed in the first instance in the federal district courts." *Id.* at 524 (citing 47 U.S.C. §§ 252(e)(4)–(6)). The Supreme Court did not appear to consider the takings argument as legitimate in view of failure of the ILECs "to present any evidence that the decision to adopt TELRIC was arbitrary, opportunistic, or undertaken with a confiscatory purpose." *Id.* at 527–28.

[36] The RBOCs and others assert claim that the '96 Act RBOC requirements makes it easier and cheaper for CLECs to lease and resell RBOC facilities rather than build their own. "[T]he TELRIC methodology in effect grants a 'free option' to new entrants, since it ignores the fact that there are significant sunk costs in telecommunications infrastructure. In other words, it will always be cheaper for CLECs to lease than to invest." Reza Dibadj, *Competitive Debacle in Local Telephony: Is the 1996 Telecommunications Act to Blame?*, 81 WASH. U. L.Q. 1, 28 (2003); *see also* Jorde et al., *supra* note 34; *cf.* Robert B. Ekelund, Jr. & George S. Ford, *Innovation, Investment, and Unbundling: An Empirical Update*, 20 YALE J. ON REG. 383 (2003); Allan T. Ingraham & J. Gregory Sidak, *Mandatory Unbundling, UNE-P, and the Cost of Equity: Does TELRIC Pricing Increase Risk For Incumbent Local Exchange Carriers?*, 20 YALE J. ON REG. 389 (2003). The RBOCs claim ignores the fact that an extraordinarily high amount of investment, estimated at over $267 billion, flowed into the telecommunications sectors in the five years spanning enactment of the '96 Act and the substantial downturn in that began in 2001. Phoenix Center for Advanced Legal and Economic Public Policy Studies, *The Truth About Telecommunications Investment*, *available at* http://www.phoenix-center.org/policybulletin/policybulletin4final.pdf (Jun. 24, 2003) (on file with the North Carolina Journal of Law & Technology). The Supreme Court flatly rejected the ILEC argument that ILECs had made no significant investment in facilities. The Court found that CLECs had invested $55 billion from 1996–2000 and concluded that "a regulatory scheme that can boast such substantial competitive capital spending over a four-year period is not easily described as an unreasonable way to promote competitive investment." *Verizon*, 535 U.S. at 517. The FCC reported that a CLEC trade association estimates the investment figure at $71 billion. Review of the Commission's Rules Regarding the Pricing of Unbundled Network Elements and the Resale of Service by Incumbent Local Exchange Carriers, 2003 WL 22119504, at *18,947 n.4 (F.C.C. Sept. 15, 2003).

service providers while ISPs avoid such classification even when providing Internet-delivered long distance telephone service.[37]

The RBOCs' view of an unfair regulatory climate grows more strident in view of the numerous other accommodations they have had to make under the Telecommunications Act of 1996.[38] RBOCs have had to unbundle their networks and offer access to local exchange competitors on an ala carte basis.[39] This customary common carrier responsibility would have been more palatable to the RBOCs had a quid pro quo established in the '96 Act successfully balanced their costs and benefits. The '96 Act offered RBOCs a new profit center, long distance telephone service[40] across Local Access and Transport Areas,[41] in exchange for timely

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[37] Federal-State Joint Bd. on Universal Serv., 13 F.C.C.R. 11,501 (1998); *see also* Implementation of the Non-Accounting Safeguards of Sections 271 and 272 of the Comms. Act of 1934, 11 F.C.C.R. 21,905 (1996); Robert M. Frieden, *Dialing for Dollars: Will the FCC Regulate Internet Telephony?*, 23 RUTGERS COMPUTER & TECH. L.J. 47 (1997).

[38] *See generally* Telecommunications Act of 1996, 47 U.S.C. §§ 251–52 (2001).

[39] All LECs have the

> duty to provide, to any requesting telecommunications carrier for the provision of a telecommunications service, nondiscriminatory access to network elements on an unbundled basis at any technically feasible point on rates, terms, and conditions that are just, reasonable, and nondiscriminatory in accordance with the terms and conditions of the agreement and the requirements of this section and section 252 of this title. An incumbent local exchange carrier shall provide such unbundled network elements in a manner that allows requesting carriers to combine such elements in order to provide such telecommunications service.

47 U.S.C. § 251(c)(3).

[40] *Id.* § 271.

[41] As part of the divestiture of AT&T's local exchange carriers in 1984, the spun-off Regional Bell Operating Companies ("RBOCs") faced restrictions on the lines of businesses they could operate, including long distance telephone service that crossed specific geographical boundaries. Local Access and Transport Areas identified the geographical region within which the RBOCs could provide local and limited toll services. Section 271 of the '96 Act authorized RBOC entry into inter-LATA service after an RBOC satisfied a competitive checklist, on a state by state basis, designed to promote fair competition and access to RBOC facilities. The definition of LATA contained in the '96 Act is:

compliance with a variety of competitor accommodations. The '96 Act conditioned the long distance telephone service opportunity with an RBOC proving that it had complied with a fourteen point competitive checklist ostensibly providing an unimpaired and fair opportunity for local exchange service competition to develop.[42]

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a contiguous geographic area—
(A) established before February 8, 1996, by a Bell operating company such that no exchange area includes points within more than 1 metropolitan statistical area, consolidated metropolitan statistical area, or State, except as expressly permitted under the AT&T Consent Decree; or
(B) established or modified by a Bell operating company after February 8, 1996, and approved by the Commission.

Id. § 153(25).

[42] The fourteen point competitive checklist requires the Bell Operating Companies to: (1) have finalized at least one interconnection agreement with a competitor or a time period has passed without such an interconnection request; (2) the provision of full and fair interconnection with competitive local exchange carriers in accordance with the requirements of sections 251(c)(2) and 252(d)(1); (3) nondiscriminatory and "à la carte" access to network elements in accordance with the requirements of sections 251(c)(3) and 252(d)(1); (4) nondiscriminatory access to the poles, ducts, conduits, and rights-of-way owned or controlled by the Bell Operating Company at just and reasonable rates in accordance with the requirements of section 224; (5) local loop transmission from the central office to a customer's premises, unbundled from local switching or other services; (6) local transport from the trunk side of a wire line local exchange carrier's switch unbundled from switching or other services; (7) local switching unbundled from transport, local loop transmission, or other services; (8) nondiscriminatory access to 911 emergency services, directory assistance services to allow the other carriers' customers to obtain telephone numbers and operator call completion services; (9) white pages directory listings for customers of other carriers' telephone exchange services; (10) nondiscriminatory access to telephone numbers for assignment to the other carriers' telephone exchange service customers, nondiscriminatory access to databases and associated signaling necessary for call routing and completion; (11) nondiscriminatory access to databases and associated signaling necessary for call routing and completion; (12) number portability, i.e., the ability of a former BOC customer to retain use of a preexisting telephone number after having subscribed to telephone service from another carrier; (13) nondiscriminatory access to such services or information as are necessary to allow requesting carriers to implement local dialing parity in accordance with the requirements of section 251(b)(3), i.e., the same number of digits dialed for either BOC or alternative service; and (14) reciprocal compensation. *Id.* § 271(c)(2)(B).

While all of the access and interconnection requirements fit within the set of reasonable common carrier responsibilities the FCC and state regulatory agencies could impose, the '96 Act induced timely compliance by offering what initially looked like a robust future market opportunity. Unfortunately, the attractiveness of the carrot to RBOC networks to CLECs dimmed as long distance telephone service became a low margin, commodity business.[43]

A. Regulatory Arbitrage Thwarts Deregulatory Initiatives

When regulatory arbitrage opportunities exist, stakeholders perceive advantages accruing from efforts to game the system, litigate and delay initiatives that might eventually lead to less regulation and near parity of regulatory status among competitors. Stakeholders' concerns about short-term profitability may obscure the prospects in the long term for a level competitive playing field. Until then, stakeholders may prefer to compete in the courtroom, at the legislature and with pleadings before state public utility commissions and the FCC instead of in the marketplace.

Regulatory arbitrage in telecommunications has created readily identifiable gaming strategies among stakeholders to:

- qualify services as interstate instead of intrastate;
- obscure the origin of traffic with an eye toward making international traffic appear domestic and long distance traffic appear local;
- characterize traffic as local instead of long haul if doing so classifies the traffic as generating a reciprocal payment obligation instead of an access charge payment;
- distort or obscure the origin of traffic and method of transmission to reduce or avoid charges imposed by another carrier to deliver the traffic to the intended recipient;

[43] Rob Frieden, *Fear and Loathing in Information and Telecommunications Industries: Reasons for and Solutions to the Current Financial Meltdown and Regulatory Quagmire*, 5 INT'L J. ON MEDIA MGMT. 1, 25–38 (2003) (explaining that massive reductions in the per unit cost of providing long distance service reduces profit margins).

- route traffic via the Internet; and
- offer telecommunications services as ancillary to, or a minor transport element for an enhanced information service.

Regardless of whether they legally or illegally exploit regulatory loopholes, arbitrage strategies cause marketplace distortions and reduce the effectiveness of market countervailing regulatory policies based on public interest predicates. If it were not for the failure of legislatures and regulatory agencies to make necessary adjustments on a timely basis, one might consider the unjust enrichment such tactics accrue as perhaps a necessary short-term byproduct of regulatory reform. But when regulatory adjustments do not quickly occur, stakeholders can accrue substantial financial gains simply by exploiting regulatory loopholes while others unfairly suffer.[44] Masters in gaming strategies include CLEC affiliates of ISPs who receive dial-up modem traffic that first enters the public switched telephone network ("PSTN") of an ILEC, but is handed off from the ILEC to the CLEC thereby qualifying the CLEC for compensation from the ILEC who typically receives no offsetting traffic in return.[45] Other gaming masters include stakeholders who reduce payments owed to other carriers by avoiding traffic delivery responsibilities,[46] by

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[44] Bill and Keep Carrier Compensation Proposal, *supra* note 5, at 9632.

[45] Implementation of Local Competition Provisions in Telecommunications Act of 1996, 16 F.C.C.R. 9151, 9153 (2001), *remanded on procedural grounds*, WorldCom, Inc. v. Fed. Communications Comm'n, 288 F.3d 429 (D.C. Cir. 2002) (without vacating the FCC's order requiring a transition to bill and keep compensation between ILECs and ISPs, the court held that the FCC could not replace existing intercarrier compensation arrangements by carving out calls made to ISPs via ILEC phone lines from the reciprocal compensation requirement established in Section 251(b)(5) of the Telecommunications Act of 1996), *cert. denied*, Core Communications, Inc. v. Fed. Communications Comm'n, 123 S. Ct. 1927 (2003).

[46] For example an ISP might avoid facilities construction or line leasing costs by handing off traffic to another ISP who would then bear the burden of securing final delivery or at least carriage onward to the intended destination. This free riding tactic is referred to as "hot potato routing": "Rather than lease lines throughout the nation and expand capacity, the free rider ISP may attempt to hand off traffic to a larger, better equipped ISP at the closest public peering point. The free rider ISP considers traffic a 'hot potato' and has a financial

obscuring or distorting the origination point of traffic[47] and by characterizing traffic as exempt from payment responsibilities to another carrier.[48]

B. Examples of Regulatory Arbitrage

1. Grey Market Strategies

Not all regulatory arbitrage strategies violate laws and regulations even though they deviate from regulatory intent, or exploit loopholes. Arguably, when a customer or a carrier exploits an arbitrage opportunity, carriers have greater incentives to close the loophole and correct inconsistent charges and policies. The sticky resilience of some loopholes indicates that carriers themselves might also gain, even as they claim unjust enrichment by others. Accordingly, when carriers create arbitrage opportunities absent a regulatory obligation one should closely examine why the loophole persists. Carriers might tolerate lost traffic and revenues if they accrue even greater benefits including regulatory relief, insulation from having to compete, and opportunities to price discriminate profitably, because most

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incentive to pass such traffic off to any other ISP who agrees to take it." Rob Frieden, *Without Public Peer: the Potential Regulatory and Universal Service Consequences of Internet Balkanization*, 3 VA. J.L. & TECH. 8, ¶ 2 n.2 (1998); *see also* Michael Kende, *The Digital Handshake: Connecting Internet Backbones*, 11 COMMLAW CONSPECTUS 45, 60 (2003).

[47] For example if a carrier charges higher fees to deliver international traffic and domestic traffic, a foreign carrier seeking termination of traffic will attempt to interconnect with the terminating carrier in a manner that makes the traffic appear domestic or even local in origin. The term refiling refers to the physical reinsertion of distant traffic into a local or additional long distance network to reduce fees borne by the sender.

[48] For example if two carriers agree to a zero cost "bill and keep" interconnection arrangement all traffic handed off from one carrier to the other triggers no payment obligation. Carriers agree to this arrangement when they have roughly equal traffic volumes. However, the zero cost arrangement may encourage carriers to collect traffic from diverse locations, where an interconnection payment would be required, and route it to the carrier offering zero cost interconnection.

carriers and consumers cannot avoid paying higher rates ostensibly to offset regulatory arbitrage losses.

Grey market regulatory arbitrage refers primarily to "self-help" strategies available to consumers that reduce telecommunications charges. Consumers can execute some of these tactics unilaterally, but most require the involvement of an enterprising business venture. Most grey market regulatory arbitrage strategies allow consumers to save money by physically linking two previously separate lines, or by changing the apparent origination point of a call. Masking the true origination point of a call can lower costs by converting long distance calls into local calls and by applying lower rates than otherwise would apply.

i. Leaky PBXs

A longstanding regulatory arbitrage opportunity for business customers involves the use of an on-premises switchboard, commonly referred to as a Private Branch Exchange ("PBX") that can link long distance lines with outbound local telephone lines. Even businesses with only a few telephone lines can use a PBX to "leak" traffic into the local exchange, including calls originating at a long distance via an inter-city private line.[49]

For example, a law firm with offices in Washington, D.C. and New York City might lease a private line to provide a direct link between telephones situated in either office. Carriers typically offer private lines based on the assumption that users need an intercom link between offices and nowhere else. With the proliferation of PBXs, businesses could easily engineer local exchange access at both ends of the private line without having to make additional payments to either the long distance or local exchange carriers handling the traffic. The PBX links regular local business lines in both cities with the inter-city, private line. While such leaky PBXs might technically violate carrier service terms

[49] A "long-recognized form of regulatory arbitrage is the ability of certain owners of private branch exchanges ('PBXs') to avoid paying access charges on long-distance calls (the 'leaky PBX' problem)." Bill and Keep Carrier Compensation Proposal, *supra* note 5, at 9616.

and conditions, few carriers decided to enforce them, even when a tariff[50] was filed with and approved by the FCC.[51]

ii. Resale of Private and WATS Lines

Entrepreneurial new telecommunications ventures, often operating with limited seed money, can market themselves as national long distance telephone companies through the resale of private lines and wide area telephone service calling, i.e., outbound long distance calling via a 1 plus 800, 877, or 866 prefix. Resale

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50 For over six decades a tariff regime was mandated by the Communications Act of 1934, which requires the FCC to review telecommunications carriers' tariffs to ensure their reasonableness [citing 47 U.S.C. §§ 201–02]. The Act requires carriers to file their tariffs with the FCC, [citing 47 U.S.C. § 203(a)], and they are prohibited from charging consumers except as provided in the tariffs [citing 47 U.S.C. § 203(c)] (establishing what is popularly known as the 'filed-rate doctrine').

MCI WorldCom Inc. v. Fed. Communications Comm'n, 209 F.3d 760, 762 (D.C. Cir. 2000). Starting in the early 1980s, the Commission tried to prohibit tariff-filing by all IXCs but AT&T. *See* MCI Telecommunications Corp. v. Fed. Communications Comm'n, 765 F.2d 1186 (D.C. Cir.1985) (mandatory detariffing deemed inconsistent with the 1934 Act). These efforts failed, until Congress expressly authorized elimination of regulatory requirement based on changed circumstance and a public interest justification. *See* Communications Act of 1934, 47 U.S.C. § 160 (2003) (as amended).

51 The "leaky PBX" problem arises where large end users that employ multiple PBXs in multiple locations lease private lines to connect their various PBXs. Although these lines were intended to permit employees of the large users to communicate between locations without incurring access charges, some large users permitted long-distance calls to leak from the PBX into the local public network where they were terminated without incurring access charges. In order to address this problem, the Commission in 1983 imposed a $25 per month charge on each trunk that could "leak" traffic into the public switched network.

Bill and Keep Carrier Compensation Proposal, *supra* note 5, at 9616 n.21 (citing 47 C.F.R. § 69.115); MTS and WATS Market Structure, Memorandum Opinion and Order, 97 F.C.C.2d 682 (1983); Memorandum Opinion and Order, 97 F.C.C.2d 834 (1984).

provided the first major competitive domestic service options in the United States in the 1970s.[52] The FCC supported linkage of private lines with local exchange access in part because it forced long distance carriers to reduce rates and narrow or eliminate the financial arbitrage opportunity created by the big gap between retail long distance rates and the far lower per minute costs borne by large volume users:

> We find that elimination of the restrictions on unlimited resale and sharing of private line service will bring about public benefits which include:
>
> (a) the provision of communications service at rates more closely related to costs;
>
> (b) better management of communications networks and the provision of management expertise by users and intermediaries to the carriers;
>
> (c) the avoidance of waste of communications capacity; and,
>
> (d) the creation of additional incentives for research and development of ancillary devices to be used with transmission lines.[53]

Private line resale also has provided the first significant downward pressure and competitive option for international calls in many nations.[54] Consumers need not await the onset of

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[52] [A]fter an investigation, AT&T was ordered by the FCC to remove all resale restrictions in its tariffs for Message Telephone Service (MTS). After the WATS resale went into effect, many resellers began to take advantage of the new opportunities. Through leasing WATS lines, both MCI and Sprint were then able to connect their customers' calls to anywhere in the AT&T network.

Richard E. Nohe, *A Different Time, A Different Place: Breaking Up Telephone Companies in the United States and Japan*, 48 FED. COMM. L.J. 307, 319 (1996).

[53] Regulatory Policies Concerning Resale and Shared Use of Common Carrier Services and Facilities, 60 F.C.C.2d 261, ¶7 (1976).

[54] Simple Resale, or ISR, it could introduce competitive forces on routes that would place downward pressure on U.S.-international settlement rates. ISR involves the provision of switched services over resold or facilities-based private lines

facilities-based competition to save money, but on the other hand incumbents may experience competition from poorly capitalized ventures with little incentive or ability to invest in new, in ground facilities.

iii. International Call Reorigination

International call-back services provide regulatory arbitrage opportunities resulting from the vastly different charges for international long distance among nations.[55] Call reorigination enables callers in high cost nations to secure international long distance service at much lower rates. Callers in high cost areas use a service that triggers a request for dial tone in a low cost nation making it appear as though the call originated in the low cost area inbound to the high cost area. While some nations have deemed call-back illegal, little can be done to block the importation of outbound calling access from lower cost areas.

The FCC initially agreed, on international comity grounds, to enforce a foreign country's law prohibiting call-back services.[56]

> that connect to the public switched network at either end-point. Instead of U.S. carriers paying for the use of half of a shared circuit to a foreign point through traditional settlement payments, U.S. carriers under ISR arrangements may connect or lease a complete or whole circuit end-to-end to the corresponding foreign carrier's network and pay a negotiated rate for termination of services on the foreign network.

International Settlements Policy Reform International Settlement Rates, 17 F.C.C.R. 19,954, 19,961 (2002).

[55] Call-back service allows a customer in a foreign country to use foreign facilities to dial a telephone number in the United States and receive dial tone at a switch at the reseller's U.S. location, which the customer can then use to place a call via an outbound switched service of a U.S. carrier. The through calls are billed at U.S.-tariffed rates.

Via USA, Ltd. Telegroup, Inc., Discount Call Int'l Co., 9 F.C.C.R. 2288, 2288 (1994), *on reconsideration*, 10 F.C.C.R. 9540 (1995).

[56] "We therefore find, as a matter of international comity, that the Commission should prohibit carriers authorized to provide call-back service utilizing uncompleted call signaling from providing this offering in countries where it is expressly prohibited. We would expect no less from foreign governments in a

However, in early 2003[57] the Commission abandoned its enforcement of other nations' call-back prohibitions on grounds that international call reorigination benefits consumers by forcing carriers throughout the world to reduce rates to cost plus a reasonable profit.[58] Additionally, call-back has helped dismantle an international toll revenue division system that has used excessively high rates as the basis for interconnecting networks.[59]

Call-back and other routing strategies help disrupt a system where carriers attempt to price discriminate to maximize profits,

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comparable context." Via USA, Ltd. Telegroup, Inc. Discount Call Int'l Co., 10 F.C.C.R. at 9557.

[57] *See* Enforcement of Other Nations' Prohibitions Against the Uncompleted Call Signaling Configuration of International Call-Back Service, Petition for Rulemaking of the Telecommunications Resellers Association To Eliminate Comity-Based Enforcement of Other Nations' Prohibitions Against the Uncompleted Call Signaling Configuration of International Call-back Service, 18 F.C.C.R. 6077, 6081–83 (2003).

[58] By no longer enforcing prohibitions against call-back in foreign countries, we are not rejecting the sovereign rights of any foreign government or limiting the ability of a foreign government to adopt and enforce policies to prohibit call-back within its jurisdiction. Rather, we are re-emphasizing our standing policy to encourage competition in all markets, both developed and developing. We will continue to work in various fora to promote network expansion and universal access. We encourage a pro-competitive call-back policy that extends to the international marketplace, embraces free and open competition, and benefits U.S. consumers as well as the global community by ensuring lower prices, new and better products and services, and greater consumer choice. Indeed, we believe that eliminating call-back prohibitions enhance competition throughout the global marketplace.

Id. at 6081–82.

[59] Carriers are adopting non-traditional, more cost-efficient means of routing traffic, such as routing switched traffic over private lines and switched hubbing. Some experts predict that by 2005, the resale market will be worth ten times what it was in 1996. New technologies such as callback and Internet telephony are already putting significant pressure on international settlement rates and domestic collection rates.

Rules and Policies on Foreign Participation in the U.S. Telecommunications Market, 12 F.C.C.R. 23,891, 23,895 (1997), *modified by*, 13 F.C.C.R. 6219 (1998).

regardless of cost support for the rate differentials.[60] However, the disruption occurs when iconoclasts and entrepreneurs seek to disrupt the system, with little regard for whether the tactics they use comply with domestic and international law and whether they trigger unintended adverse consequences, e.g., substantially reduced hard currency payments from developed to developing countries as a result of more outbound calls from the former to the latter.

iv. Internet Telephony

An even more extensive regulatory arbitrage opportunity results when newcomers and incumbents alike use the Internet to route long distance telephone service traffic. Making the conversion from dial-up, circuit switched telephony[61] to packet switched Internet[62] qualifies the traffic for favorable regulatory

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[60] "We continue to believe that encouraging alternative means of routing traffic, such as international call-back service, Internet telephony, and switched hubbing is an effective way to lower settlement rates, as well as foreign and domestic collection rates." 1998 Biennial Regulatory Review—Reform of the International Settlements Policy and Associated Filing Requirements and Regulation of International Accounting Rates, Notice of Proposed Rulemaking, 13 F.C.C.R. 15,320, 15,327 (1998). "New technologies such as call-back and Internet telephony are already putting significant pressure on international settlement rates and domestic collection rates." Rules and Policies on Foreign Participation in the U.S. Telecommunications Market and Market Entry and Regulation of Foreign-Affiliated Entities, 12 F.C.C.R. 23,891, 23,896 (1997), *on reconsideration*, 15 F.C.C.R. 18,158 (2000).

[61] Conventional dial-up local and long distance telephone service use dedicated links and line switching between caller and call recipient. The network architecture optimizes quality and reliability for voice communications. For background on telephony basics see Marshal Brain, *How Telephones Work*, *at* http://electronics.howstuffworks.com/telephone6.htm (last visited Mar. 23, 2004) (on file with the North Carolina Journal of Law & Technology).

[62] The Internet uses a network architecture that splits traffic into some units known as packets. Packets are switched and routed via any available network which provides a shared medium available to multiple senders and receivers of data traffic. For background on Internet architecture basics see Jeff Tyson, *How Internet Infrastructure Works*, *at* http://computer.howstuffworks.com/internet-infrastructure.htm htm (last visited Mar. 23, 2004) (on file with the North Carolina Journal of Law & Technology).

treatment including fee exemptions. Conventional long distance telephone service obligates carriers to pay access charges to LECs for using their networks to originate and terminate traffic, i.e., using the local loop facilities of LECs from call originator to the Point of Presence ("POP") where the IXC receives calls for the long haul carriage and for LEC delivery of calls received at the POP and delivered to the call recipient. Instead of paying per minute access charges, Internet telephony carriers need only acquire inbound business telephone lines that their customers can use to access their services. Alternatively, consumers of Internet telephony can access ISP facilities via LEC-provided Digital Subscriber Lines or cable television operator supplied links.

The Internet provides a medium for the instantaneous, "real time" processing and delivery of packets corresponding to voice conversations.[63] While initial Internet telephony services had inferior quality as compared to conventional dial-up long distance telephone service, the gap has narrowed and Internet telephony offers consumers ample cost savings, partly because of the exemption from LEC access charges,[64] and the duty to make contributions to universal service funding. Consistent with its attempt to keep the Internet regulation-free, the FCC considers software generated, non-commercial Internet telephony access via broadband lines[65] as an "enhanced service" under the *Second Computer Inquiry*,[66] and an "information service"[67] under the '96

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[63] For more extensive background on this topic see Frieden, *supra* note 37, at 47–79.

[64] Bill and Keep Carrier Compensation Proposal, *supra* note 5, at 9657.

[65] *See* Fed. Communications Comm'n, *Petition for Declaratory Ruling that pulver.com's Free World Dialup is Neither Telecommunications nor a Telecommunications Service*, WC Docket No. 04-35, *available at* http://hraunfoss.fcc.gov/edocs_public/attachmatch/FCC-04-27A1.pdf (Feb. 19, 2004) (on file with the North Carolina Journal of Law & Technology).

[66] The Commission defines an enhanced services as "services offered over common carrier transmission facilities, which employ computer processing applications that act on the format, content, code, protocol or similar aspects of the subscriber's additional, different or restructured information; or involve subscriber interaction with stored information." Amendment of Section 64.702 of the Commission's Rules and Regulations, 77 F.C.C.2d 384, 420 (1980), *on reconsideration*, 84 F.C.C.2d 50 (1980), *further reconsideration*, 88 F.C.C.2d 512 (1981), *aff'd*, Computer and Communications Indus. Ass'n v. Fed.

Act, and accordingly not a "telecommunications service"[68] subject to common carrier regulation.[69] However, in light of the variety of Internet-mediated telephone services, the FCC acknowledged that not all services might continue to qualify for exemption from

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Communications Comm'n, 693 F.2d 198 (D.C. Cir. 1982), *cert. denied*, 461 U.S. 938 (1983).

[67] "The term 'information service' means the offering of a capability for generating, acquiring, storing, transforming, processing, retrieving, utilizing, or making available information via telecommunications, and includes electronic publishing, but does not include any use of any such capability for the management, control, or operation of a telecommunications system or the management of a telecommunications service." 47 U.S.C. § 153(20) (2001).

[68] "The term 'telecommunications service' means the offering of telecommunications for a fee directly to the public, or to such classes of users as to be effectively available directly to the public, regardless of the facilities used." 47 U.S.C. § 153(46). The '96 Act defines telecommunications as "the transmission, between or among points specified by the user, of information of the user's choosing, without change in the form or content of the information as sent and received." 47 U.S.C. § 153(43).

[69] While not using the basic/enhanced services dichotomy created by the FCC, the '96 Act's telecommunications/information services dichotomy establishes the same regulatory distinction: The term "information service" follows from a distinction the Commission drew in the First, Second, and Third Computer Inquiries ("Computer I," "Computer II," and "Computer III"). *See generally* Regulatory and Policy Problems Presented by the Interdependence of Computer and Communication Services and Facilities, 7 F.C.C.2d 11 (1966) (Computer I); Amendment of Section 64.702 of the Commission's Rules and Regulations, 77 F.C.C.2d 384 (1980) (Computer II); Amendment of Section 64.702 of the Commission's Rules and Regulations, 104 F.C.C.2d 958 (1986) (Computer III Phase I Order). That distinction was between basic data transmission service on the one hand and, on the other, a combination of that transmission and computer-mediated offerings. That combination produces "enhanced" or information services. This distinction was incorporated into the Modification of Final Judgment, which governed the BOCs after the bell system break-up, and into the 1996 Act. Federal-State Joint Board on Universal Service, 13 F.C.C.R. 11,501, 11,536, ¶ 75 (1998) (citing United States v. W. Elec. Co., 673 F. Supp. 525 (D.D.C. 1987), and 714 F. Supp. 1 (D.D.C. 1988)), *rev'd in part*, 900 F.2d 283 (D.C. Cir. 1990); Appropriate Framework for Broadband Access to Internet over Wireline Facilities, 17 F.C.C.R. 3019, 3029 n.38 (2002).

universal service funding obligations, even though the Commission favors maintaining their largely unregulated status.[70]

Technological innovations in Internet telephony work to make the service closer to a functional equivalent to dial-up, long distance telephone service. In particular, one now can access Internet telephony services via an ordinary telephone handset, a far more user friendly option than previously available via specially configured personal computers. In a Report to Congress on Universal Service,[71] the FCC tentatively concluded that phone-to-phone Internet telephony appears to constitute a "telecommunications service" under the '96 Act and acknowledged that such a classification would trigger access charge liability. However, the Commission refrained from using a Congressional report as the forum for issuing a definitive ruling.

Mediation by the Internet qualifies Internet telephony carriers for largely unregulated status as providers of enhanced, information services, despite the fact that Internet telephony competes with and constitutes a functional equivalent to conventional dial-up telephony. By simply using the Internet as a medium for carrying long distance telephone traffic part of the way between call originator and call recipient, Internet telephony providers qualify for the largely unregulated status as providers of enhanced/information services. Internet telephony service providers also avoid having to make contributions, from their revenues or through customer surcharges.

v. CLEC and Wireless Carrier Call Termination

Another type of arbitrage opportunity occurs when one carrier can leverage access to its subscriber base to extract higher access payments than what other carriers charge for functionally the same sort of access. Some CLEC and cellular radio carriers

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[70] *See* Fed. Communications Comm'n, IP-Enabled Services, No. 04-36 (Mar. 10, 2004), *available at* http://hraunfoss.fcc.gov/edocs_public/attachmatch/FCC-04-28A1.pdf (on file with the North Carolina Journal of Law & Technology).

[71] Federal-State Joint Board on Universal Service, 13 F.C.C.R. 11,501, 11,541 (1998).

have charged higher rates for call terminations than their ILEC counterparts, without having to prove that the CLECs' or wireless carriers' call delivery functions costs substantially more than when ILECs perform the same service. The differential in charges has grown to such an acute level that the FCC has launched an investigation of CLEC access charges[72] and also the surcharges IXCs impose to recoup payments made to foreign wireless carriers for terminating international calls to their subscribers.[73]

III. Regulatory Dichotomies that Create Arbitrage Opportunities

Many regulatory arbitrage opportunities in telecommunications result from the creation of classifications that trigger unequal financial and regulatory burdens. Such inequality typically lacks any financial justification based on cost of service differentials. In other words, an FCC decision to regulate or not regulate a service category, or to impose comparatively greater or lesser regulatory and financial burdens depends on political and public policy rationales and not cost differentials. Some of the rationales may have had reasonable policy justification at the time the regulatory policy decision was first made. However, changes in service cost, reduced financial and regulatory barriers to market entry and technological innovations may have overturned assumptions made to justify regulatory inequality. Set out below are a number of ongoing regulatory dichotomies that remain in force despite changed circumstances that erode much of the justifications for unequal treatment.

A. Intrastate Service Charges Exceed Interstate Rates

From the onset of long distance telephone service to the present, traffic that stays within a state typically costs consumers

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[72] Fed. Communications Comm'n, Reform of Access Charges Imposed by Competitive Local Exchange Carriers, 2001 WL 431685 (2001).

[73] International Settlements Policy Reform International Settlement Rates, 17 F.C.C.R. 19,954, 19,979 (2002).

more than traffic that crosses a state boundary.[74] No technological reason justifies such a price differential, but legitimate public policy goals may still exist.[75] The difference lies in cost allocation decisions made by state regulators that may deviate from the FCC's national policies, or which lag in the transition to reformed policies. For example, higher intrastate long distance charges result from a decision by state regulators to load financial burdens onto IXCs and their customers so that LECs and their customers have a lighter load.

Regardless of the individual wealth or personal circumstances, users making long distance telephone calls historically have incurred higher charges on a per mile or per minute basis than callers making interstate calls of equal duration or distance. The FCC has acknowledged the inefficiency and inequity in pricing policies and cost allocation decisions that create implicit subsidies.[76] However, the FCC has not had complete success in convincing state public utility commissions that

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[74] A major reason for the rate differential lies in the access charges paid by IXCs to LECs. Many states still burden IXCs, and their customers, with implicit subsidy obligations designed to keep local rates low.

> While intrastate and interstate access are functionally similar services, intrastate access rates are regulated by the state commissions that have a wide range of services under their jurisdiction. In some states, switched access rates are quite low—comparable to the FCC's cost estimates. In most states, however, the rates far exceed even the high levels of interstate access charges . . . .

Rohlfs & Sidak, *supra* note 17, at 341.

[75] "State commissions, which have traditionally exercised jurisdiction over intrastate telecommunications, have significantly closer proximity and more intimate knowledge of . . . [local consumer needs] than does this Commission. They have greater knowledge, for instance, of how their intrastate retail rates are set, including where the implicit subsidies lie." Review of the Section 251 Unbundling Obligations of Incumbent Local Exchange Carriers, No. 01-338, 2003 WL 22175730, at ¶425 (2003).

[76] For example, "implicit subsidies flowing from high-volume to low-volume users of interstate long distance services . . . have a disruptive effect on competition in the markets for local exchange and exchange access services." F.C.C., Access Charge Reform Price Cap Performance Review for LECs, 2003 WL 21544089, at ¶2 (2003).

artificially loaded costs on one user group vis-à-vis others, harms carriers and consumers alike.

The FCC's access charge reform orders have largely, but not entirely,[77] removed excessive costs borne by long distance callers via higher per minute charges and ordered the recoupment of such costs directly from all telephone subscribers. Not all states have implemented similar cost allocation reforms. Accordingly, many long distance carriers continue to charge higher per minute intrastate long distance charges.

B. Different Local Interconnection Charges Based on Service Classification

Few would dispute that LECs incur similar, if not identical costs, when using the same facilities to provide the first and last link of traffic, regardless of where and how the traffic is routed after the first link and before the last link. Yet local exchange facility charges vary widely among states[78] and as a function of

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[77] [T]he costs of the common line or loop that connects an end user to a LEC's central office should be recovered from the end user through a flat charge, because loop costs do not vary with usage. Yet the subscriber line charge (SLC), a flat monthly charge assessed directly on end users to recover interstate loop costs, has been capped since its inception due to affordability concerns. Historically, LECs recovered their remaining common line costs through per-minute carrier common line (CCL) charges imposed on interexchange carriers (IXCs) which, in turn, passed these charges on to their customers in the form of higher long distance rates. By making the end-user rate for long distance calls more expensive, CCL charges artificially suppressed demand for interstate long distance services. CCL charges also created significant implicit subsidies flowing from high-volume to low-volume users of interstate long distance services, which have a disruptive effect on competition in the markets for local exchange and exchange access services.

Id.

[78] *See* National Regulatory Research Institute, *A Survey of Unbundled Network Element Prices in the United States*, *at* http://nrri.org/documents/Matrix0703all.pdf (July 2003) (on file with the North Carolina Journal of Law & Technology).

whether the LEC receives traffic from another LEC, an IXC, a wireless carrier, or from an international carrier. In the regulated environment in which LECs operate, such carriers presumably have to price services based on their actual costs, or on an even lower forward looking estimate of their costs based on assumptions of what carriers using "best practices" and new technologies would incur.[79] Only where competition justifies streamlined or eliminated regulation may carriers charge what the market will bear. However, the fact that local exchange access pricing differ by state and by service attests to the ability of ILECs to differentiate functionally equivalent services based on other factors including demand elasticities, whether alternative carriage options exist, and what user groups state regulators want to favor.

For example, wireline LECs initially charged wireless carriers a significant premium over rates charged to other wireline LECs. Before wireless carriers' traffic reached a critical mass LECs could dictate the location where interconnection would take place and could demand compensation for terminating calls originating on a wireless network even as wireless carriers could not secure reciprocal compensation for terminating calls originating on a LEC's wireline network.

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[79] Section 251 of the Telecommunications Act of 1996 imposes interconnection duties on carriers providing telecommunications services. 47 U.S.C. § 251 (2001). The FCC and state public utility commissions bear the responsibility for calculating the cost of interconnection when the carriers themselves cannot reach a negotiated agreement. In implementing this section of the '96 Act, the FCC adopted a Total Element Long Run Incremental Cost ("TELRIC") cost methodology. This method for calculating costs ignores the actual costs of previously installed "embedded" facilities and instead estimates costs based on assumption the ILEC is using the most efficient telecommunications technology currently available and the lowest cost network configuration, whether that is the case or not the LEC is actually using them. For background on TELRIC pricing, see Jim Chen, *TELRIC in Turmoil, Telecommunications in Transition: A Note on the Iowa Utilities Board Litigation*, 33 WAKE FOREST L. REV. 51 (1998); Gary J. Guzzi, *Breaking Up the Local Telephone Monopolies: The Local Competition Provisions of the Telecommunications Act of 1996*, 39 B.C. L. REV. 151 (1997).

C. Using the Internet to Carry Telecommunications Services Provides Extraordinary Cost Savings and Regulatory Advantages

The FCC has developed a dichotomy between basic telecommunications and enhanced, information services with an eye toward limiting regulation to the first category and stimulating innovation and investment in the second category.[80] However, this laudable regulatory restraint creates arbitrage opportunities when unregulated, enhanced service providers offer something functionally equivalent to what regulated telecommunications service providers offer. The FCC acknowledges that now widespread offering of Internet Protocol ("IP") telephony by unregulated ISPs and other ventures "threatens to erode access revenues for LECs because it is exempt from the access charges that traditional long-distance carriers must pay."[81]

One can properly infer that if Internet telephony migrates revenues from LECs then consumers consider this service an alternative to conventional dial-up telephone service provided by LECs. Migration of LEC revenues from Internet telephony[82] occurs at the same time as wireless mobile telephone services make similar inroads.[83] Declining wireline revenues coupled with

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[80] For background on the Computer Inquiries, see Robert Cannon, *The Legacy of the Federal Communications Commission's Computer Inquiries*, 55 FED. COMM. L.J. 167 (2003).

[81] Bill and Keep Carrier Compensation Proposal, *supra* note 5, at 9657.

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> Currently VOIP [Voice Over Internet Protocol] accounts for less than 3% of global voice phone calls, according to an AT&T estimate. But a number of trends are working in its favor, say industry executives: the boom in demand; the evolution of the technology, which permits companies to offer services beyond the reach of conventional phones; and the spread of broadband connections, which make VOIP much easier to use.

Peter Grant & Almar Latour, *Battered Telecoms Face New Challenge: Internet Calling*, WALL ST. J., Oct. 9, 2003, at A1.

[83] "Notably, 3 to 5 percent of wireless customers use their wireless phone as their only phone. Some carriers attribute, at least in part, the recent drop in wireline switched access lines to this replacement of wireline phones by wireless

the '96 Act required interconnection obligations on favorable rates has significantly impacted ILEC profitability and stock market attractiveness. To the extent that ILECs serve as the carrier of last resort in many localities, the financial vulnerability of ILECs has important public policy implications. Similarly, the migration of revenues off ILEC networks means that subsidy mechanisms, such as the Universal Service Fund, will need remedial reworking. As enhanced service providers and ISPs do not make universal service funding contributions, users of conventional dial-up services may face an even greater burden.[84]

The FCC previously has acknowledged the potential for Internet telephony to compete with dial-up services, but so far has decided not to remove the favorable unregulated classification.[85] The Commission may have to rethink its decision in view of the growing traffic migration and recent attempts by several states to treat Internet telephony as a regulated service. For example, the Minnesota Public Utilities Commission recently issued a ruling[86] classifying Internet telephony as telecommunications, subject to its regulatory oversight which would include common carrier rate regulation. An appellate court overturned this ruling based on grounds of federal preemption.[87]

State regulatory commission assertion of jurisdiction over Internet telephony sets the stage for yet another battle whether the FCC should preempt the states from making inconsistent, "balkanizing" policies, or whether states have a lawful right to

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phones." Review of the Section 251 Unbundling Obligations of Incumbent Local Exchange Carriers, 2003 WL 22175730, at ¶53 (Aug. 21, 2003).

[84] *See* Rob Frieden, *Universal Service: When Technologies Converge and Regulatory Models Diverge*, 13 HARV. J.L. & TECH., 395, 395–433 (2000).

[85] *See, e.g.*, Federal-State Joint Board on Universal Service, 13 F.C.C.R. 11,830 (1998).

[86] Complaint of the Minnesota Department of Commerce Against Vonage Holding Corp. Regarding Lack of Authority to Operate in Minnesota, Docket No. P-6214/C-03-108 (Sept. 11, 2003), *available at* http://www.puc.state.mn.us/docs/orders/03-0108.pdf (on file with the North Carolina Journal of Law & Technology).

[87] *See* Vonage Holding Corp. v. Minn. Pub. Utils. Comm'n, No. Civ. 03-5287, 2004 WL 114983 (D. Minn. Jan. 14, 2004).

establish telecommunications policies appropriate for circumstances particular to an individual state. The borderless nature of the Internet makes this jurisdiction question more troublesome. One could consider Internet access as involving the use of local exchange lines regardless of whether interconnection with interstate lines takes place to reach points outside the state where traffic originated. Under this interpretation, Internet access via a LEC would trigger a reciprocal compensation obligation when the LEC hands off traffic to another carrier, e.g., a CLEC affiliate of an ISP. Alternatively, the local origination could be considered in the context of the complete link into the World Wide Web, almost always involving an interstate or international routing.

In 1999, the FCC declared that ISP-bound traffic is "jurisdictionally mixed and appears to be largely interstate."[88] In a declaratory ruling, the FCC concluded that dial-up Internet traffic is interstate and not local in nature, an interpretation that would foreclose application of the reciprocal compensation requirement.[89] However, the Commission stated its intent to defer to state regulatory agency decisions addressing the issue, including whether to continue enforcing existing intercarrier interconnection agreements, pending the issuance of federal rules. In most instances state regulatory agencies have considered Internet access to constitute a local service based on the view that customers typically access ISPs by dialing a local, toll-free seven digit telephone number. The state regulatory agencies consider the onward interconnection with the Internet to occur via a separate interconnection, despite the fact that both links occur jointly and seamlessly, i.e., the consumer accesses the Internet via one telephone call. An analysis that considers Internet access in terms

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[88] Implementation of the Local Competition Provisions in the Telecommunications Act of 1996, Inter-Carrier Compensation for ISP-Bound Traffic, 14 F.C.C.R. 3689, 3690 (1999), *vacated by*, Bell Atl. Tel. Co. v. Fed. Communications Comm'n, 206 F.3d 1 (D.C. Cir. 2000) (FCC ordered to explain why local exchange carrier termination of ISP calls are not local in nature).

[89] Implementation of the Local Competition Provisions in the Telecommunications Act of 1996, Inter-Carrier Compensation for ISP-Bound Traffic, 14 F.C.C.R. 3689 (1999).

of two linked calls qualifies the first leg as local and therefore subject to the reciprocal compensation arrangement. An analysis that considers Internet access in terms of one call more easily exempts such links from the reciprocal compensation arrangement, because Internet links may take place anywhere and many occur outside the state where the call first originated.

The FCC's declaratory ruling was appealed to the D.C. Circuit Court of Appeals which remanded it to the Commission for having failed to explain why LECs that terminate calls to ISPs are not properly seen as terminating local telecommunications traffic instead of interstate traffic.[90] The court also required the FCC to explain why the LEC service of routing Internet traffic constitutes "exchange access," rather than "telephone exchange service." Local exchange carriers provide the former when originating and terminating long distance telephone traffic, while the latter involves conventional local service subject to the reciprocal compensation requirement.

On remand, the FCC reaffirmed its conclusion that traffic delivered to an ISP is interstate, and Commission ordered a transition to "bill and keep" cost recovery whereby both LECs and ISPs recover costs from their own customers without the carriers compensating each other. On a second appeal the Court of Appeals for the D.C. Circuit remanded, but did not reverse, the FCC on the narrow grounds that the Commission could not have relied on section 251(g) of the '96 Act to carve out a "bill and keep," zero compensation arrangement for calls to ISPs.[91] That section did not provide the basis for a substantive change in policy as it only authorized the FCC to maintain LEC regulatory duties that predated enactment of the '96 Act in the transition to the new requirements established by the '96 Act.

Having twice decided that Internet access constitutes an interstate service, the FCC had to confront the question whether local and intrastate service customers should bear any of the costs incurred by LECs to handle traffic received from or destined to

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[90] *See Bell Atl.*, 206 F.3d at 8–9.

[91] Worldcom, Inc. v. Fed. Communications Comm'n, 288 F.3d 429 (D.C. Cir. 2002).

ISPs. In *ACS of Anchorage v. FCC*,[92] which involved an FCC finding that a LEC exceeded its permissible rate of return, the carrier claimed that the FCC could not lawfully require it to allocate to its intrastate services the traffic-sensitive costs associated with calls routed to and from ISPs. The D.C. Circuit Court of Appeals acknowledged that cost allocation decisions parallel jurisdictional ones such that having deemed Internet access interstate, the Commission should not have objected to a LEC's allocation of costs to interstate rate payers. However, the court noted that "deviation from the jurisdictional norm [can exist] where the Commission was implementing (a) an interim ratemaking solution (b) justified by a substantial policy objective."[93] The court affirmed the FCC's decision to prohibit allocating Internet access costs to interstate services as consistent with the Commission's previous policy initiative to exempt enhanced and information service providers from having to pay interstate access charges. The court also noted that the interim nature of the FCC's policy supported deference.

IV. All Regulatory Asymmetries Need Review and Justification

Regulatory asymmetries have the mixed impact of distorting markets ostensibly to achieve public policy objectives. Even as they may promote incipient competition and other laudable goals, regulatory asymmetries typically provide arbitrage opportunities for crafty users and entrepreneurial market entrants. Often the financial gains accruing to arbitrageurs reduce the positive impact of the policies which justified inconsistent regulatory treatment in the first place. The resulting market distortions tilt the competitive playing field in favor of one class of stakeholder over another by adding or reducing financial burdens.

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[92] 290 F.3d 403 (D.C. Cir. 2002).
[93] *Id.* at 408.

A. Remove Cost Differentials for Functionally Equivalent Network Access

Absent ongoing and compelling policy justifications, legislatures and regulators should not create financial handicaps or advantages between competitors. Decision makers need to calibrate their promotional efforts, which include favorable cost allocation policies, so that opportunities exist to generate competition in previously monopolized markets. However, such procompetitive initiatives cannot so linger as to become an entitlement for the class of beneficiaries.

Institutionalizing inequitable cost allocations and resulting cost differentials can adversely impact the prospect for competition by artificially enhancing the prospects for market entrants. For example, one could argue that too much venture capital flowed into the CLEC market based in part on the promotional actions of Congress and the FCC.[94] ISPs created CLEC affiliates to qualify for mandatory reciprocal compensation from ILEC. CLECs qualified for '96 Act mandated resale and unbundled network access opportunities at quite favorable forward-looking costs. While such promotional efforts may have made sense to stimulate market entry in the short run, adverse outcomes result when the efforts stimulate too much entry based on the unreasonable expectation that temporary financial advantages will remain for the foreseeable future. The longer such promotional policies remain in place, the more legitimate are incumbents' arguments that the competitive playing field remains unfairly tilted. As well, promotional policies become the focal point for litigation and other strategies designed to thwart the newcomer advantage instead of the stimulus for more extensive facilities-based competition.

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[94] *See, e.g.*, Reinhardt Krause, *"Market Exuberance" One Factor in Failure of Telecom Start-Ups; Study Says FCC Played a Role; of 300 Local Phone Firms Existing, Three Years Ago, 70 Remained by Mid-02*, INVESTOR'S BUS. DAILY, Sept. 27, 2002, at A5 (noting that the FCC may have created rules encouraged CLECs to expand too rapidly via leased lines instead of a slower pace required when building their own networks).

B. Apply Market Driven, Internet Access Models Where Possible

Interconnection and facilities access arrangements for networks that make up the Internet widely vary as a function of market conditions. For the most part throughout the world regulators have refrained from meddling. A robust, fully redundant "network of networks"[95] has evolved among operators with different subscriber bases, transmission capacity, geographical scope of operation and market share. The types of interconnection options range from zero cost "peering"[96] among the largest Tier-1 ISPs, to a one-way, calling party's network pay

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95 "The Internet is a large 'network of networks.'" There is no one network known as The Internet; rather, regional nets like SuraNet, PrepNet, NearNet, et al., are all inter-connected (nay, "inter-networked") together into one great living thing, communicating at amazing speeds with the TCP/IP protocol. All activity takes place in "real-time."

BRENDAN P. KEHOE, ZEN AND THE ART OF THE INTERNET, *available at* http://www.cs.indiana.edu/docproject/zen/zen-1.0_3.html#SEC7 (last visited Apr. 12, 2004) (on file with the North Carolina Journal of Law & Technology).

96 "In general, peering is settlements-free, i.e., the providers do not charge each other for terminating traffic. Also, one peer will not allow traffic from another peer to transit its network to a third provider." Inquiry Concerning the Deployment of Advanced Telecommunications Capability to All Americans in a Reasonable and Timely Fashion, and Possible Steps to Accelerate Such Deployment Pursuant to Section 706 of the Telecommunications Act of 1996, 14 F.C.C.R. 2398, ¶105 n.240 (1999) (citing WorldCom, Inc. & MCI Communications Corp., 13 F.C.C.R. 18,025, ¶¶143–46 (1998)).

> Interconnection agreements between Internet backbone providers are reached through commercial negotiations in a 'handshake' environment. Internet backbones interconnect under two different arrangements: peering or transit. In a peering arrangement, backbones agree to exchange traffic with each other at no cost. The backbones only exchange traffic that is destined for each other's end users, not the end users of a third party. In a transit arrangement, on the other hand, one backbone pays another backbone for interconnection. In exchange for this payment, the transit supplier provides a connection to all end users on the Internet.

Michael Kende, *The Digital Handshake: Connecting Internet Backbones*, 11 COMMLAW CONSPECTUS 45, 45 (2003).

arrangement. Market forces, including the type of number of available network access options, impact whether any particular ISP pays, receives payment, or engages in a zero cost peering arrangement to achieve network interconnection.[97]

For Internet networks, commercially driven contracts typically establish a bill and keep arrangement, where traffic flows are at or near parity. At their own expense, Internet operators build or lease telecommunications lines that reach an interconnection point. At the interconnection point, carriers agreeing to a bill and keep arrangement accept traffic and route it onward to the final destination or to another network access point. For instances where one network supplies more traffic that it receives, based on such factors as network capacity, geographical scope of service and subscriber numbers, the smaller network typically incurs all costs to reach an interconnection point and agrees to pay larger networks for carriage from that interconnection point onward to other interconnection points, or to final destinations. In most Internet network routing scenarios, operators large and small have access options without the need for regulatory intervention.

C. Markets Apply Traditional Antitrust Analysis for Insufficiently Competitive

The market-driven interconnection regime for the Internet provides the ideal model for all telecommunications networks. However, current market conditions in telecommunications do not fully match the Internet, particularly for first and last mile access to residences and businesses outside central business districts. For these markets regulators must remain vigilant against the potential for bottlenecks[98] to persist. Where bottlenecks remain, the

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[97] *See* Rob Frieden, Does a Hierarchical Internet Necessitate Multilateral Intervention?, 26 N.C. J. INT'L L. & COM. REG. 361 (2001).

[98] A bottleneck constitutes a potential choke point in the flow of commerce. In telecommunications and Internet traffic, a bottleneck exists where traffic tends to back up due to congestion or limitations in the ability of the facility to handle the volume of traffic sent. Robert B. Friedrich, *Regulatory and Antitrust Implications of Emerging Competition in Local Access Telecommunications: How Congress and the FCC Can Encourage Competition and Technological Progress in Telecommunications*, 80 CORNELL L. REV. 646, 659 (1995); *see*

incumbent service provider may have the incentive and the ability to engage in anticompetitive practices. For example, some ILECs historically may have engaged in price squeezes[99] of competitors by charging higher local exchange access prices to unaffiliated ventures while offering lower prices to affiliates. Additionally, ILECs have discriminated in favor of affiliates by offering them better quality interconnections, more timely responses to new orders and repair requests, sharing customer network information, and integrating equipment in ways that provide affiliates with competitive advantages.

For insufficiently competitive markets, regulators should engage in traditional antitrust analysis to assess the level of market concentration and dominance by firms. If necessary, regulators should apply traditional antitrust remedies including the determination that incumbents operate essential facilities,[100] a

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also Mark Cooper, *Open Access to the Broadband Internet: Technical And Economic Discrimination in Closed, Proprietary Networks*, 71 U. COLO. L. REV. 1011, 1013–14 (2000); Michael T. Osborne, *The Unfinished Business of Breaking Up "Ma Bell:" Implementing Local Telephone Competition in the Twenty-first Century*, 7 RICH. J.L. & TECH. 4 (2000), *at* http://www.richmond.edu/~jolt/admin/v7i1/note1.html (on file with the North Carolina Journal of Law & Technology).

[99] If a BOC charges its competitors prices for inputs that are higher than the prices charged, or effectively charged, to the BOC's affiliate, then the BOC can create a "price squeeze." In that circumstance, the BOC affiliate could lower its retail price to reflect its unfair cost advantage, and competing providers would be forced either to match the price reduction and absorb profit margin reductions or maintain their retail prices at existing levels and accept reductions in their market shares. If the price squeeze was severe enough and continued long enough, the BOC affiliate's market share could become so large, and the competitors so weakened, that the affiliate could unilaterally raise and sustain a price above competitive levels by restricting its output.

Implementation of Non-Accounting Safeguards of Sections 271 and 272 of the Communications Act of 1934, as amended and Regulatory Treatment of LEC Provision of Interexchange Services Originating in the LEC's Local Exchange Area, 11 F.C.C.R. 18,877, 18,886 (1996), *modified by* 12 F.C.C.R. 8653 (1997).

[100] For a review of the essential facilities doctrine, see Abbott B. Lipsky, Jr. & J. Gregory Sidak, *Essential Facilities*, 51 STAN. L. REV. 1187 (1999); Robert Pitofsky, *The Essential Facilities Doctrine Under United States Law* (2002), *at*

concept much like common carriage that imposes a duty to provide access, but on fully compensatory terms.

D. Make Subsidy Obligations Equal Among Competitors

Subsidies, designed to achieve public policy objectives such as universal service, should not become an additional vehicle for regulatory arbitrage. The FCC has worked to eliminate implicit subsidies borne by carriers, by shifting the financial burden directly to users. However, the transition to explicit subsidies has not finished at both federal and state levels such that financial burdens remain unevenly assigned as a function of regulatory classification. When regulatory classifications do not parallel market segmentations, as is the case with circuit switched (dial-up) and packet switched (Internet) telephony, regulatory beneficiaries avoid subsidy obligations borne by competitors.

Even at the risk of a perceived expanded regulatory wingspan the FCC should require all carriers to bear an equitable share of subsidy obligations. Arguably a larger pool of contributors should reduce the financial burden borne by any individual operator and its customers. As well a larger pool of contributors might create greater political pressure to revamp the subsidy process by making it more transparent and possibly by reducing the burden and transferring it entirely to telephone service subscribers or the general taxpayer.

Until the burden shifts to users or taxpayers, a gapping regulatory loophole allows Internet telephony operators to avoid paying access charges and contributing to universal service funding. While the volume of Internet telephony minutes has not yet significantly reduced the funds available to support universal service, the numbers grow and the potential for harm exists. Even

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http://www.ftc.gov/os/comments/intelpropertycomments/pitofskyrobert.pdf (on file with the North Carolina Journal of Law & Technology); John T. Soma et al., *The Essential Facilities Doctrine in the Deregulated Telecommunications Industry*, 13 BERKELEY TECH. L.J. 565, 613 (1998); Thomas A Piraino, Jr., *An Antitrust Remedy or Monopoly Leveraging by Electronic Networks*, 93 NW. U. L. REV. 1 (1998).

now users and carriers alike see the monetary benefit in migrating to Internet telephony regardless of whether the shift makes technological and operational sense.

E. Reject Legacy Regulatory Classifications When Conditions Change or When Incumbents Enter New Markets

Too many regulatory asymmetries remain in place even though the public policy justifications no longer make sense. Regulatory lag[101] or inertia accounts for some of the delay, but it also appears that stakeholders, particularly beneficiaries of regulatory asymmetries, successfully argue against change. Internet telephony advocates argue for the still acute need for regulators to promote new technologies and viable, sustainable competition. Market entrants in general assert the need for policies that reduce their cost of doing business vis-à-vis incumbents. Worse yet, incumbents condition capital expenditures for new facilities on regulators' commitments to exempt the investments from common carrier access requirements, no matter how essential to sustainable broadband competition and other public interest objectives.

When a major regulatory dichotomy exists based on service classifications, such as regulated basic versus unregulated enhanced services, stakeholders work tirelessly to shoehorn their offerings into the unregulated category. In a new disappointing trend, the FCC itself has engaged in the exercise of crafting

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[101] A regulatory lag is a delay between a change in market conditions or production technology and the adjustment of regulations that are based on those factors. Though regulatory lags are sometimes considered a source of regulatory inefficiency, they can also create incentives for utilities to improve efficiency to capture some of the rewards associated with their innovations before regulated prices adjust downward. Regulators can exploit regulatory lags—for example, through price cap regulation—as part of their regulatory strategy.

Leading Cases, III. Federal Statutes and Regulations, K. Telecommunications Act, 116 HARV. L. REV. 442, 445 (2002).

flexible service classifications. The FCC previously sought to establish a "bright line" separation between basic and enhanced services. The Commission acknowledged that its basic/enhanced dichotomy created an either/or proposition.[102] Now ostensibly to remove asymmetry in its treatment of broadband access service the Commission proposes to reclassify a basic service and make it enhanced.[103] The FCC has proposed to treat as an enhanced service ILEC upgrades to copper wire local loops, commonly known as Digital Subscriber Links. The Commission previously deemed the copper wire local loop as basic, telecommunications

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102 [T]he categories of "telecommunications service" and "information service" in the 1996 Act are mutually exclusive. Reading the statute closely, with attention to the legislative history, we conclude that Congress intended these new terms to build upon frameworks established prior to the passage of the 1996 Act. Specifically, we find that Congress intended the categories of "telecommunications service" and "information service" to be mutually exclusive, like the definitions of "basic service" and "enhanced service" developed in our Computer II proceeding, and the definitions of "telecommunications" and "information service" developed in the Modification of Final Judgment that divested the Bell Operating Companies from AT&T.

Federal-State Joint Board On Universal Service, 13 F.C.C.R. 11,501, 11,507 (1998).

103 The FCC first proposed to classify Internet access via cable television facilities as an information service. Appropriate Framework for Broadband Access to Internet over Wireline Facilities, 17 F.C.C.R. 3019, 3029 (2002); Inquiry Concerning High-Speed Access to the Internet Over Cable and Other Facilities, Notice of Inquiry, 15 F.C.C.R. 19,287 (2000); Deployment of Wireline Services Offering Advanced Telecommunications Capability, 13 F.C.C.R. 24,012, 24,029 (1998) (finding that advanced services such as DSL constitute telecommunications services when offered to the public directly or on a stand-alone basis). The FCC may not have found an easy and expedient way to establish regulatory parity between DSL and cable modem Internet access. *See* Inquiry Concerning High-Speed Access to the Internet Over Cable and Other Facilities, Internet Over Cable Declaratory Ruling, 17 F.C.C.R. 4798 (2002) (proposing to treat broadband services provided via cable television networks as enhanced services), *aff'd in part and vacated in part sub nom.* Brand X Internet Serv. v. Fed. Communications Comm'n, 345 F.3d 1120 (9th Cir. 2003) (rejecting the FCC's determination that a separate telecommunications service component does not exist).

service, including broadband improvements.[104] Now by sleight of hand the telecommunications component becomes subordinated to the information transported over conventional copper wires.[105]

The FCC need not have resorted to such clumsy reclassifications. It could simply state its unwillingness to extend legacy regulatory classifications when conditions change and when incumbents and newcomers alike use new technologies. The Commission has eschewed extending legacy regulation if doing so expands its regulatory wingspan. But the same logic supports it refraining from extending an unregulated classification when a previously exempt operator begins to offer basic services.

This means that incumbent common carriers do not have to bear the basic services, common carrier burden when they combine both the still regulated basic and unregulated enhanced services. Telecommunications services, whether offered separately or bundled with information services, should remain regulated. Similarly, enhanced and information services offered by an incumbent do not become regulated simply because the incumbent bears the legacy of having been previously regulated as a common carrier. Once a common carrier, not always a common carrier.

Likewise, operators that have a legacy of not bearing the basic services, common carrier burden should not avoid this status when and if they provide basic services. An ISP that enters the long distance telephone business should not successfully wrap itself around its legacy unregulated status as an Internet access provider. By taking the affirmative step to become a telephone company competitor, Internet telephony operators have to accept the regulatory burdens that accompany that decision. These responsibilities include providing access to 911 emergency services and the ability to pass along carrier number codes.[106]

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[105] *See* Rob Frieden, *Adjusting the Horizontal and Vertical in Telecommunications Regulation: A Comparison of the Traditional and a New Layered Approach*, 55 FED. COMM. L. J. 207, 227–32 (2003) (analysis of the proposed regulatory conversion of DSL from the basic to enhanced services category).

[106] Over the last four decades, access to 911 service has dramatically improved the ability of emergency personnel to respond quickly to people in distress. Efforts by the

Other responsibilities include providing access services to the hearing impaired,[107] the responsibility to contribute to universal service funding and the obligation to compensate LECs for the use of their facilities. Just because a telephone call traverses the Internet at some point in its routing does not change the fact that delivery to intended call recipients involves the use of the local exchange in ways identical to conventional circuit switched long distance call origination and termination.

V. Conclusion

Regulatory asymmetries become more unjustifiable when technological innovations make it easier for stakeholders to exploit differences in financial burdens. Regulatory arbitrage confers artificial advantages to clever entrepreneurs and cost savings to sophisticated users while other less nimble competitors and customers suffer. Even the public interest justifications for many regulatory asymmetries wane as technological and marketplace conditions change. This article has suggested that legislatures and regulators abandon all instances of inconsistent regulatory treatment of functionally equivalent services absent still identifiable public interest justifications. Incubating and

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> telecommunications industry, state and local governments, and the federal government have resulted in wireline 911 service being available to approximately 98 percent of the population. Congress found 911 service to be of such importance that it enacted a statute codifying 9-1-1 as the national emergency telephone number. . . . Today, wireline local exchange carriers provide 911 services generally pursuant to state or local provisions.

Revision of the Commission's Rules to Ensure Compatibility with Enhanced 911 Emergency Calling Systems, 17 F.C.C.R. 25,576, 25,577 (2002).

[107] > Each common carrier providing telephone voice transmission services shall, not later than 3 years after July 26, 1990, provide in compliance with the regulations prescribed under this section, throughout the area in which it offers service, telecommunications relay services, individually, through designees, through a competitively selected vendor, or in concert with other carriers.

Communications Act of 1934, 47 U.S.C. § 225(c) (2001).

promoting incipient competition should not serve as the basis for longstanding inconsistent regulatory burdens. Likewise the reticence to extend legacy regulation should not foreclose decisions to subject to regulation the services of previously unregulated ventures when such new services compete with regulated incumbent services.

Regulators need to guard against the unintended consequences of well-intended policies designed ostensibly to achieve public policy goals. Too often clever applications of a favorable or promotional regulatory treatment end up benefiting ventures that cannot or will not achieve the goals sought by regulators. A CLEC affiliate of an ISP, which receives traffic from an ILEC but offers no return traffic, games the reciprocal compensation plan envisioned by Congress and implemented by the FCC. The ISP affiliate accrues revenues without promoting true facilities-based competition for local exchange services. The affiliate receives payments from ILECs without having to invest in physical plant and without achieving any improvement in universal service, pricing levels for local services or routing diversity. At least Internet telephony service providers pass on to consumers some of their cost savings. But even these operators exploit regulatory loopholes first and offer technological innovations secondarily.[108]

The opportunities for gaming the regulatory system appear to have grown rather than narrowed as a product of technological innovations, enactment of the '96 Act and longstanding FCC regulatory classifications such as the basic/enhanced services dichotomy. The FCC should eliminate regulatory asymmetries that provide little more than unjust enrichment to one group and unjust financial burdens on others.

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[108] Internet telephony providers soon may face some regulatory oversight. *See* Chérie R. Kiser & Angela F. Collins, *Regulation on the Horizon: Are Regulators Poised to Address the Status of IP Telephony?*, 11 COMMLAW CONSPECTUS 19 (2003).