

THE IRONY OF REGULATED COMPETITION IN TELECOMMUNICATIONS

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The 1996 Telecommunications Act gave birth to a mixture of policies, some of which have spurred competition, while others have only given the illusion of doing so. Combined with the bubble created in the high-tech financial markets of the late 1990s, the ill-conceived aspects of this reform have resulted in unproductive regulatory arbitrage. Overly generous and too-extensive network-sharing mandates invite excessive entry, competition best characterized as rent-seeking. Ironically, while the network-sharing rules encourage new rivals, they do not succeed in transferring wealth to the entrants. Hence, the one aspect of the regulatory structure that competitive local exchange carriers (CLECs) and incumbent local exchange carriers (ILECs) ostensibly agree on is wrong. Limiting network sharing mandates will protect telecommunications investments by both incumbents and entrants from appropriation, encouraging a reversal of fortune in the sector. Preliminary evidence gleaned from financial markets indicates that investors now expect policy makers to select this remedy.

I. INTRODUCTION

[I]t regulated anew (instead of deregulated) the telephone company monopolies and it extended (instead of contracted) the guarantee of public benefits from the communications sector.¹

Recent policy reforms to promote competition in local telephone markets exhibit Dickensian characteristics. From one vantage point, substantial market entry is observed and new services are being rapidly deployed. From another view, however, the sector is in a financial free fall, the regulatory structure in disarray. It is the best of policy initiatives, it is the worst of policy initiatives.

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¹ Former FCC Chair Reed Hundt on the signing of the Telecommunications Act, Feb. 8, 1996. Reed E. Hundt, *You Say You Want a Revolution* 151--152 (2000).

The simplest 1996 Telecommunications Act deregulation – the pre-emption, and removal of state and local franchise barriers – has permitted a wide range of entry into local telecommunications markets. Yet, that same legislation unleashed a dysfunctional regulatory paradigm that has attempted to mimic the workings of a competitive market with extensive and far-reaching governmental rate-setting.² The result has been to distort financial incentives in a manner that has undermined not only the welfare of incumbent networks, but – most ironically – of new entrants.

How can these sharply conflicting observations be explained? Sector trends are difficult to deconstruct, and this level of complexity has shielded public policy from an effective feedback loop – failed regulations provoke no more reliable protest than do successful ones. Yet, this paper makes an effort to delineate exactly where the effort to promote greater competition has produced consumer benefit, and where it has not. A pattern emerges. Where firms – entrants or incumbents – have been allowed wide latitude in constructing new networks, robust investment incentives have resulted and consumer gains have been realized. Where regulators have, alternatively, ambitiously regulated incumbents through network sharing obligations designed to ease entry barriers, an unsustainable level of entry has occurred that has resulted in widespread losses across the industry without countervailing consumer benefits. By limiting the award of “options” to access existing network infrastructure, rational investment calculation will return to the sector, restoring productive growth.

II. EMERGING COMPETITION

Competition is emerging in local U.S. telecommunications markets. Thirteen percent of the 107 million domestic households now have a choice between a wireline telephone connection and a wireline telephone service utilizing the local cable TV grid.³ Wireless telephone service entirely substitutes for wire-phone subscription for 3-5% of wireless subscribers, 128.5 million at year-end 2001.⁴ Wireless substitution has led millions of households to disconnect second lines, and is beginning to displace substantial usage of the traditional network. The number of lines served by Bell operating companies is now declining. “According to a USA/CNN/Gallop [sic] poll, almost one in five mobile telephony users regard their wireless phone as their primary phone.”⁵ Rivalry in business markets is even more

² Access requirements are implicit in the process of rate setting. The wholesale prices established by regulators give entrants the opportunity to access (or share) existing network infrastructure.

³ There are 2.22 million cable telephone subscribers, with availability to 13.7 million homes. Leichtman Research Group, RESEARCH NOTES (1Q 2003), http://www.leichtmanresearch.com/research/notes03_2003.pdf, 8. This accounting includes only the top ten U.S. cable operators.

⁴ FCC, *Annual Report and Analysis of Competitive Market Conditions With Respect to Commercial Mobile Services: Seventh Report* 20, 32 (2002).

⁵ *Id.*

pronounced, as competitive local exchange carriers (CLECs) provide in excess of twenty percent of lines nationwide.⁶

Competition is also developing in multi-channel video markets. Cable television operators still exercise considerable market power, but the average share captured by local cable systems has fallen from close to one hundred percent to eighty percent. This drop has come due to the emergence of satellite TV. Two national operators, DirecTV (owned by Hughes Network Systems, a division of General Motors), and EchoStar (which recently made a bid to buy DirecTV, rebuffed by regulators), currently serve about 18 million households, against about 73 million for cable TV systems. This competition is of recent vintage; DirecTV service was launched in 1994, EchoStar in 1996. Growth is still rapid for the entrants, while cable television systems – despite being forced to upgrade systems to offer digital cable tiers that compete directly with the enhanced digital channel packages available via satellite – are now losing cable subscribers. AT&T Broadband, the largest U.S. operator, lost 3.2 percent of its video subscriber base in its final two quarters of operation (prior to merging with Comcast in the second half of 2002).⁷

Even more striking is the residential broadband market, where dominance is not exercised by incumbent local exchange carriers (ILECs), using legacy networks to provide digital subscriber lines (DSL) service, but by cable modems. Eleven million households – twice the number of DSL subscribers – purchase high-speed Internet connectivity from new entrants into “information services.” See Figure 1.

⁶ UNE Rebuttal Report, In the Matter of Review of the Section 251 Unbundling Obligations of Incumbent Local Exchange Carriers, CC Docket No. 01-338, 36 (2002) (Prepared for BellSouth, SBC, Qwest, and Verizon, filed with the FCC), available at <http://polar.alaskapacific.edu/dlehman/UNE%20Report.pdf>.

⁷ Broadband Subscriber Count Nears 20 Million, Cable Datacom News, Dec. 1, 2002, at <http://www.cabledatcomnews.com/dec02/02-1.html>. Leichtman Research Group, *Cable By the Numbers* (3rd Quarter 2002), at http://www.leichtmanresearch.com/research/notes08_2002.html#numbers (“Overall, this has been a very challenging quarter for the cable industry. In the second quarter [of 2002], every major cable operator saw declines in Basic video subscribers – with the top ten MSOs [multiple system operators] reporting a cumulative decline of nearly 250,000 subscribers.”).

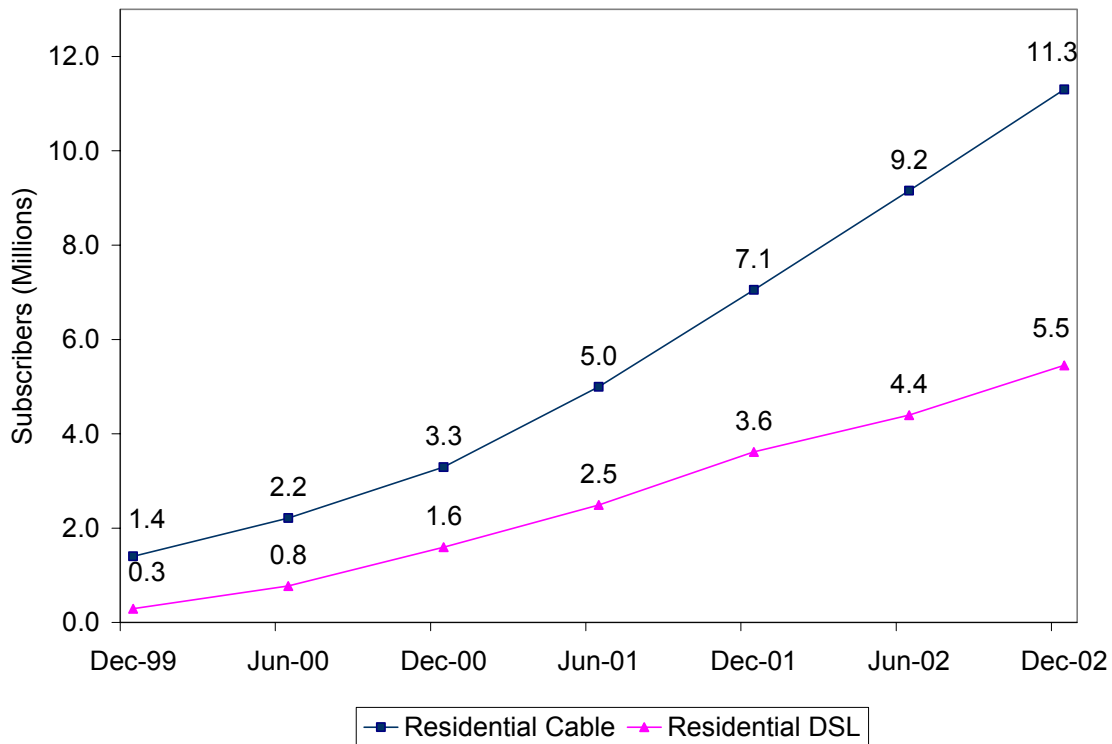


FIGURE 1. U.S. RESIDENTIAL BROADBAND COMPETITION⁸

The significance of this market structure is large. DSL is delivered over networks originally built by telephone companies to provide voice service. These networks are heavily regulated relative to cable networks, which were built to provide video service but – similar to phone systems, although using different technologies – have been upgraded to deliver two-way digital data at “broadband” speed. The telephone network is constrained by regulators to provide open access to all retailers, such as Internet Service Providers (ISPs) who elect to link end users to the Internet via high-speed connections using telco/DSL infrastructure. Cable TV operators, on the other hand, are allowed to provide vertically integrated service and to provide an exclusive ISP choice to broadband users, which they may (and usually do) own. Calls for open access to the cable modem network have been explicitly denied by the Federal Communications Commission under both the Clinton and (current) Bush administrations.

Despite the lax regulatory policy, or because of it, non-telco entrants into high-speed Internet connections have amassed market share. They have, indeed, pushed the telephone

⁸ Sources: Dec-99 thru Jun-02: Federal Communications Commission, *High Speed Services for Internet Access: Status as of June 30, 2002*, December 2002, <http://www.fcc.gov/wcb/stats>; Dec-02 DSL: <http://www.cabledatcomnews.com>; Dec-02 cable modem service: National Cable & Telecommunications Association estimates based on company data, http://www.ncta.com/industry_overview/indStats.cfm?statID=15.

companies to respond by becoming more aggressive in their deployment of DSL, which, by all accounts, was only sluggishly developed until cable modems began achieving significant inroads. This ongoing episode suggests that unbundling obligations (giving rivals access to parts of the incumbent's network such as the local loop at regulated rates) have handicapped the market the wrong way: instead of bringing new competitive choices to customers, they have enabled the *unregulated* network provider.

Cable systems have argued against open access by maintaining that they undertake significant risk in upgrading their systems. Retrofitting traditional coaxial cable infrastructure to enable the delivery of two-way digital services is a substantial undertaking and the investment capital is largely sunk; if anticipated profits fail to materialize, the expenditures are not likely to be recouped in alternative ventures. More generally, integrating ownership of the platform with retail service is said to reduce coordination problems, encouraging network deployment. The success of broadband service delivered via cable modems relative to DSL supports this view.

Broadband is now deployed by virtually all medium and large-scale businesses in the U.S., is available to over 80% of U.S. homes and is subscribed to by about 15% of households. Growth in residential broadband connections is currently about ten percent *per quarter*.⁹ Given the importance of broadband to the emerging information economy, and the anticipated migration of services such as video and voice telephony to computer networks, this lesson is not merely of academic interest. It serves as a test of regulatory paradigms in precisely the emerging markets that will likely constitute local telecommunications tomorrow.¹⁰

In the head-to-head attack on traditional telephone service by cable telephony and wireless, satellite TV's competitive foray into multi-channel video, and cable modem service dominance in broadband, the success of entrants is clearly observed. Incumbent operators in each sector are losing market share to new rivals and the emerging market structure appears viable. Despite financial stress throughout the technology sector, these inter-modal entrants (cable firms in telephony, satellite TV providers in video, and wireless telephone operators) continue to invest substantial capital in network development and to grow their subscriber bases. Customers are benefiting from enhanced choices, increasing quality, and declining (quality-adjusted) prices. None of these competitive episodes was triggered by unbundling

⁹ ISP-Planet, *Broadband Hooks Up 13.1 Million Users*, Oct. 17, 2002, at <http://www.internetnews.com/isp-news/article.php/1483471> ("The growth of broadband uptake in the U.S. is on pace to meet [the] forecast of 15.4 million households by the end of this year.").

¹⁰ That cable TV systems escape cable modem regulation (i.e., unbundling obligations for high-speed access) ironically depends on the FCC's "information services" classification. Were cable modems to be labeled "telecommunications services" by the Commission, it would open cable operators to common carriage requirements such as open access. That this is arbitrary line drawing in a most political setting is patently obvious. What is key to observe in this exercise, however, is (a) the importance to cable operators of avoiding common carriage obligations; (b) the importance to cable investors of same; (c) the eagerness with which cable's direct competitors argue to impose common carriage rules on cable operators; and (d) the way in which the potential liability of common carriage affects cable system resource decisions, including infrastructure upgrades, architectural and system design choices, and spectrum allocation. This is discussed in some detail in Thomas W. Hazlett & George Bittlingmayer, *The Political Economy of Cable "Open Access,"* 2002 STAN. TECH. L. REV. 4 http://stlr.stanford.edu/STLR/Article/02_STLR_4.

regulation.¹¹ All feature entry by companies that own their own infrastructure and now steal customers from the “natural monopolies” that preceded them.

III. THE PERFECT STORM¹²

Financial market trends following the 1996 Telecommunications Act have materially impacted the outcome of the policies enacted. The unusual abundance of capital, now seen as having produced a financial bubble, magnified the effect of rules designed to increase local telecommunications competition. It made the regime’s unsustainability more difficult to discern in its early stages, but then – with the abrupt collapse of sector capital values – highlighted the economic irrationality of the structure chosen.

The unique circumstances in capital markets leveraged telecom policies by funding new entry with low-priced risk capital.¹³ The phenomenon was not unique to the telecom sector, and appears to have been ignited by gains in other financial assets. In the 1995-99 period, five years inclusive, the average annual return in the Nasdaq equaled 40%.¹⁴ The S&P500, a market index of large capitalization stocks going far beyond technology, returned over 26%.¹⁵ A complex array of factors account for this historically unprecedented market rally, but two events appear particularly important in having lead many investors to anticipate a fundamental restructuring of growth prospects in the U.S. economy.¹⁶

The first was the successful launch of Windows 95. This constituted what amounted to, in hindsight, the last important battle in the revolutionary campaign to convert business and

¹¹ The success of satellite TV providers has been advanced by program access requirements contained in the 1992 Cable Act. These allow competitors to carry program networks on roughly the same terms such content is available to incumbent cable TV operators. This narrowly-focused nature competition policy contrasts with the extensive telephone network sharing mandates to emerge under the 1996 Telecommunications Act.

¹² Scott Cleland, Precursor Group Independent Research, *Why Government “Competition” Policy Will Keep Telecom a “Value Trap”* (2002) (“‘Perfect storm’ of Government competition policies goaded capex [capital expenditure] frenzy: Government wireless, data, and Telecom Act competition enabled and ignited an unprecedented capital spending spree from 1996-2000.”).

¹³ Martin F. McDermott III, CLEC: An Insider’s Look at the Rise and Fall of Local Exchange Competition 39 (2002) (“Creating business plans became a cottage industry in 1996 and continued for almost two years. People were looking for something to do and money was looking for the people to do it. This was a combustible combination.”).

¹⁴ The Nasdaq Index closed 1994 at a value of 751.96 and ended 1999 at 4,069.31. (Source: Go to <http://table.finance.yahoo.com/d?a=11&b=28&c=1999&d=0&e=3&f=2000&g=d&s=%5EIXIC> and enter the relevant dates). These data indicate compound annual growth of 40%.

¹⁵ The S&P 500 Index ended 1994 at a value of 459.27, closing 1999 at 1,469.25 (Source: Go to <http://table.finance.yahoo.com/d?a=11&b=27&c=1999&d=0&e=3&f=2000&g=d&s=%5EGSPC>, and enter the relevant dates.) These data indicate compound annual growth of 26%.

¹⁶ Thomas W. Hazlett, *Why Are We in a Broadband Recession?*, CNET News.com (July 28, 2001), at <http://news.com.com/2010-1078-281521.html>.

households to the personal computer. Information technology spending by firms and individual consumers was sharply stimulated. More broadly, the mass market for computing arrived, with a new universe of applications, networks, and services gaining critical mass. The leading players in the developing market, Microsoft and Intel, saw phenomenal equity returns. A race developed, eagerly funded by investors.

One of the first ideas to be financed was Netscape, a fledgling upstart whose software enabled users to “browse” web sites, and web sites to post text and graphics for browsers. The firm, which had virtually no revenues,¹⁷ opportunistically scheduled its initial public offering just prior to the Windows 95 release (seizing some of Microsoft’s computer sector hype for its own purposes). The company’s IPO startled investors, as its share offering price – doubled only hours before trading opened – more than quadrupled in its first day of trading. As detailed in a history of the company, it was “the day Wall Street went nuts for the Net.”¹⁸

The Netscape IPO was seen as part of the computer sector financial frenzy, but perhaps even more important was the battle royale it injected into operating markets. The famous “browser war,” the subject of the Government’s 1998 antitrust case against Microsoft, was on. It triggered a fierce rivalry in which innovative products were distributed – mostly free of charge to end users – on a massive scale. Netscape and Microsoft jockeyed for position by offering sharp deals to consumers and service providers, often enabling upstarts like America Online, the emerging giant in consumer connectivity, to exploit the situation to realize huge gains. When the dust settled, the browser was the most successful computer application launch in history, and a mass market for e-commerce was born. Leading suppliers of Internet hardware and software, from Netscape to Cisco, exhibited the capital gains to prove it.

With computers, networks, and web access cheap and easily available to millions of users, technology markets were transformed. Digital information services could be targeted to not just high-end corporate users, but also to an emerging sector that matched (in size and purchasing power) consumer product markets. This was a transformative chain of events for technology investors. The gold rush was on.

Communications markets did not lead this financial tsunami, but were swept up in it. The enthusiasm for technology issues was driven by the expectation that domestic, and soon global, markets were being subject to fundamental restructuring, and investors discovered that if computer applications were key, then the links connecting computers would be valuable as well. Money poured into the sector, funding business plans offered by new entrants unleashed by the 1996 Telecommunications Act. How this funding was directed – or misdirected – has a lot to do with the rules crafted. Regulatory and financial market developments are not usually so closely connected. Here, they collided to create a “perfect storm.”

¹⁷ Joshua Quittner & Michelle Slatalla, *Speeding the Net: The Inside Story of Netscape and How It Challenged Microsoft* 247 (1998) (“The situation was unheard-of for a company that only had \$16.6 million in revenue the first half of the year.”).

¹⁸ *Id.* at 245--48.

IV. FINANCIAL IMPLOSION

Post WorldCom, it's finally dawned on Washington that no one wins long-term (consumers, industry, investors, or government) if nearly every telecom company spirals towards bankruptcy. This is driving a shift from economically unsustainable regulations based on outdated Bell-long distance intra-telecom competition to existing, robust *inter-modal* competition.¹⁹

Today, there is carnage in the telecommunications sector.²⁰ The decline in telecommunications network investment is perhaps most vividly seen in the returns of Lucent and Nortel Networks, the two dominant suppliers of telephone switches (fundamental building blocks of telecommunications networks). Both firms (which trace their corporate roots to the pre-divestiture AT&T) lost in excess of 99% of their market value during the 1999-2002 period.²¹ Even allowing for sharp declines in the overall tech sector, this loss of capitalization is extraordinary. See Figure 2.

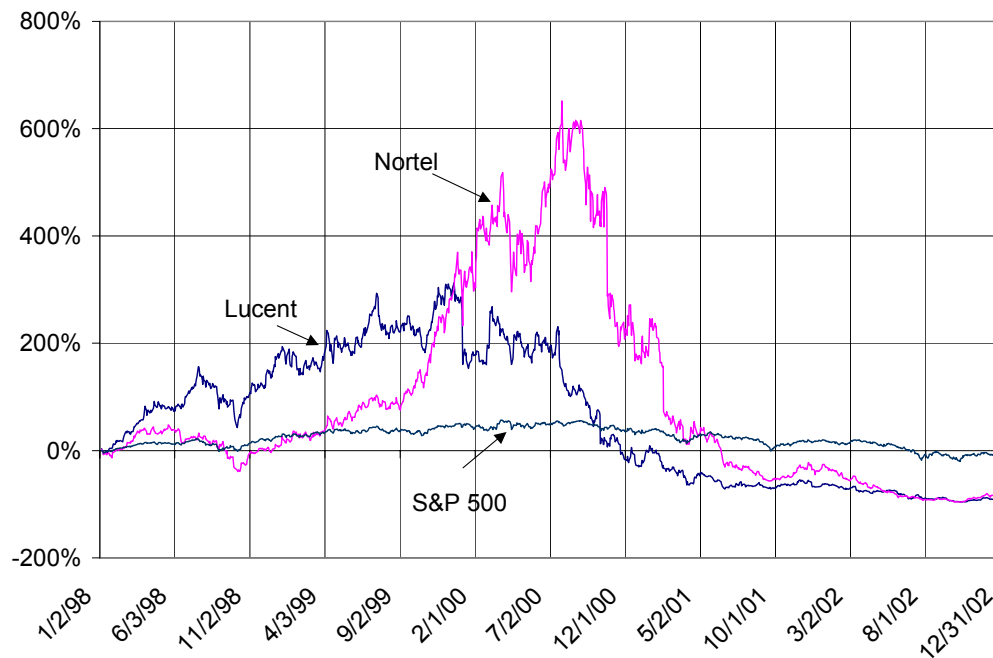


FIGURE 2. LUCENT, NORTEL, S&P 500 RETURNS, 1998-2002

¹⁹ Scott Cleland, Precursor Group Investorside Research, *Why UNE-P Is Going Away: Telecom Competition's Changing Trajectory* (2002) (emphasis in original).

²⁰ Larry F. Darby et al., *The CLEC Experiment: Anatomy of A Meltdown*, Progress and Freedom Found., Sept. 28, 2002, at <http://www.pff.org/publications/POP9.23CLEC.pdf>.

²¹ Lucent shares reached a high of \$83.49 in December 1999, falling to \$0.55 in October 2002. Nortel's peak share price was \$88.99 in July 2000; shares were priced as low as \$0.43 in October 2002.

Since the 1996 Telecommunications Act (96TA) opened entry into local services, hundreds of competitive local exchange carriers (CLECs) flooded into the market, primarily seeking to capture business customers. This targeting was a by-product of decades of regulation, when business (and long distance) prices were set so as to provide profit margins sufficiently large to pay for mandated (universal) service to high cost areas, primarily residential connections in low-density (e.g., rural) areas. Public policy was partly re-aligned in the 96TA, however, to permit entrants to compete with incumbent local exchange carrier (ILEC) monopolies. Entry predictably attacked the sweet spot in the regulated rate structure.

In stripping away entry barriers, the 96TA allowed efficiencies to be realized. The pressure brought to bear on supra-competitive pricing is one important result of this. But the Act brought down more than just formal entry barriers. It directed regulators to craft rules to speed competition by allowing entrants to use existing networks. The price paid for such wholesale access, and the scope of service that incumbents would be mandated to provide, became key regulatory determinations.

The general approach taken by regulators has been to further competitive entry into local communications markets by imposing low wholesale access fees and by making network elements widely available to entrants. How successful this regime has been is a matter of some dispute, with entrants accusing incumbents of seeking to undermine the rules with strategic behavior reducing rivalry, incumbents accusing entrants of incompetence and gaming the regulatory structure, and regulators pointing to the growing number of CLEC-served lines as evidence that the structure is working.

What is strikingly symmetric, however, is the belief that the rights regulators award entrants are valuable. These options are the financial instruments resulting from the rules allowing CLECs to utilize ILEC facilities at favorable prices (wholesale prices lower than what would be negotiated in the absence of regulation) and favorable terms (e.g., offering a wider range of services than would be available without regulation). As a practical matter, the rights extended entrants are *options*, opportunities to take a particular course of action *at the discretion* of the rights-holder.

This ability to serve telecommunications customers without undertaking long-term financial commitments (i.e., the building of a physical infrastructure) is the essence of the competition policy adopted by U.S. policy makers in the wake of the 96TA. It is sometimes referred to as the “unbundling” or “network sharing” paradigm, as it forces incumbents to make all or part of their networks available to rivals who may desire to offer service utilizing existing systems. Here, I call it a system of “tele-options,” emphasizing the distribution of rights to entrants who may enter or exit markets, reselling ILEC services at their discretion.

In local telecommunications, entrants have the right to purchase wholesale network access at so-called TELRIC (total element long-run incremental cost) prices. The wholesale rates established allow rival firms to use existing facilities without paying the full cost of those networks; the approximately 50% discount from what the incumbent pays for network services reflects the regulator’s determination that certain costs associated with creating the network should not be charged newcomers.²² Under so-called UNE-P (unbundled network elements – platform), the entrant purchases the ILEC’s entire service bundle at wholesale, reselling it at

²² Scott Cleland, Precursor Group Independent Research, *Why Government “Competition” Policy Will Keep Telecom a “Value Trap”* (2002).

retail.²³ The CLEC provides the customer, engaging in marketing, provisioning, customer service and billing, while the ILEC provides the network and the actual telecommunications connection.

CLEC entry is facilitated in certain obvious ways by this wholesale rate regulation. Profits may be realized even when the cost of building a new network is high, because the existing network may be utilized at relatively low cost. Risk associated with the entrant's investment of fixed, nonsalvageable capital, is mitigated. Here, the CLEC has the right to lease facilities on a temporary basis, and to exit the market without the costs associated with depreciated network capital. Even in competitive markets (such as for Washington, D.C. office space), the cost of monthly rentals for fixed facilities can be several times higher than the same assets leased for five or ten year terms (in Washington D.C. office space, the ratio has recently been about four-to-one). And because an exhaustive panoply of network services are made available at prices which seek to eliminate the advantages of large size, economies of scale – so fundamental to building and owning networks – are drastically reduced. Small may compete with large at little apparent disadvantage.

CLECs argue that these rules are beneficial, neutralizing the advantage of incumbency. ILECs see these rules as unfair and hostile to capital investment, because they allow newcomers to free ride on the infrastructure they have created. The regulators who crafted these rules view them as good public policy because they enable entrants to gain a toe-hold using rented facilities; over time, the regulators believe that these shared solutions will be replaced as entrants build networks. In each instance, the tele-options are seen as a transfer from incumbents to entrants. As Greg Sidak writes:

The value of the real option held by the CLEC increases with three factors: uncertainty concerning technology, consumer demand, and regulation; the duration of the lease; and the degree to which the leased assets are investments by the ILEC that are sunk rather than salvageable.²⁴

The unbundling policy aims to promote free entry into local telecommunications service. But the efficient outcome desired by regulators does not ensue. Instead, market failure results, in the form of under-investment due to the tragedy of the commons created by appropriating the returns associated with long-term commitments to fixed capital investment. Moreover, the options – while costly for incumbents to write, in that they create unfunded liabilities – are not generally valuable to entrants. With free entry, they trigger a rent-seeking competition to capture regulatory arbitrage. Because of the success of the regulatory system in promoting network sharing, this race dissipates the benefits awarded by tele-options.

²³ Under the 96TA, incumbents were directed to allow “resale” of their services. The FCC established guidelines for this form of CLEC access to ILEC facilities at wholesale discounts ranging from 17-25% off retail. The UNE-P program essentially superceded that network sharing plan by utilizing lower prices for the individual network elements which, when reassembled, allow resale at wholesale prices approximately 50% off retail.

²⁴ J. Gregory Sidak, Lecture on Regulation at the Royal Society of Arts, London, *The Failure of Good Intentions: The Collapse of American Telecommunications After Six Years of Deregulation* (Oct. 1, 2002), http://www.aci.org/doclib/20030111_spsida021001.pdf.

V. TELE-OPTIONS AND FREE ENTRY

UNE-P isn't competition as the market defines it. UNE-P is regulators setting wholesale prices low enough to guarantee profitable resale . . . TELRIC pricing devalues existing infrastructure by setting a price (based on marginal costs) that will never *realistically* cover the costs of replicating current infrastructure. Real competitive policy enables market forces of supply and demand to determine market prices.²⁵

A. *Perfectly Free Entry Destroys Fixed Capital*

The D.C. Circuit Court of Appeals characterized FCC network sharing regulation as based on “its belief in the beneficence of the widest unbundling possible,”²⁶ and that “in this area more unbundling is better.”²⁷ This view flows directly from the textbook model of perfect competition, which posits that, where all inputs are perfectly mobile, resources are deployed to their fullest extent. It is an idealized world in which the pieces to an economic puzzle come together instantly, without friction and without risk.

Economists have long known that imposing this ideal structure on real markets can undermine the dynamics that create economic growth.²⁸ Productive resources are created by entrepreneurs and investors, and the assets they deploy will not be instantly diverted at zero cost to alternatives of equal value. The tension between perfect competition and long-run economic development is perhaps most famously set forth by Joseph Schumpeter:

[P]erfectly free entry into a new field may make it impossible to enter it at all. The introduction of new methods of production and new commodities is hardly conceivable with perfect – and perfectly prompt – competition from the start. And this means that the bulk of what we call economic progress is incompatible with it.²⁹

Innovation is inherently risky and local access networks quintessentially involve long-term commitments to substantial sunk capital, lending Schumpeter's words resonance. Where entrants instantly access the most efficient technologies, service bundles, and systems, the incentive to create such structures dissolves. Unbundling at TELRIC rates strives to empower

²⁵ Cleland, *supra* note 19.

²⁶ United States Telecom Ass'n v. FCC, 290 F.3d 415, 425 (D.C. Cir. 2002).

²⁷ *Id.*

²⁸ Friedrich A. Hayek, *The Meaning of Competition, in Individualism and Economic Order* (1948).

²⁹ Joseph A. Schumpeter, *Capitalism, Socialism and Democracy* 104--105 (1950).

exactly this “frictionless” result, plus more, as entrants access a technology at less than what the network investor paid to create it.

Deconstructing markets into atomistic, ultra-competitive components can sabotage consumer interests. “[W]e have seen that in the spurts and vicissitudes of the process of creative destruction . . . perfect and instantaneous flexibility may even produce functionless catastrophes.”³⁰ Productive efficiencies are often promoted by protecting such economic activity as exclusive contracts, pricing above marginal cost, and mergers that increase market power but simultaneously produce economies. Similarly, the “essential facilities” doctrine opens markets to competition by promoting access to monopolized assets, while placing strict limits on such access precisely to keep alive incentives for investments that will mitigate, or eliminate, the source of monopoly power.

Lowering wholesale prices to access network facilities may increase, for some period, the number of rivals offering retail service. But it may also produce a “wholly artificial”³¹ form of “synthetic competition,”³² featuring sellers perched atop identical platforms, offering virtually identical products.³³ Even price discounts offered consumers are difficult to associate with efficiency, as retail-wholesale profit margins set by regulators determine market equilibrium. Price reductions which under-compensate network owners depreciate capital; consumers end up losing more than they save when declining long-term investment capital negatively impacts the network’s price/performance ratio.

The threat of competitive entry can overwhelm efficient risk-taking, which is why firms often contract to provide services on an exclusive basis, and why companies choose to vertically integrate. Only by securing some buffer against new rivals can certain fixed investments attract capital. This view is put forth by Victor Goldberg, who argues that private contractual devices and government-imposed barriers to entry can both be seen, in various contexts, as efficiency-enhancing inducements to invest.³⁴

B. *Rent Seeking and Option Value*

“[T]he widest unbundling possible”³⁵ is a regulatory strategy to eliminate uneconomic entry barriers and then some, subsidizing entrants with network rental rates that fail to compensate capital (as under UNE-P resale at TELRIC prices). In the first moment, this reduction in the price of key inputs – network transport services – raises returns to entrants,

³⁰ *Id.* at 105.

³¹ United States Telecom Ass’n, 290 F.3d at 422.

³² *Id.* at 424.

³³ Price competition is likewise “synthetic” in that it is perched upon the policies – and retail/wholesale margins – established and enforced by regulators. Retail price reductions in this case may not represent market efficiencies (i.e., competitive forces), but depreciation of capital. Under proper accounting, discounts may entirely disappear.

³⁴ Victor Goldberg, *Regulation and Administered Contracts*, 7 *Bell Journal of Economics* 734 (1976).

³⁵ United States Telecom Ass’n, 290 F.3d at 415.

increasing rivalry among retailers. So long as entry is expected to achieve positive net present value, competition will continue to materialize. Supply is extremely elastic – exactly what regulators hope to achieve by ‘greasing the skids’ with low wholesale network access rates. Risks are assumed by network builders required to issue zero-priced options to CLECs. Network owners sink capital to provide the means by which rivals freely exercise their right to enter and exit the market for telephone connectivity.

As entry occurs, retail prices are squeezed, while inputs supplied with less than perfect elasticity rise in price. Regulators fix rental fees (i.e., network services are constrained to be perfectly elastic). But obtaining and retaining retail subscribers becomes more difficult as customer acquisition costs are bid up. The marginal firm (the next potential entrant) sees the lure of the regulated retail/wholesale price margin, and aims to capture it; the pay-off is only realized to the extent that the firm serves retail consumers.³⁶ Hence, it is willing to pay up to the present value of the profit margin anticipated under the regulated price/cost spread to procure a subscriber.

The analogy to federal agricultural subsidies is useful. Governmental payments to farmers in distressed markets may relieve immediate financial pressures for existing producers. Yet, by raising expected returns, the payments increase entry (as farmers substitute out of unsubsidized crops into producing the subsidized commodity). Output prices fall further and land – the fixed input needed to claim the subsidy – is bid up. Soon, producers are once more in financial distress. The value of the option to sell output at a higher price, like an option to purchase inputs at lower prices, is destroyed by free entry.

The basic tension between investment and free entry via sharing mandates is grasped by regulators in other contexts. The Federal Communications Commission, while embracing aggressive unbundling policies for telephone networks, pointedly rejects network-sharing obligations for the dominant broadband technology, cable modem service. There, “open access” policies were pointedly rejected by then-Chairman William Kennard: “Today, we don’t have a duopoly, we don’t have a monopoly, we have a no-opoly.”³⁷ Regulatory restraint, not low-cost access to network elements, promotes the creation of “opolies.”

C. *Perfect Competition by Price Controls: The Cable TV Example*

In 1992, Congress mandated retail price regulation, and instructed the Federal Communications Commission to devise a system for capping consumer charges. The FCC interpreted this mandate as an instruction to impose regulations limiting cable television rates to those prevailing in markets featuring direct competition.³⁸ The FCC determined that prices

³⁶ This is particularly true for high revenue customers. Low revenue customers – as dominate residential markets – do not present similar arbitrage opportunities. Here, regulatory subsidies clash: rates made cheap by cross subsidies encounter the unbundling policies to subsidize CLEC entry. CLEC entry has been concentrated, both for voice and broadband, in business markets where both subsidy schemes encourage entry.

³⁷ Press Release, FCC, *Chairman Kennard Calls on Cable Franchising Authorities to Promote National Broadband Policy; Vows Continued Consumer Protection* (June 15, 1999), at http://ftp.fcc.gov/Bureaus/Miscellaneous/News_Releases/1999/nrmc9041.doc.

³⁸ In other words, a market where an “overbuilder” (industry jargon for a second cable company) offered service to a significant fraction of the franchise area.

in such areas were 17% lower than where a sole cable operator offered service. It then imposed price caps designed to reduce basic cable rates by the observed differential.

The method is analogous to wholesale price controls accompanying unbundling mandates in several respects. Most importantly, the scheme attempted to allow firms to achieve sufficient returns so as to leave investment choices undisturbed. Because competitive cable systems do not stint on capacity or quality of service (indeed, they appear to feature substantially larger channel line-ups and higher customer satisfaction ratings), constraining monopoly system rates to competitive levels was an attempt to squeeze out just the supra-competitive component of cable rates.

But cable rate regulation was unsuccessful. Nominal rates were suppressed by the FCC; average household bills in October 1994 were about 10 percent below where they would likely have been in the absence of controls. But service quality suffered, as cable network ratings plummeted and investment in system upgrades ground to a halt. The Commission quickly reversed course in November of 1994, allowing generous rate hikes under the “control” scheme. It was an explicit attempt to improve cable operator incentives to add new channels, to pay higher licensing fees for enhanced programming on existing networks, to expand physical infrastructure, and to improve customer service.³⁹

It worked, as subscriber growth – which visibly slowed during the period nominal cable rates were lowered – rebounded sharply. A *Wall Street Journal* report describes what the then FCC Chairman, Reed Hundt, learned about rate regulation:

In late 1992 . . . cable rates declined, but so did business investment in the cable industry, which Mr. Hundt felt hurt consumers by stalling innovation. Consumers never noticed the dollar or two they might have saved a month, says Mr. Hundt, but the industry certainly did . . . “What indeed is the point of regulation if the beneficiaries were neither thankful nor economically better off?” Mr. Hundt asks in his book, “You Say You Want a Revolution.” Investment and innovation are critical, he says, even if they push up some prices . . .⁴⁰

Retail price controls in cable offer more than an illustrative analogy; they directly connect to the substance of the broadband debate. This is seen in the claim made by Senator Ernest Hollings (D-SC), Chairman of the Senate Commerce Committee (with oversight responsibility for the industries regulated by the FCC). Hollings has been a staunch advocate of rate controls on cable TV systems, statutorily lifted in March 1999 pursuant to provisions of the 1996 Telecommunications Act. But Hollings’ effort has been thwarted by the very practical concern that such controls would serve to help local *telephone* companies in the broadband race. Referring to Senate actions in 2002, Hollings stated during a Commerce Committee hearing:

³⁹ Thomas W. Hazlett and Matthew L. Spitzer, *Public Policy Toward Cable Television: The Economics of Rate Controls* 94 (1997).

⁴⁰ Bob Davis, *Gore Avoids Dogma, but Has Been Dogged on Telecom*, *Wall St. J.*, May 11, 2000, at A28.

The only reason why we didn't reregulate cable – and I would think the next Congress will, I don't mind saying that – but the only reason why we haven't [done it yet] is because that's been the only competition to the Bell companies on getting us the broadband . . . That's the actual fact here at this particular level in the Congress.⁴¹

If rate regulation helped consumers, market penetration of the regulated service would increase, and cable competitors would have a more difficult time winning customers.⁴² That policy makers fear regulating cable would award a windfall to the Bell companies – cable rivals in broadband – speaks volumes about the experience gained: rate regulation suppresses investment, deployment, and inter-modal competition.

D. *Resale Competition Under The 1996 Telecommunications Act*

A recent 'insider's account' of the rise and fall of the CLEC sector has provided interesting detail concerning the initial round of mandatory network sharing in the post 96TA world, a policy known as "resale." It comments on how, despite the opportunity for entrants able to purchase the full range of network services at a discount from retail, profits were illusory:

If the intended goal of the 'resale' program was revenue, it was wildly successful. It contributed to an explosion in both revenues and access lines. The problem was that both were hollow numbers. Revenues masked the costs of supporting the program and 'resale' access lines were, in truth, still on the RBOC network... [I]t is fair to say that they [CLECs] had no idea of the impact that 'resale' would have on CLEC operations.

In the beginning, the program exceeded expectations. The new sales forces that the CLECs were fielding now had the ability to resell all of the RBOCs services... Years of embedded base were out there waiting.

Thinking of the complexities of types of service that were installed in the marketplace should have thrown up a huge red flag and forced some sales discipline.⁴³

While the author of this volume advises CLECs to pursue facilities-based entry strategies, avoiding resale, regulators have another solution: increased wholesale price discounts under UNE-P, a souped-up resale program. Yet, the logic of free entry provides that

⁴¹ Ted Hearn, *Hollings: Rereg Could Happen*, Multichannel News, Aug. 5, 2002, at 24.

⁴² This is true even if the regulated service is not the directly competitive service. In broadband, cable customers are the prime target market for high-speed cable modem service, as there are obvious efficiencies in marketing such households for service upgrades. Increasing cable TV penetration therefore increases the target audience, increasing cable modem penetration.

⁴³ McDermott, *supra* note 13, at 180--81.

that this, too, will meet with failure. Larger prospective per-customer gross margins will be dissipated by more aggressive entry, higher customer acquisition costs, and even less “sales discipline.”

VI. THE BEGINNING OF THE END OF REGULATORY COMPETITION?

The FCC is designing rulemakings to encourage investment and broadband deployment, and to welcome capital flows back into telecom. The policy purpose will be to shift from regulators reallocating market share through artificially deep, resale discounts, which expedite voice and data resale competition (UNE-P & TELRIC pricing), to encouraging sustainable facilities-based competition, investment, and broadband deployment.⁴⁴

The lose-lose nature of “free entry” via network sharing mandates is poking holes in its political life preserver. Reforms are being prompted by regulators, prodded by courts, who seek to deregulate the 96TA “deregulation.” Where implicit subsidies for entrants are eliminated, rational economic calculation will fill the void. Investment in telecommunications networks would recover; indeed, since mid-October 2002, the major switch manufacturers have begun to flicker evidence of new life. See Figure 3. Some analysts tie this directly to an expectation of policy reform.

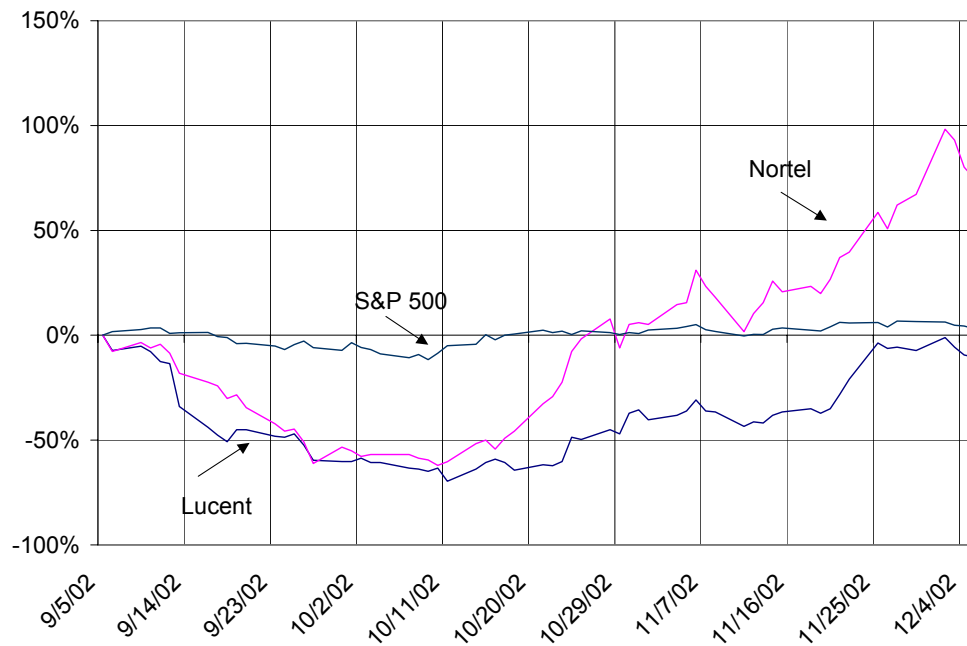


FIGURE 3. LUCENT, NORTEL, S&P 500 RETURNS, SEPT. 5 TO DEC. 5, 2002

⁴⁴ Scott C. Cleland, Precursor Group, *Telecom's Exceptional Market Inflection Point* (2002).

The irony of telecommunications regulation is that the options created by network sharing rules tax incumbents without delivering value to entrants. With free entry, encouraged by rules that seek to eliminate the advantages of size and incumbency, profits of both incumbents and entrants are eliminated by the pursuit of regulatory arbitrage. During a time when capital is freely available, or close to it, the results of this regulatory scheme can be quite spectacular. Indeed, the massive CLEC entry in the late 1990s, followed by massive exit in 2000-2002, charts a remarkable pattern. It has spooked investors, stymied the emergence of real networks, and failed consumers.

Viable entrants, as well as efficient incumbents, will benefit from a downsizing of network sharing mandates. All investments in new facilities are at risk from policies that seek to guarantee access to firms not committed to the market for the long-term. The “synthetic” nature of network sharing competition is not just that innovation in networks is quashed, but that wasteful rent-seeking swamps rational business models.

There are alternative competitive strategies for regulators to embrace. Successful new telecommunications competition is occurring where rules yield economic incentives to build new networks or upgrade old ones. Cable telephony and wireless are stealing market share from traditional wireline phone systems, satellite TV operators are gaining customers at the expense of cable TV franchises, and cable TV modems are out-competing telephone network broadband subscribers by two-to-one. Each of these emerging markets offers a lesson in how innovative technologies can challenge legacy monopolies if public policy will refrain from undermining the economics of network competition.