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Inter-Modal Competition and Telecommunications Policy in the United States

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Abstract: This article discusses changes in the U.S. telecommunications market over the last decade and argues that increasing competitive substitution from wireless and internet-based communications has undermined the rationale for conventional monopoly regulation of incumbent local telephone carriers. The article suggests that the time is right to shift from a regime of *a priori* rules governing incumbent-form conduct to a regime of *ex post* competition enforcement.

Key words: telecommunications, inter-modal competition, regulation, competition policy.

Both the telecommunications market and telecommunications regulation have changed in the United States over the past decade. The U.S. telecommunications market has changed fundamentally from the monopoly structure that gave rise to regulation; meanwhile the existing framework for regulation continues to depend on the existence of monopoly power for its rationale. This article will explain how, as the communications options for average consumers have expanded beyond the offerings of their incumbent telephone companies to include new telephone carriers, e-mail, wireless telephone services and voice over the internet, the market has come to warrant a fundamental change in regulatory approach. This article does not argue that the changes in market structure imply an end to all regulation. However, it does argue that the new competitive dynamics in the U.S. telecommunications market warrant a shift in regulation from a *priori* restraints and mandates to more targeted, *ex post* enforcement against anticompetitive conduct and transactions.

This paper begins by examining how the market for local telecommunications services in the United States has changed over the past decade and demonstrates that the market no longer resembles the monopoly structure that gave rise to the existing regulatory framework. It then argues that the demise of the telecommunications monopoly brings with it the demise of the rationale and expected benefits of monopoly regulation.

The article then briefly discusses what kinds of regulation the telecommunications market might nonetheless warrant, and argues for an approach that emphasizes *ex post* enforcement against anticompetitive conduct instead of *a priori* restrictions and requirements on firm activities.

■ The transformation of the U.S. telecommunications market

The menu of telecommunications services available to U.S. consumers has expanded dramatically over the last ten years. This expanding set of choices has, in turn, transformed how people communicate and what they demand in terms of telecommunications options. To highlight the changes that have taken place, it is worth recalling the options available to a typical consumer in 1996. At that time, one person wishing to communicate a message to another had four potential choices: (1) pick up the telephone, (2) send a letter by mail, (3) place a wireless call by cell phone, or (4) log onto a computer and send an e-mail. In reality, however, the vast majority of American consumers had only choices (1) and (2). For, while roughly 95 percent of households had a conventional landline telephone service in 1996, only 38 million subscribers had wireless telephones, less than 19 percent of households had internet access, and less than 40 percent of households owned personal computers (FCC, 2005b, table 16.1, chart 2.9).

By 2003-04, the years for which the most comprehensive data is currently available, the telecommunications landscape had changed remarkably. The most important overall phenomenon has been the evidence that consumers now see alternative modes of communication as substitutes for each other. Such "inter-modal" competition is reflected by several measures of how people consume telecommunications services.

Wireless telephone services

The most dramatic change in U.S. telecommunications has been the rise in wireless telephone usage in the years since Congress passed the Telecommunications Act of 1996 (hereafter the 1996 Act). By the end of 1996 there were roughly 38 million wireless subscribers in the United States and they used their telephones to talk for an average of 125 minutes per month (FCC, 2005b, tables 11.1 and 11.3). By the end of 2004, there were

185 million wireless subscribers in the United States who used their telephones to talk for an average of 580 minutes per month (FCC, 2005a, para. 5). Today there are more wireless subscribers than conventional landline telephone subscribers in the United States (FCC; 2005b, 7.1). Moreover, those subscribers are paying less than wireless customers did at the time of the 1996 Act's passage. Wireless bills fell by 34 percent from 1997 to 2004 even with the dramatically increasing usage (FCC, 2005a, para. 15;7). Competition in the mobile wireless market continues to drive operators to attract customers through price and non-price methods (FCC, 2005a, para. 101-108). There are currently five facilities-based, nationwide wireless carriers operating in the United States (FCC, 2005a, para. 25). Almost all U.S. consumers, 97 percent of the population, have access to a service from three or more wireless competitors (FCC, 2005a, para. 2).

There are a number of reasons to believe that wireless service is increasingly substituting conventional, local telephone services. Firstly, the FCC has found that 62 percent of all Americans, and over 90 percent of those between 20 and 49 years old, own cell phones (FCC, 2005a, para. 195). As already mentioned, those subscribers have been using their wireless phones for an increasing number of minutes per month. This increase has been accompanied by a marked decline in the amount of landline calling by consumers. In 1996 American consumers made an average of 143 minutes of long-distance calls per month; by 2003 that figure had fallen to 71 minutes (FCC, 2005b, table 14.2). In 1996 Americans placed 504 billion conventional local telephone calls; in 2003 the number had dropped to 425 billion (FCC, 2005b, table 10.2). The inference of wireless substitution for wireline service is strong, and is corroborated by other data. The FCC has reported that 5.5 percent of Americans live in wireless-only households, a figure that rises to 14 percent for 18 to 24 year-olds (FCC, 2005b, para. 196). Yet such figures understate the true degree of substitution. As the Commission has found, "[e]ven when not 'cutting the cord' completely, consumers increasingly appear to choose wireless services over traditional wireline services, particularly for certain uses" (FCC, 2005b, para.197). The Commission went on to cite data that one third of all households receive over half of their calls wirelessly and 9 percent of households receive almost all of their telephone calls on their wireless phones (FCC, 2005b, para.197).

Not surprisingly, the rise of wireless telephone services has put heavy pressure on traditional telephone services. In addition to the decline in the number of calls and minutes on landline networks, the number of traditional phone lines has also dropped, and rather quickly. FCC data shows that by

each of three different measures of line count, the number of conventional telephone lines fell from 1999 through 2003 (the latest available annual data) (FCC, 2005b, tabla 7.1). The trend appears to be continuing, as the number of landlines dropped at a quarterly rate of 1.2 percent in the second and third quarters of 2004 (FCC, 2005a, para.197).

The degree of direct substitution of wireless for wireline telephony understates the competitive significance of wireless services. The average American consumer is comfortable with, and equipped with, wireless service. The Pew internet and American Life Project found that by 2003, 21 percent of all American wireless phone users had already considered cancelling their conventional home telephone service (HORRIGAN, 2003). While most people may continue to subscribe to a wireline service, conventional local service providers probably have little power to cut the quality or raise the price of their service; as to do so would be to invite consumers to pick up their mobile phones more often and simply to cut their landline subscriptions.

Internet-based alternatives to conventional telephony

Now let's consider computer-based alternatives to conventional telephone calls. By 2003, the share of households with computers had grown to 61.8 percent and those with internet access to 54.6 percent (FCC, 2005a, table 2.9). Residential customers and people who worked in small businesses together had nearly 26 million high-speed internet access lines by the end of 2003, a figure that leapt to over 35 million lines by the end of 2004 (FCC, 2004, table 3). Importantly, a large number of these high-speed lines do not involve wireline telephone networks at all. Over 60 percent of high-speed internet access takes place over the coaxial plant of the cable networks (FCC, 2005b, table 2.1).

American consumers have turned the internet into a platform for communicating with each other. Whereas, not long ago, real-time, interactive telecommunications with another person required picking up a telephone, current data show that the largest three on-line "instant messaging" providers, AOL, MSN, and Yahoo, respectively have 51.6 million, 27.3 million, and 21.9 million unique, monthly users (*San Francisco Chronicle*, 2005, reporting Neilson data). Such widespread instant messaging, which requires only basic (rather than high-speed) internet access, means that a tremendous amount of communication is now occurring without the need for

a telephone call. The Nielson data just cited builds on earlier evidence of instant messaging and e-mail usage. A Pew internet and American Life Project cites survey results showing that over 50 million U.S. consumers used instant messaging in 2003, and that they did so for an average of over 300 minutes per month. The Stanford Institute for the Quantitative Study of Society released a study in June 2004 reporting survey data that showed American consumers to use e-mail for an average of over 25 minutes per day. These data suggest that on-line communication methods have become a primary means of communication. The falling price of computers has made such modes of communication accessible to the mass market. From 1996 to 1999 alone, computer prices fell by over 32 percent per year in the United States (JORGENSEN, 2001). Since 1999 computer prices have only continued to fall, especially on a quality-adjusted basis. Over 90 percent of public libraries provide high-speed internet access.

The cable-modem internet service is of particular competitive significance for incumbent local telecommunications providers for several reasons. Firstly, as consumers increasingly turn to e-mail and instant messaging as a primary means of communication, cable operators compete vigorously with the telephone companies and their broadband DSL offerings to attract that traffic. Cable operators have been quite successful in that effort, capturing over 60 percent of the U.S. broadband access market. Competition between cable and telephone carriers for broadband subscribers drove the price of DSL access down by 25 percent from 2001 to 2004.

Secondly, cable modem competition and broadband penetration more generally has helped to drive a wedge between voice telephone service and the physical infrastructure over which it runs. For decades, voice service was identified with the underlying telephone network. Cable telephony (switched telephone service running over cable plant) similarly requires service providers to own, or purchase access to, a physical network to provide voice services. With the rise of broadband internet access, however, a set of voice service providers has arisen that owns no network infrastructure at all and instead provides voice service as an application that consumers can reach over the internet.

Such voice-over-internet-protocol (VoIP) services, like wireless providers, provide a voice option that does not always, but can and often does, entirely bypass incumbent local telephone networks. The technology for VoIP is improving rapidly and use is rising accordingly. A range of services, from free computer-to-computer calling to more sophisticated offerings that operate over conventional handsets, are available. Projections show that

within a few years 20 million households will use VoIP without any conventional telephone connection. However, as the mainstream press has recently chronicled, the services are already available to those who want them and VoIP may take off much more quickly than anticipated (FITZGERALD, 2005). Other evidence suggests that VoIP is not likely to be a panacea for concentration in the telecommunications market. In a 2004 study, RAPPOPORT *et al.* (2005) found that demand for VoIP services is quite sensitive to price and that the potential market size for VoIP may be much smaller than some advocates contend. While the magnitude of VoIP's future impact may be unclear, the service does have competitive potential. Nearly 90 percent of U.S. households are passed by upgraded cable plant that provides a cable modem service. With computers having become inexpensive and ubiquitous, with competing ways to get broadband access, and with the separation of a voice service from the physical infrastructure of the Public Switched Network (PSTN) through VoIP offerings, many consumers have yet another option in addition to wireless for working around conventional local telephone services.

Other broadband technologies are on the horizon. Broadband over power lines, WiFi internet access, WiMax, and satellite services are developing to different degrees and may soon make significant inroads. These technologies are not illusory; all that is in question is the extent to which they will affect competition in the telecommunications market, and the broadband access market in particular. In 1999, there were 312,000 subscribers to broadband over fiber or powerline networks; by 2004 that figure had grown to about 698,000 (FCC, 2004, table 2.1). Similarly, in 1999 there were about 50,000 satellite or terrestrial wireless broadband subscribers; by 2004 the figure had increased more than tenfold to 550,000. These figures are likely to increase, particularly as WiFi networks proliferate across the country providing internet access alternatives to cable and telephone networks.

New wireline telephone competitors

The incumbent local exchange providers face not only competition from other modes of communication, but from new landline telephone providers as well. In 1999, competitive local exchange carriers (CLECs) served only about 8 million lines – 4.3 percent of the local exchange market (FCC, 2004b). By December 2004 that figure had increased to nearly 33 million lines – 18.5 percent of the local exchange market. Over the same period, the incumbent local exchange carriers (ILECs) saw their aggregate line count

fall from roughly 181 million to 145 million. That change in market share is reflected in revenues, with ILECs going from 94.2 percent to 85 percent of local telephone revenues from 1999 to 2003 and CLECs (and other non-ILEC providers) correspondingly rising from 5.8 percent to 15 percent over the same period (FCC, 2005b, table 8.7). The FCC reports that 97 percent of U.S. households reside in zip codes served by at least one CLEC (FCC, 2004b, p. 4). Even though the telecommunications market has grown significantly in recent years with the rise of the internet, local service revenues for the ILECs have remained flat in nominal terms – and hence declined in real terms. ILECs altogether had local service revenues of about USD 103 billion in 1999 and around USD 104 billion in 2003; and their overall (including, for example, long-distance service) revenues declined from USD 112 billion to USD 109 billion over that same period (FCC, 2004b, p. 4). Indeed, the CPI for telecommunications services declined by 0.01 percent from 1994 to 2004, compared with CPI increase for all goods of 2.5 percent over that same period (FCC, 2004b, p. 12.1).

The story of competing landline carriers – "intra-modal" competition – is a little more complicated than that of inter-modal (i.e. wireless and internet) competition due to the fact that some degree of CLEC entry depends on ILEC facilities to which CLECs gain access pursuant to the (Unbundled Network Element (UNE) provisions of the 1996 Act. Competition coming solely over CLEC-owned facilities is less than that reported above: about 26 percent of CLEC lines were served entirely over their own facilities at the end of 2004, while 58 percent depended on UNEs (the remainder being resale of ILEC services) (FCC, 2004b, table 3). However, one cannot conclude from this data that CLEC competition is weak. Firstly, one reason why facilities-based competition is comparatively low may be that regulation has made an attractive alternative available. Indeed, the FCC itself concluded that the model by which many states calculated UNE prices may well have distorted the entry path chosen by CLECs and biased them toward UNE-based, as opposed to facilities-based, competition (FCC, 2003). Secondly, facilities-based entry appears to be on the rise as UNE availability decreases in the wake of recent FCC unbundling decisions; the share of lines served over CLEC-owned facilities increased 2 percent in the second half of 2004 (FCC, 2004b, table 3).

The most important thing to keep in mind, however, is that it is not up to CLECs alone, or even primarily, to impose competitive discipline on the ILECs. The 1996 Act may have seen CLECs as the main hope for local competition, but inter-modal competition from wireless and internet based telecommunications have provided major challenges to the former telephone

monopolies. The combination of inter- and intra-modal competition have greatly diminished the prospects for any exercise of market power by ILECs.

■ Conventional regulation and its monopoly rationale

To understand the regulatory consequences of the changing market structure described above, it is important to understand the degree to which conventional regulation – by which I mean the regime of specific rules that sets out, in advance, requirements and restrictions on business conduct by specific firms – developed in response to telecommunications monopoly and depends on the persistence of monopoly power for its continued applicability.

Telephone regulation before 1996

By the end of World War I, the structure, conduct and performance of U.S. telecommunications began to match the classic characteristics of a regulated industry: in most areas the market contained a single provider of an important service; a provider that had apparent power to set prices and control output (PAGE, 1941, p. 3). It seemed clear that such power would, if unregulated, be used to fatten profits at the expense of consumers, refrain from serving less profitable customers and extend market power into new or adjacent lines of business. From these perceived hazards emerged three principal objectives of telephone regulation:

The first objective of regulation, in response to the pricing power that monopolists typically wield, was to keep retail prices "reasonable" and well below monopoly levels. For most of the twentieth century, state agencies pursued this goal through direct review and constraint of the retail rates the AT&T companies could charge in their respective state service areas (FCC, 1989). Although local telephone rates were subject only to state regulation, the Federal Communications Commission ("FCC") had the authority (often only weakly exercised) to regulate interstate, long-distance calling rates at the federal level¹. Although virtually no federal regulation of rates for interstate (i.e. long-distance) telephone service remains, regulation of retail

¹ See FCC (1975) for an example of such interstate rate regulation by the FCC.

rates for local telephone service is the exclusive domain of state authorities under section 152(b) of the Communications Act and remains very much in place.

The second objective of monopoly regulation, which came to be known as "universal service," was to guarantee access by all Americans to telephone services. At first "universal service" was a slogan advanced by AT&T to obtain and retain customers in the face of competition (it had the only long distance service, hence "universal"), and later to obtain authorization to acquire competitors and still later to sell the idea that a telephone monopoly would be beneficial to society (and, it so happens, AT&T) (MUELLER, 1997). Eventually the term came to stand instead for the idea that the Bell System would, as a condition of its monopoly franchises, provide quality service to all consumers, and do so at fair and generally equal rates. Universal service thus came to comprise distributive goals that directly implicated economic questions about retail rates. Universal service regulation accomplished two things. First, the policy arguably sped the deployment of a high-quality telecommunications network to virtually all Americans. Secondly, it led to rate structures through which some kinds of consumers and services subsidized other consumers and services. Universal service thus became deeply enmeshed in the monopoly structure of telecommunications because the subsidy flows on which the policies depended were much easier to organize within a single entity than among numerous, potentially competing service providers.

The third objective of telecommunications regulation was to control the scope of AT&T's monopoly. The Bell System encompassed not just the state-by-state franchise monopolies over local service, but also nationwide long-distance telephone service, customer equipment (i.e. telephones), and network equipment (i.e. switches and other elements of the phone system). How many of these different markets should AT&T be able to monopolize? Partly through regulation but also through antitrust enforcement, the scope of AT&T's monopoly flowed and ultimately ebbed over the course of the last century.

For example, AT&T early-on placed "foreign attachment" prohibitions in its local tariffs that barred customers from attaching any non-AT&T equipment to the network. In 1947 the FCC questioned such restrictions and struck down AT&T's prohibition on the attachment of non-AT&T devices that customers could use to record telephone calls (FCC, 1947). AT&T did not even manufacture such devices, but evidently wished to reserve that market for itself. The FCC determined the company's monopoly could not extend so

far (FCC, 1947, p. 1048). AT&T's efforts to maintain dominance in the long-distance market provoked both regulatory and antitrust responses and ultimately resulted in the 1984 break-up of the Bell System into independent local and long-distance companies ².

Regulation under the Telecommunications Act of 1996

Congress designed the Telecommunications Act of 1996 to dismantle the exclusive local-exchange franchises that had always been the most significant zones of monopoly for U.S. telephone carriers. Importantly, the 1996 Act does less to remove existing monopoly regulation than to create new rules that should ostensibly allow increasing deregulation of local telecommunications over time. The 1996 Act can usefully be thought of as scaffolding put in place to support the construction of a competitive telecommunications market.

The Act's "scaffolding" consists of three essential components. Firstly, the 1996 Act mandates that telecommunications carriers interconnect for the purpose of originating and terminating each other's traffic ³. Without this provision subscribers of one carrier could not be assured of being able to send calls to or receive calls from subscribers of other carriers. Incumbent carriers would then have an enormous advantage in attracting or retaining customers over new entrants because of the larger universe of correspondents – virtually the entire subscriber base in 1996 – that the incumbent could promise. Secondly, the Act requires incumbent local exchange carriers to allow competitors to use parts of the incumbents' own networks to provide competing service ⁴. Thus, if new entrants would be competitively "impaired" without access to, say, the incumbents' central-office switches, the Act grants them access to the incumbents' switches on an "unbundled" (i.e. standalone) basis and at cost-based rates. Thirdly, the Act requires incumbent local carriers to sell their services wholesale, at regulated rates, to new carriers that wish to enter the market as resellers of the incumbent's service ⁵.

² *United States v. American Tel. & Tel. Co.*, 552 F. Supp. 131, 141 (D.D.C. 1982) (*aff'd* 460 U.S. 1001 (1983)).

³ 47 U.S.C. 251(c)(2)

⁴ 47 U.S.C. 251(c)(3).

⁵ 47 U.S.C. 251(c)(4).

Monopoly has been the premise for regulation

The rationale for each kind of regulation just discussed depends largely on the monopoly structure of the local telephone market. First, consider rate regulation. The government does not regulate prices of the vast majority of goods and services sold in the United States. Actual or potential rivalry from other firms drives any given supplier away from the high monopoly price level that exists in the absence of competition and thus eliminates the need for government to step in to protect consumers from market power.

Even where some market power exists, the government uses price regulation sparingly because of regulation's harmful incentive effects that can impede the development of competition. Government-imposed price limits may diminish incentives for the incumbents or potential challengers to innovate, reduce profit opportunities that attract new entrants, and ultimately entrench both a particular provider and a particular technology in the market, to the detriment of consumers.

Universal service regulation was also tied to the monopoly structure of the local telephone market, although more in its form than in its purpose. Funding universal service through geographical rate averaging and implicit subsidy flows within a firm is hard to rationalize or sustain outside of the monopoly context. Competition is the enemy of such subsidies because new entrants naturally "cream skim," targeting low-cost, high-margin customers and avoiding the high-cost, low-margin (or negative-margin) customers, thereby eliminating the revenues on which the implicit subsidy flows depend. Direct subsidies (as opposed to implicit or "cross" subsidies), however, do not necessarily fail or lose their policy rationale when a market becomes competitive. Subsidies may be aimed directly at high costs where they exist and need not come indirectly from high profits earned elsewhere. Competition immediately reduces the latter and may only slowly reduce the former. Direct subsidies for particular consumers therefore exist in many markets, such as housing, food, and education where providers may not have much market power, but where prices may still be too high for some would-be buyers to have access⁶. So, a distributional policy for telecommunications that accomplishes universal-service objectives is not tied to monopoly; but a mechanism for achieving those policies that applies

⁶ See, e.g. National Housing Act § 203(b) (providing mortgage subsidies), the Food Stamp Act, 7 U.S.C. § 2011 *et seq.*, and 20 U.S.C. 1018 (governing delivery of financial assistance to students pursuing higher education).

only to a particular firm or set of firms, and that depends on implicit subsidy flows, is tied to monopoly market structure.

Finally, some means of regulating monopoly scope are also closely tied to single-firm market structure and lose much of their basis as competition emerges. At the most obvious level, once a firm has rivals it no longer has any monopoly to extend. In a competitive market, a firm's efforts to bundle products and services in a way that harms consumers will be disciplined by the rival offerings of the firm's competitors. Consider a tariff that required any phone service customer to also rent its telephone from the carrier. If that packaging somehow allowed the carrier to provide either the phone or the service at particularly low cost to customers, then customers would gain from the package. However, if the bundle were just a way for the carrier to gain extra profits, under competitive conditions consumers would turn to other carriers that either offer a cheaper bundle or do not require consumers to buy a bundle at all. Similarly, restrictions on the lines of business a firm can enter make economic sense only if the firm has market power over some essential input – for example, "bottleneck" access to the local exchange – that allows extension of power in one market into another market. Such leveraging of the local network bottleneck into market power over long distance was part of the theory behind the break-up of AT&T and the imposition of line-of-business restrictions on the RBOCs⁷. As alternative paths into the local exchange arise through competition, control over bottleneck facilities diminishes and along with it so does the premise for a *priori* restrictions on a firm's entry into adjacent markets.

Monopoly and the rationale for the 1996 Act

The network unbundling and wholesale pricing provisions of the 1996 Act are also premised on the existence of local exchange monopolies. The soundness of those rules depends on the assumption that, in the absence of access to the incumbent's facilities, new entrants will not be able to offer services to customers in the first place. This assumption is valid only if incumbents have both an economic scale that imposes a barrier to entry and a monopoly over the facilities new entrants could lease in an effort to overcome that entry barrier. Those conditions would not hold if the incumbent faced competition from other carriers providing services that

⁷ *United States v. American Tel. & Tel. Co.*, 552 F. Supp. 131, 141 (D.D.C. 1982) (aff'd 460 U.S. 1001, 1983).

consumers could effectively substitute for conventional local exchange service – in other words, they would not hold under competition. For example, competition would show both that entry barriers were not so high that they prevented competition against the incumbent and that there were other sources and kinds of facilities potential entrants could use to set up their service offerings. Thus, the 1996 Act's unbundling rules depend both for their purpose and their structure on the existence of monopoly in the local telecommunications market. Consistent with that logic, they apply only to incumbent local exchange carriers and not to all providers (as the interconnection rules do)⁸. The same argument applies to the wholesale pricing provisions of the 1996 Act⁹.

The main body of U.S. telecommunications regulation, at both the state and federal level, therefore continues to be, at root, monopoly regulation. There is no question that such regulation generally applies less broadly and stringently than it has in the past – states have given incumbent carriers increasing pricing flexibility and the FCC's has reduced its unbundling requirements for ILECS, for example. But much regulation remains, the need and justification for which are increasingly difficult to see in today's more competitive marketplace.

■ The new market structure warrants a new regulatory approach

Regulatory costs that might be beneficial to incur in the presence of monopoly become less so as a market moves toward competition. Given the data demonstrating how the U.S. telecommunications market has made that transition, there is good reason to think that the costs of the current approach for regulating the telecommunications industry will outweigh the benefits going forward. The section concludes with a discussion of a more suitable approach to regulating today's more competitive telecommunications marketplace.

⁸ 47 U.S.C. 251(c)(3).

⁹ 47 U.S.C. 251(c)(4).

The costs of regulation

Policy makers have long understood the difficulties of implementing price regulation¹⁰. A threshold problem with determining "reasonable" rates for a service is that the information necessary for the relevant calculations is in the hands of the very company being regulated. "Moral hazard" problems thus abound because a firm can affect a regulatory agency's determination of allowable rates by manipulating underlying accounting data. However, even in cases where regulators can resolve such information asymmetries and obtain accurate cost data, rate regulation raises several perplexing problems. Firstly, regulators must divide the firm's costs into three categories: costs that may be passed on to consumers and on which the firm is allowed to earn a return, costs that may be passed through to consumers, but on which a return is not allowed, and costs that the firm may not pass through at all to consumers¹¹.

Secondly, putting aside the difficulties of assessing a firm's expenditures for purposes of determining a "rate base" on which to calculate a firm's allowable return, regulators next face the difficult challenge of how to value that rate base. For many years the only approach the U.S. Supreme Court found constitutionally valid was to allow a return on the "fair value" of a utility's assets¹². The idea is to allow return on those investments that have resulted in productive facilities and to disallow return on investment that has failed to produce beneficial assets for the firm. Unfortunately, distinguishing and valuing the relevant assets is notoriously difficult – a "laborious and baffling task" in the words of the Supreme Court¹³. The other principal method of valuing the rate base has been to look at the firm's original financial investment and to allow a return so long as those investments were prudent at the time they were made. While the courts have approved such an approach¹⁴, it does not weed out bad investments with no current economic value and does not adjust the current rate of return for factors like inflation and changing replacement costs of capital that reflect the utility's current risks and financial opportunities.

¹⁰ 3 FCC Rcd. 3195 (1988).

¹¹ 4 FCC Rcd. at 2883-84. See also VISCUSI, VERNON & HARRINTON, 1995, at 381.

¹² *Smyth v. Ames*, 169 U.S. at 457.

¹³ *Missouri ex rel. Southwestern Bell Tel. Co. v. Public Service Commission*, 262 U.S. 276, 292 (1923).

¹⁴ *Federal Power Commission v. Natural Gas Pipeline*, 315 U.S. 575, 605 (1944); *Duquesne Light Co. v. Barasch*, 488 U.S. 299, 309 (1988).

The 1996 Act gave rise to yet a different model of rate making for the purpose of determining the prices competitors pay for access to the incumbents' unbundled network elements ("UNEs"). In implementing the Act's prescription that rates for UNEs be based on cost, the FCC determined that costs should not be the embedded or historical costs of the network, but instead the total, forward-looking, incremental costs of providing each element (the "TELRIC" method; the acronym stands for total, long-run, incremental costs)¹⁵. Properly implemented, this approach requires calculating the forward-looking economic value of a network and might appear to resemble the fair-value approach with all of its attendant difficulties.

The FCC ultimately found TELRIC troublesome in three crucial respects. First, the Commission found that: "the TELRIC rules have proven to take a great deal of time and effort to implement, and the resulting drain on resources for interested parties and state Commissions can be tremendous" (FCC, 2003, pp. 18945,18948-49). The FCC further observed that:

"These complicated and time-consuming proceedings may work to divert scarce resources from carriers that otherwise would use those resources to compete in local markets" (FCC, 2003, p. 18949).

Secondly, the Commission found the costly proceedings to produce inconsistent results:

"For any given carrier there may be significant differences in rates from state to state, and even from proceeding to proceeding within a state. We are concerned that such variable results may not reflect genuine cost differences but instead may be the product of the complexity of the issues, the general nature of our rules, and uncertainty about how to apply those rules" (FCC, 2003, p. 18949).

Finally, the FCC found that:

"[...] the lack of predictability in UNE rates is difficult to reconcile with our desire that UNE rates send correct economic signals" (FCC, 2003, p. 18949).

As the FCC's observation about incorrect economic signals indicates, the rate-setting function of monopoly regulation is costly not only in its administrative burdens, but in its effects on the economic incentives of market players. Consider first effects on the regulated firm. As already briefly

¹⁵ 47 C.F.R. 51.505

mentioned, firms subject to rate-of-return regulation (also called "cost-of-service" regulation) have distorted incentives when it comes to deploying efficient, low-cost production technology. The lower the firm's allowable (for rate-base purposes) costs, the lower the firm's profits under a rate-of-return scheme. Not only does a firm subject to such regulation lack incentives to cut costs, it actually has an incentive to raise them, so as to increase the absolute level of profits provided by its regulated retail revenues.

Firms under rate-of-return regulation also have an incentive to adopt capital and labour in a wasteful proportion – too much capital and too little labour – because the former is generally part of the rate base and so the firm recovers the expenditure and earns a return, whereas the firm only passes through the latter to consumers without receiving an additional return (AVERCH & JOHNSON, 1962). Incentive-based rate programs such as price-cap regulation greatly improve the incentive properties of traditional rate-of-return regulation by allowing firms to earn extra profits by cutting costs. However, as the U.S. Supreme Court has observed, "The price-cap scheme starts with rates generated by the conventional cost-of-service formula"¹⁶. So price-cap mechanisms provide less incentive to cut costs than competition, in which failure to be efficient means not just losing some profits, but losing customers altogether to rivals.

Consider next the potential effects of regulated rates on potential entrants. The effects of incorrect regulated rates become particularly acute when a market is undergoing the transition to competition, especially in industries where firms must make large, fixed investments in infrastructure to provide a service. No firm goes into business to lose money. If regulators set prices so low that they do not provide an attractive rate of return on total costs, unregulated competitive entrants will not find the market attractive to enter; regulators risk deterring the competitive entry that could obviate the need for regulation in the first place.

In a market moving toward competition, regulators consequently walk a fine line: regulated prices that are too high can act as focal points around which market prices may cluster. That is, even if the regulated firm has downward pricing flexibility, prices may be higher than in an unregulated setting if the incumbent must file tariffs that give advance notice of its intention to lower prices. There is empirical evidence that AT&T acted as a price leader in the long-distance telephony market when it was required to

¹⁶ *Verizon v. FCC*, 2004: 535 U.S. 467, 487.

file tariffs as a dominant firm. The principal competitors, MCI and Sprint, knew in advance what AT&T's prices would be and had an incentive to follow just under the "umbrella" of AT&T's prices, rather than aggressively cut prices themselves (MacAVOY, 1998). Regulated prices that are too high thus accomplish nothing, except possibly to raise consumer prices, in a market that would otherwise be naturally moving toward competition.

Regulated prices that are too low also do harm. Entrants move into markets where they expect to earn a profit. Regulating the incumbent's rates to a level below that which provides the return competitors need to attract investment and profitably enter the market will deter competition and the many benefits it would provide to consumers. Regulators thus face a difficult task in markets in which competition is emerging: set rates at exactly the level that will allow an efficient firm to attract the investment necessary to compete in the marketplace. Rates above that level will make consumers worse off than the unregulated market, rates below that level will deter competition which would naturally lower prices and obviate the need for administratively costly regulation. Given the difficulties that regulators inevitably face in setting rates with such precision (recall the FCC's remarks about TELRIC, above) one must be sceptical about the wisdom of importing rate regulation schemes from a monopoly setting into an emerging competitive environment.

The concerns raised above apply equally to regulation of wholesale or UNE rates under the 1996 Act. If UNE rates are too high they are pointless because they do not serve the policy goals and are therefore not worth the administrative burden. Yet the problem with UNE rates that are too low is more severe. As the FCC itself has acknowledged, rates that do not fully compensate incumbents for the incremental costs of providing UNEs undermine investment incentives and thwart the development of competing networks (FCC, 2003, p. 18947). Such low rates deter the incumbent from investing in its network and deter entrants from building their own networks by providing them with subsidized use of the incumbent's network. The result is less investment by incumbents and entrants alike, less innovation, and less price competition over time for consumers.

Line-of-business restrictions are another form of regulation that imposes costs on society. Whether such limits are absolute, like the restrictions under the Modified Final Judgment (MFJ) or whether they more modestly govern the structure and terms of entry into adjacent markets as under the 1996 Act, they have the effect of limiting competition and hence the economic performance of the market into which regulators control entry. One study, for

example, estimates that the MFJ's information-services restriction delayed the RBOCs from being able to introduce innovative services and thereby cost society over USD 1 billion in consumer welfare (HAUSMAN, 1997). Others have recognized more generally that even where some government regulation is necessary because unmonitored entry into markets could allow some firms to cause consumer harm, restrictions entail a tradeoff because they also reduce competition and potential innovation (ANTHONY *et al.*, 2002).

The above discussion highlights only some examples of the costs of regulation. Its purpose is to show that regulation cannot casually be assumed to be costless or effective. The discussion also allows one to see that the benefits of regulation depend in important ways on the existence of an underlying monopoly. Rates that are set too low in a monopoly do not deter competitors – competitors do not exist either because they did not arise in a previously unregulated environment or because regulators determined the industry to be a natural monopoly in which multiple firms would be inefficient. Regulated rates that are too high in a monopoly setting may still be better than what the monopolist would charge if it were unconstrained. Monopoly thus allows regulation to be imprecise and still create consumer benefits. Under competition, even (or perhaps especially) emerging competition, regulators have no such margin for error. The errors and administrative costs that may still be compatible with net social gains under regulated monopoly become less so as competition develops.

A new approach to telecommunications regulation

In light of the discussion above some might say that the increasingly competitive and diverse market illustrated in the first section of this article eliminates the basis for any regulation at all. Others might argue, on the contrary, that the market has expanded but that the essential market power of incumbent local telephone monopolies remains unchecked. The facts do not entirely support either position. The market is certainly not perfectly competitive and substitution among alternative communications options, while considerable, is not complete. VoIP does not yet offer an emergency service comparable to landline 911 services; wireless quality is still more variable than conventional wireline quality; cable service can be disrupted by local power outages in a way that the circuit-switched local phone service cannot be; and access and affordability issues may remain of social policy concern. On the other hand, to believe that conventional local carriers

possess significant market power, one must provide a good reason to discount the evidence that local exchange carriers are losing traffic, customers, and revenues by both relative and absolute measures to competing technologies.

The relevant policy questions are, firstly, whether continued, *a priori* regulation will improve the functioning of the market compared to what would result under market-based competition; and secondly, whether some alternative forms of regulation might be beneficial even if the conventional approach is not. This paper's discussion of this point suggests that the answer to the first question is no, but the answer to the second question is yes: some forms of intervention can benefit the telecommunications market by preserving and promoting competition. A recommendation against substantial *a priori* regulation does not mean that the U.S. telecommunications market should be without oversight or some basic "rules-of-the-road." The analysis of this paper does not, for example, necessarily imply that competitively neutral interconnection rules that obligate competing networks to exchange traffic should be eliminated; interconnection rules do not depend on monopoly for their rationale and there is a substantial debate over their continued necessity.

Nor does this paper counsel against enjoining specific transactions or instances of conduct that proves to be harmful to competition and consumers. In fact, it is exactly such post-conduct enforcement responses that are appropriate in the current environment of the telecommunications market. It is hard to see in advance what strategies will lead to the most competitive environment or be most responsive to consumer desires. Rules designed to restrain or govern firm behaviour on a prospective basis may distort competition with little expected payoff. However, responding to behaviour that proves anticompetitive as it arises allows authorities to prevent bad activity without impeding or deterring beneficial competition. Indeed, without cautious, vigilant competition enforcement and merger review in telecommunications markets, the consumer gains that competition is bringing could be lost.

The *ex post* enforcement regime this paper recommends is analogous to rule-of-reason scrutiny under U.S. antitrust laws. Before the courts hold a firm liable for most conduct that could be anticompetitive – exclusive dealing, for example – plaintiffs must prove actual anticompetitive effects that outweigh pro-competitive benefits of the conduct. There is a reluctance to bar most conduct in advance because many economic actions (excepting per se antitrust violations like price fixing) may have either beneficial or

harmful effects on consumers, depending on specific circumstances. In the emerging, competitive market for U.S. telecommunications, the same *ex post*, case-by-case perspective is warranted. A good example of such an approach is the FCC's 2005 enforcement action against Madison River Communications, which the FCC found to be interfering with transmissions between customers and VoIP provider Vonage. One solution to such potential discrimination problems is to impose rules and standards for how telecommunications carriers transport and transmit different kinds of content and services. It is preferable in a dynamic and uncertain market to let competition between networks govern such performance dimensions, but to punish and enjoin discrimination that is clearly anticompetitive. That is exactly what the FCC did to Madison River.

The antitrust-like model is not perfect. Some cases will escape scrutiny altogether and some well-aimed enforcement efforts may fail. Moreover, some harm generally accrues before agencies can seek a fine or injunction. However, enforcement problems and compensation issues can be addressed through effective enabling legislation and proper institutional assignment – for example, to the Department of Justice's Antitrust Division or the FCC – of enforcement jurisdiction. More to the point, *ex post* enforcement against specific, anticompetitive acts avoids the kind of costs (discussed above) that *a priori* rules can create through their imposition of one-size-fits-all requirements and restrictions. As the benefits of *a priori* regulation diminish with competition, the more targeted approach of *ex post* competition enforcement becomes more appropriate. The empirical evidence is compelling that the U.S. telecommunications market has reached that crossroad.

■ Conclusion

As telecommunications markets in the United States transform, regulation has remained essentially static in its fundamental approach and monopoly assumptions. To be sure, regulation has certainly changed in its strength and scope, and in some important areas has little remaining bite. However, at the state level and in several important areas of federal regulation, rules remain whose motivating, monopoly conditions no longer hold. As these rules become increasingly obsolete, they risk causing increasing harm to the incentives of incumbents and new entrants alike to invest and compete for the benefit of consumers.

History supports the argument for shifting sooner rather than later from an *a priori*, rule-based telecommunications policy to regulation that mirrors the more case-specific, *ex post* approach of competition policy. There is an administrative and legislative precedent in the United States for deregulating markets whose structure is similar to that currently found in "local" telecommunications. In the cases of cable rate deregulation¹⁷, long-distance tariffs, and wireless telephony, the FCC or Congress decided to forebear from regulating in circumstances no more competitive than the local telecommunications market today. Moreover, there is evidence that past delays in deregulation in a variety of industries have been costly to American consumers. A recent study by FINE & FIGUEIREDO (2005) examines the deregulation of railroads, natural gas, banking, airlines and mobile telephony. The authors find evidence across industries to show that once competition develops in a regulated industry, an incremental approach to deregulation only harms consumers and distorts economic incentives. They conclude from their analysis that conditions are ripe in U.S. telecommunications for decisive change and that hesitant, piecemeal deregulation will prove costly. Based on the above analyses of recent market data, of the rationale for regulation, and of the costs and benefits of continuing with conventional monopoly regulation; this article agrees.

¹⁷ 8 FCC Rcd. 5631, ¶8 (1993).

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