Competition in Local Telecommunications

THERE’S MORE COMPETITION THAN YOU THINK

By Christopher Swann and David G. Loomis

Christopher Swann is a senior consultant and economist at Global Insight, Inc. He has worked at Bell Atlantic (Verizon Communications) in research, product management, and regulatory areas. He holds a B.A. from Washington University and M.A. and Ph.D. degrees from Temple University. He is a past president of the Philadelphia NABE chapter and past chair of the NABE Technology Roundtable.

David Loomis is co-director of the Institute for Regulatory Policy Studies and associate professor of economics at Illinois State University. He earned his Ph.D. in economics at Temple University. He also worked at Bell Atlantic for 11 years. He has published articles in the Review of Industrial Organization and other journals and has co-edited two telecommunications books with Lester Taylor.

The Telecommunications Act of 1996 created a framework for competition in local telecommunications. Under its rules and under the jurisdiction of state regulatory authorities, competitive local telephone companies were to gain access to some or all parts of the incumbent’s network through known wholesale tariffs and offer retail local telephone service. As customers adopt other technologies for communications—mobile wireless service, broadband for email, messaging, and information retrieval—additional competitive pressures are put on the core voice telephone market. The substitution of usage and access from local telephony to other modes of communication is regarded as intermodal competition and is the subject of this paper. This study concerns local telecommunications competition between incumbent and competitive service providers in the United States. In addition to measuring competition from within the wireline market, we find significant intermodal competitive impacts resulting from wireless and high-speed development. We report empirical results from an econometric model that measures line loss impacts between carriers and the effects of wireless and high-speed services on the wireline market. The paper offers interpretation of the strategic and policy implications of these results.

One of the primary objectives of the Telecommunications Act of 1996 was to open local telecommunications markets to competition. These markets are dominated by incumbent monopoly franchise carriers, particularly—in most major markets—the former regional Bell operating companies (RBOCs). Recognizing that local markets constituted bottlenecks, the Act mandated that the local exchange networks be unbundled into constituent parts: loops, network interface devices, switching, dedicated and shared transport, signaling and call-related data bases, and operations support systems (including operator services and directory assistance). Competitive service providers would be able to acquire services for
some or all of these unbundled network elements (UNE) through wholesale prices.\textsuperscript{1} For example, a competitive local exchange carrier (CLEC) is permitted to rent space in the central office (operations center) of an incumbent local exchange carrier (ILEC) and co-locate its equipment in order to lease access to the ILEC’s switching facilities at wholesale rates that are regulated by the state. The incentive to the RBOCs to open their vast local markets in this process was that they would gain access to long distance markets, which had been closed to them.

Figure 1 presents a stylized representation of the local telecommunications network, including the local telephone loop that provides access to the customer’s premise and the service provider’s central office that contains switching facilities of the ILEC and co-located equipment owned by the competitive carrier. Alternative forms of access from mobile wireless service and cable television are also shown because providers of these services offer forms of communications access and usage that compete directly with voice telecommunications services and with dial-up Internet access provided through additional telephone lines. We also show electric power companies as potential providers of broadband service in the future.

The wholesale pricing practices used to determine prices for each of the telephone network elements and the issue of whether the resulting prices are set at appropriate levels is beyond the scope of this paper. Indeed, the efficacy of this whole policy approach has been hotly debated. Nonetheless, competition in local networks has been substantial, particularly during the high growth years in the telecommunications and information technology industries, as competitors penetrated the traditional local wireline base of the incumbents.

**Technology Marches On**

The larger communications market has not stood still while local exchange competition—wireline loop competition—was developing. Changes in all communications technologies developed rapidly; and the evolution of the Internet as a vehicle for electronic communications, as a means for information retrieval, and as a conduit for commercial transactions was a development beyond anyone’s vision—or at least any short-run network plan. At the same time a less regulated mobile wireless industry was expanding from a duopoly of cellular providers to a competitive market that included several more personal communications service providers. And although the U.S. mobile wireless market is characterized by competing network standards, adding to the total costs of service, it is an enormously competitive industry.

\textsuperscript{1}All of these elements taken as a whole constitute the entire local platform, and the wholesale pricing is denoted as UNE-P.

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**ABBREVIATIONS USED IN THIS PAPER**

- CLEC: COMPETITIVE LOCAL EXCHANGE CARRIER
- DSL: DIGITAL SUBSCRIBER LOOP
- FCC: FEDERAL COMMUNICATIONS COMMISSION
- ILEC: INCUMBENT LOCAL EXCHANGE CARRIER
- ISP: INTERNET SERVICE PROVIDER
- LAN: LOCAL AREA NETWORK
- MSA: METROPOLITAN STATISTICAL AREA
- MSO: MULTIPLE SYSTEM OPERATOR
- RBOC: REGIONAL BELL OPERATING COMPANY
- UNE: UNBUNDLED NETWORK ELEMENTS
- VOIP: VOICE OVER INTERNET PROTOCOL