



The Economic Logic for Conditioning Bell Entry into Long Distance on the Prior Opening of Local Markets

MARIUS SCHWARTZ*

Department of Economics,
Georgetown University, Washington, DC 20057
E-mail: *schwarma2@georgetown.edu*

Abstract

One of the most important and most contentious issues for regulation and competition raised by the 1996 Telecommunications Act is when to authorize the regional Bell companies to offer long-distance services. The Department of Justice (DOJ) adopted a standard requiring that a Bell's local market must first be irreversibly open to competition. This paper analyzes the competitive benefits and costs of authorizing Bell entry, explains the DOJ's standard, and argues that the incentives created by this standard will help achieve the Act's competitive goals more efficiently and rapidly than other standards, ultimately reducing the need for intrusive regulation.

1. Introduction

The Telecommunications Act of 1996 marks a watershed in U.S. policy, by establishing a federal goal of promoting competition in *all* telecommunications markets. The most significant change is the Act's requirement that local telephone markets, historically served by regulated franchise monopolists, must be opened to competition. In addition and closely related, §271 of the Act creates a process for authorizing any regional Bell Operating Company (BOC) to offer long-distance (interLATA) telecommunications services originating in a state where it provides local service once certain conditions have been met to open the BOC's local markets in that state to competition. The BOCs were divested from the vertically-integrated AT&T and barred from long-distance services by the 1982 court order which settled the landmark antitrust case brought by the Department of Justice (DOJ).

The BOCs control about three quarters of U.S. local lines, and a similar share of long-

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distance traffic originates in BOC service areas. The §271 policy of conditioning BOC entry into long distance (“BOC entry”) on the opening of BOC local markets is thus important in its own right—given the size of the affected markets—and as a salient case study in using regulatory incentives to promote competition in traditionally monopolized markets.

Under §271, a BOC must obtain approval to offer long-distance services from the Federal Communications Commission (FCC). The FCC must give “substantial weight” to the competitive evaluation of the DOJ, and the DOJ has played a major role in the 271 process. It took almost four years since the passage of the Act for a BOC application to be approved, in December 1999, that of Bell Atlantic in New York. This perceived limbo has fanned criticisms that the agencies have set the bar too high, as supposedly evidenced by the BOCs’ refusal or inability to meet it, and has prompted efforts to weaken or repeal §271.

This paper has three purposes: (a) to analyze the potential benefits and costs of BOC entry into long distance in light of the competitive goals of the 1996 Act; (b) to explain the DOJ standard and its underlying economic logic; and (c) to argue that the 271 process is in fact helping significantly to open BOC local markets to competition.

Section 2 of this paper reviews the state of competition in the main telecommunications markets relevant to evaluating BOC entry, and the competitive goals of the 1996 Act. Notably, the Act seeks to facilitate diverse forms of local competition, some of which will require extensive sharing by entrants of BOC networks. Creating and appropriately pricing the host of new and complex wholesale local services for use by entrants will demand substantial BOC cooperation.

Section 3 discusses potential benefits from BOC entry: tapping various efficiencies from joint provision of local and long-distance services, and bringing more competition to long-distance markets. Section 4 addresses potential concerns with BOC entry, especially that BOC incentives to cooperate in offering network access to both long-distance carriers and local competitors will greatly diminish post entry. Section 5 examines the ability of post-entry safeguards to overcome such incentives and enforce BOC cooperation. Theory and evidence suggest that once access arrangements are in place and there is a track record for gauging “good performance,” regulation or other outside enforcement can do an acceptable job of preventing the incumbent from degrading such arrangements—like those traditionally used by long-distance carriers. But it is very difficult to elicit complex new arrangements—like many of the wholesale local services needed by local entrants—if the incumbent is reluctant.

Section 6 evaluates the DOJ standard for supporting BOC entry in light of the preceding. The standard requires a BOC’s local market to be “fully and irreversibly open” in that state to all forms of competition envisioned by the Act—primarily, that the major new wholesale local services have been implemented and properly priced, and their performance verified. The standard increases BOC incentives to cooperate more than would tougher or softer standards, and thus should secure the new arrangements faster and more efficiently, without delaying BOC entry longer than necessary. Once these new arrangements and performance benchmarks are in place, preventing backsliding becomes significantly more manageable.

Section 7 briefly reviews §271 developments and finds tangible, promising signs of

progress. Section 8 concludes that conditioning BOC entry on the prior opening of local markets will facilitate local competition *and* minimize the need for later intrusive regulation.

2. The Telecommunications Act of 1996 and BOC Entry into Long-Distance Services

The 1982 consent decree that broke up the vertically integrated Bell system created seven new regional BOCs, and divided those parts of the country served by the Bell system into local access and transport areas (LATAs).¹ The BOCs were prohibited from offering telecommunications services that cross LATA boundaries; such interLATA services have been provided mainly by long-distance companies, also known as interexchange carriers (IXCs).²

Superseding the MFJ, the 1996 Act authorizes any BOC to offer interLATA services that originate in states outside its service regions. But to offer interLATA services originating in a state where it provides local service, a BOC must obtain FCC approval for that state. Section 271 of the Act requires the FCC to grant approval only if it determines (a) that the BOC has met the fourteen-point competitive checklist for opening its local markets in the state to competition;³ and (b) that BOC entry is in the public interest. The FCC must consult with the state commission to determine checklist compliance. The FCC must also consult with the DOJ and give its competitive assessment “substantial weight” in deciding an application.⁴

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- 1 Modification of Final Judgment (MFJ 1982). Judge Greene entered the MFJ on August 24, 1982, and the divestiture was consummated January 1, 1984.
 - 2 Recently, however, some non-BOC local exchange carriers (LECs), that are not subject to the Act’s §271 restriction on the BOCs, have been making serious inroads into interLATA services.
 - 3 The checklist covers such items as: interconnection, and reciprocal compensation for termination of local traffic; access to various unbundled network elements; access to the incumbent’s retail services at a wholesale discount for resale; access to databases and associated signaling, to 911 and E911, and to poles, ducts, conduits and rights-of-way; number portability; and local dialing parity. The FCC must first determine which track, if any, the BOC is eligible to use at the time of its application to satisfy the checklist: Track A (interconnection agreement with one or more facilities-based competitors that collectively serve business and residential customers) or, where no request has been made for access and interconnection, Track B (statement of generally available terms offered to competitors covering the various checklist items).
 - 4 Also, §272 requires the BOC to offer all interLATA services through a separate affiliate, subject to safeguards to help prevent cross-subsidization and discrimination in favor of the affiliate.

2.1. The Major Telecommunications Markets Relevant to Evaluating BOC Entry

Since the Act links approval of a BOC's long-distance entry to the opening of BOC local markets, it is useful to begin with a description of competitive conditions in both markets.

2.1.1. The BOCs Dominate Local Markets and Are Heavily Regulated

Local telephone networks⁵ were historically provided by franchise monopolists, such as the BOCs in their service areas. The "local market" is a common shorthand for the set of services provided using local networks, to end users and to carriers (mainly exchange access to IXCs for completing long-distance calls). Cracks in the local-market monopoly appeared even before the 1996 Act, as Competitive Access Providers (CAPs) built facilities that enabled large customers to bypass incumbents' access charges by linking directly to IXCs, and provided some direct links between private networks. Aided by the 1996 Act's preemption of legal and regulatory barriers, which had precluded competition for switched services in many states, competitors have expanded to offer also switched services and other options.

While local competition has grown, it has been fairly narrowly targeted mainly to serving large business customers in central business districts, for two reasons.⁶ First, incumbents' rates to business customers have traditionally been well above cost, in part, to satisfy regulatory policies of cross-subsidizing certain residential rates (especially basic service in rural areas). Second, due to economies of network density and scale, it can be economical to deploy new infrastructure (such as fiber rings) around concentrated business districts, and to build dedicated links to high-volume customers in those districts (and possibly elsewhere); but otherwise, constructing new facilities is often uneconomical. The upshot is that the great majority of residential subscribers and most small businesses still depend on switched local access for their local and long-distance calls. The BOCs and other incumbent LECs retain the only ubiquitous switched local networks in their service areas. They also dominate special (dedicated) access used by IXCs. Given their substantial market power, incumbents remain heavily regulated in their prices for most local services and exchange access.

Table 1 shows 1998 revenues to various groups of carriers from local and long-distance services. The top part of the table illustrates incumbents' dominance of wireline-based ("fixed") local services (the table's bottom part becomes relevant shortly). Competitors' overall share is under 3% (\$2.8 bn v. ILECs' \$97.8 bn). Their revenue share is higher for dedicated access, such as private lines provided to end users (10%) or to carriers, mainly IXCs (12%). But in switched-access revenues (local exchange, subscriber line charges, per-minute carrier access), incumbents dwarf competitors. While these are national data

5 Major local network pieces include: (a) the *local loop*—the wires linking subscriber premises to the phone company's wire centers ("central offices"); (b) *switching facilities*—computers that enable subscribers to communicate indirectly (not via bilateral links); (c) *local transport* facilities—high capacity trunk lines between central offices; (d) *databases* and network *signaling* functions. The local loop is by far the most expensive network element; duplicating it would be very costly, and often inefficient. Some economies of density also exist in other elements.

6 Useful details on the patterns of local entry are provided in CEA (1999) and FCC (1999c).

Table 1. Main Telecommunications Revenues, 1998 (\$ bn)*			
	All Incumbent Local Exchange Carriers (ILECs) ⁱ	Local Competitors ⁱⁱ	Bell Operating Companies (BOCs) ⁱⁱⁱ
Fixed Local Services^a			
To End Users	70.4	1.4	53.8
Local Exchange ^b	53.6	0.8	
Subscriber Line Charge	9.8	0.1	
Local Private Lines	4.1	0.4	
Miscellaneous	2.9	0.1	
To Carriers	27.4	1.4	17.1
Per-Minute Access ^c	17.7	0.4	
Local Private Lines & Special Access	5.1	0.7	
Local Service Resale & Unbundled Elements	2.5	0.1	
Miscellaneous	2.1	0.2	
Fixed Local—Total	97.8	2.8	70.9
		ILECs	IXCs and Other Non-ILECs
Long Distance Services			
End User Revenues ^d		9.0	79.0
Local Access Payments ^e		2.5	21.4
LD Revenues Net of Local Access		6.4	57.6
<p><i>Notes.</i> *Source: FCC (1999e, tables 5, 6, 8) (Table numbers below refer to FCC 1999e.) ⁱInclude regional Bell Operating Companies (BOCs) and non-BOC ILECs. ⁱⁱInclude Competitive Local Exchange Carriers (CLECs) and Competitive Access Providers (CAPs). ⁱⁱⁱTIR 1998 splits ILEC revenues between BOCs and non-BOCs only for categories shown below. ^aExcludes: mobile (wireless) services; toll services; and enhanced services; billing and collection; customer premise equipment; and published directory revenues. ^bIncludes: monthly service; local calling; connection charge; vertical features; and other services. ^cProvided under state or federal access tariff. ^dILECs' \$9 bn figure includes \$7.2 bn from switched toll services, and \$1.3 bn from long-distance private lines (table 6). Non-ILECs' \$79 bn includes \$1.1 bn to local competitors (Table 6); \$69.7 bn to IXCs (table 8); and \$6.8 bn to resellers, which lease capacity mainly from IXCs (Table 8; lease payments by resellers are revenues to IXCs from carriers, rather than from end users). These figures include revenues from international traffic. ^eLocal revenues from per-minute access and local private lines and special access are \$23.9 bn (see previous rows). This was pro-rated between ILECs and IXCs and other non-ILECs according to their market shares of end-user revenues (\$9 bn/\$88 bn and \$79 bn/\$88 bn, respectively).</p>			

and conditions will differ in specific localities, incumbents' overall position is clear. And in most cases the incumbents are BOCs, with over seventy percent of fixed local revenues nationwide.

2.1.2. Long-Distance Market is Considerably Smaller and Significantly More Competitive

The bottom part of table 1 illustrates a second important point: the interLATA market is significantly smaller than the local market. In comparing these markets, a common error is failing to subtract from long-distance revenues the access payments that IXC's make to ILECs. Table 1 shows that BOC revenues from their local markets—which the Act seeks to open—are almost twice the revenues (net of access) from interLATA calls originating in their service areas—the market for which they need §271 approval to enter.⁷

The extent of competition in interLATA services has been controversial (see section 3.2 below). But competition, while not perfect, is substantially greater than in local services. There are multiple national facilities-based IXC's, and several other significant carriers. Since 1995, when the FCC found AT&T “non-dominant,” competition has increased significantly and, barring consolidations, should continue to increase even absent BOC entry. Reflecting the state of competition, today the industry's retail prices are largely unregulated.

2.1.3. Inefficiencies in the Present Industry Structure

Significant inefficiencies persist in today's telecommunications industry structure.

Losses from Separation. The MFJ's prohibition on the BOC's from offering interLATA services create certain inefficiencies (see section 3 below). LATA boundaries necessarily impose artificial separation between points near the boundaries, and do not always conform to economic markets or efficient network configurations.⁸ Confining the BOC's (or any other firms) to particular geographic regions or services is therefore not a first-best option.

Absence of Local Competition. But the most glaring problem is one which the MFJ took as given: the absence of local competition. The large local market is ILEC-dominated and heavily regulated. While regulation holds down some ILEC prices, it introduces considerable inefficiencies: not only administrative costs, but more significantly a distorted and rigid price structure, and weakened ILEC incentives to contain cost (if

7 In 1998, IXC's and other non-ILEC's had revenues from long-distance traffic (including international) of \$79 bn, but paid \$21.4 bn for access, leaving revenue-net-of-access of \$57.6 bn. Of this, industry sources estimate that between five and ten percent is from intraLATA traffic, for which the BOC's already compete. Thus, a high estimate of non-ILEC's' *interLATA* revenues-net-of-access is \$54.7 bn (95% of \$57.6 bn); ILEC's' revenues from fixed *local* services were \$97.8 bn. The BOC's' share of \$97.8 bn, about seventy one percent, is comparable to their seventy three percent share of all interLATA calls originating in BOC areas (FCC 1999a, table 2.10). (There is a caveat to these numbers, but it is minor. Until a BOC obtains §271 authority, it may not offer interLATA services originating anywhere in that state, including in areas where other LEC's provide local service. However, a BOC's competitive significance in offering interLATA services is likely to be far greater in its service area than where others provide local service. Indeed, the Act permits a BOC to offer interLATA services originating in states where it does not offer local service, yet BOC interLATA efforts out-of-region have been minimal.)

8 To some extent this reflects the choice of relatively large LATA boundaries at divestiture (a typical LATA is much larger than a local exchange network). However, any regulatory rigid separation between the perceived local monopoly bottlenecks and the potentially competitive segments is likely to become imperfect, since the true boundary between “monopoly” and “potentially competitive” segments changes over time, in the face of technological and other developments.

regulation is largely cost-based), to provide quality (if regulation is of the price-cap variety), and to be innovative and responsive to customer demands (Brock 1994; Crandall and Waverman 1995; Farrell 1996).

2.2. Competition Goals of the 1996 Act

The 1996 Act reflects a belief that, where feasible, competition is far superior to regulated monopoly as an institution for delivering good economic performance. The Act's goal is unfettered competition in all markets—local, long-distance, and packages of these and other telecommunications services. The key is local competition. If successful in promoting it, the Act will allow replacement of detailed regulation of local retail services with a mix of local competition and more limited, less intrusive regulation of only persisting bottleneck services. It will also will permit the easing of restrictions on the services that the BOCs may offer.

The Act articulates an expansive view of local competition, seeking to enable three modes of entry: facilities based, resale, and unbundled network elements (UNEs). *Facilities-based* entrants build their own networks, and rely on the incumbent LEC mainly to exchange traffic with its subscribers. *Resellers* do not bring any network facilities, but resell under their own brand the incumbent's existing retail services, combined perhaps with other services. They undertake all customer-interface functions for their subscribers, such as billing and marketing ("retailers" is therefore a better description than "resellers," which connotes only an arbitrage role). Finally, entrants may lease from the incumbent *unbundled network elements*, individually or in combination, for example, leasing the incumbent's unbundled loops and transport but providing their own switching facilities.⁹

All the above entry modes can serve valuable competitive roles. Facilities-based entry potentially exerts the greatest competitive discipline on the incumbent. But it may not always be feasible or even desirable, as it could require costly duplication of existing facilities such as loops that could more economically be obtained from the incumbent. Even where desirable, such entry can take considerable time. It is therefore important to recognize the potential value of entry that is not entirely facilities-based.

First, such entry could reduce costs and prices. For example, resellers might perform retailing functions more effectively than the incumbent; entrants using unbundled loops and their own switch may undercut the incumbent's access charges. Even entrants that are no more efficient could undercut the incumbent by accepting a lower profit margin—because regulation is unlikely to succeed in lowering the incumbent's prices all the way to cost. Entrants can also provide indirect discipline: by providing regulators a benchmark of true costs or technical capabilities, they can assist them in better regulating the incumbent.

Second, such entry can increase product variety and quality. For example, resale of local services allows entrants that provide also other services to offer one-stop shopping without

9 Important differences between resale and using unbundled elements stem from the two different standards for pricing stipulated in the Act (as I explain in section 7.2), and from increased opportunities that entry via unbundled elements offers for access competition, product and service innovation, and eventual migration to facilities-based entry.

having to build facilities for all their services or in all regions, and to offer innovative pricing plans better tailored to some customers. Entrants using the incumbent's unbundled loops and their own collocated central-office equipment may provide new services (such as DSL) and may limit an incumbent's scope for switch-based discrimination against IXCs.

Third, such entry can permit a faster and more economical transition to full-facilities competition, by allowing entrants to attain a customer base before having to build extensive facilities. Requiring entrants to be entirely facilities-based at the outset would saddle them with unnecessarily high sunk costs and excess capacity, making entry more risky and more costly. In the long-distance market, for example, some entrants began mainly as resellers and added their own capacity as their name recognition and subscriber base grew.¹⁰

2.3. Cooperation by Incumbents is Critical for Local Competition

The Act's removal (in §254) of legal and regulatory barriers to local competition is enormously important. But it is not enough, since all local entrants will also require certain access to incumbents' networks.

Facilities-based entrants require good and reasonably-priced *interconnection* with the incumbent. Interconnection is vital because the essence of communication is the ability to reach and be reached by others. Initially an entrant will have far fewer subscribers than the incumbent, so if networks are not adequately interconnected, technically or in the prices for exchanging traffic, customers will prefer the incumbent's network even if the entrant's is otherwise superior. By denying good interconnection (broadly defined), the incumbent could devalue an entrant's offering and stifle even efficient entry.¹¹

If no single firm commands a dominant share of subscribers in the relevant market, firms will have incentives to interconnect with others (and, perhaps, also to mutually reduce customers' switching costs). But while the incumbent retains a dominant share, its incentives typically will be to resist interconnection, since this harms entrants disproportionately. To offer efficient facilities-based competition its chance to prosper, some regulation of a dominant incumbent will therefore be necessary—to prevent the imposition of artificial switching costs (e.g., by mandating number portability) and, especially to ensure good interconnection.¹²

Resellers need the incumbent's cooperation in making its retail services available to

10 In long distance, however, an active wholesale market emerged only once several facility owners competed to provide bulk capacity. Until then, regulation was needed to force AT&T to provide wholesale capacity to others. Similarly, implementing local resale today—and other wholesale local services—will require regulation while LECs remain dominant over local networks.

11 Laffont, Rey and Tirole (1998) provide a formal analysis of the use of interconnection pricing to reduce competition. In general, installed-base advantages can be used to exclude rivals from industries exhibiting strong (positive) network externalities, i.e., where the network's value to a customer increases greatly with the number of customers or products that are compatible with that network. For non-technical discussions see Besen and Farrel (1994) and Katz and Shapiro (1994).

12 Ensuring good interconnection, in turn, requires disciplining both the incumbent's prices for terminating competitors' calls and various technical aspects (e.g., where and how interconnection occurs; allowing a

them for resale, and providing ongoing support such as maintenance. In addition, since resellers undertake costly retailing functions otherwise performed by the incumbent, their success depends on obtaining the incumbent's services at adequate wholesale discounts.

UNE-based entrants, like facilities-based entrants, require interconnection with the incumbent. But UNE entrants also require network unbundling—technically efficient access at economical pricing to those network elements they wish to lease. The degree of incumbent cooperation needed to facilitate unbundled entry is generally even greater than for the other two entry modes, since unbundling can involve reaching deeper into the network.¹³

The Act (§§251, 252) requires incumbent LECs to provide local entrants the requisite cooperation, including: number portability (keeping one's telephone number when switching to an entrant) to reduce artificial switching costs; call transport and termination at prices based on incremental cost, with reciprocal compensation; interconnection and access to UNEs at "any technically feasible point" and at rates based on the facilities' costs; and the retail services of incumbents at wholesale discounts that reflect incumbents' avoided retailing costs, for resale by entrants.¹⁴ But requiring incumbent cooperation and attaining it are different matters, since incumbents are naturally inclined to resist encroachment by competitors. Creating incentives that soften incumbents' resistance to facilitating local competition is therefore quite valuable. This point is critical for developing a pro-competitive BOC entry standard, and I will return to it. But first, I consider the potential benefits from BOC entry.

3. Potential Benefits from BOC Entry

The benefits from BOC entry are potentially significant but conceptually straightforward, so they can be discussed briefly. The two main sources of benefits are efficiencies from joint provision of local and long-distance services, and increased long-distance competition.

3.1. Joint-Provision Efficiencies: Cost Savings and New Integrated Services

The efficiencies from joint provision largely involve: (a) on the supply side, the cost savings from joint retailing of services; and (b) on the demand side, the value to consumers of one-stop shopping and other new integrated services.

competitor's customers to call the incumbent's in the local area without dialing more digits than would a customer of the incumbent—"local dialing parity"; and providing competitors access to common signaling facilities and databases).

13 In general, unbundling can yield competitive benefits but also impose costs. The extent of these benefits and costs will vary across industries, and will depend on the degree of unbundling required. The 1996 Act reflects a policy judgment that it will be economically beneficial to require the unbundling of certain elements of the networks of incumbent LECs; but one must be wary of making sweeping generalizations about the efficiency of unbundling elsewhere or over time.

14 Section 251 lists these obligations, while §252 establishes procedures for negotiations between incumbents and local entrants and for arbitration and oversight by state regulatory commissions.

3.1.1. Cost Savings

Technological economies on the network side exploitable only through BOC entry seem modest. First, facility costs are a relatively small share of IXC's total long-distance costs, so there is only relatively little cost to cut through network integration. Several BOCs reportedly have signed contracts with IXCs to lease wholesale long-distance capacity at prices between 1 and 2 cents per minute (Merrill Lynch 1996a). Second, §272's requirement of a separate long-distance affiliate, aimed at combating cross-subsidization and discrimination, appears to preclude network integration and to restrict attainment of network economies in providing local and long-distance services, if such economies existed. Finally, it is questionable whether significant economies do exist in building and operating local and long-distance networks: various BOCs plan to offer long-distance services—at least initially—primarily by leasing wholesale capacity from IXCs; and new local and long-distance networks are being deployed by separate players, including ones not subject to the BOC interLATA restrictions.

Retailing economies however do appear significant. Offering an additional service (i.e., long-distance) to existing customers entails lower incremental costs of marketing, billing, customer service, and other retailing functions than the corresponding costs of providing that service by itself.¹⁵ A BOC offering long-distance services could therefore realize important savings in these retailing costs compared to providers that do not offer integrated services.

3.1.2. New Integrated Services—Bundles and One-Stop Shopping

Aside from enabling price reductions due to cost savings, the joint provision of local and long-distance services can provide direct benefits to consumers, in the form of valuable new service options. It is widely believed that many consumers place significant value on one-stop shopping, e.g., because of the simplicity and convenience of a single bill, and a single customer service contact point. Joint provision can also allow the creation of new bundled packages of services (e.g., featuring different pricing options). The importance of offering integrated services¹⁶ is demonstrated by the impressive success of GTE and other non-BOC LECs in capturing long-distance business, sometimes without undercutting IXCs' prices.¹⁷

3.1.3. The Ability of Other Carriers to Attain Such Efficiencies

A BOC entering long distance would enjoy important advantages in the joint provision of telecommunications services in its region: (a) its brand name enables it to market

15 Retailing costs are significant. Crandall and Waverman (1995, p. 142) estimated AT&T's 1993 costs of marketing and customer service at about equal to those of plant and operations.

16 For brevity I use "integrated services" to include one-stop shopping and bundled services.

17 Between March 1996 and December 1996, GTE signed more than 750,000 long-distance customers (at year end 1996 it provided local service to 11.5 million households and 1.2 million business customers); it cited customers' preference for a single bill and a single number for customer service as an important reason for its success. Gautam Naik, "GTE to Introduce Flat-Rate Toll Calls For Business Users," Wall Street Journal, December 18, 1996. Reportedly, GTE did not engage in any substantial under-pricing of the major IXCs, based on published plans (Merrill Lynch 1996b).

additional services at relatively low costs of advertising and promotion; (b) its relations with virtually all local subscribers enables it to offer billing and customer service for added services at low incremental cost; (c) as a very large reseller, it could obtain especially low wholesale prices for long-distance capacity from IXCs; and (d) most importantly, its control of local networks makes it the dominant source of key *local* services needed to offer integrated services.

The major IXCs also enjoy strong reputations and relations with telephone customers in the BOC's region, and could match many or all of the BOC efficiencies, *provided* they could obtain comparable access to (d)—the key local services. While the Act requires all incumbent LECs to provide such wholesale local services, implementing and pricing these new wholesale local services will take time, even with BOC cooperation. Thus, there is a benefit side to allowing early BOC entry, namely, to avoid delaying the efficiencies from joint provision by the BOCs. (The cost side of authorizing such early BOC entry is discussed later.)

3.2. Increased Competition in Long-Distance Services

The argument that BOC entry would significantly increase competition in interLATA services rests on three premises. First, interLATA markets exhibit imperfect competition. Second, the BOC is uniquely positioned to offer increased competition. Third, BOC entry indeed would bring such competition.

3.2.1. Competitiveness of InterLATA Markets

The extent of interLATA competition has been hotly debated. Characterizations have ranged from "anemic" and "tacit collusion," to "robust" and "intensely competitive" (compare, e.g., MacAvoy 1996 and Taylor and Zona 1997 with Bernheim and Willig 1996 and Kaserman and Mayo 1996). It is helpful to review some salient points.

Market Structure. The interLATA market is quite concentrated. The top three facilities-based carriers, all with nation-wide customer bases and reputations, had a combined revenue share in 1998 of about 78.5%: AT&T 42.2%, MCI/WorldCom 25.1%, and Sprint 10.3%.¹⁸ But concentration has declined markedly since divestiture (AT&T's 1984 share exceeded 90%) and is continuing to fall. Several significant carriers are expanding their facilities and targeting retail customers, and others are expanding to provide wholesale capacity to other players, including hundreds of resellers. The market share of carriers other than AT&T, MCI/WorldCom, and Sprint grew from 11.3% in 1991 to 13.8% in 1995 (FCC 1999a, table 1.5) and 21.5% in 1998. Still, the growth of these other carriers may be partly in response to supra-competitive pricing by the majors; as usual, to gauge

18 These estimated shares are of toll revenues (interLATA and intraLATA) of long-distance carriers only. I exclude LECs because they provide mainly intraLATA services; but some LECs, notably GTE, do earn significant interLATA revenues, so the above shares over-state somewhat the true concentration in interLATA services. Revenue data for the three largest carriers comes from FCC (1999a, table 1.4); but that source does not yet report total revenue of all long-distance carriers, so I obtain this total from FCC (1999e, table 3) to arrive at the share estimates in the text.

competition one must consider not only structural indicators such as concentration, but also conduct and performance.

Conduct and Performance. Determining if long-distance prices have fallen relative to costs, due to increased competition, is difficult due to lack of good data (especially on calling volume), and because instead of a single price there are numerous pricing plans. Studies that find little competition typically examine movements in “posted prices” i.e., tariffs (e.g., MacAvoy 1995, 1996; Taylor and Taylor 1993; Taylor and Zona 1997). Such studies conclude that IXCs’ tariffs since divestiture have fallen less than the reduction in LEC access charges to IXCs, especially to residential customers.¹⁹ MacAvoy goes furthest, arguing that the major IXCs’ tariffs move in lock-step and that this suggests (tacit) collusion.

However, tariffs do not reflect actual transaction prices for the majority of IXC revenues; the discrepancy between tariffs and transaction prices is large and growing due to increasing use of discount plans, as well as one-time inducements for switching (Kaserman and Mayo 1996; Bernheim and Willig 1996). According to these authors, competitive pressures have moved long-distance rates closer to costs; this has meant substantial cuts through discount plans to high-volume customers, both business and residential, and a modest increase in basic rates to certain low-volume customers to whom price was previously below cost.²⁰

Data limitations make it difficult to quantify rigorously the effect of discount plans. A seemingly obvious measure is average revenue per minute, but it suffers from at least two problems. First, this average could reflect not only the introduction of new pricing plans (or adjustment in existing ones) but also the movement of customers between plans due to changing demand patterns that may be unrelated to competition (Taylor and Zona 1997). Second, there is a lack of accurate data on quantities—the number of minutes of network use. More and more usage minutes of large business customers are unswitched (calls on private lines or virtual private networks) or switched only at one end (WATS, 800 calls), and therefore are not captured in conventional statistics on use of the public switched network. This makes average revenue per switched minute a questionable proxy for average price.²¹

After reviewing the literature and performing additional empirical work, Crandall and Waverman conclude that interLATA markets display “considerable competition” (p. 163)

but are “not fully competitive so that further entry would be of real value” (p. 132). My reading of the evidence is similar. Claims that interLATA price competition is non-existent defy common sense: why, then, do so many customers switch between carriers each year?²² Moreover, in the last few years industry analysts report increasing pressures on IXC margins due to competition, and rates on highly visible pricing plans such as “anytime, anywhere” have been ratcheting down.²³ Yet, although competition is substantial and is increasing, there is surely room for more competition, especially for lower-volume residential customers.

3.2.2. *BOC Advantages Over Other Long-Distance Entrants*

It stretches credulity to argue that a BOC has nothing to add relative to other competitors in long distance, such as the hundreds of resellers. BOC advantages that were discussed in section 3.1.3 for providing integrated services—reputation, customer relations, and scale—would also make the BOC a potent competitor in long distance, especially to serve low-volume customers. Since the BOC already incurs billing and other fixed costs of maintaining their local-service account, it could find it profitable to offer them long distance as well despite their low revenue potential. Also, low-volume customers are typically less informed, and thus reluctant to switch from major IXCs to lesser known competitors, but would be willing to switch to the BOC given its established local reputation.

3.2.3. *How Much Competition Will BOC Entry Add?*

The flip side of a BOC’s unique advantages, however, is that the BOC may pass through to consumers only a modest fraction of its unique cost advantages. The degree of pass-through influences not only the distribution of gains between the BOC and consumers, but also how much long-distance calling will increase—which affects the overall welfare gains from BOC entry.²⁴ How much a BOC’s entry will (a) lower prices and expand industry output versus (b) reshuffle sales and profits from IXCs is an open question.

Overall, BOC entry is unlikely to yield as dramatic a boost to competition as some claim (see Schwartz 1997b), in part because of the rapid increase in competition already occurring. Still, additional price declines can be expected. And significant benefits are possible from

22 In 1994, 19 million customers (20% of all customers) changed carriers 27 million times; in 1995, customers changed carriers over 42 million times (Pitsch 1996).

23 Morgan Stanley (1999) notes that AT&T cut its projected revenue growth from voice services to consumers and business customers, and it describes AT&T’s introduction of new pricing plans in August 1999 as “a continuation of the increased competitive environment in long distance voice pricing.” MCI WorldCom had previously introduced 5¢ evening and weekend with no monthly fee. One AT&T plan offers 7¢ anytime for a \$4.95 fee (if local toll is also purchased, \$5.95 otherwise); in 1997, AT&T’s “anytime” rate for the same \$5 fee was 10¢. AT&T’s anytime rate with no monthly fee fell from 15¢ in June 1996 to 10¢ in Fall 1999; over this period, interstate per-minute access charges fell significantly less, from 6.2¢ to 2.8¢. (FCC 1999d, table 1.2).

24 Benefits from a BOC’s joint provision of local and long-distance services will arise even if long-distance calling volume does not expand, because the BOC uniquely can realize cost savings or offer new services (such as one-stop shopping), as discussed earlier. The focus here, however, is on the added gains from increased long-distance competition.

joint provision of local and long-distance services. However, authorizing unconditional BOC entry into long distance prematurely also poses significant competitive concerns.

4. Potential Competitive Concerns Raised by BOC Entry

I analyze the competitive concerns with authorizing interLATA entry by a BOC while it retains significant market power over local networks. Section 4.1 discusses various anti-competitive practices a BOC might employ. Sections 4.2 and 4.3 explain why a BOC's entry magnifies its incentives to engage in such practices versus long-distance competitors and versus local competitors, respectively. The ability of regulation to prevent such conduct given the altered BOC incentives is addressed in section 5.

4.1. Anti-Competitive Practices: Pricing, and Non-Price Access Impairment

Both long-distance carriers and local entrants depend on good access to the facilities and services of BOC local networks. If unchecked by regulation, a BOC would have the ability to stifle competition by restricting competitors' access to these vital local inputs.

Over-Pricing Competitors' Access to Inputs. Overpricing of inputs needed by competitors, or of outputs that are complementary to those sold by competitors, obviously can limit competitors' market presence.

Impairing Competitors' Access to Inputs. I will label all *non-price* methods to weaken rivals—in long-distance and in local services—as “access impairment” to the BOC networks (a literature discussed shortly uses the term “sabotage”). Access impairment can raise the costs to competitors, e.g., by imposing needlessly onerous requirements for interconnection or breaking up pre-existing combinations of network elements sought by competitors. It can also reduce the demand for competitors' services by degrading their quality, e.g., through delaying innovative access arrangements or providing competitors inferior wholesale support (such as for ordering or maintaining various services they require).²⁵

Access impairment is generally an even more destructive form of rivalry than is overpricing of inputs. Both tactics artificially reduce competitors' outputs (or discourage competitors from expanding or innovating); but access impairment also inflates competitors' costs for the output they continue to provide, or degrades its quality. Indeed, because these additional resource costs do not directly contribute to an incumbent's profit while over-pricing of inputs does, an incumbent would generally prefer to attain any given degree of incomplete exclusion through over-pricing inputs rather than access impairment (for complete exclusion, the distinction disappears).

25 Another demand-reducing tactic is to divert to one's affiliate competitively sensitive information about rivals' plans, obtained in the course of supplying rivals with bottleneck inputs. Such misappropriation of information can enable the affiliate to inefficiently win customers from rivals.

Importantly, however, regulation, often is more capable of constraining an incumbent's price than non-price conduct, thereby biasing exclusion to take more wasteful non-price forms as discussed further below. Of course, the inefficiencies from access impairment will be borne by both competitors and consumers.

Under-Pricing BOC Long-Distance Services. Potentially, a BOC could distort competition in long distance also by charging artificially low prices for its retail services. When scrutinizing low prices, however, it is always critical to distinguish harm to competitors from harm to consumers and to overall welfare (see section 4.2.3.2 below).

4.2. Anti-Competitive Incentives in the Long-Distance Market

4.2.1. Raising Access Prices to IXCs

A BOC's profit-maximizing access charge to IXCs is likely to rise with a BOC's entry into long distance, because some of the loss in access sales to IXCs would be re-captured through diversion of retail business to the BOC's long-distance affiliate. However, FCC and state regulation already hold access prices well below what a BOC would wish to charge even if absent from long distance (i.e., the monopoly price of access for a non-integrated access seller). Assuming that such regulation continues to be effective, BOC entry is unlikely to harm long-distance competition by bringing about higher access charges to IXCs.

4.2.2. Impairing Access Arrangements of IXCs

4.2.2.1. Asymmetric Regulation and Leverage Incentives. A BOC's long-distance entry will also magnify the BOC's incentives to impair IXCs' access in non-price ways. A major (though not the sole) reason for these adverse non-price incentives is *asymmetric regulation*: BOC prices for exchange access sold to IXCs are held down by regulation, as noted above, while BOC prices for retail long-distance services to be sold in competition with IXCs are expected to be unregulated (or regulated more lightly). This biases a BOC towards placing less weight on IXCs' role as its customers (for access) and more weight on their role as competitors (for retail long-distance services)—prompting a BOC to try and forgo lower-margin access sales to IXCs and charge higher margins for its retail service. To charge higher retail prices without losing too much market share, a BOC must impair IXCs' ability to compete; hence the incentive to impair their network access.

The adverse incentives produced by asymmetric regulation of a firm's prices are well known (see, e.g., Brennan 1987; Laffont and Tirole 1999). A firm that is regulated in its prices for bottleneck services, but whose prices in adjacent markets—which are potentially competitive but depend on access to the bottleneck—are unregulated, typically has incentives to try and circumvent regulation through leveraging its market power into the unregulated markets, by favoring its affiliates against competitors in granting bottleneck access. (If regulation of bottleneck prices is closely tied to costs, there are incentives for an additional type of favoritism—cross subsidization, discussed shortly.) One way to avoid asymmetric regulation and its adverse incentives is to bar the regulated bottleneck owner from potentially competitive adjacent markets. The landmark example is the MFJ (1982),

which sought to prevent misuse of Bell monopoly local networks to stifle competition in long distance, as well as equipment manufacturing and information services.²⁶

If entering long distance today, the BOCs would also have incentives to try and impair access of IXC. Access impairment has a down side to a BOC, since it loses access revenue from the targeted carriers whose retail sales fall; the BOC must compare this loss to the increased profits from its retail services. For example, the literature on “sabotage” suggests that incentives to impair access are weaker if: (1) the BOCs’ retail services are poorer substitutes for those of rivals, because a smaller fraction of rivals’ lost sales and thus access revenue is offset by increased demand for the firm’s own services; (2) the BOC’s ability to expand sales of its unregulated services is constrained, by capacity limits or other factors; and (3) the BOC faces more competition in the supply of access (e.g., from facilities-based CLECs).²⁷ Nevertheless, a BOC integrated into long distance generally can profit somewhat from impairing IXCs’ access—especially if providing inferior access decreases rather than increases the BOC’s costs—given the much tighter regulation of BOC access prices than what is envisioned of BOC prices for long-distance services sold in competition with IXCs. And unfortunately, the tighter is regulation of BOC access prices, i.e., the more “successful” is this price regulation, the greater is the BOC’s potential gain from impairing IXCs’ access.

4.2.2.2. Weakening the IXCs as Potential Local Entrants. Beyond circumventing asymmetric regulation, the BOCs today may have another motive for impairing access of IXCs—to weaken their ability to enter *local* markets. Concern with deterring local entry has become much more significant since the 1996 Act’s preemption of franchises and other legal barriers that previously protected local phone monopolies. The major IXCs are among the most likely large-scale potential entrants into local markets. Through access impairment, a BOC may be able to damage the IXCs’ reputations and reduce their customer base in its region, thereby also delaying their entry into BOC local markets. Long-distance entry by a BOC lowers the BOC’s loss from undermining the IXCs, because some of the IXCs’ reduced sales would be diverted to the BOC’s long-distance affiliate.²⁸

26 Before divestiture, the Bell System’s long-distance prices were further above cost than were its prices for local calls (partly because regulators encouraged cross-subsidization by long distance of basic local service); AT&T’s long-distance competitors paid these relatively low local prices for accessing local networks when providing long-distance calls (access charges for IXCs, as distinct from prices for local calls, were instituted only after divestiture). Thus, there was asymmetric regulation, creating anti-competitive incentives versus long-distance competitors. Instead of vertical corporate separation of bottleneck segments from competitive ones, asymmetric regulation can also be avoided by extending regulation to the firm’s potentially competitive activities, such as through a global price cap (Laffont and Tirole 1996, 1999). Evaluating the pros and cons of vertical separation versus global price caps, however, is beyond scope of this paper; and, in any event, there is wide reluctance in the U.S. to regulate the BOCs’ retail long-distance prices.

27 See Weisman (1995, 1998), Reiffen (1998), Beard, Kaserman and Mayo (1999), Mandy (2000), and the additional references these authors cite.

28 The diversion logic is similar to that which yields BOC incentives to impair IXCs’ local access so as to favor the BOC’s long-distance affiliate. But here, the BOC’s gain comes from delaying IXC entry that threatens the BOC’s *local* market power, and is not driven by asymmetric regulation.

4.2.3. *Setting Artificially Low Long-Distance Prices*

Two main arguments have been made for why a BOC would distort competition in long distance by setting retail prices artificially low: (a) cross-subsidization of unregulated long-distance services by regulated local services; and (b) that a BOC charges IXCs access prices well above the marginal cost of access but would “charge” itself only marginal cost.

4.2.3.1. Cross-Subsidization. Incentives and Methods. Traditional U.S. regulation of local telephone companies and other public utilities was known as cost-of-service or rate-of-return regulation, since prices were intended to offer the firm a reasonable opportunity to cover its costs including a fair rate of return on capital. If a firm regulated in this manner also has unregulated (or more lightly regulated) operations in other, potentially-competitive markets, the firm will seek to shift profit to the unregulated side: the higher profit there flows directly to shareholders, while the lower profit of the regulated side helps “justify” requests to regulators to authorize higher prices. Such profit shifting can occur by misallocating various costs of the unregulated entity to the regulated one, behavior commonly known as “cross-subsidization.”²⁹

Anticompetitive Effects. The motive for cross-subsidization is to evade regulation; but an ancillary effect can be to inefficiently divert sales from rivals in the competitive segments. Misallocating the affiliate’s costs to the regulated side (and thus ratepayers) artificially lowers its perceived costs in the unregulated market and thereby allows it to set artificially low prices when competing against unregulated rivals. For example, the old Bell System was widely alleged to have set prices in potentially competitive markets “without regard to cost” (Brock 1994). Such pricing distorts competition in the unregulated markets.³⁰

Accounting Safeguards and Separate Subsidiaries. To help detect and prevent cost misallocation, regulators often subject firms to detailed accounting safeguards and sometimes require that unregulated, competitive activities be undertaken through separate subsidiaries. Section 272 of the Act imposes such requirements on BOCs wishing to offer long-distance services. Although such safeguards have some bite, it is widely acknowledged that they have not eliminated cost misallocation in the past, and it is naive to believe they could do so in the future if the firm has strong incentives to engage in cross-subsidization.

Price-Cap Regulation. Importantly, however, the BOCs argue that incentives for cross-subsidization costs no longer exist, because in recent years the FCC and state commissions

29 Cost misallocation can involve purely accounting manipulations (e.g., mischaracterizing costs of the unregulated side as common costs of both operations); actual payments (e.g., under-charging for services or assets provided to unregulated affiliates); or real resource distortions (e.g., adopting production methods that are not cost-minimizing but display more common costs which can then be misattributed). Misallocating revenues of the regulated entity to the unregulated one is conceptually similar: the regulated entity’s greater deficit helps justify requests for higher rates.

30 Additional inefficiencies can arise beyond distorting competition. First, any real misallocation of resources is directly costly, e.g., choosing production methods that entail excessive common costs. Second, prices of the regulated services rise. Finally, even if prices of unregulated services fall (they need not fall, e.g., if cost misattribution involves only fixed not variable costs), prices would be artificially below cost, causing consumption of unregulated services to be excessive.

have moved from traditional cost-of-service regulation towards pure price-caps, that sever the link between a firm's allowable regulated price and its costs. Cost misallocation then loses its purpose, because higher reported costs for the regulated side no longer yield higher prices.

These claims overstate the extent of the regulatory changes. Firstly, traditional regulation exhibited some lag between rate cases, during which period prices were not continuously adjusted towards cost. Secondly, today's regulation does not—and cannot—amount to pure price caps. Price caps can never be pure, they must be periodically revised.³¹ Therefore, even under price-cap regulation, a firm's allowable prices will ultimately depend on its costs, which re-introduces some incentives to engage in cost misallocation.

Nevertheless, the move to price caps and other incentive regulation does seem to have altered BOCs' incentives markedly. BOCs have undertaken aggressive cost cutting, which financial analysts and others attribute to the regulatory changes (e.g., Merrill Lynch 1996a). These efforts suggest that the BOCs assign credibility to the new regulatory schemes that deemphasize the role of costs in determining allowable prices—and thus would be unwise to count on regulators to grant large price increases in response to cost increases due to cross-subsidization of competitive segments.³² In short, cross-subsidization incentives are weaker today, which lowers the risk that the BOCs would price long-distance services below cost.

4.2.3.2. Artificial Cost Advantage in Long-Distance Competition. IXCs argue that a BOC's affiliate would have an artificial cost advantage in competing for long-distance business: (a) even if a BOC must charge its long-distance affiliate the same *above-cost* access price as it charges IXCs, the affiliate would treat this price as merely an internal transfer and would base its desired retail prices on the true cost of access; and (b) that an imputation rule would not be effective in enforcing a retail-price floor for the affiliate.³³

31 Pure price caps would establish a permanent formula for determining the firm's maximum prices at all future dates, based on initial forecasts of the firm's attainable costs (and perhaps indexed to variables that influence costs but lie outside the firm's control, e.g., the overall rate of inflation); allowable prices would not be revised in light of the firm's actual cost realizations. But in practice, revisions will occur. One reason is forecasting errors: if regulators underestimate the firm's true costs and stick to the allowed prices, the firm will go bankrupt; if they overestimate costs, the firm will earn large profits that invite strong political pressure to lower allowable prices. Another reason for revising price caps is the introduction of new services, if these services are to make a contribution to covering the firm's fixed and common costs. Not surprisingly, the FCC and most if not all states have already revised their initial price-cap formulas.

32 Moreover, regulators are especially protective of important customer classes for which local competition is likely to develop more slowly, such as rural and low-volume residential customers. They would thus be especially reluctant to allow price increases in these "monopoly" segments due to cost misallocation from the relatively competitive segments.

33 This assumption is probably realistic, given the informational difficulties of conducting an imputation test. The test requires $p - x - c \geq w - x - d$, where p is the affiliate's retail price, x is the cost of providing bottleneck inputs to the affiliate, c is the affiliate's cost of non-bottleneck inputs, w is the input price to the affiliate's rival, and d is the extra cost of providing bottleneck inputs to the rival than to the affiliate. Thus, to prevent discrimination, the profit margin from selling at retail (left hand side of inequality) is not allowed to fall below the margin from selling access to the retail competitor. This sets

The argument is correct up to a point: given imperfect competition at the retail stage and access priced above cost, vertical integration by the BOC can both reduce double marginalization and divert business from IXCs to the affiliate, even if IXCs are more efficient in performing the long-distance functions.³⁴ But the argument is incomplete in two respects (Hinton et al. 1998). First, for diversion to be inefficient, the BOC's affiliate must indeed have higher non-access costs than the IXCs. Second, and more importantly, the affiliate's presence is likely not only to divert business from IXCs, but also to increase total long-distance output, an effect which benefits consumers and overall welfare. (This assumes that BOC entry does not induce IXCs to exit the market as a result of being unable to profitably operate at a reduced scale; if exit occurs, a BOC may be able to raise price.) The basic reason is that a new competitor (the BOC affiliate) has been added to the market, while the IXCs' cost has not increased—because by assumption their access prices have not risen.³⁵

In sum, it seems unwise to delay a BOC's interLATA entry solely on grounds that access prices to IXCs are well above the BOC's true marginal cost. It is certainly true, however, that the best course is to reduce access charges closer to cost, as has been occurring. Assuming that (non-price) access impairment could be prevented, reducing access prices would both expand total output *and* prevent distortion of competition in the long-distance market.

4.3. Worsened BOC Incentives to Open the Local Market

Allowing BOC interLATA entry before the BOC's local market is open would worsen the BOC's incentives to cooperate in opening its local market, for two reasons.

4.3.1. Entry Authority Will Have Been Secured

A BOC is inclined to resist local competition, because dominating local networks and services is profitable, notwithstanding regulation.³⁶ At the same time, a BOC values long-

a price floor, $p \geq c + w - d$. Estimating c and d , can be problematic; even agreeing on the relevant services to be used when comparing w and p can be contentious. Moreover, there is a general question about the wisdom of zealously enforcing price floors; such policies can easily stray from protecting competition to protecting competitors.

34 Diversion can occur even if the affiliate recognizes, as it should, that expanding its retail sales cuts the BOC's sale of access to IXCs, and treats this as an opportunity cost of expanding its sales.

35 Recall that the concern being evaluated is not with the BOC raising the access price or impairing IXCs' access, but with reducing its retail price given that access to IXCs is priced above cost. The assumption that regulation will prevent a BOC post entry from raising access prices to IXCs (or failing to lower them as much as it would absent entry) is important, however.

36 Regulation typically does not eliminate all profit (because of the firm's private information and other reasons) and entry generally threatens such profit. The firm's resistance to supplying inputs to entering competitors might be mitigated by adopting global price-cap regulation, which regulates symmetrically the firm's input prices to competitors and its prices for retail services (Laffont and Tirole 1996 and 1999); but the resistance is unlikely to be eliminated. First, price caps are never permanent, and—by improving regulators' information—entry can help regulators tighten future price caps and harm the incumbent. Moreover, a regulated incumbent may expect that some of its current or future services eventually will be unregulated, and providing inputs to competitors today would limit its ability to profit

distance entry. (Even if the BOC could not raise access prices to IXCs or impair their access, it can still profit from participating in long distance, for reasons I discussed in §§3.1.3, 3.2.2.) To obtain such entry approval, the BOC would be willing to extend some cooperation in opening its local markets; but once entry is granted, the BOC's incentives to continue cooperating in facilitating local competition in that state will diminish.³⁷

4.3.2. *Increased Gain from Impeding Providers of Integrated-Services*

There is a second and less obvious reason why a BOC's incentives to offer wholesale local services will diminish after its long-distance entry: an increased gain from impeding competitors' ability to provide integrated services, by denying them wholesale local services (such as its local retail services for resale, or UNEs). The logic is as follows.

The ability to offer integrated services is widely regarded as important. Impeding competitors from offering integrated services becomes more profitable to a BOC once it may offer long-distance services—at substantially unregulated retail rates—for at least two reasons. First, because competitors are denied cost savings from joint provision, they put less pressure on the BOC's long-distance prices. Second, and probably more important, some customers prefer dealing with a provider of integrated services (e.g., they value one-stop shopping). A BOC can cater to and profit from such customers only after receiving long-distance authority; before then, it lacks a key piece (long distance). Thus, post entry the BOC has more to gain from impeding others' ability to offer integrated services. Finally, restricting access to wholesale *local* services is likely to be an especially potent way to impede competitors in integrated services, because other pieces such as long distance are available from other sources (and, as section 5 explains, regulation can do relatively well at preventing degradation of the established long-distance access arrangements, at least in the short run).³⁸

5. The Ability of Regulatory Safeguards to Negate Concerns Raised by BOC Entry

How serious the above potential concerns are in practice will depend on the ability of regulatory and other post-entry safeguards to prevent adverse BOC conduct. Section 5.1

from such services in future (e.g., because competition will constrain the ability to engage in price discrimination). Predictably, therefore, dominant incumbents—including the BOCs—typically resist entry by competitors that depend on them for inputs.

37 Even if §271 approvals in the BOC's other states could be conditioned on the BOC's continued cooperation in a state where approval was granted, the BOC will have less to gain from continued cooperation in that state, having captured part of the reward for cooperating (*viz.*, approval in that state). Moreover, the 1996 Act bases §271 approval largely on conditions in the state for which approval is sought, which seriously limits the FCC's ability to engage in cross-state conditioning.

38 Thus, post entry the BOC has more to lose from providing wholesale local services (not just less to gain, see §4.3.1. above). It is thus misleading to argue, as have some §271 critics, that BOC entry can pose no competitive risk and that 271 approval is merely a "hostage" (or "carrot") to open local markets. Premature BOC entry will make it harder for competitors to obtain wholesale local services, and over time may also threaten long-distance access arrangements.

discusses generic shortcomings of regulation, but argues that, while never perfect, regulatory and other safeguards are far more adept at preventing degradation of established access arrangements than at forcing implementation of new arrangements. Sections 5.2 and 5.3 document this difference. Section 5.4 draws out the lessons—the need to insist that the new arrangements for local competition be implemented before approving BOC entry.

5.1. Shortcomings of Regulation: Theory

Regulation faces several inherent shortcomings in trying to curb a firm's incentives to exclude competitors.³⁹

5.1.1. Generic Shortcomings of Regulation

Detecting Abuses. Detecting a violation requires knowing what the firm did and, often, what alternatives it might have pursued. The information available to outsiders, such as regulators and courts, about the firm's capabilities and conduct is vastly inferior to the firm's. While a regulator can learn a great deal by consulting industry parties, such as IXC's that try to expose discrimination by comparing their experiences across various incumbents, such information will typically not be complete let alone unbiased. To eliminate its informational disadvantage entirely, the regulator would have to become the firm.

Proving Abuses. Detecting abuses is not the same as being able to prove them. Regulated firms enjoy—for good reasons—procedural safeguards including the right, often exercised, to challenge regulatory decisions in court. A non-specialist court is likely to be less informed about industry conditions than is a regulator, and adversarial court proceedings offer the firm ample opportunity to raise various objections. Thus, even if a regulator were convinced there is a violation, proving it to the requisite standard may be too costly or simply infeasible. The issue of proof is important. The BOCs have argued that any discrimination by them against competitors that produces a service difference large enough to sway customers would surely be detected by competitors and regulators. But this ignores the issue of proof; especially with new or customized arrangements, there could be "innocent" explanations with a sufficient ring of plausibility (different types of transactions, unexpected changes, etc.).⁴⁰

Deterring Abuses. Effective deterrence requires the expected penalty to exceed the expected gain from engaging in an abuse. The requisite penalty may have to be large given (a) the potentially large gains to a firm and (b) the limited chance that a violation will be detected and proved, hence that the penalty will be imposed. Regulators may not always have the legal rights or the political ability to impose penalties large enough to achieve

39 The shortcomings of telecommunications regulation before the 1996 Act are discussed by Cornell (1994, 35–63, focusing on state regulation) and Kelley (1994, 37–75, focusing on FCC regulation).

40 Indeed, a major advantage of competition over regulation in disciplining market power is that competitors are not constrained by the same procedural rules as regulators. A competitor that believes the incumbent's price is excessive or service is inferior can use its own resources to simply offer customers better options—it does not have to prove "misconduct" by the incumbent.

meaningful deterrence. Imposing high penalties is especially problematic when violations are not blatant, as is likely with new (as opposed to established) access arrangements.

Correcting Abuses. Since deterrence will not be perfect, a regulator also must be able to rectify the effects of abuses quickly and effectively. But the damage to a competitor imposed by discrimination can be difficult to reverse, e.g., discrimination may have allowed the regulated firm to beat the rival to market with a new product. This first-mover advantage could have a durable impact, for example, if consumers would have to incur significant switching costs should they wish to move to the entrant.

Cost-Effective Regulation. Finally, regulation would have to accomplish the above tasks in a cost-effective manner. It does little good to prevent abuses if this requires intruding into the firm's decisions to a suffocating degree, or incurring prohibitive regulatory budgets. Moreover, the FCC's and state commissions' resources may not be commensurate with their oversight responsibilities: the Telecommunications Act has vastly increased the FCC's duties, and state commissions must grapple also with the rapidly changing electric utility industry.

5.1.2. Existing v. New Access Arrangements

Assuring equal access to BOC local networks—for both long-distance carriers and local competitors—requires policing against sins of commission and of omission: a BOC might try to degrade established access arrangements, or to withhold its cooperation in establishing and properly pricing new arrangements. It is difficult for regulators to eliminate entirely even sins of commission—the degradation of existing arrangements.⁴¹ Nevertheless, once arrangements are in place and there is some track record against which to benchmark “good behavior,” preventing the degradation of such access becomes much more manageable.

Conversely, it is much harder to force cooperation for eliciting complex, new arrangements, in large part since there are no good historical benchmarks to guide what is feasible. Importantly, implementing the 1996 Act's local-competition requirements of interconnection, unbundling and resale will require dramatic and wide ranging changes in the way a LEC does business—and therefore a host of complex new access arrangements.

5.2. Evidence: Enforcing Existing Access Arrangements

While the BOCs have been barred from interLATA markets, they and other regulated incumbent LECs have participated in certain long-distance markets. By and large, the record suggests that once access arrangements for LECs' competitors were established, they were adequately maintained. For instance, after dialing parity for intraLATA toll calls was introduced, there apparently was little or no backsliding in providing such dialing parity, and IXCs made substantial inroads competing for *intraLATA* toll services.

41 For example, requiring a firm to meet “objective” performance measures such as average provisioning intervals is not a perfect safeguard. A firm could discriminate while showing identical *average* intervals for its affiliates and outsiders, because the same average can conceal important variations: when it is important for an IXC to get rapid service the BOC can delay it, while meeting the overall average by providing expeditious service when the IXC least needs it.

In addition, some LECs such as Rochester Telephone (owned by Frontier), United (owned by Sprint) and Lincoln Telephone, which were not subject to the MFJ, have offered *interLATA* services in competition with IXCs for some time. IXCs apparently have made few complaints against these LECs about degradation of IXCs' access arrangements. Since 1992, Sprint has owned the Nevada LEC Centel, yet IXCs have made no significant complaints to Nevada regulators of access discrimination by Centel in favor of Sprint. Finally, since the 1996 Act, Southern New England Telephone Company (SNET) has offered *interLATA* services jointly with its local services; so has GTE (the Act ended the consent decree that prevented GTE's local operating companies from jointly marketing long-distance services). Neither GTE nor SNET has elicited serious IXC complaints concerning degradation of access arrangements.

As a final piece of evidence, non-integrated IXCs (including some new players) are committing large investments in wholesale long-distance capacity, thereby signaling their long-term confidence of obtaining local access from LECs.

5.3. Evidence: Implementing New Access Arrangements

5.3.1. *IntraLATA Toll Dialing Parity*

The main long-distance markets in which the BOCs have participated since the MFJ are for intrastate, *intraLATA* toll services. Dialing parity—the ability to reach a carrier of toll calls other than the incumbent without dialing additional digits—is very important for subscribers who dial manually, such as most residential subscribers and small businesses. Indeed, LECs consistently opposed dialing parity on the grounds that it would cause them to lose massive amounts of traffic. Often regulators did not seek to enforce dialing parity (partly on grounds of protecting this LEC revenue to support cross-subsidies of other services such as basic residential access and most services in rural areas). But even where they did, incumbents successfully delayed the process through protracted appeals.

The case of Minnesota is instructive (Cornell 1994).⁴² The Public Utilities Commission (PUC) determined in October 1985 that dialing parity to IXCs for *intraLATA* toll calls was in the public interest, and in November 1987 created a committee to develop an implementation schedule and a means of paying the costs of presubscription. U.S. West, the incumbent, asked the PUC to reconsider its public interest finding but was denied. In June 1989, the committee filed a report stating that presubscription was feasible and proposing a method to implement and fund it. In September 1992, U.S. West again petitioned the PUC essentially to reconsider the public interest issue. The PUC refused, but decided the earlier report might be outdated and reconvened the study committee, which submitted an updated report in August 1993. In July, 1994, the PUC set implementation guidelines. After further unsuccessful efforts by U.S. West to challenge the PUC's order in court, presubscription was implemented in February 1996—over a decade after the PUC had determined it was in the public interest.

42 My purpose here is not to single out the Minnesota Public Utilities Commission or U.S. West, the incumbent BOC, but to illustrate generic problems.

This and similar examples of incumbents' ability to mount regulatory and legal challenges so as to delay reform are all the more striking given that claims disputing the technical feasibility of dialing parity had been refuted for some time. In exchanges serving most traffic in Alaska, dialing parity was implemented in 1991–92. In Hawaii, GTE already had implemented a comparable capability for itself in 1986; but only in July 1996 did the Hawaii PUC compel it to provide intraLATA dialing parity to others.

5.3.2. "Open Network Architecture"

One of the three local-competition avenues that the 1996 Act seeks to foster is through access to unbundled network elements. The FCC's experience with trying to implement Open Network Architecture (ONA), while different in some respects, nevertheless is instructive.⁴³

The FCC's *Computer II* rules of 1980 had allowed BOCs to offer unregulated enhanced services (such as computerized data processing that also require access to telephone networks) only through separate subsidiaries, in part to help prevent access discrimination to telephone networks against competing enhanced service providers. Ameritech proposed an early version of ONA partly as a substitute safeguard against discrimination: by offering access to disaggregated network elements which enhanced service providers could use flexibly, ONA would reduce a BOC's ability to discriminate. Other BOCs similarly argued that ONA would void the need for the structural separation required by *Computer II*. The FCC concurred: its 1986 *Computer III* decision ordered the BOCs to develop plans for ONA and determined that ONA requirements would be "self-enforcing in controlling discrimination."

Backsliding from initial ONA promises began almost immediately, though much of this was not conscious discrimination but inevitable in view of the unrealistic expectations initially touted for ONA. And major, protracted controversy ensued over whether the BOCs had actually implemented the reduced version of ONA that they did promise. The FCC, while acknowledging that ONA had not been fully implemented, ruled the BOCs had nevertheless done enough to justify lifting the separate subsidiary requirement. In its 1994 decision, the Ninth Circuit strongly disagreed, finding that the FCC had failed to explain how these scaled-back safeguards, that fell well short of the "fundamental unbundling" originally envisioned in *Computer III*, would suffice to prevent discrimination.

There are significant differences between the network unbundling envisioned in ONA and that required by the 1996 Act. We have a much clearer idea today of the services local competitors might provide and their input requirements than we did then for enhanced service providers. And the technological advances needed for ONA were more radical than the measures required to implement the Act's unbundling requirements. Still, the ONA experience illustrates that backsliding from initial promises, whether deliberate or not, is likely; and so are disputes over the details of what has—and has not—been implemented.

⁴³ A summary of the main episodes in the history of ONA and the relevant references can be found in the decision *California v. FCC*, 39 F.3d, 919 (9th Cir. 1994).

5.4. Implications for Developing a Pro-Competitive BOC Entry Standard

Economic reasoning suggests—and the above evidence confirms—that the efficacy of regulatory oversight and other outside enforcement vary widely with the economic environment. Regulation fares much better in a mature, stable environment where information is reasonably symmetric, than in a new and changing environment where more adjustments are needed and informational asymmetries are greater. Correspondingly, enforcers do much better at maintaining existing access arrangements than at eliciting efficient implementation of complex new arrangements; in the latter, enforcers' uncertainty about what constitutes unreasonable delay or poor performance gives incumbents great latitude for plausible deniability and makes enforcers leery of imposing heavy penalties for perceived foot dragging. These observations have important implications for assessing the risks that premature BOC entry would pose to long-distance and to local competition.

Long-Distance Access Arrangements. The DOJ's choice to separate the local Bell phone monopolies from long distance reflected a judgment that, at the time, regulation could not—without being overly intrusive—adequately limit the myriad ways in which the vertically-integrated Bell System could impede long-distance rivals' access to local networks. Today, however, such access arrangements are well established, and regulatory and antitrust safeguards are reasonably capable of preventing their degradation. Also, a BOC today may face some technical difficulties in targeting for degradation only those pieces of the network used by IXC's or their customers. Finally, some of the key customer groups which the BOCs are expected to target post entry—residential and small or medium businesses—are also ones for which IXC's require relatively simple access arrangements.⁴⁴ Thus, concerns that post entry a BOC would impair or raise the price of IXC's' access is relatively limited in the short run.

Local-Competition Access Arrangements. The picture is markedly different for the access arrangements required by the 1996 Act to foster local competition. Many of these are novel and complex. For example, loop unbundling will require physical (not just electronic) changes. And new electronic interfaces with the incumbent's systems will be needed to support ordering, billing and other functions for carriers that resell a BOC's local service or seek efficient access to UNEs. Implementing such arrangements offers the BOCs great scope for gaming and delay. A BOC may initially refuse to provide a new arrangement, citing prohibitive costs; then relent and "merely" delay or provide inferior quality, citing unexpected difficulties, and so on. The point is not that such claims are never true, but that it will be difficult for regulators to discern which are true and which are not.

Within the regulatory and legislative constraints, the BOCs therefore have great discretion to help or hinder the opening of local markets to competition. The importance of

44 The large majority of LECs' access revenue comes from switched traffic (table 1), where access arrangements are largely standardized. Dedicated access is used mainly by large customers, and facilities-based competition is developing faster for such customers. However, if local competition fails to develop for broader market segments, the BOCs—if allowed into long-distance—could pose a growing threat to IXC's' access arrangements: over time, local networks might be re-configured to permit more subtle forms of discrimination, and new arrangements will be needed.

BOC incentives is illustrated by the different evolution of access arrangements for intraLATA and interLATA services. After the 1984 divestiture, the BOCs were allowed to offer intraLATA toll services in competition with IXCs. The BOCs succeeded in delaying IXCs' dialing parity for intraLATA calls—a relatively simple arrangement—for considerable time. In contrast, establishing the complex technical and administrative arrangements to provide all IXCs with equal local access to offer interLATA services was a considerable achievement, which owed a great deal to BOCs' interests in cooperating. Barred from offering interLATA services, the BOCs could only benefit from such markets by providing efficient local access to the IXCs.

Given that BOC incentives are so pivotal, it is dangerous to authorize BOC entry before the BOC has implemented the main measures to open its local market. Post entry, a BOC's incentives to cooperate will diminish significantly and, as explained earlier, inducing BOC cooperation by threatening penalties is problematic for securing new arrangements.⁴⁵ Thus, there is real value to insisting that a BOC establish the main requisite new arrangements for local competition *before* long-distance approval. A BOC's incentive to expedite this approval will then induce it to implement the new systems more efficiently and expeditiously than if threat of penalties was its only motivation. And once these new arrangements are in place and their performance has been demonstrated, the performance benchmarks will aid in preventing future backsliding. That is, pre-entry implementation of the new systems makes regulatory and other safeguards considerably more effective and less burdensome.

6. The DOJ Standard for BOC Entry: Local Market Irreversibly Open

The DOJ's standard reflects the above principles for developing a pro-competitive BOC entry standard.⁴⁶ Here, I explain the standard and its logic.

6.1. Fully Effective Local Competition is Not a Prerequisite

The standard does *not* require, as a prerequisite, the presence of ubiquitous facilities-based local competition that is fully effective in eliminating the BOC's market power. On this basis, some have criticized the standard as too permissive, arguing that it understates the danger that premature BOC entry poses to competition in long distance.

However, conditions have changed greatly since adoption of the MFJ. Instead of nascent competition in long distance, there are now several major established IXCs. Regulators are more attuned to risks of discrimination and, most importantly, IXCs' access

⁴⁵ Section 271(d)(6) empowers the FCC to suspend or revoke long-distance approval if it determines that the BOC has ceased to meet any of the pertinent conditions. But imposing such a penalty would require considerable and fairly clear proof of a violation (which, as noted, is difficult for new arrangements), would be disruptive, and likely would be politically difficult. As a practical matter, most industry participants treat 271 approval as a turning point, quite unlikely to be reversed.

⁴⁶ This standard is first articulated in DOJ (1997). See also Schwartz (1997a, 1997b).

arrangements are well established. In addition, the 1996 Act prohibits many discriminatory practices that were not specifically prohibited pre-MFJ, and provides for opening of the local market to competition. The development of local competition, which was not an option pre-MFJ, over time also should help to safeguard long-distance competition, both by providing local access alternatives, and by offering benchmarks that allow better regulation of BOC conduct. For all these reasons, long-distance competition can be protected over the foreseeable future against BOC access discrimination without insisting that there be fully effective local competition.

Moreover, insisting on ubiquitous facilities-based local competition as a pre-requisite for approving a BOC's entry into long distance would contradict the Act's philosophy that the extent and type of local competition should be determined by market forces. The Act requires that all three modes of local entry be made available, but does not express a preference for facilities-based competition (or any other mode).

In addition, local markets can be opened more rapidly and efficiently by authorizing BOC entry prior to fully effective local competition—but conditional on the BOC's market having first been opened. Such conditioning provides a BOC incentives to cooperate, because the valuable long-distance authority can be obtained by meeting requirements largely within the BOC's control. By contrast, even maximal BOC cooperation need not ensure ubiquitous facilities-based competition, so making this a pre-requisite for BOC entry would reduce BOC incentives to cooperate relative to the DOJ standard.

Finally, recall that BOC entry has the potential to yield significant benefits through the provision of integrated services and increased long-distance competition, provided access discrimination against competitors can be prevented. Given that a mix of regulatory, antitrust and other safeguards can adequately protect competition once the market is open and performance benchmarks are in place, waiting for fully effective local competition before approving BOC entry would unduly delay these benefits from BOC entry.

6.2. The Local Market Must Be Fully and Irreversibly Open

While not requiring fully effective local competition in the state for which long-distance authority is sought, the DOJ standard does require the local market to be *fully and irreversibly open* to competition, for serving business and residential customers, through all three entry modes envisioned in the Act (facilities, resale, and UNEs). Opening the local market requires removing all competitively-significant artificial impediments to entry. Irreversibility requires that a BOC cannot undo the opening after it obtains long-distance authority.

The most reliable evidence that the market has been fully and irreversibly opened is to observe entry through all three paths on a meaningful scale. However, the market may be open yet competition may fail to emerge for legitimate business reasons. The DOJ approach therefore proceeds sensibly as follows. If significant and diverse competition is observed, the market is presumed open. Failing to observe significant competition, for one or more of the entry modes, is not viewed as proof that the market has not been opened; but one inquires further to establish that the lack of entry is not due to lingering artificial barriers.

6.2.1. Actual Competition as Evidence of an Open Market

Observing actual competition is informative in several ways for determining that the market has been irreversibly opened.

Checklist Implementation. The more widespread and diverse is local competition, the greater is one's confidence that the various wholesale local services needed by competitors indeed have been made meaningfully available—that the price and non-price terms (quality, functionality, compatibility) for these new inputs make entry commercially viable.

Signal of Entrants' Confidence. Since entrants are knowledgeable about the industry and have an obvious stake in making competition work, their willingness to commit significant irreversible investments (sunk costs) provides a strong signal that the requisite cooperation from incumbents has been secured or that any future difficulties are expected to be manageable.⁴⁷ Indeed, concrete plans to enter with substantial investments could be a potent indicator of an open market even if the actual competition in place is fairly limited. (It is important, however, that plans be firm, e.g., contracts for specialized equipment with substantial penalties for cancellation. There is a long history of plans to enter local phone service that have been perennially revised, by the cable companies to cite one example.)

Entrants' Direct Role in Preventing Backsliding. Beyond signaling confidence that local competition can succeed, competitors' presence can directly help to prevent incumbents from backsliding on cooperation. Local competitors can provide additional benchmarks of what is possible and at what cost, thereby helping regulators or courts to enforce incumbents' cooperation (e.g., in regions of a state where competition is absent). In addition, established competitors create a constituency with a stake in preventing backsliding by incumbents or regulators and can act as whistle blowers.

In all cases, of course, the more widespread is the local competition geographically, in the types of services offered, and in the range of access services used from the incumbent, the greater is our degree of confidence that the market has been irreversibly opened.

6.2.2. Evidence in the Absence of Sufficient Actual Competition

The market may be open, however, even if there is little or no entry—as this might simply reflect lack of interest by entrants. In particular, one should not insist on seeing all forms of entry in all locations; the guiding philosophy of the Act is that, once artificial barriers have been removed, market forces should be allowed to dictate what works and where. For example, if we are successful in ensuring that incumbents make available good access to their unbundled network elements at prices reasonably close to incremental costs, then it would be wasteful to insist that entrants build entirely their own facilities. However, if sufficient entry through one or more modes is not observed, it is important to ascertain that this absence is not due to lingering artificial barriers. Meeting the DOJ standard in this case requires showing that three main elements of an open market are in place.

⁴⁷ In general, interested parties are likely to have better information than outsiders, so their actions are revealing. This principle of “follow the money” has, for example, often led economists to examine how stock market investors assess various events.

6.2.2.1. Implementation of New Wholesale Local Services. Implementing many of the important wholesale local services raises novel and difficult issues in technical areas (e.g., loop unbundling) and business protocols (e.g., for switching customers without disrupting service). For the market to be irreversibly open, all the main access arrangements needed to support the three entry modes must be readily available for commercial usage in serving all major customer groups (e.g., not only large businesses).

The BOC's systems must be capable of providing the relevant inputs on a *sufficient scale* to support significant entry, and should be capable of being *scaled up* relatively quickly to handle reasonably foreseeable demand growth by entrants. This is vital, since a sure way to stifle competition is by employing systems that stringently cap the rate at which customers can be switched to competitors (processing orders manually, having only a few perennially busy fax machines, etc.). The systems should also be capable of being rapidly *extended geographically* to regions where they are not initially deployed, but may be demanded later as competitors' interest develops (e.g., regions outside of major urban business centers).

Finally, the new access arrangements must be proven to work in practice, not just on paper, and there must be a sufficient track record to create reliable *performance benchmarks*. Many of the requisite arrangements are uncharted waters. Implementing new arrangements that depart sharply from past practice often proves harder than expected, even where there is goodwill on both sides. These difficulties increase several fold, however, when one side is recalcitrant; there is then endless scope for acrimony and mutual finger pointing, creating a regulatory morass. It is therefore important to have some practical experience with the new arrangements and iron out the major kinks before declaring the market open.

Preferably, the new access arrangements would be proven through commercial use by competitors. Lacking this, one must rely on other evidence—such as rigorous testing by expert and neutral parties. Such testing must be sufficiently varied, extensive, and long to create reliable performance benchmarks for the new systems. Performance benchmarks are so important because they help regulators and other enforcers to gauge future degradation, and thus to prevent it; that is, benchmarks help prevent backsliding by incumbents.

6.2.2.2. Cost-Based Pricing of New Wholesale Local Services. “Availability” of inputs will be illusory if input prices are prohibitively high. To make efficient entry viable, input prices should be determined using a methodology that is consistent with the Act's pro-competitive goals. Section 252(d) of the Act requires that: (1) prices of interconnection and unbundled network elements must be “just, reasonable, and nondiscriminatory,” and “based on the[ir] cost”; (2) prices of transport and termination of local calls must provide for mutual and reciprocal recovery by each carrier of the additional costs of terminating such calls; and (3) prices of retail services sold to entrants at a wholesale discount must be based on the retail prices minus the incumbent's avoided costs (marketing, billing, etc.) from selling at wholesale instead of at retail.

The most controversial methodological issue has been how to estimate costs for interconnection and unbundled elements. The FCC's (1996) Local Competition Order applied the Act's language and adopted rules requiring such costs to be estimated based on

the forward-looking methodology of Total Element Long-Run Incremental Cost (TELRIC). (Prices for transport and termination, (2) above, must be based on the incumbent's TELRIC *and* be symmetric.) The Supreme Court's *Iowa Utilities* (1999) decision, discussed later, affirmed the FCC's authority to establish a pricing methodology that states must follow in arbitrating disputes over specific price levels. TELRIC, if reasonably applied, would satisfy the DOJ's open market standard regarding the BOC's prices.

In addition, competitors must have adequate assurance that prices will remain reasonable and cost-based after a BOC receives 271 approval, for a sufficient duration to justify their investments in local entry. Such assurance can be provided in several ways, including multi-year interconnection agreements, or commitments by the BOC in the 271 process.

Inclusion of prices as an element of the DOJ standard (when sufficient local competition is absent) can complement state efforts to secure prices that are more conducive to local competition. Although the Act empowers state commissions to arbitrate pricing disputes between the incumbent and competitors, negotiations between the parties and state arbitration, if needed, do not occur in a vacuum. The resulting prices are likely to reflect the demands and bargaining powers of the incumbent and its potential competitors, and there is great disparity in bargaining powers since the dominant incumbent is content to preserve the status quo, while the entrant is yearning for an agreement. By making pro-competitive BOC prices for local inputs a requirement for finding the market open, one can help reduce (though not eliminate) the bargaining-power disparity; the BOCs would have an incentive to temper their pricing requests, which should result in lower prices. Mini (1999) finds evidence of this.

6.2.2.3. Removal of Other Significant Impediments to Entry. Finally, the DOJ standard also requires that there remain no state regulatory or other artificial impediments likely to significantly hinder local competition. The Act requires removal of such barriers,⁴⁸ but there are gray areas. States have some latitude to impose obligations on carriers under the rubric of protecting universal service; local authorities may manage public rights-of-way or require fair and reasonable compensation for their use. Although such actions must be taken on a competitively neutral and nondiscriminatory basis, there is sure to be controversy over what this entails.⁴⁹ The BOCs also may have latitude to engage in certain practices which, while not explicitly unlawful, may hinder competition.⁵⁰

48 Section 253(a) states: "No State or local statute or regulation, or other State or local legal requirement, may prohibit or have the effect of prohibiting the ability of any entity to provide any interstate or intrastate telecommunications service." Section 253(d) empowers the FCC to preempt such barriers.

49 For example, Texas attempted to impose "buildout" requirements, obliging certain entrants to offer service over a minimum area of 27 square miles; such rules may hamper the ability to enter effectively. Numerous municipalities reportedly plan to impose fees on new telecommunications providers—but not on incumbents—for use of rights-of-way and local infrastructure.

50 For example, some incumbent LECs are said to be signing exclusive access agreements with landlords of multi-unit buildings, housing a high density of customers. Such agreements could stifle entrants' ability to compete, by denying them the opportunity to attain economies of density in a given area. The FCC

Some have worried that linking a BOC's entry to removal of regulatory barriers beyond its influence may discourage BOC cooperation, because cooperation may fail to yield a reward. However, a BOC's ability to influence the regulatory process in a state should not be underestimated. More importantly, authorizing BOC entry before these barriers have been removed can jeopardize prospects for opening the market in the future. The reasons is this: If such barriers seriously delay competitors' ability to avail themselves of new access arrangements put in place with BOC cooperation, these arrangements may require substantial changes by the time entrants are in a position to use them. The value of initial BOC cooperation in establishing the new arrangements will therefore decay; and securing BOC cooperation again in establishing new arrangements once these barriers have been removed—but after BOC entry has been authorized—will be far harder.

The concerns with these regulatory and other barriers, however, are less today than they were immediately following the passage of the Act. Thus, full BOC implementation of the competitive checklist is likely to result in opening the local market in most cases.

6.3. Some Clarifications About the Open-Market Standard

This section addresses some criticisms of the DOJ standard which are at odds with what the standard actually requires and its underlying logic. One fallacy is that the standard seeks "regulatory perfection" by requiring a BOC, as a condition for long-distance entry, to dot every i and cross every t in opening its local market. This is a caricature; as I explained, what the DOJ standard requires is implementation of the steps which the Act and the FCC rules deem important to fostering local competition. Let me now turn to other criticisms.

6.3.1. Alleged Incentives for Strategic Delay by Local Entrants

Some critics (e.g., Kahn and Tardiff 1997) argue that the DOJ standard delays local competition, by allegedly creating incentives for the IXCs to strategically postpone their local entry for fear that it would trigger approval of BOC entry into their long-distance markets. However, while the DOJ standard specifies that the extent and diversity of actual local competition sensibly establishes important presumptions about whether the market is open, the standard also recognizes that lack of entry may be due to economic reasons unrelated to artificial impediments. For this reason, the standard requires removal of such impediments, but does not require actual entry by any party, including the major IXCs.⁵¹

(1999b) has opened an inquiry on nondiscriminatory access to such multiple tenant premises, as well as into fees and other conditions imposed by local governments for access to rights-of-way, and state and local taxes imposed on telecommunications providers.

51 Observe also that other potential local competitors ("CLECs") with no long-distance presence (unlike the major IXCs) would have little to gain from delaying their local entry or expansion for purposes of keeping the BOCs out of long distance. Even if an individual CLEC were tempted to hold back in the hope of convincing the state commission to extract further market-opening concessions from the BOC before granting 271 approval, the presence of *numerous* potential CLECs creates a formidable problem of collective action. If other potential CLECs attempted such strategic delay then, assuming the local market were truly open, it would pay any of the many firms that currently have a small or no presence in the local and long distance markets to enter the local market aggressively to seize market share.

Moreover, the strategic delay theory is contradicted by the facts. Since GTE is not subject to §271, there can be no strategic gain from delaying local entry into its territories. The theory thus predicts that, controlling for other factors, GTE territories should attract more entry than BOC territories. Yet GTE experiences less entry (see section 7.1 below). A reasonable reading of the record in the five denied BOC applications is that entrants have shown considerable interest, but that those BOCs failed to fully open their markets. The main issue, therefore, has not been the incentive to enter local markets but the ability to enter.

6.3.2. *No Market-Share Tests*

The DOJ Standard does not establish any rigid metric tests, e.g., that entrants must have captured any threshold market share. It does require removing artificial impediments to competitors' expansion. In particular, BOC wholesale support systems must be capable of permitting large numbers of customers to switch to competitors rapidly and smoothly.⁵² Such switching capability is critical to the evolution of competition, since the incumbent initially commands the vast majority of customers.

While the best evidence of systems' capabilities would be to observe competitors making significant use of such systems, both the DOJ and the FCC have made it clear that other evidence also would be acceptable (see, e.g., DOJ 1997, Appendix A, 81–90). Such evidence can include: experience in other states using the same system(s); carrier-to-carrier testing; independent audits; and, if these options are not available, even self testing by the BOCs.

6.3.3. *Observing All Three Entry Modes*

Some have argued that insisting on seeing actual competition through all three entry modes for establishing a presumption for an open market is overly restrictive; allegedly one could not possibly hope to observe all three entry modes concurrently, because only the most profitable mode will be chosen. This argument is flawed, for two reasons.

First, an entrant may well find different entry modes preferable for serving different classes of customers (e.g., small residential v. large business) or different regions (e.g., rural v. urban). This is quite plausible given that the Act stipulates different pricing rules for unbundled elements and for resale, and that cost conditions vary for serving different regions or different customer classes. Thus, an entrant may prefer to serve: low volume users by reselling the incumbent's services; medium volume users through unbundled loops; and high volume users by building its own facilities.⁵³ Second, entrants are

52 In California, for example, MCI and AT&T's efforts to enter the market were frustrated when PacBell's systems for processing resale orders broke down, causing substantial delays before a customer could be switched to a competitive carrier and leading those companies to end their marketing campaigns. See *MCI v. PacBell*, Cal. PUC No. 96-12-026 (Sept. 24, 1997), at 27 (finding that MCI ceased marketing after PacBell built up backlogs of 4000 to 5000 orders and that, by PacBell's own admission, its systems did not offer competitors resold services at parity).

53 The greater a customer's volume, the greater the traffic-sensitive charges an entrant would pay the incumbent for leasing its switch; to avoid these charges, the entrant may prefer serving medium volume users not through resale but through its own switch, while leasing the incumbent's loop. For high volume

heterogeneous in their skills and other assets and in what they require from incumbents. An entrant whose strength is in retailing may opt to pursue resale, while another that plans to offer innovative vertical services may prefer to provide its own switch and lease other unbundled elements. Consistent with the above, all three entry modes have been used in New York and other states.

6.4. Why the Open-Market Standard Is Procompetitive

The BOCs' most fundamental criticism of the DOJ standard is that the costs it imposes by delaying BOC entry supposedly outweigh the potential benefits (see, e.g., Kahn and Tardiff 1997). I have already refuted this criticism implicitly, but let me recap the three-step logic.

First, the local market is considerably larger than the long-distance market, e.g., local revenues are almost twice as large as interLATA revenues net of access (table 1). The same percentage improvement in economic performance in both markets in response to increased competition would thus generate considerably greater total benefits in the local market.

Second, the local market is significantly less competitive and thus more heavily regulated, a factor which limits the exercise of market power but spawns its own distortions. As a result, there is considerably more room to improve performance in the local market than in long distance by fostering additional competition and easing regulation. While the benefits may not show up, at least initially, in lower prices for those services whose regulated prices are held below incremental costs (e.g., basic residential service in some areas), the overall benefits are likely to be substantial. The benefits can come from lowering the cost, improving the quality, increasing the variety, and rationalizing the price structure of local services—as well as aiding competition in long-distance and other adjacent markets dependent on good local access.⁵⁴

The above two points jointly imply that the prospective gains from increasing competition are significantly greater in the local market. Finally, the DOJ standard is likely to advance local competition greatly, while retarding long-distance competition only in the short run and helping to safeguard it in the longer run. The costs from delayed BOC entry should be modest, because the steps needed to open the local market are largely within a BOC's control (so the delay of BOC entry need not be lengthy) and because there is already considerable long-distance competition which—barring consolidations—should

customers, such as large businesses in dense business centers, the entrant may prefer building entirely its own facilities, including loops, e.g., because this allows the entrant better quality control and greater ability to customize and vary services later.

54 It is inherently difficult to predict the exact ways in which competition will deliver benefits. But one can envision several concrete examples. Lower prices will emerge for services that today are substantially overpriced, including "vertical" services (caller ID, call waiting), high-speed lines, and exchange access for long-distance services. As universal-service subsidies become competitively neutral and available also to entrants, competition should enhance efficiency also in providing the currently under-priced services. Consumers will also enjoy better customer service (e.g., twenty-hour customer service rather than nine-to-five), and expanded options of products and services.

continue with or without BOC entry. In contrast, the DOJ standard should give a major boost to the local competition compared to a softer standard. Premature BOC entry would significantly worsen BOC incentives to cooperate in opening the local market (section 4) and post entry measures would have only limited effectiveness in offsetting this increased BOC resistance (section 5).

7. The 271 Process and BOC Cooperation: Past and Future

But if the local market is much larger than long distance and is much less competitive, why would a BOC accept opening its local markets rather than forgo entering long distance? The failure thus far of any BOC application to gain DOJ support supposedly proves, according to some critics, that the DOJ standard is too stringent—that it will greatly delay BOC entry *and* will do nothing to increase BOC cooperation in helping to open their local markets. I address these issues next, and the economic logic for not softening the DOJ standard.

7.1. The 271 Process Does Elicit BOC Cooperation

7.1.1. *Commitment and Credibility*

In order for §271 to elicit BOC cooperation there must be a known commitment to the 271 entry standard. Posturing and testing the waters are inevitable in a process such as this, and a BOC's initial reluctance may reflect no more than a desire to force down the bar. Conceivably, the BOCs in certain states were willing to extend the requisite cooperation, but believed they could instead secure entry authority by mounting legal challenges to the Act (more on this shortly) and by pressuring the FCC and the DOJ. For this very reason, efforts to soften the 271 standard because it is allegedly unproductive can make it so. Such efforts embolden the BOCs to resist meeting the standard even where they would be willing to meet it if convinced that this was their only way to gain long-distance entry. A commitment to hold firm to the 271 standard, barring major unforeseen developments, is therefore crucial.

7.1.2. *BOC Tradeoff Changes Over Time*

Posturing aside, the true value of long-distance entry to a BOC will vary with such factors as the BOC's business plans and the amount and profitability of local versus long-distance traffic in a state. Therefore, in some states, a BOC's value of long-distance entry simply may not outweigh its loss from opening its local market *today*. But this is entirely consistent with the proposition that the DOJ standard will help to open local markets. A BOC's profitability tradeoff between local and long-distance markets is likely to evolve over time towards accepting the §271 terms, based on fairly predictable changes in competitive conditions.

First, significant local competition is developing to serve more profitable customers, such as large businesses. Entrants serving such customers generally require less extensive BOC cooperation than do entrants targeting mass market segments, because building their own facilities is a more realistic option for the former. (The Act's requirements in §251 and §252 can go a long way towards enforcing the BOC cooperation needed to support

facilities entry, notably, to provide interconnection; the value of §271 is likely to lie mainly in securing the more extensive forms of cooperation, needed to enter through UNEs or resale.) The BOCs are therefore likely to face growing and significant competition for their most lucrative customers regardless of whether the BOCs cooperate to meet §271.

Second, and related, the BOCs' inability to offer long-distance services—due to refusing to meet the §271 terms—will become a growing drawback in competing to serve large business customers, that demand one-stop-shopping and can obtain this from other vendors such as the major IXCs. By eroding the BOC's profit from its most lucrative customers—and eroding it faster if the BOCs cannot offer long-distance services—targeted entry therefore reduces the BOC's prospective loss from opening *all* its local markets as required by §271.

Astute critics might counter that if a BOC agrees to cooperate in meeting §271 only because some local competition will have developed anyhow, then the procompetitive benefits that remain from securing the BOC cooperation must also be lower. Thus, critics might argue, the residual benefits from securing BOC cooperation cannot be sufficient to justify having delayed BOC entry into long distance. This inference, however, does not follow.

Although the tightly-regulated basic residential service contributes a relatively small share of BOC profits, large gains to consumers and in overall welfare can be expected from increasing competition in the residential (and small business) market. Such gains need not come primarily from reducing the BOC's profit. Rather, their potential comes from the substantial efficiencies (e.g., cost reductions and innovation, as discussed earlier) likely to result from shifting to competition and easing the need for intrusive retail-level regulation as the main guardian of consumers' interests.⁵⁵ It is thus wrong logically, and I believe also factually, to presume that if selective entry has eroded local market profit enough for a BOC to accept the 271 terms, then the benefits from attaining BOC cooperation in opening the remaining market segments to competition must have diminished correspondingly.

7.1.3. Evidence of Some BOC Cooperation Already

Not only can §271—as interpreted by the DOJ and the FCC—elicit BOC cooperation eventually, there is evidence that it is doing so already.

Comparing GTE and BOC Cooperation with Local Entrants. Mini (1999) tests whether, on average, the BOCs have been more cooperative with local entrants than has GTE. Like other non-BOC incumbents, GTE was not subject to the MFJ and does not require 271 approval to offer interLATA services. GTE was by far the largest non-BOC incumbent, with about eleven percent of access lines nationally at the end of 1996. Moreover, AT&T did not pursue negotiations with the other major non-BOC incumbents, including

⁵⁵ Illustrating the Act's concern with the residential market, Track A of the §271 conditions requires an applicant BOC to have an approved agreement with a competitor serving residential customers.

Cincinnati Bell, Frontier, and Sprint.⁵⁶ Mini uses data from AT&T on its negotiations to enter local markets served by GTE and by a BOC, in 22 states where both GTE and a BOC offer local service. Focusing on such states permits pairwise comparisons of AT&T's negotiations with GTE and the BOC while controlling for the potentially important influence of the state commission.

Mini finds that the BOCs overall have been significantly more cooperative than GTE: (1) GTE engaged in far more premature litigation. (2) The average delay in reaching an agreement with GTE was more than seventy percent longer. (3) Controlling for cost differences, the prices requested by GTE for providing access to its networks and services are systematically tougher than those requested by the BOCs. (4) And controlling for other measures that might influence the profitability of entry, there is less competitive entry into GTE territories than into those of all LECs (i.e., primarily BOC territories).

Where BOC Cooperation Has Been Greatest. The greatest progress in opening local markets has been in states where the BOCs are most eager for 271 approval and have worked closely with state commissions to this end, as exemplified by New York (discussed shortly).

7.2. Unsuccessful BOC Applications

In the five applications decided through October 1999, the DOJ found that the BOC's local market in the state was not fully and irreversibly open.⁵⁷ The FCC rejected the applications, one on the grounds that the threshold requirements of Track A had not been met, and the rest because they did not satisfy the competitive checklist.

Meaningful checklist implementation requires two steps. First, all checklist items must be made available, at pro-competitive prices, without undue restrictions on how they can be used or combined. In addition, access must be provided through efficient wholesale support processes that allow smooth and rapid interaction between competitors and the incumbent's wholesale operations. Consider these steps in turn.

Unencumbered Access. Some of the applicant BOCs refused to provide certain items,⁵⁸ or made them available only in a way that materially impeded competitors' ability to use

56 AT&T did negotiate with SNET (since acquired by SBC), which provides local service only in Connecticut. AT&T's delay in reaching an agreement with SNET was far longer than the average delay Mini finds for the BOCs—consistent with the hypothesis that 271 incentives do matter, and with the results Mini finds when comparing GTE v. the BOCs, as described next.

57 The BOC applications, DOJ Evaluations and FCC Orders are: (1) SBC in Oklahoma, CC Docket 97-121, DOJ Evaluation May 16, 1997 ("DOJ 1997"), FCC Order June 26, 1997; (2) Ameritech in Michigan, CC Docket 97-137, DOJ Evaluation June 25, 1997, FCC Order August 19, 1997; (3) BellSouth in South Carolina, CC Docket 97-208, DOJ Evaluation November 4, 1997, FCC Order December 24, 1997; (4) BellSouth in Louisiana I, CC Docket 97-231, DOJ Evaluation December 10, 1997, FCC Order February 4, 1998; (5) BellSouth in Louisiana II, CC Docket 98-121, DOJ Evaluation August 19, 1998, FCC Order October 13, 1998. DOJ Evaluations are available at <http://www.usdoj.gov/atr/public/comments/sec271/sec271.htm>.

58 For example, the DOJ and FCC found that Ameritech in Michigan refused to provide shared local transport, and that the quality of its trunking facilities was insufficient to ensure nondiscriminatory interconnection with competitors (as compared to the interconnection between its own networks).

them.⁵⁹ An especially important and contentious issue has been whether incumbents must provide the UNE “platform”—all the elements of the network, in their pre-existing combination, at cost-based prices as required by the Act for UNEs. Incumbents argued that the platform is merely a backdoor way to obtain retail services for resale, but at lower prices.⁶⁰ They sought to break up existing combinations of UNEs sought by competitors. Competitors countered that the Act does not require them to bring some of their own facilities in order to qualify for the cost-based UNE prices. They also argued that the platform enables them to offer services not available by reselling the incumbent’s retail menu—notably exchange access for long distance carriers (exchange access is not considered a “retail service,” hence need not be made available for resale), but also new services that can be provided using the existing capabilities of the incumbent’s network but have not yet been offered.

Efficient Access. Access must not only be unencumbered, but also provided in a manner that allows efficient rivals to compete effectively with the incumbent for retail sales. The Act requires that competitors receive nondiscriminatory treatment, compared to each other and to the incumbent’s retail arm, in the terms and conditions for obtaining wholesale services. (If a wholesale service needed by competitors has no retail analogue for the incumbent, the FCC’s criterion is that the wholesale service must be provided so as to allow an efficient competitor a meaningful opportunity to compete.) Incumbents, however, traditionally operated largely as retailers of local services and wholesalers of access to IXCs, not as wholesale providers of inputs to local competitors. In order for incumbents to efficiently provide the various wholesale local services, it will be necessary for them to develop and deploy new systems, which the DOJ has termed “wholesale support processes,” that enable smooth and timely interaction between competitors and incumbents’ wholesale operations.

A major step is granting competitors efficient access to the incumbent’s internal operations support systems (OSS)—those systems used by the incumbent for functions such as obtaining pre-ordering information about a customer or about available services, ordering services, installation, repair and maintenance, and billing. Providing efficient access to OSS requires, among other things, the development of electronic interfaces between competitors and the incumbent, because manual processing is inherently slower and much more prone to error. None of the five rejected applications had demonstrated adequate access to OSS.

59 For example, the DOJ and FCC found that in South Carolina, BellSouth’s statement of generally available terms (used under Track B) failed to describe adequately what elements it will provide, the method in which it will do so, or the terms. Such vagueness naturally hampers competitors.

60 Prices can be lower because the Act requires different methodologies to set prices for UNEs and for resale. UNEs are to be priced “bottom up”—based on the incumbent’s costs of providing these elements. For resale, the wholesale prices are calculated “top down”—discounting off the retail prices the estimated costs which the incumbent can avoid by delegating these retailing functions to the reseller entrant. If retail prices exceed the incumbent’s overall costs (including both facilities and retailing expenses), the top down methodology will yield higher prices than bottom up.

7.3. Basis for Optimism: Clearer Legal Rules and Progress with New Systems

7.3.1. Clarifying the Legal Rules

A major reason for the relatively slow progress has been the BOCs' understandable reluctance to open their markets before exhausting what they perceived as promising legal challenges to the Act's mandates. The litigated issues included the terms of agreements between incumbents and entrants, the meaning of various provisions of the Act, the reasonableness of the FCC's implementing regulations, and the scope of the FCC's regulatory authority. Some BOCs even challenged the constitutionality of the Act, as bill of attainder, on the grounds that the §271 obligations single out the BOCs versus other incumbents.

Fortunately, the courts have now resolved most of the fundamental disputes and have upheld the Act and, for the most part, the FCC's implementing regulations. In January 1999, the Supreme Court affirmed the FCC's broad authority to adopt regulations implementing all substantive provisions of the 1996 Act, and upheld on the merits all but one of the specific regulations whose validity was at issue.⁶¹ The Court's decision in this unusually complex case reinstated the FCC's vital and central role in telecommunications regulation. The D.C. Circuit and Fifth Circuit have now held that the Act's restriction on the BOCs' provision of in-region long distance services is constitutional,⁶² and the Supreme Court denied certiorari.

The D.C. Circuit, which hears all challenges to FCC rulings on §271 applications, also upheld the FCC in both appeals of its decisions denying BOC applications and in several cases addressing the scope and interpretation of the §271 interLATA prohibition. The vast majority of federal courts that have entered judgments in cases seeking review of state agency decisions under §252(e)(6) of the Act also have upheld the Act and the FCC's regulations. While some significant issues do remain, the major legal overhangs are finally being resolved. This is a key reason for believing that the BOCs will become more willing to cooperate in meeting the §271 requirements for long-distance entry.

7.3.2. Overcoming Technical Challenges: New York and Beyond

It would be quite wrong, however, to blame the slow progress solely on BOC recalcitrance. Even with the best intentions, it would take considerable expense, effort, and time to develop the myriad of complex new systems called for by the Act, and to iron out the kinks. But significant progress is being made, as exemplified by Bell Atlantic's application in New York which the FCC (1999f) approved in December 1999—the first 271 application to be approved. More significant than the approval itself is the record of progress in New York.

61 *AT&T Corp. v. Iowa Utilities Board*, 525 U.S. 366 (1999). *Inter alia*, the Court affirmed the FCC's authority to promulgate pricing rules which states must follow, and upheld the FCC's (1996) Order which prohibits incumbents from separating already-combined network elements, and states that entrants' right to purchase UNEs at TELRIC prices is not contingent on entrants' also providing some of their own elements.

62 *SBC Communications, Inc. v. FCC*, 154 F.3d 226 (5th Cir. 1998); *Bell South Corp. v. FCC*, 162 F.3d 679 (D.C. Cir. 1998).

The DOJ (1999) found that Bell Atlantic had completed most of the steps to irreversibly open its local market. But the DOJ expressed a few concerns pertaining to Bell Atlantic's provision of unbundled network elements: (1) unbundled loops for traditional voice services (especially the processing and completion of orders for coordinated loop cutovers or "hot cuts"); (2) unbundled loops to support offering advanced services using DSL technology; and (3) the adequacy of OSS for handling UNE-P orders, specifically, the heavy reliance on manual processing and the attendant risk of errors especially as demand grows, and the instability and unpredictability of Bell Atlantic's electronic interfaces with its CLEC customers. The DOJ believed these problems could be resolved in a short time, but would significantly constrain competition if left unresolved. Accordingly, it advised the FCC not to approve the application unless the FCC was convinced these problems had been addressed.

The FCC read the record somewhat differently and approved the application. On OSS and unbundled non-DSL loops, the FCC found that Bell Atlantic had met its checklist obligations.⁶³ The FCC also decided to examine Bell Atlantic's overall loop performance, rather than requiring a separate showing as to performance on DSL loops, but it reached that decision by citing unique circumstances in New York, and indicated that it expected subsequent applicants to provide a separate and comprehensive showing as to DSL loops.

The New York application revealed some divergence between the DOJ and FCC, but the extent of the divergence should not be overstated. It is not surprising that occasionally there will be differing assessments of multi-faceted and hotly contested factual issues, and overall the record of developing competition in New York was impressive. The DOJ noted that Bell Atlantic had irreversibly opened the market to entry through facilities and through resale, and saw great progress also with UNEs, characterizing the remaining problems as few and capable of being solved relatively quickly. The progress in New York reflected a serious, sustained multi-year collaborative process with competitors and the New York Commission, assisted by extensive and rigorous participation by KPMG (aided by Hewlett Packard) in developing and testing Bell Atlantic's systems. The process and the resulting competitive landscape represent a far cry from the token efforts in some earlier applications.⁶⁴

The FCC lauds several aspects of the New York process: a rigorous proceeding led by a procompetitive and tough state commission; full and open participation by all interested parties; extensive independent third-party testing of OSS; development of clearly defined

63 The FCC relied more than did the DOJ on the evaluation of the New York Public Service Commission (1999) and the assessment by KPMG (1999) of Bell Atlantic's OSS, and had less concerns with the accuracy, scalability, and stability of OSS. In some cases, the FCC also attributed problems mainly to errors by competitors not Bell Atlantic (e.g., in flow through of orders), or saw problems attributable to Bell Atlantic as not competitively significant.

64 The FCC (1999f, pp. 7-8) notes significant entry in New York using all three entry paths, and serving both residential and business customers throughout the state. It cites Bell Atlantic estimates that competitors serve over 650,000 lines using their own facilities, over 150,000 lines using the UNE-platform, and over 314,000 lines through resale. (There were a total of 16.4 million access lines statewide.) By comparison, when BellSouth filed its second Louisiana application (July 6, 1998), it had provided only 107 UNE loops in that state. The DOJ (1999, pp. 7-14) also provided a generally positive assessment of the market-opening measures in New York.

performance measures and standards; and adoption of performance assurance measures with substantial penalties to deter backsliding. Now pending is SBC's application in Texas; while DOJ (2000) again saw some significant problems and recommended denial, this too is a serious application. SBC's application, like Bell Atlantic's in New York, provides evidence that the incentives to open local markets reflected in §271 and the DOJ standard are working.

8. Conclusion

For many years local telephone companies in the U.S. operated as regulated franchise monopolies, an institution whose inefficiencies became increasingly evident. The Telecommunications Act of 1996 strikes down legal and regulatory barriers to local competition. The Act also orders incumbents to share their networks extensively with competitors, so as to promote also potentially valuable forms of entry that do not entail building entirely new facilities and to facilitate the transition to facilities-based competition where appropriate. Promoting local competition—and moving to lighter regulation of incumbents' retail offerings—can generate large welfare gains in the provision of local services and of integrated services, while mitigating the discrimination concerns from allowing (otherwise beneficial) BOC participation in long distance.

The expansive view of local competition articulated in the Act places heavy demands for complex network sharing with competitors, and this will require significant cooperation from incumbents. Section 271 and the DOJ standard aim to help elicit such cooperation and lay the foundations needed for competition to develop with minimal artificial impediments. Creating better incentives for the BOCs to cooperate will help to open local markets much more rapidly and efficiently than relying exclusively on mandates; the central and well-documented message of economics is that incentives matter a great deal.

Improving a BOC's incentives to cooperate requires conditioning long-distance approval on the BOC having first implemented the key measures to open its local market. Securing these measures up front not only advances local competition. It also greatly reduces the need for later intrusive regulation to pry open local markets post BOC entry, once BOC incentives will have significantly worsened. In a fundamental sense, therefore, the policy of conditioning BOC entry on the prior opening of local markets is pro-competitive and de-regulatory.

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