

cost margins of the three large service providers in individual country-pair markets were in the opposite direction from those expected from declines in HHI in those markets over time. In five of the country-pair markets (Germany, Japan, France, Dominican Republic, and Italy), the HHI fell from one in 1990 to values from 0.42 to 0.56 by 1994 (see table 5-16). Price-cost margins did not decline, but rather were constant or increasing in that period. Further, there was no systematic relationship between (lower) HHIs and (lower) margins across country pair markets. For example, the HHI in Mexico exceeded that in Canada, but price-cost margins in Mexico were lower than in Canada. the highest margins were on service to France and Japan. but the highest concentration was on service to Germany and Italy.

Country	HHI	Price-Cost Margins		
		AT&T	MCI	Sprint
Canada	0.42	0.80	0.74	0.71
Mexico	0.55	0.45	0.58	0.60
United Kingdom	0.50	0.80	0.84	0.84
Germany	0.56	0.70	0.72	0.75
Japan	0.43	0.87	0.82	0.84
France	0.49	0.90	0.76	0.74
Dominican Republic	0.52	0.50	0.40	0.41
Italy	0.56	0.58	0.58	0.81

Source: As described in the text.

Comparisons between domestic and foreign markets are even more striking. MTS and WATS margins in the eight country-pair markets exceeded those in domestic markets for comparable services. MTS margins for AT&T, MCI, and Sprint service to foreign countries were approximately 10 percent higher than for domestic service except in Mexico, the Dominican Republic and Italy where the receiving foreign carrier took part of the margin. Those MTS and WATS margins also exceeded levels found in concentrated manufacturing industries in the United States. In a sample of 284 U.S. industries in 1981, the average price-cost margin was 27.5 percent, or less than half the value found for most of those standard or discount international markets.<sup>36</sup> In addition, for the group of industries in that sample having the highest market concentration (the top four firms accounting for at least 81 percent of sales), the average price-cost margin was 33 percent or still less than half that in most of those international markets.

#### TESTS FOR COMPETITIVENESS IN INTERNATIONAL MARKETS

The price-cost margin equation fitted to the interLATA data can be adapted for data on international long-distance services. A data set of eighty-nine observations has been developed on price-cost margins, market shares, and HHIs for international outbound MTS services provided by AT&T, MCI, and Sprint for the years 1991-94. The country pair markets for which there are data in this sample include those between the United States and Canada, the Dominican Republic, France, Germany, Italy, Japan, Mexico, and the United Kingdom.

As in the analysis of interLATA price-cost margins, both static and dynamic models have been estimated. For the static model, international price-cost margins have been regressed on HHI, market shares, carrier-specific binary variables, and country-specific binary variables. AT&T's service to Canada is the base case against which carrier and country variables have been measured. For the dynamic model, price-cost margins have been regressed on HHI, market share, price-cost

36. . I. Domowitz, R. Hubbard & B. Petersen, *Business Cycles and the Relationship Between Concentration and Price-Cost Margins* 17 RAND J. ECON. 1 (1986).

margins lagged by one year, carrier-specific binary variables, and binary variables for individual countries.

The static regression equation, based on eighty-nine observations, has an *R*-square coefficient of 0.84, indicating that the equation variables explained more than 80 percent of the variance in price-cost margins. The equation price-cost margins (as in table 5-17) are inversely related to HHI, although the coefficient of HHI is significant only at the 10 percent confidence level. Price-cost margins are inversely related to market share for the individual carrier. Contrary to the analysis of interLATA price-cost margins, the coefficients for carrier-specific binary variables are negative and significant, indicating that MCI and Sprint had lower price-cost margin than did AT&T. Price-cost margins are significantly lower for service to Italy, Mexico, and the Dominican Republic than for service to Canada. In contrast, price-cost margins are significantly higher for service to Japan and the United Kingdom. Coefficients for the remaining countries were not significantly different from zero.

TABLE 5-17 PRICE-COST MARGIN FOR INTERNATIONAL MTS AS A FUNCTION OF CONCENTRATION, MARKET SHARE, CARRIER, AND COUNTRY				
Dependent Variable: Weighted Average Price-Cost Margin	Parameter Estimate	Standard Error	T for Null Hypothesis: Parameter=0	Significance Level
Explanatory Variables:				
Intercept	1.346	0.122	11.04	0.0001
MCI	-0.334	0.082	-4.06	0.0001
Sprint	-0.398	0.099	-4.03	0.0001
Mexico	-0.147	0.038	-3.86	0.0002
Dominican Republic	-0.296	0.039	-7.55	0.0001
Japan	-0.118	0.031	3.86	0.0002
France	-0.070	0.032	2.21	0.0300
Germany	0.013	0.041	0.32	0.7516
Italy	-0.100	0.039	-2.60	0.0113
United Kingdom	-0.101	0.033	3.09	0.0028
HHI	-0.325	0.182	-1.78	0.0784
Market Share	0.694	0.161	-4.31	0.0001
$R^2 = 0.84$ Number of Observations = 89 Source: As described in the text.				

The dynamic equation, based on sixty-six observations, had an *R*-square of .89, indicating that the equation variables explained almost 90 percent of the variation in price-cost margins (see table 5-18). As in the domestic dynamic model, the coefficient for the prior year's price-cost margin is positive and significant, indicating the persistence of profits in contradiction to an hypothesis that there was an emergence of competition in this period. Although the HHI coefficient is negative, it is not statistically significant. Because of the significance of the persistence term, and the insignificance of concentration changes, we must reject the hypothesis that international MTS service has been in the process of becoming more competitive.

The coefficients of the carrier-specific binary variables in this regression confirm the findings from the static regression. Significantly

negative coefficient estimates for MCI and Sprint indicate that they had lower price-cost margins than did AT&T. However, these estimates are of a smaller magnitude and lower significance level than the estimates in the static model. For example, the coefficient for Sprint in the static model is -0.398, significant at the 0.01 percent confidence level. In the dynamic model, the Sprint coefficient is -0.368, significant only at the 0.4 percent confidence level. In both models, the two nondominant long-distance carriers have lower price-cost margins than AT&T, while all margins are at or above those in domestic service markets.

TABLE 5-18 PRICE-COST MARGIN FOR INTERNATIONAL MTS AS A FUNCTION OF LAGGED PRICE-COST MARGIN, CONCENTRATION, MARKET SHARE, CARRIER, AND COUNTRY				
Dependent Variable: Weighted Average Price-Cost Margin	Parameter Estimate	Standard Error	T for Null Hypothesis: Parameter=0	Significance Level
Explanatory Variables:				
Intercept	1.000	0.194	5.15	0.0001
Lagged Price-Cost Margin	0.274	0.109	2.51	0.0152
MCI	-0.320	0.100	-3.20	0.0023
Sprint	-0.368	0.122	-3.01	0.0040
Mexico	-0.127	0.052	-2.44	0.0179
Dominican Republic	-0.231	0.058	-3.99	0.0002
Japan	0.076	0.033	2.29	0.0264
France	0.050	0.036	1.40	0.1679
Germany	-0.023	0.053	-0.43	0.6696
Italy	-0.047	0.052	-0.92	0.3631
United Kingdom	0.068	0.039	1.77	0.0833
HHI	-0.038	0.289	-0.13	0.8970
Market Share	-0.670	0.213	-3.15	0.0027
$R^2 = 0.89$ Number of Observations = 65 Source: As described in the text.				

The coefficient estimates for country-specific binary variables also confirm the findings from the static regression model. They are of the country-specific binary variables. Again, the coefficients were of a lower magnitude and significance than their counterparts in the static model. For example, the coefficient in table 5-17 for Italy is -0.100 and is significant at the 1 percent confidence level, while in the dynamic model in table 5-18 the coefficient is +0.068 and not significant at any standard confidence level. Still, the dynamic model shows that price-cost margins are significantly lower for service to Mexico and the Dominican Republic than for service to Canada and that price-cost margins are significantly higher for service to Japan. This pattern follows that of country-to-country revenue settlement payments—those with Mexico equal 51.3 cents per minute and to the Dominican Republic equal 63.0 cents per minute, both more than twice those to France and Japan (at 24.0 cents and 24.9 cents, respectively). That pattern is as if the first two countries were imposing a tax on the profit margins of the outbound U.S. carriers.<sup>37</sup>

#### CONCLUSION

Competitiveness in price formation where seller concentration is declining is by definition marked by prices and hence profit margins that decline. But any lack of competitiveness also depends on whether the individual carrier can engage in coordinated pricing decisions with other carriers. If carriers are able to set their own prices based on their own demand functions, given that these functions are stable, then price-cost margins have to be above competitive levels. If conditions for coordination develop during periods when there are substantial declines in concentration of shares, then price-cost margins could then increase rather than decline. Margins could even increase substantially as shares change in a fixed sequence. In fact, price-cost margins increased when concentration decreased in the late 1980s, and they increased more rapidly when concentration stabilized or decreased less rapidly in the first half of

37. . Estimates for the conjectural variation parameter  $v$  have been compiled for all MTS and WATS country pair markets for the 1991-94 period. The average estimates are -0.318 for AT&T, 1.427 for MCI and 4.443 for Sprint. While the values for AT&T and Sprint are larger, in absolute terms, the interpretation is the same at this stage of development of the analysis.

the 1990s. This reversal of the structure-performance relationship took place in message toll and all the business service markets nationally. It was more pronounced in California, with a turnaround and sharp increase of margins in the early 1990s resulting in standard plan levels of 75 percent of prices on interstate calls and 55 percent of prices on the shorter distance intrastate calls. Discount plans resulted in margins 5 percent less. While this relationship could not be documented in international outbound markets, because tariff prices are available only for the 1990s, price-cost margins on outbound calls were highest to foreign countries for which service was least concentrated, and for which concentration was declining. Price-cost margins were highest for the longest distance service, and where the charges for terminating calls as set by the receiving country were lower. The construction of price offerings in Commission tariffs by the three large long-distance service providers on calls from New York City was tacitly collusive whether that call terminated in Sacramento or Tokyo.

In the early part of the ten years after divestiture, AT&T set relatively high prices where its shares exceeded 90 percent. It probably earned higher profits by maintaining high prices on services to this large customer base than by reducing them in an effort to slow the erosion of its shares. But by 1990, AT&T's then-reduced shares provided an increased threat of credible price reductions. The importance to AT&T of maintaining prices for existing customers had diminished, while the importance of reducing prices to profit from adding customers had increased. At the same time, MCI and Sprint's larger shares provided more incentive for them to match AT&T's prices, since cuts they would make otherwise left their relatively new but now established customer base less profitable. Thus, emerging coordination provided the basis for each carrier setting higher price-cost margins in long-distance markets in the 1990s.

That price-cost margins increased in all major long-distance service markets confounds propositions about increasing "competitiveness." Changes in regulation—the setting of uniform access charges, and the establishment of price-cap regulation—made regularization of price formation possible in the tariff submissions of the three carriers. The dynamic behavior of margins in the early 1990s provides evidence that the three major carriers were able to establish coordinated strategies over that period in place of competition.

Could this pattern of rising margins have been derived from the process of estimating price-cost margins? Of course all estimates contain

error. But the question is whether prices and costs could be so mis-estimated that the underlying time series of margins was constant rather than increasing. The answer as to prices is that they could not be incorrect to that extent and direction given that they have been taken from company tariffs directly. With respect to marginal costs, the amount of additional mis-specified cost in operations, exclusive of access costs, necessary to correct hypothetical error increases from the specified level of \$0.01 per minute in the period 1987 to 1989 to almost \$0.04 per minute in 1994. The percentage increases in marginal costs caused by adding the "additional charge" would be 40 percent. In order to produce a declining price-cost margin series, the additional costs would have to be even greater. Also, even with the additional costs, the price-cost margin remains constant at approximately 0.57, much higher than in other concentrated industries. In order to reduce the level of the price-cost margin to 0.35 (a value associated with highly concentrated industries), another \$0.06 to \$0.07 per minute would have to be added to the "additional costs," resulting in total "additional costs" of approximately \$0.08 to \$0.10 per minute.

Then could marketing costs, particularly those associated with the widely publicized MTS discount plans, be these costs incorrectly left out of the analysis? They could not, at least analytically, since they are not marginal costs (and are determined by the price-cost margin).<sup>38</sup> AT&T's total marketing expenses have been only one-half the required addition or one-third the amount needed to reduce the price-cost margin to 0.35 (e.g., they were approximately \$0.025 per minute in 1993).

From another point of view, AT&T's total marketing expenses increased by \$0.0026 per minute from 1990 to 1993. But this is less than one-tenth the amount of the increase in additional costs necessary to keep the price-cost margin constant over this period. Price-cost margins have more likely increased.

Thus this analysis has centered on comparisons of changes in market sales concentration with changes in carriers' price-cost margins. For findings of increased competitiveness, margins should have decreased when concentration declined, or when concentration reached and then stabilized at levels below that associated with the presence of second

38. . Robert Dorfman and Peter O. Steiner *Optimal Advertising and Optimal Quality*, AMERICAN ECONOMIC REVIEW 44 (December 1954); 835-36.

or third equal-sized sources of service. But that did not take place in the ten years since industry restructuring—to the contrary, margins have increased, particularly during and after concentration stabilized at these lower levels. Reduced competitiveness has been the result.

## 6

### Prospects for Competition Under Telecommunications Regulatory Reform

**T**HE CHALLENGE THAT has been facing regulators and anti-trust officials for the last decade has been to put into effect policies that will cause competition to emerge in long-distance telephony. Those policies, if successful, would cause profit margins to fall by half or more and largely eliminate the rationale for regulation of long-distance markets. There have been numerous responses to the challenge, the most recent being the Telecommunications Act passed in Congress, that seek to activate the transformation to competitive markets. But none has produced results that measure against a standard for a finding of open and pervasive competition.

The results of the first decade since divestiture imply that direct regulatory management of prices and services does not work. To be effective, new policies would instead focus on entry, principally of the existing operating companies into markets for interLATA long-distance services in their respective regions, and of foreign carriers into outbound U.S. service markets. That entry is precisely what the antitrust decree has outright prevented and what the recent federal legislation would subject to difficult and costly preconditions.

The new policy embodied in the Communications Act of 1996 is found in the centrally featured "checklists" for competitive "safeguards." A Bell operating company's entry into in-region interLATA services is forbidden until the operating company's local loop is deemed competitive against the safeguards checklist by

antitrust and regulatory authorities. The rationale for requiring that precondition is that a Bell operating company, by entering the market for interLATA transport within its region, will leverage its monopoly power in local exchange to gain control of the interLATA market. To adherents of that view, it would not suffice to rely, as antitrust and regulatory policies do in virtually every other product market in the economy, on the threat of antitrust litigation for treble damages to address a resulting injury to competition. Rather, to forestall any such potential injury to competition, the Bell operating company must be prevented from entering the interLATA market before regulators have concluded that there could be no future injury.

What has resulted is regulation's rendition of *Waiting for Godot*. The great wait for competition in long-distance telephony now has to be focused on that being realized first in local telephony. This prolonged process is an unnecessary burden on consumers and a charade. Consumers lose because operating company entry into interLATA markets has a low probability of causing competitive harm and a high probability of producing lower prices. The checklist is a charade because complying is sufficiently complicated to require years of litigation before the Commission and the state public utilities commissions. The ultimate justification comes from the position of these agencies—by checking off operating company performance against the list, they would put themselves out of business. It would be naive to expect regulators to hasten the demise of their own bureaucracies by determining soon that the day had arrived when their oversight should end.

The incumbent interexchange carriers have contributed to the development of this approach. They have opposed the entry of any of the operating companies or their spinoffs into interLATA markets. They fought Ameritech's requests to the antitrust court for a waiver to the divestiture decree that would allow it to enter the interLATA market on a limited basis. And they have impeded AirTouch's efforts to enter the California interLATA market following its divestiture as an independent wireless entity by a Bell operating company.

These carriers have attempted to apply early versions of the checklist. When applying to state public utilities commissions to open local exchange and local toll markets to their entry, they have

demanding resale of the operating companies' local exchange services and unbundled sale of basic service elements, according to pricing principles that imply an operating company subsidy. In short, they thoroughly litigate every step in competitive entry where the result to date has been to delay that entry as long as possible.

How policy changes that generate entry, on a timely schedule, would affect the competitiveness of long-distance markets is the subject of this chapter. The various preconditions for operating company entry into interLATA service now found in the new Telecommunications Act is of central concern. It is now evident that it will be most difficult for that type of company to establish as an evidentiary matter in a regulatory proceeding that it can meet "checklist" conditions in a timely way. The likely focus of the most intense litigation between the operating companies and the interexchange carriers will be on qualifications for passing the checklist. Not being able to pass makes it unlikely that the operating companies will be able to enter so as to establish a semblance of effective competition in interLATA markets before the turn of the century.

#### REGIONAL OPERATING COMPANY ENTRY INTO INTERLATA SERVICE MARKETS

The logic of the antitrust court's ban on the operating companies being able to enter interLATA markets is misguided. Even if one assumes that an operating company has the potential after entry to engage in anticompetitive behavior in long-distance markets, it does not follow that antitrust policy should preempt that entry.

Substantive antitrust policy seeks to (1) prevent anticompetitive conduct that is injurious to consumers, (2) enhance competitive behavior that otherwise is mischaracterized as anticompetitive and therefore injurious to consumers, and (3) hold down costs of litigating claims under any imposed rule. By broadening the definition of what is anticompetitive, policy implementations decrease the extent of competitive behavior in (2) and increase litigation costs in (3). Forestalling behavior that could become anticompetitive, in its "incipiency," has that potential. If the probability of failing to recognize anticompetitive and therefore injurious behavior is small, then antitrust officials should not apply

an incipency standard that prevents a firm from engaging in entry that also enhances competition. The combined benefits of (1) and (2) would be higher from instead penalizing transgressors after the fact.<sup>1</sup> As a respected appellate judge put it, “Especially when the prevalence of the conduct the law seeks to deter is low, simpler rules are preferable.”<sup>2</sup> To that assessment one should add that more *permissive* rules on entry by themselves have merit because they more likely result in the elimination of structures and conditions that offer the potential for anticompetitive practices.<sup>3</sup>

1. See Paul L. Joskow & Alvin K. Klevorick, *A Framework for Analyzing Predatory Pricing Policy*, 89 YALE L.J. 213, 223 (1979); see also J. Gregory Sidak, *Debunking Predatory Innovation*, 83 COLUM. L. REV. 1121, 1144–45 (1983); Frank H. Easterbrook, *Predatory Strategies and Counterstrategies*, 48 U. CHI. L. REV. 263, 318–19 (1981); Richard L. Schmalensee, *On the Use of Economic Models in Antitrust: The ReaLemon Case*, 127 U. PA. L. REV. 994, 1018–19 n.98 (1979).

2. *Northeastern Tel. Co. v. American Tel. & Tel. Co.*, 651 F.2d 76, 88 (2d Cir. 1981) (Kaufman, J.), *cert. denied*, 455 U.S. 943 (1982).

3. William J. Baumol and J. Gregory Sidak have made an analogous argument with respect to the Modification of Final Judgment’s prohibition on Bell operating companies’ entry into manufacturing and with respect to the statutory ban on a telephone company’s providing video programming within its area of local exchange operations:

To maximize social welfare, government policy on entry in telecommunications should aim to minimize the *sum* of welfare losses from predation and from new products forgone, rather than minimizing only the former without regard for the magnitude of the latter. The policy imperative should be to minimize the combined damage attributable to monopoly and regulation, while awaiting the advent of effectively competitive or contestable markets in local telephony.

WILLIAM J. BAUMOL & J. GREGORY SIDAK, *TOWARD COMPETITION IN LOCAL TELEPHONY* 132 (MIT Press & AEI Press 1994) (emphasis in original). “The same argument applies to a Bell operating company’s entry into video programming in the geographic area where it provides telephone service—in contrast to mere common carriage of such programming in its service area, which is not forbidden by regulation or statute.” *Id.* See also Kenneth J. Arrow, Dennis W. Carlton & Hal S. Sider, *The Competitive Effects of Line-of-Business Restrictions in Telecommunications*, 16 MANAGERIAL & DECISION ECON. 301, 305 (1995) (“The goal of public policy in telecommunications should not be simply to minimize potential regulatory problems but instead to maximize net benefits to society.”).

This calculus applies to the ban on operating company entry into interLATA services. The gains from competition in interLATA services could be substantial and there is some probability that such gains will actually accrue. On the other side, the probability of anticompetitive conduct by an operating company in long-distance markets and the magnitude of competitive harm that would result are unknown. In addition, the costs of the regulatory machinery to operate the entry-forestalling system could consume a disproportionate share of any net welfare benefits sought for consumers.<sup>4</sup>

THE "COMPETITIVENESS" BENEFITS FROM OPERATING COMPANY  
ENTRY INTO INTERLATA SERVICE MARKETS

The outbreak of competition from operating company entry is likely for sound analytical reasons. The entrants necessarily would reduce long-distance rates, because doing so would increase their earnings from providing increased access to the other incumbent carriers. David Sibley and Dennis Weisman have demonstrated that a Bell operating company would have an incentive to promote higher volumes of message service because doing so would expand its sale of access to the interexchange carriers.<sup>5</sup> To the extent that the ac-

4. Building on important contributions by William J. Baumol and Robert Bork, two respected experts on predation have incisively observed:

Perhaps one of the most efficient methods for disadvantaging existing and prospective competitors that is available to an incumbent firm is through the strategic use (or abuse) of the political and legal process. Disadvantages inflicted upon the existing rival and the entry barriers created by means of such strategies are frequently more permanent than those that could be generated through more standard means

Janusz A. Ordover & Garth Saloner, *Predation, Monopolization, and Antitrust*, in 1 HANDBOOK OF INDUSTRIAL ORGANIZATION 537, 573 (Richard Schmalensee & Robert D. Willig eds., North-Holland 1989). *See also* ROBERT H. BORK, *THE ANTITRUST PARADOX: A POLICY AT WAR WITH ITSELF* 347-64 (Basic Books 1978; Free Press rev. ed. 1993); William J. Baumol & Janusz A. Ordover, *Use of Antitrust to Subvert Competition*, 28 J.L. & ECON. 247 (1985).

5. David S. Sibley & Dennis L. Weisman, *Competitive Incentives of Vertically Integrated Local Exchange Carriers* (working paper, Aug. 9, 1995)

cess charge exceeded access marginal cost, the operating company would have a compensatory source of earnings to cancel out lower earnings from lower MTS and WATS prices. Thus, *relative to incumbents in a given interLATA market*, the operating company would be willing to accept a lower profit margin on its sale of services. Permitting that carrier to enter would conceivably reduce prices, which would make markets more competitive.

The aggregate monetary value of such lower prices from operating company entry can be estimated using two different methods. The first method uses the historical responses of interexchange carriers to changes in rivals' output strategies to determine how those firms likely would respond to such entry. It is assumed that they would respond to subsequent changes in outputs either in a noncooperative or a cooperative process of interaction. The former assumption does not change incumbent interactions—the established carriers continue to tacitly collude. The latter assumption is conservative in that it produces a low estimate of the gains to consumers because operating company entry does not change the tacitly collusive behavior of all firms. The second method assumes that all carriers act noncooperatively, breaking down the cooperation that existed as a result of operating company entry.

It is important to note first the effects on prices of barriers to entry.<sup>6</sup> An interexchange carrier's investments in a fiber-optic network are largely sunk—the firm cannot recoup those costs if it leaves a market or region of the country. AT&T, MCI, and Sprint have large investments in fiber-optic networks, and their sunk costs create a barrier to new firm entry. Indeed, since the divestiture of AT&T in 1984, no new facilities-based carrier has entered the long-distance market on a nationwide basis, on the scale of Sprint, despite the fact that the size of the market has increased by more than 50 percent.<sup>7</sup>

Even so, the established operating companies are positioned to enter long-distance markets, because they have sunk the required

6. See JEAN TIROLE, *THE THEORY OF INDUSTRIAL ORGANIZATION* ch. 8 (MIT Press 1988).

7. FCC, *STATISTICS OF COMMUNICATIONS COMMON CARRIERS, 1993/1994 EDITION* table 8.7 (reporting the number of intrastate and interstate toll dial equipment minutes).

network costs in facilities that provide in-region local toll services. Allowing them to enter would create an additional facilities-based carrier in each of the seven Bell operating company regions that form a network potentially larger than MCI or Sprint.

The assumption is that allowing such entry would result in the addition of one new national carrier with capacity equivalent to the second largest incumbent carrier. Then what would be the likely competitive result? To answer that question, we must have two additional pieces of information: the likely long-distance market share of the operating company in its region and the price response of existing interexchange carriers to new entry.

Market shares of the operating companies in interLATA long-distance have been estimated in market research studies undertaken in Maryland, Michigan, Florida, as well as other states. Estimates from a California study are used here because of the importance of that market and because of the detailed analysis undertaken of price-cost margins in that state in chapter 5. On the basis of a survey of its residential customers, Pacific Telesis has estimated that its interLATA share after entry would be approximately 34 percent (see table 6-1).<sup>8</sup> Most of that share would come from AT&T, as its share fell from 65 to 46 percent. MCI and Sprint would have similar, albeit smaller, declines in share. The likely ability of Pacific Telesis to gain market share at the expense of existing interexchange carriers follows from its brand-name identification with consumers and its large, established network facilities.

8. This share assumes that interLATA relief is granted at the same time as interexchange carriers obtain equal access (that is, presubscription) for their intraLATA toll services. If presubscription were granted before interLATA relief, Bell operating companies' likely long-distance market shares would decline. See discussion *infra* and Paul W. MacAvoy, Declaration in Support of Pacific Telesis, Dkt. No. I.87-11-033 (Cal. Pub. Util. Comm'n, filed July 31, 1995).

TABLE 6-1 CARRIERS' INTERLATA MARKET SHARES FOR RESIDENTIAL SERVICE (PERCENTAGE)		
	Market Shares Without Entry <sup>1</sup>	Market Shares With Bell Operating Company Entry <sup>2</sup>
Pacific Tel	n/a	34
AT&T	65	46
MCI	18	13
Sprint	13	8

SOURCES:  
<sup>1</sup> CALIFORNIA PUBLIC UTILITIES COMMISSION, COMMISSION ADVISORY AND COMPLIANCE DIVISION, REPORT ON 1991 CALIFORNIA INTEREXCHANGE MARKET MONITORING PLAN, ex. 5 (Dec. 1993).  
<sup>2</sup> Pacific Telesis internal study. For detail please contact the author.

The price responses to entry cannot be known but rather have to be assumed. A first assumption would be that interfirm coordination on pricing would continue—so that there would be no response. But an increase in the number of large, facilities-based competitors in interLATA markets would make the process of establishing tacit collusion more difficult; in fact, not only would a fourth full-scale supplier operate in each local market but in seven regions of the country that supplier would be a different entity. The extent to which the large interexchange carriers could threaten price cuts to punish discounters diminishes as the number of equal-sized alternative carriers increases; the impact of responsive cuts to “cheating” decreases as the number of firms increases.<sup>9</sup> The entry of the operating companies and their ability to capture one-third of interLATA long-distance markets could have a disruptive effect on the pattern of current coordinated price-setting behavior of the three large interexchange carriers.<sup>10</sup>

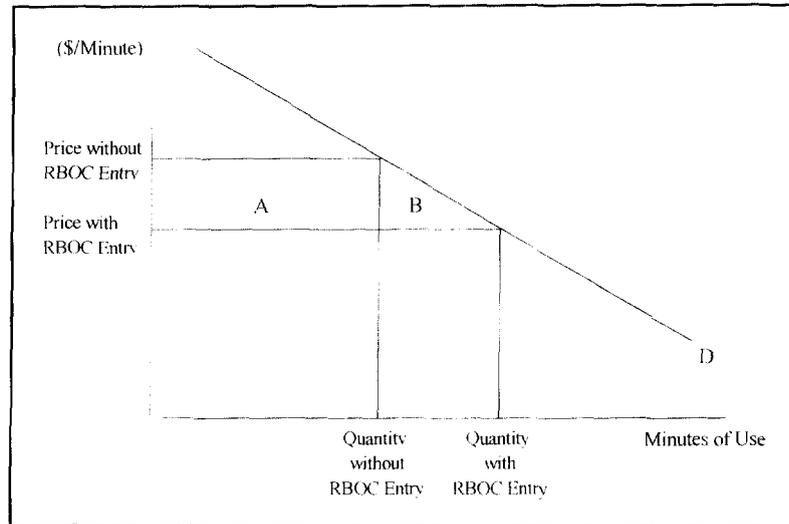
9. Daniel Orr & Paul W. MacAvoy, *Price Strategies to Promote Cartel Stability*, 32 *ECONOMICA* 186 (1965).

10. InterLATA relief would promote competition in intraLATA markets as well because Bell operating companies could offer “one-stop-shopping” for all toll calls on a presubscribed basis. The interexchange carriers would be forced to market their services without a bundling advantage.

The resulting price cuts from granting interLATA entry rights to operating companies likely would be substantial. So would the gains for subscribers in dollars of cost savings. Residential and business customers spent approximately \$61.5 billion on interLATA calls (both intrastate and interstate) in 1993.<sup>11</sup> Because the volume of their business was so large, even small reductions in prices caused by entry of new facilities-based carriers would generate substantial gains to consumers. Their gains would equal (1) the reduced payments required to purchase the existing volume of service and (2) the additional value net of cost derived by consumers who purchase increased levels of service at lower prices. Those two sources appear in figure 6-1, where the rectangle *A* equals the dollar value of reduced payments on the existing level of service and the triangle *B* equals the dollar value of increased purchases. The sum of *A* and *B* is the gain for consumers caused by the price reduction. To estimate areas *A* and *B*, the prices and quantities must be determined before and after the price reduction caused by entry. The interaction process will be examined for continuation of tacit collusion and for a “breakdown” to non-cooperative behavior.

11. FCC, STATISTICS OF COMMUNICATIONS COMMON CARRIERS, 1993/1994 EDITION table 1.4.

FIGURE 6-1  
GAIN IN CONSUMERS' SURPLUS  
RESULTING FROM INTERLATA RELIEF



*Consumer Gains from Entry Assuming That Incumbent Carriers Maintain Tacitly Collusive Pricing*

The gains resulting from operating company entry into the long-distance market can be estimated in a five part procedure. In the first step the entrant's long-distance market share is taken from the survey work conducted by Pacific Telesis. That market share and the predicted shares for the interexchange carriers are shown in table 6-1; they are used to calculate post-entry HHI, given operating company shares region by region. The second step is to use that HHI in conjunction with an assumed demand elasticity of -0.75 and the conjectural variation to estimate post-entry price-cost margins.<sup>12</sup>

12. The formula for calculating the price-cost margin is as follows:

$$L_i = \sum_{i=1}^n s_i L_i = \frac{HHI + \sum_{i=1}^n \lambda_i s_i^2}{e}$$

That post-entry price-cost margin equals 0.49. When the operating company is assumed to act noncooperatively, the post-entry price falls by 47 percent. In contrast, when the operating company is assumed to act collusively, the resulting post-entry price falls by 9 percent. The third step takes that margin resulting from entry by the operating company, and the marginal cost for message toll service, shown in table 5-4 to equal \$0.077 per message minute, to calculate the post-entry price of message toll service.

In the fourth step the percentage decrease in the post-entry price is used in conjunction with the assumed demand elasticity to calculate the increase in demand stimulated by the entry. When the entrant is assumed to act as a noncooperator, the resulting post-entry quantity demanded increases by 6 percent.

In the final step consumers' gain is calculated by using all pre- and post-entry prices and quantities. This gain equals areas *A* and *B* in figure 6-1, as shown in table 6-2.<sup>13</sup>

TABLE 6-2 CONSUMER GAINS FROM OPERATING COMPANY ENTRY ASSUMING AT&T, MCI, AND SPRINT MAINTAIN THEIR TACITLY COLLUSIVE PRICING STRATEGIES	
Entrant Assumed to Act Noncooperatively	Entrant Assumed to Tacitly Cooperate in Pricing
\$24.4 billion annually	\$4.8 billion annually
\$305.6 billion present value	\$59.9 billion present value

where

$L$	=	the industry average price-cost margin
$HHI$	=	the Herfindahl-Hirschman Index
$s$	=	market share
$\lambda$	=	conjectural variation
$e$	=	demand elasticity

See S. MARTIN, *ADVANCED INDUSTRIAL ECONOMICS* (Blackwell 1993) ch 2 at 167.

13. The present value is evaluated in perpetuity with all future, annual consumer benefits discounted at the social rate of discount of 8 percent.

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*Consumer Gains from Entry Assuming that  
All Carriers Set Prices Noncooperatively*

Rather than the interexchange carriers maintaining their historical pricing behavior, in response to entry all carriers could behave noncooperatively. The resulting gains to consumers would equal approximately \$24 billion annually or \$300 billion in present value (see table 6-3).<sup>14</sup> The resulting welfare benefit to consumers closely approximates that, assuming that only the operating companies act noncooperatively. That occurs because the industry-average price-cost margin is weighted by carriers' market shares. Since AT&T and the operating companies account for a combined 80 percent of the market, and their conjectural variations are at or near the noncooperative response, the resulting benefits are the same.

TABLE 6-3 CONSUMER GAINS FROM ENTRY ASSUMING ALL CARRIERS ACT AS COMPETITORS
\$24.1 billion annually or \$300.7 billion present value

Together, those results demonstrate that consumers would reap large gains from entry into the interLATA market. The operating companies are positioned to enter long-distance markets and either set prices independently or totally disrupt the current tacitly collusive price structure. However, those gains would be diminished if current interexchange carriers were allowed to offer intraLATA toll service on an equal-access (that is, presubscribed) basis before the Bell operating companies were allowed to enter the interLATA market.

14. On the basis of that assumption, the welfare gain was derived by using the five-step process described previously

BENEFITS VERSUS COSTS: THE ANTICIPATED  
HARM TO COMPETITION FROM ENTRY INTO  
INTERLATA SERVICE MARKETS

The operating companies' entry into interLATA service markets carries with it the threat of leveraging from a bottleneck facility to fragile competitive markets. The antitrust concern is that the bottleneck's owner, by restricting the availability of local exchange service, can prevent or destroy competition among the incumbent providers of long-distance services; by so doing, the bottleneck's owner is thought to make a second monopoly for itself in long-distance service markets.

The antitrust consent decree reified the belief that it was better to reduce the probability of bottleneck leveraging to zero and thereby prevent any competition from the owner of the bottleneck than it was to allow the bottleneck owner to enter and then observe whether leveraging was sufficient to prosecute that owner for violating the antitrust laws. By adopting a policy that prevented leveraging in its incipiency, the Department improved the appearance of its won-loss record. It could avoid the embarrassment of bringing a case against an operating company if it simply forbade that company to enter the interLATA market.

There is, of course, a net loss to consumers from the Department of Justice's prophylaxis against monopoly leveraging. There would be no price reductions resulting from competitive incursions by the operating companies, from which would be subtracted the costs of a successful leveraging strategy perpetrated on all or some long-distance markets. But such costs are extremely problematical. There appears never to have been a case against a firm that successfully leveraged a second monopoly from a bottleneck facility. Robert Bork dispelled much of the theory of bottleneck monopoly by showing that in most instances two monopolies were not better than one: A firm could get all its market returns from the first monopoly.<sup>15</sup> In long-distance markets an attempt to leverage from a bottleneck in local exchange to a second monopoly in long-distance would not increase profits because the two services

15. BORK, *supra* note 4, at 372-73

are used in fixed proportions—a minute of (bottleneck) local access is necessary to originate a minute of interLATA transport and exchange service. An increase in the operating company's price for access would reduce, in that exact amount, the price that consumers would pay for the rest of the long-distance service. Nothing would be gained from charging a second monopoly price for long-distance.

The Department of Justice sees an exception to this theory of futility. Because the price of the bottleneck facility is regulated, the Bell operating company cannot extract its full monopoly rent in that price. Thus, it has an incentive to leverage around regulation; and if regulation is ineffective in detecting the leveraging, the operating company would have the opportunity to take that rent in higher long-distance prices instead. But market power is not tangible, so that the operating company cannot transfer from local exchange to the interLATA markets. The contrary argument is surprisingly pedestrian for a theory that motivates the Department of Justice's industrial policy for telecommunications: manipulation of cost accounting supposedly enables the operating company to mischaracterize the costs of long-distance service provision as arising from its regulated local exchange and access activities. Those artificially understated costs of long-distance service provision enable the operating company to underprice efficient rivals in interLATA markets. Thus, that company is allowed to price predatorially in the competitive market and pass some or all of its current profit sacrifice on to consumers of the locally regulated bottleneck services in higher cost-determined local exchange rates.

That scenario of cross-subsidy and predatory pricing is not credible for several reasons. First, even the myopic regulator that this theory assumes to exist must be expected to see such an artifice over time. In fact, contrary to such an assumption of regulatory ineptitude, since the divestiture, state and federal regulators have implemented sophisticated cost allocation procedures and have had the opportunity to apply them to a number of unregulated activities that the operating companies have been allowed to undertake. They can detect cross-subsidy and below cost pricing.

Second, the transition from rate-of-return to price-cap regulation has attenuated and perhaps eliminated altogether any hypothetical benefit to the operating company from passing through to regulated businesses the costs incurred in unregulated markets. The

reason is straightforward: price caps on regulated local services in general are not set based on cost of service, so that any surreptitious pass-through of costs is not possible. In practice, some caps have been related to some costs; but as experts on predation have observed, "the spread of price-cap regulation means that if there ever was a possibility of financing losses incurred in predatory pricing in the interLATA market by raising local rates, it is rapidly disappearing."<sup>16</sup> Although not all states have adopted price-cap regulation to date, there is a consistent trend in that direction,<sup>17</sup> to an extent sufficient to render the general argument that there is a regulatory incentive for predation in long-distance incorrect under current conditions.<sup>18</sup>

Third, the existence of seven Bell operating companies (and an eighth local carrier of comparable size, GTE) enables regulators to "benchmark" the costs of any given Bell operating company for purposes of detecting cost misallocation.<sup>19</sup> In each of seven regions of the country, the three major interexchange carriers would face an operating company as a facilities-based competitor. In any given region, the interexchange carriers would be able to compare the operating company's costs of providing local telephony with the costs for the same services in six other regions. The interexchange carriers could therefore watch for aberrant cost levels in local telephony that would be consistent with subsidization costs of the operating company's interLATA services.

Fourth, the actual experience of the operating companies in markets outside local exchange does not support the conclusion that cost misallocation and predation have resulted. For example, Jerry

16. Susan Gates, Paul Milgrom & John Roberts, *Detering Predation in Telecommunications: Are Line-of-business Restraints Needed?*, 16 *MANAGERIAL & DECISION ECON.* 427, 435 (1995).

17. See DAVID E. M. SAPPINGTON & DENNIS WEISMAN, *DESIGNING INCENTIVE REGULATION IN THE TELECOMMUNICATIONS INDUSTRY* (MIT Press & AEI Press forthcoming 1996).

18. Moreover, the 1995 proposed federal bills for "reform" would abolish rate-of-return regulation. See H.R. 1555, 104th Cong., 1st Sess. (1995) (proposed 47 U.S.C. § 248(b)); S. 652, § 301(A)(3), 104th Cong., 1st Sess. (1995).

19. Paul S. Brandon & Richard L. Schmalensee, *The Benefits of Releasing the Bell Companies from the Interexchange Restrictions*, 16 *MANAGERIAL & DECISION ECON.* 349, 357 (1995).

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Hausman has noted, "No claims have been brought against a BOC that it has cross-subsidized its intraLATA long-distance service."<sup>20</sup> Similarly, econometric analysis by Richard Higgins supports the conclusion that anticompetitive cross-subsidization did not occur after Bell operating companies were allowed to provide limited "corridor" interLATA service around New York City and Philadelphia, nor have the seven Bell operating companies resorted to cross-subsidization to reduce competition in the markets for cellular telephony, paging, pay telephones, customer premises equipment, or videotext gateway services.<sup>21</sup> Similarly, GTE's supply of interexchange service did not result in cross-subsidization or exclusionary conduct even though the company was simultaneously a local exchange carrier.<sup>22</sup>

Fifth, a campaign of predatory pricing in the interLATA market could not produce a monopoly. Even if a Bell operating company could bankrupt one or more of the three major interexchange carriers, that carrier's fiber optic capacity would remain intact for another firm to purchase. Given the long useful life of optical fiber, any network "darkened" by hypothetical predation would be relit by a new entrant if the predator were to attempt to recoup profits lost in predation by raising prices after the bankruptcy.<sup>23</sup>

Finally, the fulcrum on which the Bell operating company's lever must operate—a monopoly in local access and transport—is evidently declining. Local entry has occurred most noticeably in those services that make positive contributions to margin, such as interstate access and intraLATA toll. Comprehensive entry of these carriers has been understandably much slower into services that make negative contributions to margin, as is the case in rural mar-

20. Jerry A. Hausman, *Competition in Long-Distance and Telecommunications Equipment Markets: Effects of the MFJ*, 16 *MANAGERIAL & DECISION ECON.* 365, 373-74 (1995).

21. Affidavit of Richard S. Higgins, Motion of Bell Atlantic Corporation, BellSouth Corporation, NYNEX Corporation, and Southwestern Bell Corporation to Vacate the Decree, *United States v. Western Elec. Co.*, No. 82-0192 (filed D.D.C. July 6, 1994).

22. *Id.* See also MICHAEL K. KELLOGG, JOHN THORNE & PETER W. HUBER, *FEDERAL TELECOMMUNICATIONS LAW* 420-21 (Little, Brown & Co. 1992).

23. Gates, Milgrom & Roberts, *supra* note 21, at 435