long-distance prices. Where customers must buy their local service from the historical phone company, they will choose between the bundled price offered by the local carrier and the sum of the unbundled local price plus the price charged by an independent long-distance carrier. As a result, setting a high unbundled price for local service permits the local carrier to set a high bundled price that cannot be competed down by independent long-distance carriers.

### 2. Efficiencies in Marketing to Low-Volume Long-Distance Customers

79. The Bells have frequently argued that they have a comparative advantage in marketing to low-volume users of long distance.[3] In principle, this efficiency could arise independently of one-stop shopping. Specialists from the local phone company could market the unbundled services of a long-distance affiliate, applying expertise learned from local experience. Recognition of the local carrier's brand name is a factor identified by some commentators. However, these efficiencies will not be fully attainable as long as a separate subsidiary for long distance is required.

### 3. Artificial Efficiency from the Act's Provisions on Local Toll

80. An unfortunate provision of the Telecommunications Act results in a completely artificial efficiency associated with permitting a local carrier to control a long-distance subsidiary. When that permission is given, but not before, regulators may compel the local carrier to offer presubscription with dialing parity to independent local toll carriers. It is a telling example of the adverse effect of vertical integration on cooperation that no Bell has chosen voluntarily to allow its customers to presubscribe to rival local toll carriers. Where service is not presubscribed, the competitive service is very inconvenient, although it is usually considerably cheaper than the incumbent Bell's service. The appropriate policy today is to grant immediate presubscription and dialing parity in those states where this move was delayed by the Act. Unfortunately, this would require an amendment to the Act.

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[3] *See, e.g., Affidavit of Alfred E. Kahn and Timothy J. Tardiff on Behalf of SBC*, filed in CC Docket No. 97-121, ¶ 27, April 14, 1997.

### 4. Conclusions on Efficiencies from Control of a Long-Distance Subsidiary

81. I find no significant evidence that there are important efficiencies from a local carrier's control of a long-distance subsidiary. The conclusion that there were no important efficiencies was an important part of the logic of the splitting of the old Bell system into the local carriers and AT&T. There is no basis to conclude that the situation has changed.

## D. Why a Separate Long-Distance Subsidiary?

82. The Act requires that the long-distance affiliate controlled by the local carrier be organized as a separate subsidiary. I believe that the effects of this requirement are generally agreed by economists to be as follows: (1) The segregation of cost information may have some value in preventing cost shifting, where costs of the unregulated long-distance operation are mis-reported as arising from regulated local operations, although such measures have not proved effective in the past. (2) It is unrealistic to expect that a parent will fail to consider its wholly-owned subsidiary's interests. In particular, the local carrier will consider the benefits that its long-distance subsidiary will receive if it withdraws cooperation from the subsidiary's rivals. (3) It is equally unrealistic to expect that a wholly-owned subsidiary will act other than in accord with its owner's interests. The long-distance affiliate of a local carrier will consider the effects of its actions on the consolidated profits of the integrated entity. Thus, the long-distance affiliate will consider the lost access profits of its parent when it takes business away from a rival. Even if the affiliate pays its parents the regulated access charge for the calls it carries, the affiliate will act as if its cost were actual access cost plus the opportunity cost associated with the lost access profit.

## E. The Likely Role of the Bells in Long Distance: Evidence from Local Toll Markets

83. Recently, telephone policy has overcome the Bells' stiff resistance to competition in local (intraLATA) toll markets in some of their territories. To the consumer's benefit, these Bells face competition from the four major long-distance carriers and from a number of smaller carriers in local toll markets. Though their experts create the impression that the companies would bid the price down in the long-distance market and reduce price differences between

large and small users, nothing in Bell pricing in local toll markets to date supports the proposition that they will be low-price sellers.

84. For example, BellSouth's customers in South Carolina pay a flat rate of 33 cents per minute for local toll calls. A discount of 30 percent lowers this to 23.2 cents per minute for bills over $10 per month. By contrast, AT&T's basic rate is 26 cents per minute and its One Rate Plus is 10 cents. The MCI One price is 12 cents per minute. BellSouth is plainly at the very top in pricing. Ameritech's Michigan customers pay a flat rate of 15 cents per minute for local toll calls. For higher volume customers, Ameritech offers Call Pack 20 service that lowers the price of local toll calls to 12 cents per minute but has a minimum spending level of $5 per month (one hour of call time) specifically for local toll calls. Again, much better rates are available from other carriers.

85. As these rates show, the Bells such as BellSouth and Ameritech are high-price sellers in the local toll market. MCI, Sprint, and WorldCom all provide local rates comparable to their long-distance rates of 10 to 15 cents per minute.

86. Based on this evidence, it appears likely that the Bells would be at the upper end of the price distribution were they to offer long-distance service. Unlike the more aggressive long-distance carriers, the Bells would rely on methods other than the offering of low prices to attract customers.

87. Later, in section F of Part IV, I discuss the evidence that pricing patterns for toll calls reflect cost differences between low and high-volume customers and are not an artifact of market power. Based on the Bells' pricing plans in their local toll markets, there is every reason to expect that the Bells would adopt pricing plans that reflect the lower costs of serving higher-volume customers by promoting low-price plans selectively to these customers.

88. Both Ameritech's behavior in local toll markets and SNET's behavior regarding local tolls after it began to sell long-distance services (reviewed in the following section), tell the same story: When incumbent local carriers compete with independent toll carriers, the local carriers position themselves toward the top of the distribution of rates. They do not offer telephone customers choices superior to those available from the independent carriers. The opening of local toll markets to competition has been beneficial because it has brought in low-price sellers, and will be even more beneficial if determined interference by local carriers can be overcome. On the other hand, the addition of high-price local

carriers to the existing competitive long-distance market will not add to consumer welfare.

## F. Lessons from Experience in Connecticut

89. The local telephone company serving Connecticut, Southern New England Telephone (SNET), began selling long-distance services in 1994. At the same time, the local toll market was opened to competition. Experience since then is helpful in understanding what happens when an upstream monopolist begins to compete in a downstream market. As yet, failure to determine wholesale rates for the local network has blocked meaningful local competition—SNET has retained a near-monopoly in providing local service including access.

90. SNET has a huge competitive advantage in the Connecticut market for interstate long-distance calls because the Telecommunications Act prohibits responses by its national rivals that apply only to Connecticut. The national long-distance carriers would have to lower their prices nationally in order to respond to SNET's pricing. SNET has done little to take advantage of this perverse feature of the law. SNET's interstate rates are 23 cents per minute during the day and 13 cents at night, with small discounts for high volumes. By contrast, the MCI One interstate rate is 12 cents per minute at all times, for calls in excess of $25 per month, and 15 cents per minute for calls less than $25 per month. The AT&T One Rate and Sprint Sense Day Plan, completely unrestricted plans with no fixed charges and no minimum purchases, cost 15 cents per minute. Lower rates are also available, including AT&T's One Rate Plus rate of 10 cents per minute. The Connecticut long-distance customer has gained no meaningful advantage from SNET's control of a long-distance subsidiary in the market.

91. SNET is also the high-price seller in the local toll market. In this respect it is no different from the other local telephone companies, such as BellSouth and Ameritech, who have placed themselves toward the top of the distribution of prices in local toll markets, as these markets have been opened to competition. If you subscribe to SNET's intraLATA service, you pay 18 cents per minute during the day and 10 cents at night and on the weekend. It is an astonishing fact that I, a part-time resident of Connecticut, pay half again as much per minute to call from New Haven to Killingworth using SNET as I pay to call to California. By contrast, AT&T's local toll rate in Connecticut is 5 cents per minute for One Rate

and One Rate Plus, MCI's is 10 cents per minute, and Sprint's is 10 cents per minute off-peak and 15 cents during peak hours.

92. SNET's responses to becoming a rival of the long-distance carriers are in line with the analysis presented earlier in this declaration. Previously, SNET was a supplier to the long-distance carriers—it enjoyed its position as the monopoly seller of access services at high prices. SNET cooperated voluntarily with the long-distance carriers. For example, SNET had a contract with AT&T to bill AT&T's customers on their local phone bills. SNET terminated this cooperation when AT&T became a rival. In addition, SNET has prevented the long-distance carriers (with the exception of SNET's long-distance supplier, Sprint) from offering presubscription for local toll. MCI's customers must remember to dial 10222 in order to take advantage of MCI's low prices for local toll calls. Although the Act prohibits regulators from compelling local toll presubscription where it did not exist in early 1996, SNET would offer it voluntarily if it were not a rival in the local toll market.

93. The main change that has occurred in Connecticut from the perspective of typical telephone customers is that some of them have lost the convenience of receiving a single phone bill for local and AT&T long-distance service. There have been no meaningful benefits in the form of reduced prices. Nothing in the experience in Connecticut supports the extension of the policy of permitting a local telephone company to enter the long-distance market while the company still dominates the access market. If substantial local competition develops in Connecticut, most of the harm associated with SNET's withdrawal of cooperation will be ameliorated.

94. BellSouth's brief in this matter (pp. 78-84) suggests that its pricing, should it be permitted to create a long-distance subsidiary, would be similar to SNET's—a bit below AT&T's standard rates but far above the much more attractive low rates available from many carriers including AT&T.

## G. The Regulated Price of Access

95. A significant aspect of regulation, important for the issues surrounding a Bell application to enter long distance, is the regulated price of access. Most observers agree that access is priced well above cost, and will remain so, despite

the FCC's recent lowering of the charges.[4] The encouragement of effective local competition is the best hope in the longer run for achieving efficient access charges close to the level of economic cost. In the meantime, elevation of access charges distorts telephone markets in important ways.

96. One important inefficiency is the redundant provision of access to some business customers. It is inefficient for both the incumbent local carrier and a rival to provide access circuits to these customers if the result is underutilized circuits. To the extent that any customers are switching from wired access to wireless access, such as satellite or cellular access at stationary locations, an even greater inefficiency arises because wireless is substantially more expensive.

97. The overpricing of access would become a more acute policy issue if dominant local carriers were allowed to control long-distance subsidiaries. Because the vertically integrated carrier incurs the actual cost of access, whereas its long-distance rivals pay the substantially higher access charge, overpricing of access creates a cost advantage for the local carrier. Although the local carrier also incurs an opportunity cost if it takes long-distance business away from one of its access customers, this effect does not fully offset the cost advantage. Under efficient competition, with access priced not too far above cost, the existing long-distance carriers would sell more services at lower prices. Overpriced access means that the local carriers will capture a larger share of the long-distance market than they would capture under efficient competition.

98. Although it is true that the cost advantage of the dominant local carrier may reduce the price of long-distance service, this effect should not be considered as a benefit flowing from the carrier's entry into long distance. It is purely an artifact of the overpricing of access services. After entry, the price of long-distance service would remain higher, and the quantity sold lower, than in the efficient case with properly priced access and structural separation of local and long-distance. Moreover, the evidence from SNET's entry in Connecticut suggests that there will not be a price decline at all.

99. A local carrier has no special incentive to take long-distance business away from an independent carrier who is an access customer of the local carrier,

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[4] Federal Communications Commission, *First Report and Order in the Matter of Access Charge Reform*, May 16, 1997.

because the foregone access charge becomes an opportunity cost. But the local carrier does have a special incentive to take business away from a long-distance carrier who is using other forms of access, whenever the local carrier's actual access cost is less than the price of access set by the alternative access provider. As local competition develops, this factor may lead to more rapid expansion of the incumbent local carriers' long-distance affiliates than one would expect for an entrant lacking this artificial incentive. The corresponding effect on independent long-distance carriers would be larger—more of them would be driven out of the market or would fail to enter.

100. An important implication of this analysis is that the substantial share of the long-distance market achieved by local carriers, such as SNET, who have recently begun to control long-distance subsidiaries, is no indication of efficiencies or other fundamental sources of consumer benefits. The likelihood that a Bell will achieve 20 or 25 percent of the long-distance market should it be allowed to control a carrier in that market is no indicator of social benefits.

## H. Formal Analysis of Vertical Integration and Cooperation

101. As I have stressed earlier, a Bell's application for permission to control a long-distance subsidiary raises issues about vertical integration that arise in many contexts. A number of economists have studied the question of whether a monopoly seller of access has an incentive to cooperate with its rivals in the downstream long-distance market. A simple framework is the following: Would an access supplier voluntarily pass on cost-reducing information that would benefit its rivals in the long-distance market? That is, would providing the information raise the profit of the vertically integrated access supplier? A fair reading of this literature is that the answer is unambiguously no. *No author has found circumstances where rational conduct by the access supplier would cause it to help its downstream rivals.* Formal economic analysis speaks with one voice that, once the access supplier competes in the downstream long-distance market, it will try to interfere with its rivals in that market. It would lower, not raise, its profit, if it cooperated voluntarily. This conclusion follows whether or not the access price is regulated, whether or not the regulated access price is at or above cost, and whether or not the access supplier sells long distance through a separate subsidiary that maximizes its own profit.

102. The reasoning behind the result that cooperation cannot be expected from a rival is straightforward. In every model of the interaction of firms in a market, a firm benefits by raising its rivals' costs. The result of the increased costs of rivals will be a combination of a higher market price and greater volume sold by the one seller whose costs do not rise. Both of these effects unambiguously add to that seller's profit. Placing the problem in the context of the presence of a vertically integrated access supplier in the long-distance market does not change the analysis. For example, suppose that the independent long-distance carriers behave competitively, supplying indefinitely large volumes of service if the price is at or above their cost, and nothing otherwise. Suppose further that the regulated price of access is above the cost of access but below the unregulated monopoly price. Finally, suppose that the access supplier can raise the costs of the independent long-distance carriers by withdrawing cooperation. If the supplier chooses to cooperate, its profit is limited to its regulated access margin, because competition guarantees that the price is equal to the cost of long-distance service including the regulated access charge. Thus the access supplier makes a profit on all access (including that supplied to its own subsidiary) to the extent that the regulated price of access is above cost and no long-distance supplier makes any profit. Now let the access supplier raise its rivals' costs. The access supplier can capture the entire long-distance market by pricing slightly below its rivals' cost level. It becomes a monopolist in the long-distance market. As it raises its rivals' costs further, it achieves the monopoly level of profit for the long-distance market. As long as the regulated level of the access charge does not already deliver the monopoly profit (which it surely does not, in reality), then the access supplier has an unambiguous incentive to raise the level of the price ceiling provided by the competitive long-distance industry.

103. Although my example is based on competition among the independent long-distance carriers, the same result applies if long-distance is modeled as an oligopoly, even one with much more market power and profit than suggested by the data reviewed later in this declaration. A recent paper by David Sibley and Dennis Weisman considers a standard oligopoly model, the Cournot model.[5]

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[5] David S. Sibley and Dennis L. Weisman, "Raising Rivals' Costs: The Entry of an Upstream Monopolist into Downstream Markets," Kansas State University, March 1997. An earlier paper by the same authors, "Competitive Incentives of Vertically Integrated Local Exchange Carriers," November 1995, may have created the impression that a monopolist in the access

They demonstrate that the monopoly seller of access has an unambiguous incentive to withdraw cooperation from the downstream long-distance carriers and thus to raise their costs.[6]

104. Sibley and Weisman also consider the possibility that the long-distance affiliate of the monopoly seller of access is sufficiently isolated from its parent so that the affiliate maximizes its own long-distance profits and does not consider the effects that its activities have on the upstream access business of its parent. The affiliate pays the same regulated access charge paid by the independent long-distance carriers. In this case as well, under reasonable conditions, the monopoly seller of access has an incentive to withdraw cooperation and raise the costs of the independent long-distance sellers.[7]

105. In their analysis of the isolated subsidiary, Sibley and Weisman suggest that it is possible, under certain conditions that I find quite unreasonable, that the access supplier would choose not to withdraw cooperation when its long-distance affiliate has a small share of the long-distance market. In their numerical example, a share lower than about 13 percent means that the access supplier that withdraws cooperation loses more access profit from its independent long-distance customers than it gains in profit from its long-distance subsidiary. There are three reasons why this result should not be taken seriously: (1) It is completely unrealistic and contrary to basic principles of economics to expect the managers of the long-distance affiliate to ignore the benefits that expansion of their output conveys upon the parent. The affiliate should expand to the point where the combined profit of parent and affiliate is maximal. As noted above, when the affiliate behaves in this rational way, the parent has an unambiguous incentive to withdraw cooperation. (2) The result applies only for very low market shares for the affiliate in long distance. Most projections for the market shares of major local carriers in long distance are well above 13 percent. (3) Sibley and Weisman only consider tiny increases in costs

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market may choose not to raise its rivals' costs under some circumstances, but I believe that the March 1997 paper states the authors' current beliefs about how to analyze this issue.

[6] "Raising Rivals' Costs," p. 11, Theorem R4.

[7] *Ibid.*, pp. 15 and 16.

induced by the withdrawal of cooperation.[8] The access supplier *always* has an incentive to impose larger cost increases on its long-distance rivals.

106. Sibley and Weisman suggest that there is a possibility that the access supplier will not have an incentive to withdraw cooperation during the transition period before its long-distance affiliate achieves its equilibrium market share. They consider what they call the conditional equilibrium of their model, where they arbitrarily set the sales of the affiliate below the level predicted by the model.[9] Their approach here has no grounding in the received theory of oligopoly. The model is meaningless without adding elements that explain why the long-distance affiliate is less successful than the model predicts. It is reasonable to suppose that costs of rapid expansion limit the affiliate's market share in the early years. Nicholas Economides has shown that the access seller has an incentive to withdraw cooperation even when its long-distance affiliate has a cost disadvantage.[10] Thus, Sibley and Weisman are reasonable in suggesting that it will take time for the access seller to reach its long-run equilibrium share, but they are incorrect in suggesting that the access seller will continue to cooperate with its long-distance rivals during the transition period. In a full analysis, the long-distance subsidiary would face an adjustment cost that explained why its market share did not rise immediately to its longer-run equilibrium. That is, in the period immediately after entry, the subsidiary would have the cost disadvantage considered in Economides's analysis. As he shows, the access seller would have an unambiguous incentive to withdraw cooperation from the moment its subsidiary entered the long-distance business.

107. Sibley and Weisman responded to these criticisms recently.[11] First, they propose that principal-agent theory provides a way to make a subsidiary behave in ways contrary to the interests of the parent. They suggest that this may

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[8] In technical terms, Sibley and Weisman take the derivative with respect to the cost increase at the point where the cost increase is zero. In fact, the combined profit becomes an increasing function of the cost increase for relatively small cost increases—the region where the derivative is negative is very small.

[9] *Ibid.*, pp. 9-13.

[10] "The Incentive for Non-Price Discrimination by an Input Monopolist," Stern School of Business, New York University, January 1997, revised April 1997.

[11] *Affidavit of David S. Sibley and Dennis L. Weisman on Behalf of SBC*, filed in CC Docket No. 97-121, May 17, 1997.

happen spontaneously, because the parent is unable to provide incentives that make the subsidiary behave in the parent's interest. Their discussion is purely by way of example and conjecture—they mention that managers of subsidiaries may maximize profits in order to obtain better jobs in other firms. But there is no evidence that shareholders are being deprived of value by this type of conduct in any quantitatively important way and plenty of evidence overall that firms are operated in their shareholders' interest. In any case, as I pointed out above, even when the subsidiary maximizes its own profit, two other extreme assumptions are needed to eliminate the incentive for the local phone company to withdraw cooperation from its long-distance rivals: a small long-distance share and a small potential cost increase.

108. Sibley and Weisman concede that it is possible that the market share of the local phone company's long-distance affiliate may rise into the region where they find that the company has an incentive to withdraw cooperation. They suggest that the company will cooperate with its rivals until its long-distance market share reaches the critical point. Since the evidence from Connecticut suggests that the critical point will be passed quickly, this point has little importance.

109. As I discussed earlier, a proper application of the Cournot model—one that recognizes that costs of adjustment limit the new seller's market share at the outset—would show that the parent always has an incentive to withdraw cooperation from the rivals of its long-distance subsidiary. Sibley and Weisman suggest that the appropriate way to model the transition is the gradual release of a capacity constraint, in which case the model would give their result. But the idea of a capacity constraint is silly, given that the Bells plan to offer long distance by using the facilities of large established carriers. In reality, the proper model is one where the Bell faces a temporarily higher cost, but still has a fairly flat marginal cost schedule, precisely the case considered by Economides.

110. Sibley and Weisman do not even comment on my point that their focus on infinitesimal increases in rivals' costs masks the fact that the parent local carrier would always choose to impose large cost increases on its long-distance rivals. It remains my conclusion that under all reasonable assumptions, analyses of the type they have conducted agree that it is invariably in the parent's interest to withdraw cooperation from long-distance rivals.

## I. Analyses of the Consequences of Vertical Integration

111. A number of authors have developed formal models to evaluate the effects on social welfare of vertical integration by an access supplier into long distance. Welfare gains can come from two sources. One is the increase in competition that could occur from the addition of another long-distance seller. The other is the effect of adding a long-distance seller that does not pay high access charges but instead pays the actual cost of access.

112. Professors Sibley and Weisman consider the first source.[12] They assume that, prior to entry by the access supplier, there is market power in long distance and price is above cost. Specifically, there is a single monopoly long-distance carrier. When the local carrier enters, the long-distance market becomes perfectly competitive, price falls to marginal cost (including the access fee), and quantity increases, improving consumer welfare. Because entry of the access supplier triggers a move to perfect competition, where no seller earns any profit, the entire motivation for entry by the access seller is the increased volume of access that results from the reduction in the long-distance price.

113. Sibley and Weisman's result turns on a critical assumption. Prior to entry, long distance is a monopoly; after entry, long distance is perfectly competitive. As I will show in the next Part of this declaration, long distance has become substantially competitive today without significant control of long-distance by access suppliers. Apart from cost issues, there is no reason to expect that the presence of access suppliers in the long-distance market would result in lower prices. As I note elsewhere in this declaration, in those instances such as local toll and Connecticut long-distance, access suppliers are invariably high-price sellers of long-distance services.

114. One important issue, considered in the previous section and earlier in this declaration, is the ability of the access supplier to impose cost increases on its long-distance rivals by withdrawing cooperation. Given that long-distance entry by access suppliers is unlikely to affect the price of long distance at all except for cost effects, and the incentive for the access supplier to withdraw cooperation and raise costs, the balance tilts decisively in favor of the existing principle of

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[12] Sibley and Weisman, "Competitive Incentives," Sections II and III.

structural separation of access supply and long distance, under current conditions.

## J. Cost Shifting from Unregulated to Regulated Businesses

115. The regulation of a partially regulated, partially unregulated firm is a challenge. The firm has an incentive to report costs of its unregulated activities as if they were costs of regulated ones, if regulation has any tendency to reimburse those costs. Two inefficiencies flow from cost shifting of this type: First, the overpricing of regulated local service results in a loss of consumer welfare. Second, if the local carrier faces less than the full social cost of the inputs it uses in long distance, it will use excess inputs. Cost shifting always results in a net loss of social welfare, even if it depresses the price of long distance. In recognition of this problem, the Telecommunications Act requires the local carrier initially to sell long-distance services through a separate subsidiary.

116. When a local carrier uses resources from its local services to provide long-distance services, it has shifted the costs to the disadvantage of the telephone user. Because regulation in almost all areas amounts to at least partial reimbursement of costs, the effect of cost shifting is to subsidize resources for long distance. This remains true even if decision-making is completely integrated between the local and long-distance parts of the local carrier and strictly serves the shareholders' interests. This ability to shift long-distance costs to its local services means a local carrier could remain as a seller in a long-distance market even if it has higher true costs than its rivals. It is economically inefficient for the local carrier to provide output at high cost when the same output could be provided at a lower cost by another long-distance provider.

117. The incumbent local carriers frequently argue that cost shifting is irrelevant to the modern telephone industry because of price caps.[13] I believe, on the contrary, that cost shifting continues to be a potential source of economic inefficiency and that the proper goal of regulation of the industry should be economic efficiency in the sense of net consumer welfare. On balance, consumers

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[13] *See, e.g., Joint Affidavit of Richard J. Gilbert and John C. Panzar on Behalf of Ameritech Michigan*, filed in CC Docket No. 97-137, at 31-32, April 28, 1997.

will be worse off, and telecommunications markets will be less efficient, if the local carrier shifts substantial costs from long-distance services to regulated activities.

118. I think the conclusion that price-cap regulation eliminates the threat of cost shifting fails to deal with the reality of regulation. Under price-cap regulation of local service rates, regulators must still determine the level of the cap by reference to some cost standard. The incentive for cost shifting remains unless regulators obtain price caps from sources entirely unrelated to the actual costs or profits of the telephone companies they regulate. Even if the regulators set the initial price cap without reference to actual cost, the local carriers still have an incentive to shift costs because regulators are likely to respond to unexpectedly low or high profits in regulated service by raising or lowering the price cap or ending the price cap regulation altogether.

119. The incentive for cost shifting remains unless regulators can regulate prices without reference to the actual costs or profits of the telephone companies they regulate. Under regulation based in any way on cost, even with a long lag, the local carrier has an unambiguous incentive to shift costs because regulators will respond to changes in profits in regulated service by raising or lowering prices.

## IV. Competition and Performance in Long Distance

120. Proponents of a policy permitting local telephone companies to control long-distance subsidiaries in their own regions have suggested that the addition of a new carrier would break down high uncompetitive long-distance pricing in the market. In this Part of the declaration, I examine the potential benefits to competition in long distance from control of sellers by local telephone companies. How strong is existing competition? Would the addition of another significant long-distance carrier deliver benefits to the long-distance consumer, putting aside the harm that would be caused if a local phone company controlled the new long-distance carrier?

121. I have carried out a study of competition in the long-distance market using standard economic analysis. I find that the long-distance industry is substantially competitive. The industry's performance has been exceptional since

divestiture in 1984—long-distance carriers have delivered steady improvements in service at continually declining prices.

122. The long-distance market in the United States is served by four larger carriers—AT&T, WorldCom, MCI, and Sprint—together with numerous others who offer services on partial national networks, facilities leased from other owners, or who resell services purchased in bulk from other carriers.[14] In my opinion, the evidence shows strongly that these carriers compete rather than collude. The result of this competition has been benefits to the consumer in the form of substantial reductions in the price of long-distance service as well as numerous technical improvements and the development of new services.

123. The primary evidence in favor of the hypothesis of strong competition and superior performance is the behavior of prices in the long-distance market. Proper measures of price—ones that take appropriate account of the shift toward highly favorable bargain pricing plans—show huge reductions in prices. They also suggest that competition has brought the price of long distance close to the level of cost. The structure of the industry is conducive to strong competition. There are no important barriers to entry. Because there are fluid markets for basic long-distance capacity, entry can take many different forms.

## A. Performance of the Long-Distance Industry

124. Increasing competition in the long-distance industry has delivered important benefits to the American economy. Traditionally, long-distance service was available only from AT&T. Regulation prevented other companies from offering long-distance service. During the 1960s and the 1970s, MCI waged a successful battle to obtain the right to offer service in competition with AT&T, but there was still little rivalry in the industry by the early 1980s.

125. Divestiture in 1984 started the transition to competition in long distance. The mid-1980s saw an explosion of service by long-distance carriers other than AT&T. During this time, MCI and Sprint expanded nationwide networks and gained acceptance as alternatives to AT&T. Divestiture was successful at

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[14] At this writing, WorldCom and GTE have made proposals to acquire MCI. I have not analyzed the potential effects of either acquisition.

stimulating major new investments with corresponding increases in market shares by new entrants to the long-distance market.

## B. Prices for Long Distance

126. The public has gained substantially from this structural transformation of the long-distance industry. The primary indicator of these gains is the sharply declining price of long-distance service. Prior to the introduction of competition in long distance, the price was stable in relation to prices in general. With the advent of competition, particularly with the divestiture of long-distance services from local telephone companies at the beginning of 1984, and the provision of equal access to competing long-distance carriers, the price of long-distance service fell precipitously.

127. In my opinion, the best available way to measure the price of long distance is by revenue per minute, the ratio of toll call revenue (billed by the minute) to the number of billed minutes. Although revenue per minute is not a perfect measure of the price of long distance, it is the best available measure.[15] Figure 1 shows revenue per minute for AT&T, MCI, and Sprint, stated in 1996 dollars, adjusted by the GDP deflator. To avoid mix effects, these calculations exclude international calls. Figure 1 shows that revenue per minute has declined substantially and that the declines are continuing to occur.

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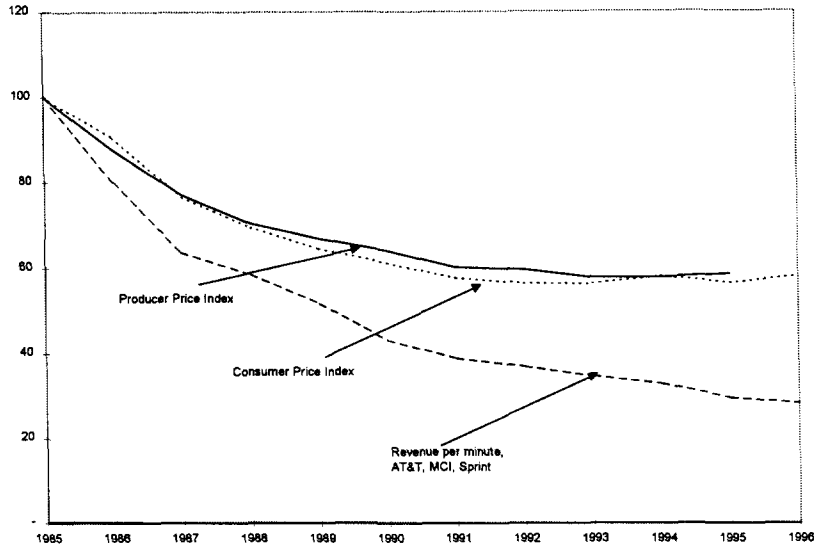
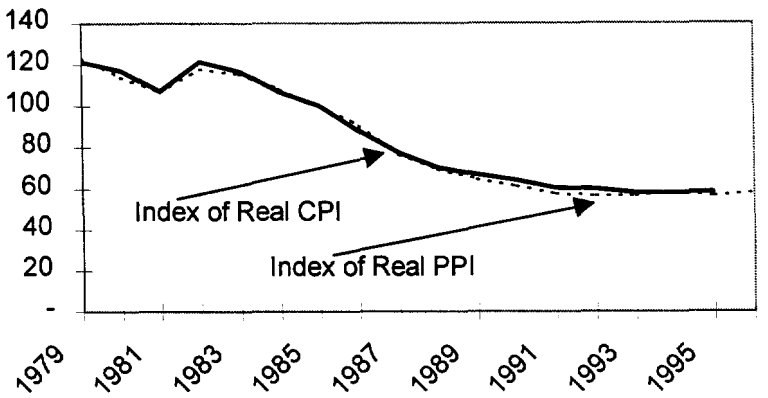
[15] One of the potential problems in revenue per minute as a measure of prices is mix effects—revenue per minute could rise even though each type of call was cheaper per minute because customers were making a larger fraction of expensive calls, such as credit-card calls. I looked at confidential MCI data by detailed product category to determine that mix effects are a minor influence on MCI's revenue per minute; essentially all the decline comes from lower prices for calls and none from changes in the mix of calls. It is entirely reasonable to conclude that mix effects are also a minor influence on revenue per minute industry-wide.

Figure 1. Index of Revenue per Minute, Relative to the General Price Level




128. Over the period from the late 1970s to the present, only the price indices compiled by the U.S. government are available as consistent measures of prices. Figure 2 shows the history of the price of long-distance services as measured by the official price indices of the U.S. government. The indices are, first, the component of the Consumer Price Index (CPI) for interstate toll calls and, second, the component of the Producer Price Index (PPI) for interstate message toll service. Both indices exclude international calls. Figure 1 presents them as ratios to a general price index, the implicit deflator for Gross Domestic Product (GDP).

Figure 2. Government Indices of Long-Distance Prices Relative to the General Price Level




129. The decline in the CPI measure, relative to the GDP deflator, was 33 percent between 1983 and 1987, and the decline in the PPI was 34 percent. The CPI declined by 24 percent between 1987 and 1996, and the PPI declined 24 percent between 1987 and 1995 (the PPI after June 1995 is inconsistent with prior data).

130. Three factors were responsible for the sharp decline in the price of long-distance service relative to the general price level over the past decade: competition made possible by divestiture, improvements in productivity, and declining access charges paid to local telephone companies.

131. Although these data from the Bureau of Labor Statistics (BLS) show a sharp decline in the long-distance prices, they do not present a complete picture of the decline in long-distance prices. The evidence suggests that BLS data understate recent declines in those prices. Construction of price indices for products such as long-distance service presents a serious challenge. For the CPI, the BLS prices a fixed basket of calls placed by households. It applies the standard rates, without considering any more favorable pricing plans such as flat rates. Here, the CPI's long-distance index departs from the standard procedures of the CPI because it is not an index of transaction prices. The long-distance component of the CPI understates price declines that occur when more favorable plans are introduced. In addition, the CPI's procedure for the

introduction of new sellers and new products understates price declines.[16] In light of the extensive use of pricing plans that are far more attractive than the standard rates in the long-distance market since divestiture—for example, nearly 80 percent of MCI's customers use a plan that is cheaper than standard rates—the omission of these factors from the CPI has led to a substantial understatement of price decreases. An FCC document warns users that the CPI (and the PPI) are unreliable measures for long-distance prices: "Price indexes are less reliable when industries are changing rapidly." The FCC document further states that "Because of these sorts of difficulties, measures of average revenues are sometimes used as alternatives to price indexes."[17]

## C. The Role of Declining Access Charges in Lowering Long-Distance Prices

132. Long-distance carriers pay local telephone companies access charges for carrying long-distance calls from the caller's business or home to the point where the long-distance carrier picks up the call. They pay a second access fee to a local telephone company to deliver the call to its ultimate destination. During the 1980s, the FCC imposed important changes on the structure of access fees—early in the decade, most of the fee was imposed as a per-minute charge on long-distance calls, whereas by the end of the decade, part of the fee had been shifted to a fixed monthly charge per telephone line. These access fees have declined substantially since 1984, but long-distance carriers still pay about 40 percent of their revenues to local telephone companies as access charges.[18] The FCC has recently ordered further reductions in access fees.

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[16] A good example is the following: Prior to 1987, the CPI included only AT&T calls. When other carriers were added to the index in 1987, the new index was adjusted so that it had the same value as the old index in 1987. Although the cost of a basket of calls was lower if some of the calls were made on other carriers, the effect was eliminated by a multiplicative adjustment. Hence the consumer benefit from the lower prices of other carriers before 1987 never was recorded in the CPI.

[17] Section 5, *Price Index Limitations for Telephone Services*, FCC Trendline Report, Industry Analysis Group, Common Carrier Bureau, Federal Communications Commission, May 7, 1996.

[18] *Telecom Service - Long Distance,* Merrill Lynch & Co., Global Research & Economics Group, 1996, Table 6.

133. The Bells have frequently argued that long-distance rates have fallen by less than the amount that access charges have fallen. In this section I will show, on the contrary, that long-distance prices have fallen, relative to the general price level, even when access charges are netted out. Competition and productivity growth have been important factors in the improved performance of the long-distance industry over the past decade.

134. The table below shows gross revenue per minute for the three largest carriers on the top line, stated as 1996 dollars per minute. The table also shows the industry average access charge per minute of call, again in 1996 dollars per minute.[19] The average access charge fell from 22 cents per minute in 1985 to nearly 7 cents in 1996 (in 1996 dollars). Revenue per minute after subtracting access costs fell from 30 cents per minute in 1985 to less than 8 cents in 1996 (in 1996 dollars), a decline of 74 percent. Claims that the only reason for the decline in long-distance prices is the declining cost of access are incorrect.

[19] This calculation is based on the assumption that there are two minutes of access per minute of call (approximately one minute on the originating end and one minute on the terminating end). It also adjusts for call setup time and for access by means other than the local switched network.

| *Year* | *Revenue per minute, 1996 dollars* | *Access charge per minute, 1996 dollars* | *Revenue per minute net of access charges, 1996 dollars* |
|---|---|---|---|
| 1985 | .515 | .217 | .298 |
| 1986 | .413 | .197 | .215 |
| 1987 | .328 | .164 | .164 |
| 1988 | .302 | .145 | .157 |
| 1989 | .267 | .125 | .142 |
| 1990 | .222 | .104 | .118 |
| 1991 | .200 | .091 | .109 |
| 1992 | .190 | .085 | .105 |
| 1993 | .178 | .081 | .097 |
| 1994 | .168 | .079 | .089 |
| 1995 | .151 | .074 | .077 |
| 1996 | .145 | .068 | .077 |

135. The table shows that the fall in the price of long-distance service net of access charges occurred in both the period immediately following divestiture and in more recent years. Although falling access charges were an important factor in the substantial decline in the price of long distance over the period, other factors were also significant, reflecting the successful performance of the competitive long-distance industry in the United States.

136. Jim Lande of the Industry Analysis Division, Common Carrier Bureau of the FCC, has made calculations of revenue per minute for interstate direct dialed calls.[20] His results are:

| *Year* | *Revenue per minute, net of access charges, for a direct dialed call in 1996 dollars* |
|---|---|
| 1992 | $0.086 |
| 1993 | 0.083 |
| 1994 | 0.078 |
| 1995 | 0.074 |

Net of access charges, revenue per minute in 1996 dollars fell by 18 percent over the three years from 1992 to 1995. Lande's results strongly confirm the hypothesis that declining access charges were only one of the factors leading to the declining price of long distance.[21] The growing efficiency and improving competitive performance of the industry also made a large contribution, as is revealed by the data calculated net of access charges.

137. Most long-distance carriers sell their products under various pricing plans. Among these is a higher rate called the standard rate. This rate is charged to a customer who signs up for service without asking about the rates that are available and without being attracted by the promotion of a better rate. Standard rates are in the range of 28 cents per minute during the day and 18 cents in the evening; they are also slightly differentiated by distance. These rates have the same role that "full fares" have in the airline business—they are paid for a small fraction of the total volume of sales by people who cannot or will not arrange their lives to receive much better prices. The standard rates of AT&T, MCI, and Sprint are quite similar and tend to move together. They rose

[20] "Telecommunications Industry Revenue: TRS Fund Worksheet Data," December 1996.

[21] Differences between Dr. Lande's calculations of revenue per minute and mine include the following: (i) he uses only DDD calls; I include all calls; (ii) he uses only interstate data; I use interstate and intrastate data; (iii) he uses actual minutes; I use billed minutes; (iv) he uses average access charges; I use marginal access charges; (v) he includes all carriers, I include only AT&T, MCI, and Sprint.

somewhat in the past few years, most recently in November 1996, and then fell in July 1997, when there was a decline in access charges.

138. Most long-distance service is purchased at far better prices than the standard rate, just as a large fraction of all airline travel is at fares that are far below the full fare. In the airline market, better fares are available in two ways: First, businesses negotiate special fares directly with airlines. Second, for individual travelers, airlines quote highly advantageous fares for travelers who take the trouble to make their arrangements in advance. Full fare transcontinental travel costs about 35 cents a mile whereas the cheaper fares are around 9 cents per mile. Similarly, the long-distance caller who seeks out a good deal can make calls across the country for 10 cents a minute. And the price paid by businesses can be pushed down even more if a way can be found to avoid the access charges of around 5 cents that would otherwise place an absolute floor on long-distance prices.

139. Here is a list of some of the deals that long-distance carriers currently offer for interstate calling for residential customers.

| *Carrier* | *Name of plan* | *Terms* |
|---|---|---|
| AT&T | One Rate Plus | 10 cents per minute at any time, $4.95 per month |
| MCI | MCI One | 12 cents per minute at any time for purchases over $15 per month, 15 cents per minute for first $5, 5 cents on Sundays, $5 minimum. |
| MCI | MCI One Savings | 10 cents per minute evenings and Saturdays, 5 cents on Sundays, 25 cents per minute daytime, $5 minimum. |
| Sprint | Sprint Sense Day Plan | 15 cents per minute at any time, no fee, no minimum purchase |
| WorldCom | Home Advantage Easy Plan | 13.9 cents per minute at any time. |
| Wiltel | | 10.9 cents per minute at any time, no fee, no minimum |
| Unidial | | 9.9 cents per minute, no fee, no minimum |
| Telco Communications | Long-Distance Wholesale Club | 9.5 cents per minute plus $4.95 per month |
| VarTec Telecom | Dime Line | 10 cents per minute, 3 minute minimum, $5 per month |
| Frontier | | 10.9 cents per minute at any time, no fee, no minimum |

Sources: Carriers and *Wall Street Journal,* "Coy Telecom Giant Woos AT&T's Customers," April 15, 1997, p. B1.

These rates are substantially lower than rates available even a year ago.

140. Almost 80 percent of MCI's customers use plans other than the standard rate.[22] Many of the advantageous plans described above are available to all

[22] Based on MCI data. See elaboration in the next section.

users, regardless of their level of usage. Moreover, the availability of these plans is a frequent discussion point in the media. Some of the lowest rates are available without presubscription—you can take advantage of the 9.5 cents per minute rate from the Long-Distance Wholesale Club by dialing their access code, 10297, without any preliminary arrangement.

## D. Prices Paid by Low-Volume Long-Distance Customers

141. The Bells have argued that the existence of low-price plans creates an incorrect impression of competition because most customers do not receive the benefits from some of these plans. Some of the flat-rate bargain plans that provide the most attractive residential prices today are not volume based. These low-price plans are open to all users. Others have relatively low fixed costs of $3 to $5 or similar minimum purchase requirements.

142. In fact, most residential customers take advantage of flat-rate low-price plans. I have studied data from MCI on the distribution of customers and revenue across pricing plans, for residential customers. About 22 percent of MCI's residential customers pay the standard rates—the remaining 78 percent use plans with lower rates, some of which depend on volume. Not surprisingly, those using the standard rate tend to spend little on long distance. In the month I examined, 12 percent of MCI's residential revenue came from customers using the standard rate. The remaining 88 percent of MCI's residential business was with customers using more advantageous price plans. Of those that pay standard rates, 46 percent have bills less than $1.50 per month in an average month.

143. The Bells' experts often cite contrary data from PNR and Associates that 65 percent of residential customers pay standard prices rather than using lower-price plans.[23] First, a substantial number of these customers, perhaps as many as one-fourth, do not subscribe to a low-price plan because they have no toll usage.[24] More importantly, the PNR sample is badly biased, through its construction, in favor of smaller users.

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[23] *Declaration on Behalf of BellSouth by Richard L. Schmalensee*, "BellSouth's Prospects for Success in the InterLATA Market," filed in CC Docket No. 97-208, at 7, August 18, 1997.

[24] PNR and Associates provided MCI with promotional documents for a program known as Bill Harvest II. The discussion in this paragraph and the next are based on these documents.