

Buying and Banking on
Prospective Returns in
Telecommunications

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monopolists would like. Substitute products typically exist and, even if they are imperfect, consumers will use them if a monopolist raises the price too much. The more valuable a monopoly is, the harder other companies will try to encroach upon it. If the monopolized good is not a "necessity,"¹ many consumers will just do without. If it is a necessity, then there is a good chance the government will take action to curtail the monopoly. Finally, as the baseball owners know well, even if you have a monopoly over a (virtual) necessity with little threat of entry and a Supreme Court judgment making it hard for the government to step in, the workers might claim more of the monopoly profits for themselves than the monopolist would like to share. Still, the basic fact remains that monopoly is, in general, a source of great value. Because both of the local telecommunications monopolies potentially face competition, one of the great sources of risk in telecommunications investment is the loss of monopoly.

For both the LEC's and the cable operators, there are several sources of actual and potential competition. Cellular telephone service is at this time more of a complement to the local exchange than a substitute. However, with the FCC about to auction off a substantial amount of spectrum for new personal communications services (pcs) and with substantial uncertainty about how the technology will evolve, wireless communications may in the long run turn out to be a serious threat to the LEC. Competition from alternative access providers deprives the LEC's of profits they would otherwise earn from providing access to long distance carriers. Cable operators face competition from direct broadcast satellite (dbs) transmission, wireless cable, and, in some cases, competing cable systems. Still, the biggest competitive

¹ That is, if demand is elastic.

terms. Both cable companies and telephone companies are upgrading their networks by adding fiber-optic cables. If every company did what it professes to plan to do, then there will be competing (although presumably interconnected) "information superhighways."

One of the most basic principles of entering a new market is that pre-entry prices are irrelevant or at least nearly so. What matters is what prices will be after entry. With all of the advances in telecommunications technology, the basic cost structure that has made telecommunications markets monopolies has endured. Telecommunications networks entail high fixed costs and low marginal costs. Moreover, the transmission of information, as distinct from the information itself, is a relatively homogeneous commodity. As a result, before choosing to compete with an entrenched monopolist, any telecommunications company must have a clear answer to the following question: "What is going to prevent prices from gravitating toward marginal cost?" If it cannot answer that question satisfactorily, it must expect entry to be unprofitable.³

To be sure, there are some plausible answers to that question. One is simply that the companies will manage to collude (tacitly). Doing so will generally be difficult unless companies find ways to differentiate their offerings. In cable television, for example, an obvious differentiation strategy is to offer different programming. Whether that will be possible will depend critically on antitrust enforcement. Cable operators have been major investors in cable networks. Congress, the Department of Justice, the Federal Trade Commission, and the Federal

³ There have been many provocative recent discussions of whether competition in local telecommunications markets will emerge. For arguments that it will, see Baumol and Sidak (1994) and Huber, Kellogg, and Thorne (1993). In contrast, Greenwald and Sharkey (1989) and Economics and Technology, Inc. and Hatfield Associates, Inc. (1994) suggest it will not.

markets will not emerge in the first place. The next section addresses that possibility.

III

Who Will Provide the Information Superhighway?

If we are not going to have competing information superhighways, then what determines which type of company will provide it. If the LEC provides it, it will retain its monopoly over local telephone service but will face competition in video programming from an existing cable network. If the cable company provides it, it will retain its monopoly on the distribution of video programming but will face competition in telephone service.

Gilbert and Newbery (1982) have already analyzed the relative incentives of an entrenched monopolist and an entrant to innovate. Unless the innovation allows the entrant to replace the incumbent as a monopolist, then the incumbent has a greater incentive to innovate. An entrant's incentives to innovate are dulled because the post-innovation competition from the incumbent reduces its profits.

The competition between LECs and cable companies does not exactly fit this model because each is an incumbent in one of the markets and an entrant in the other. The basic analysis can be extended, however, and it yields some very interesting results.⁵

Let C_C be the costs of upgrading cable networks to offer switched communications services and C_T be the cost of upgrading telephone networks to offer video signals. For expositional simplicity, assume 1) that an upgraded telephone network would be identical to an

⁵ Riordan (1992) presents a dynamic analysis that is similar to the one presented below.

$$(3) \quad I_T > I_C$$

This condition can be rewritten as:

$$(4) \quad (T_M - T_{DT} - T_{DC}) - (V_M - V_{DC} - V_{DT}) > C_T - C_C$$

Whether equation (4) holds determines whether telephone companies are likely to maintain their monopoly and encroach on that of the cable company or vice versa. The first set of parentheses is the difference between the value of a telephone monopoly and the combined industry value under duopoly. Unless the two firms collude perfectly, the value under duopoly is less than the monopoly value and the expression is positive. By the same token, the value in the second set of parentheses is positive because the value of the video monopoly exceeds the combined industry value under duopoly.

The right hand side of (4) can be decomposed into two components. The first is $T_M - V_M$, which might be termed the difference in the amount of potential destruction. These values are the present values of the cash flows generated by the two types of networks (except the investment cost of upgrading the networks). Since the telephone market is, of course, much larger than the cable market, there is more potential value to be destroyed by entry into telephones. T_M is likely to be much larger than V_M .

The second component is the fraction of that potential destruction that is actually destroyed. This will depend in part on the potential for the competitors to differentiate their offerings and in part on their ability to resist price cutting pressures. Thus, the mere fact that telephone companies have more to defend is not sufficient to insure that they have the biggest incentive to innovate. If, for example, customers are sufficiently loyal to the LEC's that the cable companies could not encroach much on their existing business and the LEC's could

IV

Investment Implications

The previous two sections have laid out several scenarios about how competition in local markets will evolve. One possibility is that competition will emerge in both telephone and video markets. Another is that telephone companies will enter cable markets but cable companies will not enter the telephone business. The third is that the reverse will happen.

If telephone companies enter cable markets and cable companies find it unprofitable to enter telephone markets in return, then the value of cable companies will drop dramatically. Similarly, if cable companies successfully enter the telephone business and telephone companies find it unprofitable to enter cable markets in return, then telephone companies will drop substantially in value. If the change in cable regulations was indeed the reason that the Bell Atlantic/TCI and Southwestern Bell/Cox mergers fell through, then there is probably a delicate balance as to which type of company has an edge. Betting heavily one way or the other on the outcome entails large risks. There is no reason to bear these risks since they are relatively easy to diversify. The natural strategy is to hold both cable companies and telephone companies.

There is, however, a risk inherent in that strategy as well. As was described above, it is possible that competition will emerge in both markets. If it does, then there will be persistent risks of price wars. Since competition necessarily lowers the combined industry value, a portfolio of cable and telephone stocks will necessarily lose value if they both end up competing against each other. Thus, some hedge against that possibility is needed as well.

If competition does emerge, the consequence will be even deeper reductions in the price

geniuses. Others who bet heavily the other way will waste away their penury thinking about what might have been. Both will have taken huge risks without compensatory expected rewards.