Comment: Empirical Studies of Media Competition

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In 1980, the FCC finally decided to allow the unlimited carriage of distant signals on cable TV and to repeal its syndicated exclusivity rules, in part because it believed that the adverse impact on local stations would be minimal and that local UHF stations might be helped by cable TV carriage (Federal Communications Commission, 1980e). Of course, the lack of significant economic impact on existing stations may have been a good legal argument for deregulation, but it certainly was a poor economic policy reason for repealing cable TV restrictions. The economic argument for repeal would have been far stronger if the econometric studies had suggested that the consumer demand for cable TV was so intense that deregulating cable TV would have caused a much larger decline in the audience for local television stations, and indeed that widespread bankruptcy among local TV stations would follow cable TV deregulation. We can be grateful that the present FCC is no longer so concerned with protecting the profits of existing TV stations. As a result of FCC deregulation and the provision of new cable network services, cable TV has been growing rapidly. Ironically, it may well be that the new video outlets such as MDS, DBS, and SMATV, as well as local franchise regulation and possibly Copyright Tribunal regulation, may place limits on the growth of cable TV, even though the FCC has repealed most of its major restrictions on cable TV.

All three articles deal with the feasibility or likelihood of competition and substitutability of one video media for another. Moreover, all three of them actually run regressions and statistically test hypotheses using real data. The contribution by Jonathan Levy and Peter Pitsch is particularly interesting because it is the first research I have seen that estimates the demand for video cassette recorders. It is also an excellent model of how to write a research paper because it is open and explicit about the

assumptions and methodology used and about the limitations of its models and data.

One such significant limitation on the study was imposed by the fact that the unit of observation was the state, rather than the local television or cable TV viewing market. While many earlier studies of cable TV used a local market as the unit of observation (Besen et al. 1977), the only data available to Levy and Pitsch on video cassette recorders (VCRs) was state data. Because of the problems with using aggregate state data, their cable TV equations did not include many of the separate independent variables included in earlier studies, such as the number of network and independent VHF and UHF stations and the number of noncommercial VHF and UHF stations in each market (Besen et al. 1977). For that reason, the results for the cable TV demand equations are not as satisfactory as some of the earlier studies.

Of course, many of the most interesting questions concerning VCR demand remain unanswered pending the availability of more disaggregated data and a more complex model. In particular, it would be very interesting to see not only the extent to which VCRs substitute for movie viewing in theaters, but also the extent to which the substitute and complementary effects of VCRs, with respect to commercial television, can be separated. In addition, it will also be interesting to observe the impact of VCRs on other media after the percent of homes owning VCRs has risen significantly. It is entirely possible that some of the nonsignificant results in Levy and Pitsch's regressions would then become significant. It would be interesting to compare data at the end of 1984 with the 1982 data which L & P used. It would also be revealing to run similar regressions on data for European countries where the number of commercial television choices are far fewer, and the penetration of VCRs is much greater than in the U.S.

Eli Noam's study represents the first major attempt to measure economies of scale and scope in cable TV systems, and continues earlier work by Noam (1983) to the next stage. The only other recent estimates of economies of scale in cable are by Owen and Greenhalgh (1983). In his study, Noam has tried to consider carefully what the major factors are that would affect a production function and hence a cost function for cable TV.

Noam's conclusion that there are only small economies of scale in homes passed is an important conclusion. If the major economies really

are in packaging and sale of services, there would appear, I believe, to be little reason to support the traditional arguments for natural monopoly regulation such as price regulation of cable TV systems. The fact that the economies appear to be modest may also suggest, in my view, that many other video outlets will be capable of competing with cable TV, particularly if it is true that there is little or no consumer demand for more than 20 or 30 channels of video, a conclusion that data from the Warner Amex QUBE systems apparently support (Kahn 1983a).

A number of questions for further research suggest themselves. For example, would the estimated economies of scale and scope be smaller or larger if cable systems were not constrained by many municipal franchise requirements to provide such services as extra channel capacity and the provision of "free" local access studios and institutional cable TV networks? A recent report by William Shew (1984) estimates that those municipal requirements substantially raise the costs of providing cable TV service above what the costs would be for an unregulated consumer surplus maximizing cable system. An interesting and possibly unanswerable question (since the FCC has stopped collecting this information) is how the results would change if regressions were run using 1984 data, since many of the newer systems tend to have far more channel capacity and other add-on requirements than the older systems.

Michael Wirth and Harry Bloch suggest that (1) television stations have oligopoly power and are not perfect competitors; (2) competitive sources of video such as cable TV and pay TV will have little or no impact on the market power of television stations in the sale of advertising time; (3) as local television station audience declines in response to increased viewing options, broadcasters will simply raise the price per thousand viewers which they charge advertisers; (4) because of broadcasters' ability to raise the price of time to advertisers, competitive video systems will not affect television station advertising revenues; (5) but stations may react to the loss of audience to competitive systems by increasing their expenditures on programming; (6) increased program expenditures will decrease the profit margins of television stations; but (7) station owners can suffer significant declines in their profit margins and still be viable.

Wirth and Bloch certainly are correct in arguing that if one wants to measure the impact of new video distribution media on television sta-

tions, studying the impact on audience size or share alone is not enough. However, the really interesting question is the impact on station *profits*, not revenues; but it is revenues which W & B study.

Stations may have oligopoly power in certain television advertising markets, but W & B have not proven their case, and there is counter evidence available (Fournier and Martin 1983). Wirth and Bloch have not provided an adequate test to prove the counterintuitive result of hypothesis (2) that cable TV and pay TV will not affect a station's market power in the sale of advertising time. Hypotheses (3) and (4) seem unconvincing and W & B certainly have not demonstrated such an effect. Assumptions (5), (6), and (7) seem quite believable if not obvious, but again W & B have not adequately tested that those effects are really taking place.

Wirth and Bloch admit that cable TV in the same market has a significant effect (usually negative) on local station viewing audience. But they claim that this negative effect will not have any effect on advertising revenues since advertisers consider television to be a "must buy" and therefore cable TV and pay TV are not substitutes to advertisers; hence stations will have the ability to raise the price per thousand viewers which they charge to advertisers. It is difficult to accept this logic. First, they discuss but never define what it means to say that local stations represent a "must buy" situation for advertisers. Surely, they do not mean that advertisers will buy station time at *any* price. Hence advertisers must be sensitive to some price differential between television advertising and cable TV advertising.

If television stations behave as profit maximizing oligopolists in the sale of advertising time, one would assume they are already setting prices to maximize their profits. If some viewers now shift to other media so total station viewing declines, the remaining number of viewers will surely be less valuable to advertisers, especially since people who purchase cable TV and pay TV services are likely on average to be higher income than those who do not, and hence more valuable per viewer to advertisers than viewers who continue to watch only the local stations. In other words, the demand for television advertising time should decline, not remain constant or increase, which suggests that station advertising prices and revenues should also decline. How much it will decline is, of course, an empirical question.

This then leads to the question of whether or not the authors are

correctly and adequately testing whether advertising revenue is affected by the existence of video alternatives. For one thing, the study uses as its dependent variable the log of the *list* price of a 30-second advertising spot on M.A.S.H. or the highest 30-second nonspecial event prime-time spot rate as the dependent variable. Others have pointed out the problems in using list price as a market price, especially because there is substantial discounting of advertising list prices (Besen 1976; Fournier and Martin 1983). Moreover, some measure of total advertising revenue or average revenue per 30 seconds would seem a better measure of the possible impact of new media than would the list price from one particular very popular show. It may (or may not) be true that substitute media affect the price of advertising on some (less popular) shows far more than on other (very popular) shows.

In their regression, Wirth and Bloch use the Herfindahl Index (HI), a measure of market concentration, as one of their independent variables to test for the existence of market power.[1] It is not clear precisely what the use of this variable demonstrates. Most studies have used concentration as an independent variable to "explain" profits or price-cost margins, and even then it is unclear whether the apparent positive relationship between concentration and profitability can be explained by market power of firms in concentrated industries or whether it is explained by the lower costs or more efficient operation of firms in concentrated industries (Scherer 1980: 267–295). In any case, by using cross-section data for prices, not profits or price-cost margins, and only including a few other variables that might affect prices across markets, and therefore ought to be held constant, Wirth and Bloch appear to have left out many other possibly significant variables which possibly cause price to vary across markets.

Other studies (Ferguson 1983) have found that there is a significant cross elasticity between the advertising prices in one media and availability of other media in the same market. Indeed, an earlier study by Wirth and Allen (1979) found that cable TV penetration did have a negative effect on television revenues in the top 50 markets and a positive effect in 74 smaller markets. This contradicts the present study, and needs to be reconciled.

Notes

The views expressed in this comment are my own and not necessarily those of the Federal Trade Commission or its staff.

1. It should also be noted that early in their paper, W & B indicate that they are testing whether a competitive or an oligopoly market better describes the television advertising market. They report much better regression fits with the oligopoly model, but admit that the two equations can not be directly compared since they use different specifications of the dependent variables. In fact, many studies have shown that the results of a regression can depend significantly upon the specification of the demand model chosen, and of course there ought to be *a priori* reasons from preferring one specification over another (Webbink 1977). However, the authors do not explain their choice of a log-linear demand equation in one case, and a linear form in the other case.