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Market Competition, Station Ownership, and Local News and Public Affairs Programming on Local Broadcast Television

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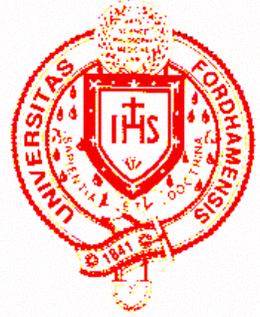
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WORKING PAPER

**MARKET COMPETITION, STATION OWNERSHIP,
AND LOCAL NEWS & PUBLIC AFFAIRS
PROGRAMMING ON LOCAL BROADCAST
TELEVISION**

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Market Competition, Station Ownership, and Local News and Public Affairs Programming on Local Broadcast Television

Abstract

This study examines the relationship between competitive conditions in television markets, ownership characteristics, and commercial broadcast television station provision of local news and public affairs programming. Policymakers continue to raise questions about the relationship between ownership and market conditions and the provision of informational programming, in connection with a variety of policy areas, including ownership regulation, localism initiatives, and station public interest obligations; however, much of the research in this area is either out of date and/or methodologically flawed. This study presents the results of an analysis of a random sample of 285 full power television stations. Among the studies' findings are that competitive conditions and station financial resources are much more significant to the provision of local news programming than to public affairs programming, and that ownership characteristics bear little meaningful relationship to either local news or public affairs programming provision.

Market Competition, Station Ownership, and Local News and Public Affairs Programming on Local Broadcast Television

In the United States' system of broadcast regulation, the provision of locally produced "informational programming" traditionally has been considered an important component of a station's fulfillment of its obligation to serve the public interest (Federal Communications Commission, 1999b), with informational programming generally defined as local news and public affairs programming. It is through the provision of such programming that stations are able to serve the informational needs and interests of their local communities.

This manifestation of the localism principle (see Federal Communications Commission, 2004)¹ at one point took the form of specific FCC-imposed requirements for minimum levels of local news and public affairs programming (Federal Communications Commission, 1976). These explicit requirements were eliminated in the 1980s under the presumption that unregulated markets would effectively produce a broad range of program types and serve a broad range of audience interests and concerns (Federal Communications Commission, 1984). However, the fact that the FCC no longer has explicit local news and public affairs programming requirements does not mean the Commission no longer is concerned with the extent to which stations provide such informational programming. The Commission's current position is that stations must provide some programming that serves the informational needs of their communities in order to fulfill their public interest obligations (Federal Communications Commission, 1999a), though the Commission no longer explicitly states how much of such programming is required. Moreover, the provision of local news and public affairs traditionally has been central to the FCC's definition of the number of "voices" in a media market (see Singleton & Rockwell, 2003) – a perspective that recently was reinforced in the decision by the Court of Appeals for the Third Circuit to remand much of the FCC's 2003 decision to relax a number of different media ownership regulations (Prometheus Radio Project v. Federal Communications Commission, 2004).²

Concerns about whether broadcast stations adequately serve the needs and interests of their local communities via the provision of informational programming have arisen in a variety of recent policy

contexts, as have questions about appropriate regulatory mechanisms for promoting the production of such programming. For instance, in connection with the Commission's ongoing inquiry into whether the transition to digital broadcasting merits rethinking broadcasters' public interest obligations (see Federal Communications Commission, 1999a), the issue of the provision of informational programming was quite prominent. Specifically, the Commission asked, "Are there sufficient marketplace incentives to ensure the provision of programming responsive to community needs, obviating the need for additional requirements?" (Federal Communications Commission 1999a, p. 29).

The issue of the provision of local informational programming arose again a few years later in connection with the Commission's biennial (now quadrennial) review of media ownership regulations (see Federal Communications Commission, 2002, 2003). One key line of inquiry in the ownership proceeding involved whether the local orientation in media content bore any systematic relationship to the characteristics of the owners of media outlets or to the competitive conditions in media markets. Thus, the Commission conducted a study examining the relationship between ownership and the provision of local news and public affairs programming (Spavins, Denison, Roberts, & Frenette, 2002), the results of which contributed to the Commission's decision to relax cross-ownership and national broadcast cap regulations (Federal Communications Commission, 2003).

The most recent appearance of the local informational programming issue involved the Commission's issuance of a Notice of Inquiry on broadcast localism (Federal Communications Commission, 2004), in which the Commission sought guidance on the extent to which broadcasters effectively serve the needs and interests of their local communities, and on whether any alterations in existing regulations were necessary to assure such service. In this notice, the Commission returned to the questions raised in the digital television proceeding, seeking information on "How effectively have market forces fulfilled the goal of ensuring that broadcasters air programming responsive to the needs and interests of their communities" (Federal Communications Commission, 2004, p. 5). This notice also sought to focus on possible policy remedies other than ownership regulations (e.g., a possible return to explicit behavioral requirements), on the premise that the relationship between ownership and sensitivity

to community needs and interests had been thoroughly dealt with in the ownership proceeding (Federal Communications Commission, 2004).

FCC Commissioner Michael Copps, however, disputed any effort to separate the issue of localism from the issue of ownership. According to Commissioner Copps, “Localism is one of the fundamental goals of our ownership rules and of the public interest. I believe that it is impossible to divorce localism from ownership. What if we get to the end of this new proceeding and determine that localism is not served by ever greater media consolidation?” (Federal Communications Commission, 2004, p. 25).

In sum, the question of the relationship between competitive conditions, ownership characteristics, and the provision of informational programming provision is central to a number of current media policy issues. Unfortunately, prior research in this area is quite dated and/or suffers from a variety of methodological shortcomings that make it difficult to draw firm conclusions. This study is an effort to improve upon the weaknesses of this earlier work and provide a thorough and representative analysis of the relationship between competitive conditions, ownership characteristics, and the provision of local informational programming.

Literature Review

Theoretical perspectives on the behavior of media organizations have emphasized not only the importance of market forces (such as competitive conditions), but also of ownership characteristics in understanding these organizations’ content output (Shoemaker & Reese, 1996). As is indicated, however, by the fierce debates that continue to revolve around a wide range of media policy issues, research in this vein has yet to adhere around a consensus in terms of exactly how competitive conditions and ownership characteristics relate to content output. The issue becomes further complicated when we consider the specific context of informational programming that is the focus of this study. As many scholars of media economics and policy have noted, the value of such programming extends beyond the revenue it generates and the satisfaction consumers derive from consuming it – including also enhanced citizen knowledge and decision-making, better-informed political participation, and a citizenry better capable of influencing

government to pursue its best interests (Baker, 1997). To the extent that these positive externalities are not effectively captured by traditional economic models (see Baker, 1997), such programming is likely to be under-produced relative to its true benefits to society (Brennan, 1983). To the extent that some forms of informational programming may be largely unprofitable to programmers (due to low levels of audience and advertiser support), this too may complicate developing a clear understanding of the relationship between competitive conditions, ownership characteristics, and the provision of such programming.

Competitive Conditions

As was noted above, while at the general level there is a clear understanding that competitive conditions impact media organizations' content output, at the more specific level of broadcaster provision of informational programming, the nature of this relationship remains unclear. One increasingly prominent line of reasoning in media policymaking asserts that social policy-oriented outcomes (such as enhancing localism) are best achieved by the promotion of competitive conditions within markets (e.g., Fowler & Brenner, 1982). From this standpoint, more competitive market conditions should encourage greater production of informational programming.

The flip side of this argument is that competitive pressures may compel programmers to eschew informational programming, as a result of: a) the more intensive fight for audience attention leading to a greater emphasis on entertainment-oriented programming, which typically attracts larger audiences; and b) the likelihood that programmers in more competitive environments will be in a more difficult situation financially to absorb the costs (and potential losses) associated with the production of informational programming. Previous research suggests that the intensity of competition from competing program sources (e.g., cable, public television) may impact a commercial station's news and public affairs programming output, as stations respond to the program offerings of their competitors (Powers, 2001). Some studies have found positive relationships between local informational programming provision and market size (Federal Communications Commission, 1984; Napoli, 2004). The fact that these relationships were found when controlling for the number of stations in a market suggests that less competitive market conditions (i.e., more available viewers per station) may encourage the provision of

such programming. However, it is important to note that this relationship dissipates when local public affairs programming is the focus of analysis (see Napoli, 2001, 2004). Previous research also has found a weak, though statistically significant, positive relationship between the number of commercial broadcast stations in a market and the provision of local public affairs programming (Napoli, 2001), suggesting instead that increased competition may, in fact, promote the production of such programming.

Ownership Characteristics

As was noted above, one of the challenging questions facing media policymakers today involves reaching firm conclusions regarding the relationship between ownership characteristics and informational programming provision that can then effectively guide policy decision-making. Unfortunately, as with the competitive conditions issue, the knowledge base for the ownership issue is not particularly strong and there remain compelling – and partially supported – arguments on each side of the equation. There are a number of ownership characteristics of potential relevance in this context of broadcast station provision of local informational programming. These characteristics include: whether a station is owned by a broadcast station group or network, whether a station owner is located in the station's market area and whether a station owner also owns another station in the market.

Looking first at the issue of group/network ownership, station group owners may be able to convert the economies of scale presumably derived from group ownership into greater amounts of news and public affairs programming (see Federal Communications Commission, 2003). From this perspective, the size of a station's group owner (in terms of its national audience reach) also may bear upon this relationship, as economies of scale in terms of distributing news or public affairs programming expenses across the largest possible audience may bear upon the extent to which an individual station offers such programming. There has been, however, up to this point little evidence of any meaningful relationship between station group ownership or station group size and the provision of informational programming (Napoli, 2002; Wirth & Wollert, 1979).

The economies of scale logic also factors prominently in considering the potential relationship between a station's duopoly status and its provision of informational programming. Duopoly scenarios –

in which a company owns two stations in a local television market – have become increasingly common due to relaxed ownership regulations in recent years (see Federal Communications Commission, 1999c, 2003). One prominent argument in support of this decision was that the relaxed rules would allow the commonly-owned stations to operate more efficiently by taking advantage of their combined resources, which would lead to increased informational programming in the local market. Much of the evidence in support of this assumption is, at this point, primarily anecdotal (see Federal Communications Commission, 1999c), though an econometric analysis prepared for Sinclair Broadcasting found that common ownership led to a small increase in the probability that a station would cover news at all, but there was no statistically significant difference in terms of the amount of news provided (Crandall, 2003).

In terms of network ownership, some stakeholders have argued that network owners – particularly the Big Four network owners – are insensitive to community needs and are negligent in serving the public interest (Network Affiliated Stations Alliance, 2001). This insensitivity and negligence may be reflected in these stations' commitment to local news and public affairs programming. However, it also is possible that stations that are owned by a national broadcast network could be better-equipped to provide local news and public affairs programming if the national news and public affairs programming experience and infrastructure that these networks already possess could also facilitate the production of local news and public affairs programming. This latter perspective receives support in the FCC's recent study (Spavins, et al., 2002), though subsequent reanalysis suggests that this relationship holds true only for local news and not for local public affairs programming (Napoli, 2004).

Finally, one commonly articulated argument regarding the relationship between ownership characteristics and the provision of local informational programming is that station owners that are locally based are more likely to provide local news and public affairs programming, due to their greater sense of community commitment derived from their local residency, and their associated greater familiarity with the informational needs and interests of the local community (Ryan, 2001). This argument has, unfortunately, seldom been put to the test; however, a study by Napoli (2002) did examine this issue and found a significant positive relationship between local ownership and the provision of public affairs

programming. This relationship, however, only held true when local and non-local public affairs programming were included in the analysis simultaneously, and dissipated when local public affairs programming was analyzed exclusively.

Methodological Issues

It is important to recognize that much of the research on the factors affecting informational programming provision is quite dated (e.g., Chamberlin, 1979; Federal Communications Commission, 1984; Wirth & Wollert, 1978, 1979). The question of the quantity of informational programming that a station provides was a much more prominent research issue in the era when the FCC applied explicit performance standards. Another shortcoming of much of this early work is that it relied primarily upon station self-reports of their programming practices – a somewhat questionable research strategy considering the documented tendencies by stations to misrepresent their programming practices when reporting to regulators or researchers operating on their behalf (Kunkel, 1998).³

Much of the more recent research forming the basis of the above review has employed alternative methods (such as content analysis of station program schedules/descriptions or reliance on commercial scheduling data sources that may be more reliable than station self-reports), but still suffers from a number of important shortcomings. For instance, Napoli's (2001) study of the relationship between market conditions and public affairs programming employed a sample drawn from a two-week time period in January of 2000. Ideally, when constructing a program sample for analysis, it is preferable to construct a composite sample from days of the week throughout the year (e.g., Bishop & Hakanen, 2002) in order to control for possible effects from idiosyncrasies associated with particular months or weeks within the year (e.g., sweeps period, election periods, or particularly active news weeks). Napoli's (2001) study also failed to account for station ownership characteristics – a shortcoming corrected in a follow-up study (Napoli, 2002), though this study still suffers from the programming sample shortcoming.

The FCC's recent study (Spavins, et al., 2002) examined all programming in November, 2000 for affiliates of the Big Four (ABC, NBC, CBS, FOX) network affiliates in those markets in which at least one "owned and operated" station existed. From a sampling standpoint, there are a number of fairly clear

shortcomings in this dataset. First, the reliance on data for November is somewhat problematic in that November is a “sweeps” month, when station programming practices frequently deviate from the norm (Ehrlich, 1995; Moonves, 1998).⁴ Second, the rather unusual decision to focus only on Big Four network affiliates, and only on those affiliates in markets in which one owned and operated station is present, limits the generalizability of the results to the broader population of broadcast stations.⁵ This study also failed to account for a variety of station and market characteristics that previous studies have found to be related to the provision of news and public affairs programming, and also failed to differentiate between news and public affairs programming in its analyses. These latter two shortcomings were addressed in Napoli’s (2004) reanalysis of the Commission’s data; however, this reanalysis still suffered from the programming and station sample shortcomings of the Commission’s original dataset.

One (perhaps the only) clear conclusion that can be derived from this work is that news and public affairs programming – the two key components of informational programming – appear to have very different economic characteristics. Generally, the explanatory power of the models in the studies discussed above has been greater within the context of news programming than it has within the context of public affairs programming, with news programming much more sensitive to variations in market conditions. Moreover, the relevant explanatory variables frequently have been different across the two program types (see Federal Communications Commission, 1984; Napoli, 2001; Wirth & Wollert, 1979). These patterns are not surprising, because while the FCC traditionally has characterized both program types together as “informational programming,” they are different in important ways. Specifically, local news programming increasingly has become a profit center for local television stations, as well as a key component of many stations’ efforts to establish a distinct brand identity (see Lieberman, 1998).⁶ Local public affairs programming, in contrast, typically is not a very profitable enterprise for local stations and generally is not used by stations to establish and enhance their brand identities (Ryan, 2001).

As should be clear, research on the relationship between competitive conditions and ownership characteristics and the provision of informational programming has yet to yield a consistent set of findings. This may very well be due to the methodological issues described above – particularly in terms

of the failure to employ rigorous sampling procedures and to incorporate the full range of potentially relevant explanatory factors. This study attempts to address these weaknesses by: a) utilizing a randomly selected sample of stations; b) employing a constructed two-week sample of station programming; and c) simultaneously accounting for station ownership and market competition characteristics; and d) separately analyzing local news and local public affairs programming.

Method and Variables

This study analyzes a two-week constructed sample of broadcast television programming in 2003 from a sample of 289 full-power U.S. television stations. The sample frame is a list of 1,447 full power, English-language television stations published in the Nielsen Station Index Directory of Television Stations 2003-2004. The stations were ordered first by the rank of their television market (from the highest to the lowest rank) and then alphabetically within each market. Every fifth station was drawn, with the starting point randomly determined. Four stations had to be excluded for various reasons.⁷

Data for the station and market independent variables used in this study were obtained from the 2003 Investing in Television Market Report (4th ed.) and the 2003 Investing in Television Ownership File (3rd ed.), both published four times a year by BIA Research. The competitive conditions in a station's market were assessed by creating variables capturing the number of commercial and non-commercial stations in a station's market, cable television penetration, the audience share for public and non-broadcast television in the market, and the number of television households in the market. These variables are intended to capture both the number and the competitive strength of the alternative program sources against which any broadcast station must compete, in terms of broadcast and cable television (given cable's increasing prominence as a source of local news and public affairs programming in many larger markets in the U.S.).

Ownership characteristics incorporated into this study included whether the station was a duopoly, whether the station was owned locally, whether the station was owned by one of the Big Four (ABC, NBC, CBS, FOX) broadcast networks, and size of the station group owning the station (as measured by the group's national household reach). These variables are intended to capture the primary

station ownership characteristics that have been of interest to policymakers and that frequently have been asserted to bear some relationship to the provision of local informational programming.⁸

A number of control variables were included in the study as well. First, because many public affairs programs are focused around minority interests and concerns, the extent to which minorities comprise a significant portion of a station's potential audience may compel stations to provide more local public affairs programming. Thus the percentage of the population of the station's market that is white was included as a control variable. A station's financial resources (as measured by its previous year's revenues) also were included as a control variable. Stations with greater financial resources may be more inclined to provide local informational programming, given the greater costs associated with producing original, locally-oriented content, as opposed to purchasing syndicated content. This perspective has found support in some previous research (see Federal Communications Commission, 1984; Napoli, 2004; Wirth & Wollert, 1979). A station's status as a VHF or UHF broadcaster also was included as a control variable as well. Although the diffusion of cable has dramatically reduced the "UHF" handicap, VHF stations tend to still be more widely viewed and more successful than their UHF counterparts. This may impact a station's likelihood of investing in informational programming. A final control variable that was employed was whether a station was a Big Four network affiliate. These affiliates relinquish the most time to their parent network, and therefore may have less time to devote to local informational programming. A full description of all of the independent variables employed in the study is contained in Table 1.

 INSERT TABLE 1 HERE

Table 2 shows the frequency distribution of the 285 stations included in the sample by their network affiliation and commercial/non-commercial status. This distribution adheres very closely to the national distribution of station types. For each of these stations, a constructed two-week sample of programming schedules was obtained from Tribune Media Services (operator of the zap2it.com online

television program schedule database).⁹ In addition to operating the on-line schedule database (which only provides scheduling information for the current two-week period), Tribune provides detailed television program schedule data to commercial and non-commercial clients. For this study, 18 fields of data were obtained, ranging from station call letters to the date, time, title, description, and duration of program broadcasts. The data set also contained a number of useful descriptive fields for identifying local news and public affairs programming. The Program Type field classified each program according to a wide range of programming types, including News and Public Affairs (as separate program type labels). This Program Type field also included some very broad classification categories such as Syndicated and Network programming. More detailed gradations were contained in the Category field, which included a wide range of program type categories – again including News and Public Affairs. The data set also included a Program Origination field, which identified each program as Local, Syndicated, or Network (along with identifying the originating network). This data field facilitated separating local news and public affairs programs from non-local programs. The dependent variables created for this study were the total minutes of local public affairs programming and local news programming provided by each station in the sample over the two-week time period (see Table 1). This study focused on local news and public affairs programming provision in light of their traditional status as indicators of a station's commitment to localism.

In constructing these dependent variables, this study relied primarily on the program type classifications utilized by the commercial data provider, rather than engage in systematic content analysis of program titles or descriptions. This approach reflects the predominant approach utilized and relied upon by policymakers, who have shown a tendency to conduct and utilize analyses that rely upon the pre-established content classifications developed by the commercial providers of the data utilized in the analyses (e.g., Einstein, 2002, Spavins, et al., 2002), rather than engaging in content coding and analyses of inter-coder reliability. While the content classifications developed by a commercial data provider may ultimately not be as accurate as those achieved via traditional content analysis, this approach does place the onus of the content classification in the hands of a presumably neutral and professionally trained third

party. Thus, it is important to recognize, that this study represents the analysis of local news and public affairs programming as represented by the primary commercial aggregator of program schedule data.¹⁰

 INSERT TABLE 2 HERE

Results

The first part of the results section provides descriptive information on the sampled stations' provision of local news and public affairs programming. The second part provides the results of separate multivariate analyses of the local news and public affairs programming dependent variables.

Local Public Affairs and News Programming on Broadcast Television

Looking first at descriptive data on station provision of local public affairs programming, 143 stations (50% of the 285 stations sampled) aired any local public affairs programs during the two-week sample period in 2003. Among the 233 commercial stations in the sample, 137 (59%) did not air any local public affairs programming during the sample period. In contrast, only 5 of the 52 (10%) public stations did not air any local public affairs programming during the sample period.

As shown in Table 3, the sample stations averaged one hour and 44 minutes of local public affairs programming during the two-week sample period. However, public stations aired significantly more such programming than commercial stations, broadcasting over 6 hours of local public affairs programming, to the commercial stations' average of 45 minutes of such programming ($F = 155.7, p < .05$). A substantial difference also was exhibited between network-affiliated and independent stations, with network-affiliated stations providing an average of about 37 minutes of local public affairs programming, compared with an average of 110 minutes from independent stations ($F = 13.21 ; p < .05$).

 INSERT TABLE 3 HERE

Turning next to the sampled stations' provision of local news programming, it is first worth noting that 103 stations in the full sample of 285 stations (36.1%) did not air any local news during the sample period. Many of these stations are public stations (45 out of 103), with only 7 of the 52 public stations in the full sample airing any local news during the sample period. For the 233 commercial stations in the sample, about a quarter (58) did not air any local news during the sample period. A sizable percentage of network affiliated stations (21.5%, or 45) did not air any local news. Nearly half the independent stations sampled (11 out of 24) carried some local news programming.

As shown in Table 3, on average, the stations in the full sample aired about 21 hours of local news programming during the two-week sample period, or one and a half hours local news per day. Commercial stations averaged 1.8 hours of local news per day. In addition, network-affiliated stations aired an average of 27 hours of local news programming (or 1.9 hours per day), compared to 5.75 hours (or 0.4 hours per day) for independent stations ($F = 21.31; p < .05$). In comparing commercial and public stations, the results were found to be in stark contrast to those found in the public affairs context, with commercial stations providing an average of almost 25 hours of local news programming (or 1.7 hours per day), compared with an average of two hours (or 15 minutes per day) from public stations ($F = 51.90; p < .05$).

Regression Results

As was noted in the literature review, prior research suggests that local news programming and local public affairs programming are different in terms of the factors related to their production. It therefore seems more appropriate to analyze the two program types separately rather than in combination, particularly given the problematic distribution of the local public affairs dependent variable discussed below. Thus, separate regression analyses were conducted for local public affairs and local news programming. In both cases, the analysis focuses on commercial stations.¹¹ Twelve commercial stations were excluded due to the unavailability of revenue data, leaving a total of 221 commercial stations that are the focus of these analyses. Summary statistics are provided in Table 4.

INSERT TABLE 4 HERE

Local public affairs programming

As mentioned above, nearly 60% of the commercial stations did not air any local public affairs programming during the sample period. The excessive number of zeros observed in the dependent variable PA_LOCAL makes the use of the Ordinary Least Squares (OLS) regression model inappropriate. Several statistical models designed to deal with count outcomes were then considered, including the zero-inflated count model and the hurdle model.

The count models are appealing because the values assumed by the dependent variables in the current data set are indeed non-negative, discrete numbers. More importantly, count models provide ways to model excess zeros in the dependent variable (Scott, 1997). Specifically, the count models deal with the excess zeros by assuming that the zeros of the dependent variable may come from two different data generating processes. For example, a zero value on PA_LOCAL may mean that a television station would never air any local public affairs programming regardless of the factors that are included in the statistical model, due to the lack of production facility or some other unobserved reasons (the “always zero” scenario). It may also mean that the station would air some local public affairs programs but happens to have aired none during the sample period (the “zero by chance” scenario).

Cameron and Trivedi (1998) proposed two zero modified count models to deal with the excess zeros, namely, the zero-inflated model and the hurdle.¹² The zero-inflated model assumes that both zero and positive counts are generated by the same process, but accounts for the probability that a zero value comes from one of the two different scenarios described in the above section. A zero inflated negative binomial (ZINB) regression model is used in this study to control for over-dispersion and unobserved heterogeneity in the data.¹³

The hurdle model, on the other hand, posits that a binary probability governs whether the count dependent variable takes on a zero or a positive realization. If the realization is positive, then a hurdle is said to be crossed and the conditional distribution of the positives is governed by a truncated-at-zero

count data generating process. In practice, the hurdle model is estimated in two parts, the first involving a binary outcome model estimating the probability of crossing the hurdle and the second a zero-truncated model. The analysis here uses the probit model for the first part and the zero-truncated negative binomial model for the second.

Table 5 present the results of these regression models with local public affairs programming (PA_LOCAL) as the dependent variable. The results from the OLS regression model also are included for comparison. The results in the “zero” part of the hurdle model, estimated by a probit model, show how the various station, ownership and market variables are related to a television station’s decision to carry any local public affairs programming at all in 2003. As shown in the table, such variables as VHFUHF, LOCAL, PENE_O and COMTV_M had a statistically significant, positive relationship to that decision.¹⁴ All other things being equal, being a VHF station, ownership group size (in terms of the number of television households reached) and the existence of more commercial television stations in the market increased a station’s likelihood of carrying any local public affairs programming. On the other hand, ownership by one of the BIG FOUR commercial broadcast networks (TOP4) and television market size (TVHH_M) significantly decreased a station’s probability of offering any local public affairs programming. Other market and station ownership variables had no statistically significant relationship to a station’s decision to air local public affairs programming.

The results in the “positive” part of the hurdle model, estimated by a zero-truncated negative binomial model, show that, once the zero-hurdle was crossed, how the amount of local public affairs programming was affected. Again, ownership by a BIG FOUR network was significantly negatively related to local public affairs minutes. Indeed, it is the only variable showing statistically significant relationship in this model. The results of the ZINB model are consistent with those of the zero-truncated negative model.

INSERT TABLE 5 HERE

Local news programming

The distribution of the local news programming dependent variable did not possess the same problematic characteristics as the local public affairs variable; therefore Ordinary Least Square (OLS) estimation was employed. The White estimator for variance was used to correct for possible heteroscedasticity, so the standard errors of regression coefficients reported in Table 6 are so-called consistent, robust standard errors (Green, 1993, p. 391). In addition, the independent variables used in the regression models did not cause multicollinearity problems.¹⁵

As shown in Table 6, several independent variables had a statistically significant, positive relationship with the provision of local news programming, including VHF, REV_S, BIG4, and COMTV_M. All other things being controlled, VHF stations on average aired 18 hours more local news than UHF stations. Similarly, stations affiliated with one of the big four networks had almost 19 hours more local news programming than other commercial stations (including independents and other network affiliates). In addition, stations that generated more revenues in 2002 provided more local news programming in 2003. The number of commercial stations available in a station's market also increased the amount of local news aired by the station. TVHH_S, the variable measuring a station's market size, had no significant relationship. None of the ownership-related variables had any significant relationship to local news programming.

The results from the local news regression model suggest that a station's position in the market and its own financial strength, implied by the coefficients for VHF, BIG4 and REV_S, increase local news programming. Competition from other program sources in the market also creates some incentive for the provision of such programming. On the other hand, the characteristics of a station's owner did not seem to significantly affect local news production.

Conclusion

This study has attempted to offer descriptive data on commercial and non-commercial broadcasters' provision of local news and public affairs programming, and to provide multivariate analyses focusing on the competitive conditions and ownership characteristics related to the provision of

such programming. As was suggested by previous research, significant differences emerged across the two program types.

First, the data make quite clear that public television stations are the predominant provider of local broadcast public affairs programming (with commercial stations providing relatively little of such programming), whereas commercial stations are the predominant provider of local broadcast news (with public stations providing relatively little news). This likely is a reflection of the greater financial resources necessary to provide local news broadcasts (with their associated substantial newsgathering expenses) relative to public affairs broadcasts (which can often focus on a few “talking heads” and do not have the same newsgathering expenses). It also is likely a reflection of the greater financial incentives associated with local news programming, which have become an important revenue center for local stations and a key element of their brand identity.

These results suggest that commercial broadcasters are ceding public affairs programming to their non-commercial counterparts, while public stations are ceding news to their commercial counterparts. This sort of division of the programming market may make sense, but does become problematic when we consider the declining level of governmental support for public television. If public television is to be the primary source for broadcast local public affairs, then for that type of programming to reside primarily on outlets that are in an increasingly precarious financial position represents a scenario that policymakers should be concerned about. By the same token, the absence of local news on public television denies audiences access to news broadcasts that are not driven by commercial imperatives – broadcasts that likely would prove quite different in form and content from their commercial counterparts.

The multivariate analyses indicated significant differences in the factors related to the provision of local news and local public affairs programming. Local public affairs programming was found to be inversely related to market size. In addition, while the existence of a larger number of commercial stations in a market increased a station’s probability to air some local affairs programming, that factor did not make the station air more such programming than stations in markets with fewer number of commercial stations. In combination, these results suggest a relatively weak relationship between

competitive conditions and the provision of local public affairs programming, a conclusion supported by the lack of significance of other competitive condition variables included in the model.

Similarly, few strong relationships were found within the context of ownership characteristics, though one result that was consistent throughout the models employed was the negative relationship between TOP4 (ownership by one of the big four broadcast networks) and the provision of local public affairs programming. This result suggests that that big four network ownership in particular may hamper the provision of local public affairs programming. The lack of significance of the other ownership variables raises questions about the arguments both in favor of and opposed to greater ownership concentration. Ownership concentration does not appear to hinder or promote the provision of local public affairs programming. Moreover, the absence of a significant relationship between station revenues and local public affairs programming raises questions about arguments claiming that policies designed to enhance the economic health of commercial broadcasters will result in increased provision of public service programming such as local public affairs programming.

News programming, in contrast, appears to be much more a function of the financial strength of the individual station and of the competitive conditions in which a station operates. A number of indicators of the overall strength of a station (Big Four network affiliation, VHF status, revenues)¹⁶ were found to be positively related to local news provision, as were the number of commercial stations in the market. These results suggest that stronger stations are likely to provide more local news programming – though in the case of the revenue variable it is particularly difficult to draw causal conclusions. Local news provision likely is a key factor in increasing station revenues. Competition from other commercial broadcast stations appears to drive local news provision, though competition from other program sources (non-commercial stations, cable) does not.

Where the public affairs and news results did prove similar, however, was in their relationship to station ownership characteristics. Specifically, none of the station ownership characteristics analyzed in this study are related to a station's provision of local news programming. Here again, arguments asserting that greater ownership concentration will lead to increased provision of informational programming (the

economies of scale argument), as well as arguments asserting that greater ownership concentration will lead to decreased provision of informational programming (the commerce over localism argument) fail to receive support in this study.

In the end, these findings call into question one of the commonly articulated rationales for more relaxed national and multiple ownership rule – that of economies of scale associated with the relaxation of ownership limits contributing to improved public service in the form of informational programming. The results also call into question one of the commonly articulated reasons for concern about increased ownership concentration (diminished public service in the form of informational programming). For policymakers seeking to preserve and promote the provision of such programming, in the name of promoting localism in broadcasting, these results suggest that the revisiting of explicit behavioral obligations may therefore be an option meriting consideration.

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Table 1: Variable Names and Descriptions

Dependent Variable:

PA_LOCAL	Amount of local public affairs programming broadcast by a commercial station during the two week sample period (in minutes)
NEWS_L	Amount of local news programming broadcast by a commercial station during the two week sample period (in minutes)

Independent variables:

Station and ownership variables:

VHFUHF	Whether a station is a VHF or UHF station (1=VHF, 0=UHF)
REV_S	Station annual revenues in 2002 (mil)
DUO_S	Whether a station is a local duopoly station (1=yes, 0=no)
LOCAL	Whether a station is owned by a local media company (1=yes, 0=no)
BIG4	Whether a station is a Big Four (ABC, CBS, FOX, NBC) affiliate (1=yes, 0=no)
TOP4	Whether a station is owned by the Big Four (ABC, CBS, FOX, NBC) (1=yes, 0=no)
PENE_O	Percentage of national television households reached by a station's parent company

Market variables:

TVHH_M	Number of television households in a station's market (mil)
COMTV_M	Number of commercial television stations in a station's market
PTV_M	Number of public television stations in a station's market
CABLE_M	Percentage of households in a station's market subscribing to cable television (%)
PTVVIEW	Percentage of public television viewing in a station's market (%)
OTHVIEW	Percentage of non-broadcast television viewing in a station's market (%)
WHITE	Percentage of white population in a station's market (%)

Note: Data are for 2003, unless otherwise indicated.

Table 2: Sampled Stations by Network Affiliations

	N
Network Affiliated Stations (NET)	209
ABC	34
CBS	32
FOX	39
NBC	54
PAX	11
UPN	17
WB	13
Multiple Affiliation	9
Independent Stations (IND)	24
Commercial Stations (COM)	233
Public Service Stations (PUB)	52
Sample Total	285

Table 3: Mean News and Public Affairs Programming (Minutes)

	NET	IND	COM	PUB	Overall
Local PA	37.35	110.00	44.83	368.46	103.88
Local News	1623.60	345	1492.20	120.00	1242.00
N	209	24	233	52	285

Table 4 Summary Statistics

(Based on 221 commercial stations included in the regression analysis)

	<u>Mean</u>	<u>Std Dev.</u>	<u>Min.</u>	<u>Max.</u>
PA_LOCAL	42.7828	87.6836	0	720
NEWS_L	1557	1336.20	0	4440
VHFUHF	0.4570	0.4993	0	1
REV_S	20.2152	31.0864	0.079	204
DUO_S	0.1719	0.3782	0	1
LOCAL	0.1810	0.3859	0	1
BIG4	0.7149	0.4525	0	1
TOP4	0.1131	0.3175	0	1
PENE_O	0.1338	0.1760	0.000	0.6199
TVHH_M	0.7999	1.0296	0.016	7.376
COMTV_M	8.0045	4.2185	1	21
PTV_M	2.1674	1.4504	0	8
CABLE_M	68.5068	9.5525	44	91
PTVVIEW	1.8452	1.3699	0	6.3
OTHVIEW	50.7878	9.4292	30.9	81.7
WHITE	78.1326	12.8592	24	96.9

Table 5: Regression Analysis for Local Public Affairs Minutes ($N = 221$)

	Hurdle Model			
	OLS	Zeros (Probit)	Positives (Truncated NB)	ZINB
Intercept	-33.912 (-0.385)	-2.829* (-2.009)	5.620** (4.070)	5.693** (4.216)
VHFUHF	21.073 (1.456)	0.502* (2.175)	0.305 (0.872)	0.279 (0.840)
REV_S	0.409 (1.408)	0.008 (1.512)	0.001 (0.179)	0.001 (0.149)
DUO_S	-17.566 (-1.021)	0.238 (0.868)	-0.281 (-1.255)	-0.287 (-1.299)
LOCAL	5.133 (0.310)	0.427 (1.684)	-0.283 (-1.006)	-0.304 (-1.102)
BIG4	-17.030 (-1.045)	-0.096 (-0.371)	-0.375 (-1.096)	-0.366 (-1.113)
TOP4	-94.967** (-3.697)	-1.376** (-3.176)	-0.968** (-2.732)	-0.938** (-2.635)
PENE_O	92.117 (1.952)	1.884* (2.551)	0.051 (0.090)	-0.013 (-0.023)
TVHH_M	-11.524 (-1.077)	-0.530* (-2.561)	0.262 (1.202)	0.279 (1.324)
COMTV_M	3.475 (1.168)	0.164** (3.205)	-0.074 (-1.530)	-0.078 (-1.666)
PTV_M	3.441 (0.702)	-0.038 (-0.474)	0.121 (1.357)	0.122 (1.393)
CABLE_M	0.138 (0.214)	0.002 (0.164)	0.001 (0.136)	0.001 (0.093)
PTVVIEW	9.881 (1.647)	0.114 (1.199)	0.038 (0.425)	0.036 (0.410)
OTHVIEW	0.970 (0.961)	0.022 (1.333)	-0.007 (-0.410)	-0.008 (-0.433)
WHITE	-0.404 (-0.798)	-0.002 (-0.283)	-0.006 (-0.802)	-0.005 (-0.788)
Log Likelihood	-1288.625	-128.969	-503.926	-654.337

** Significant at the .01 level

* Significant at the .05 level

Table 6: Regression Analysis for Local News Minutes (with White variance estimator; $N = 221$)

	Coef.	Robust Std. Err.	t
INTERCEPT	-10.266	14.301	-0.72
VHF	18.226	2.854	6.39**
REV_S	0.177	0.051	3.45**
DUO_S	-2.621	2.683	-0.98
LOCAL	0.183	3.099	0.06
BIG4	18.837	2.636	7.14**
TOP4	-0.086	3.446	-0.02
PENE_O	8.151	5.226	1.56
TVHH_S	-2.649	2.280	-1.16
COMTV_M	1.189	0.457	2.60**
PTV_M	-0.584	0.698	-0.84
CABLE_M	0.179	0.110	1.62
PTVVIEW	-0.517	0.945	-0.55
OTHVIEW	-0.079	0.167	-0.47
WHITE	-0.042	0.074	-0.56
R-SQUARED		0.647	

** Significant at the .01 level

* Significant at the .05 level

Endnotes

¹ The localism principle refers to media policymakers long-standing commitment to assuring that media services effectively serve and reflect the needs and interests of local communities – as opposed to having a primarily national or regional orientation in the services that they provide (Federal Communications Commission, 2004).

² In its decision, the court concluded that the Commission had erred in including the Internet as a distinct information source for the purposes of calculating its Diversity Index because the Internet does not yet represent a significant source of local news and information. According to the court, “Search engine sponsored pages such as Yahoo! Local and about.com, which were suggested by commenters as sources of local news and information, may be useful for finding restaurant reviews and concert schedules, but this is not the type of ‘news and public affairs programming’ that the Commission said was ‘the clearest example of programming that can provide viewpoint diversity’” (Prometheus Radio Project v. Federal Communications Commission, 2004, p. 64, citations omitted).

³ For more recent research examining broadcast station provision of news and public affairs programming that relies upon station self-reports, see Mason, Bachen, & Craft (2001). This is the published version of a study commissioned by the FCC two years earlier (Bachen, Hammond, Mason, & Craft, 1999).

⁴ “Sweeps” months (November, February, May, July) are when all 210 TV markets in the U.S. are measured by Nielsen Media Research. During these periods, stations often employ particularly aggressive or sensationalistic programming strategies in order to maximize ratings (see Ehrlich, 1995).

⁵ The Commission’s study (Spavins, et al., 2002) was subject to much criticism from various parties participating in the media ownership proceeding (see, for example, National Association of Broadcasters and Network Affiliated Stations Alliance, 2002).

⁶ For a thorough analysis of the economics of news, see Hamilton (2004).

⁷ Of the four deleted stations, two have incomplete programming data, one being a Spanish language station and one a religious station.

⁸ Other potentially relevant ownership variables include newspaper ownership and minority ownership (Bachen, Hammond, Mason, & Craft, 1999; Spavins, et al., 2002). However, data on stations’ newspaper holdings were not collected for the current study. In addition, the sample of the study contained only three minority-owned stations. For these reasons, this study did not examine the effects of network and minority ownership on programming output.

⁹ The sample dates are: Jan. 11 (Sat.), Jan. 22 (Wed.), Feb. 17 (Mon.), Feb. 27 (Thu), Mar. 23 (Sun.), Mar. 28 (Fri.), Apr. 22 (Tue.), Aug. 11 (Mon.), Sep. 30 (Tue.), Oct. 18 (Sat.), Nov. 5 (Wed.), Nov. 6 (Thu.), Nov. 9 (Sun.) and Nov. 28 (Fri.), all of 2003.

¹⁰ A verification process was employed to address potential cases of misclassification (for instance, when a program classified as local appeared in the schedules of stations in different markets, or when the title or program description data field provided a clear indication that the program might not be a public affairs program). In these cases of uncertainty, station web sites were consulted and/or the stations were called directly in order to ascertain the nature of the program. Relatively few misclassifications were identified and corrected as a result of this process. Specifically, 74 of the 3118 programs categorized as public affairs programs were wrongly classified as such (2.37 percent). In these instances, programs that were in

fact restaurant review programs, sports programs, infomercials, or news programs were labeled as public affairs and were thus removed from the data set. Also, 167 of the 1092 public affairs programs identified as local public affairs programs were misclassified and were in fact non-local public affairs programs (15.29 percent), and 134 of the 2026 programs categorized as non-local public affairs programs were in fact local public affairs programs (6.61 percent). The data set was altered accordingly to reflect these corrections.

¹¹ Ad revenue data are, of course, not available for public stations, which is one of the reasons why these stations were excluded from the multivariate analysis (in which revenues were employed as a key independent variable). These stations also were excluded due to the fact that many of the ownership and competitive conditions under study would not be relevant to the study of the behavior of non-commercial stations.

¹² For a detailed discussion of the zero-modified models and examples, see Cameron and Trivedi (1998, Chapter 4).

¹³ The basic count model is the Poisson regression model (PRM). However, the PRM assumes that the mean and variance of the dependent variable are equal, a property called *equi-dispersion*. This assumption is more often than not violated as counts are often over-dispersed in real situation. In the current example, PA_LOCAL has a mean of 42.783 and standard deviation 87.684, clearly indicating over-dispersion (see Table 4). The negative binomial model allows the conditional variance of the dependent variable to exceed the conditional mean (Scott, 1997).

¹⁴ Note that the effect of LOCAL was only significant at the .10 level.

¹⁵ None of the independent variables in the fitted models has a variance inflation factor (VIF) value larger than 5. In addition, the average VIF value for all of the independent variables is 2.10. The rule of thumb is that if any variable has VIF larger than 20, then there is multicollinearity among this and other independent variables.

¹⁶ These variables are significantly correlated with one another, but so highly as to cause a multicollinearity problem in the regression models.