Before the
FEDERAL COMMUNICATIONS COMMISSION
Washington, DC 20554

In the Matter of	)	
	)	
Broadcast Localism	)	MB Docket No. 04-223
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	)	
To the Commission	)	

COMMENTS OF THE DONALD MCGANNON COMMUNICATION RESEARCH CENTER

The Donald McGannon Communication Research Center at Fordham University submits the two attached studies in connection with the Commission's Notice of Inquiry on Broadcast Localism.[1] The first study, "Television Station Ownership Characteristics and Local News and Public Affairs Programming: An Expanded Analysis of FCC Data," [2] written by McGannon Center Director, Dr. Philip M. Napoli, recently was published in the double-blind, peer-reviewed scholarly journal, *Info: The Journal of Policy, Regulation, and Strategy for Telecommunications, Information, and Media.* This study involves an expanded analysis of the data the Commission gathered in connection with its 2003 media ownership decision,[3] and released with the Media Ownership Working Group Study (MOWG), "The Measurement of Local Television News and

[1] *Broadcast Localism*, Notice of Inquiry, MB Docket No. 04-223 (2004).
[2] Philip M. Napoli, *Television Station Ownership Characteristics and Local News and Public Affairs Programming: An Expanded Analysis of FCC Data*, 6 INFO: THE JOURNAL OF POLICY, REGULATION, AND STRATEGY FOR TELECOMMUNICATIONS, INFORMATION, AND MEDIA 112 (2004).
[3] *2002 Biennial Regulatory Review; Review of the Commission's Broadcast Ownership Rules and Other Rules Adopted Pursuant to Section 202 of the Telecommunications Act of 1996; Cross-Ownership of Broadcast Stations and Newspapers; Rules and Policies Concerning Multiple Ownership of Radio Broadcast Stations in Local Markets; Definition of Radio Markets; Definition of Radio Markets for Areas Not Located in an Arbitron Survey Area*. Report and Order and Notice of Proposed Rulemaking (2003).

Public Affairs Programming."[4] This reanalysis (which includes the gathering of additional relevant data) confirms many of the findings of the MOWG study, with one significant caveat – the relationships between ownership and programming identified in the MOWG study appear to hold true only for news programming and not for public affairs programming, suggesting that news and public affairs programming have very different economic characteristics and should be approached and analyzed differently by policymakers.

The second study, written by Michael Yan of the University of Michigan and McGannon Center Director Philip M. Napoli, is titled "Market Structure, Station Ownership, and Local Public Affairs Programming on Local Broadcast Television." This study is a recent McGannon Center Working Paper that was presented at the 2004 Telecommunications Policy Research Conference. This study involves a large-scale analysis of the relationship between station ownership and market characteristics and the provision of public affairs programming. This study provides descriptive information on the amounts of local and non-local public affairs programming provided by a sample of almost 300 commercial and non-commercial broadcast television stations, as well as multivariate analyses of the relationship between market and station characteristics and the provision of such programming.

Among this study's most significant findings are that commercial broadcast stations provide less than half an hour of local public affairs programs per week, with roughly half of the stations sampled providing no public affairs programming during the two week constructed sample period. This study also finds no meaningful relationships between market conditions and the provision of public affairs programming, but that there is a significant relationship between network ownership and the provision of local public affairs programming (with network owned

[4] Thomas Spavins, Loretta Dennison, Jane Frenette, & Scott Roberts, *The Measurement of Local Television News and Public Affairs Programs, Media Ownership Working Group Study #7* (2003). Available: http://www.fcc.gov/ownership/studies.html.

and operated stations less inclined to provide local public affairs programming).

The McGannon Center submits these studies in the hopes that their data analyses and recommendations for future research can be of use to the Media Bureau and to the Commission as a whole in its very important work examining localism in broadcasting.

Respectfully Submitted,

Philip M. Napoli, Ph.D.
Director, Donald McGannon
Communication Research Center
Fordham University
Faculty Memorial Hall, Room 453
Bronx, NY 10458
718-817-4195

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Television Station Ownership Characteristics and Local News and Public Affairs Programming:

An Expanded Analysis of FCC Data.

Philip M. Napoli
Graduate School of Business Administration
Fordham University
113 W. 60th St.
New York, NY 10023
Ph: 212-636-6196
Fax: 212-765-5573
pnapoli@fordham.edu

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Television Station Ownership Characteristics and Local News and Public Affairs Programming: An Expanded Analysis of FCC Data.

Abstract

This paper examines the relationship between television station ownership characteristics and local news and public affairs programming through an expanded analysis of data from the FCC's recent study of Big Four broadcast network affiliates. The results indicate that the FCC's conclusion that network owned and operated stations provide more local news and public affairs programming than other affiliates, and that stations with newspaper holdings provide more local news and public affairs programming than stations without newspaper holdings holds up only when these two program types are analyzed in combination. When these two program types are analyzed independently, and when additional explanatory factors are taken into consideration, these ownership characteristics are positively related to news programming, but not to public affairs programming.

Television Station Ownership Characteristics and Local News and Public Affairs Programming: An Expanded Analysis of FCC Data.

Introduction

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, 1999), with informational programming generally defined as news and public affairs programming.[1] As one recent FCC report noted, "the Federal Communications Commission has traditionally considered the provision of local news and public affairs programming to be an important function of television and radio broadcasters" (Spavins, Denison, Roberts, Frenette, 2002, p. 1). It is through the provision of such programming that stations are able to serve the informational needs and interests of their local communities.

In the past, broadcasters operated under specific FCC-imposed programming requirements (Federal Communications Commission, 1976). The assumption underlying these requirements was that certain types of media content, such as educational or public affairs programming, exhibits positive externalities that are not effectively captured by traditional economic models. That is, the value of such programming extends beyond the revenue it generates and the satisfaction consumers gain by consuming it. These positive externalities include 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). If the marketplace is unable to capture these additional sources of value, then such programming is likely to be under-produced relative to its true benefits to society (Brennan, 1983) and regulatory intervention may be desirable (see Chamberlin, 1979). Regulatory philosophy in the United States shifted in the 1980s, as communications policymakers developed much greater confidence in unregulated markets to produce a broad range of program types and to serve a broad range of audience interests and concerns, due in large part to the changing technological and competitive landscape of the

media industries (e.g., Fowler & Brenner, 1982). Consequently, in the 1980s the FCC eliminated explicit news and public affairs programming requirements (Federal Communications Commission, 1984).

However, the fact that the FCC no longer has explicit 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, 1999), though the Commission no longer explicitly states how much of such programming is required. Policy-makers also have long recognized that station provision of informational programming could be affected not only by direct behavioral regulation but also indirectly via structural regulations such as ownership regulations.

The possible relationship between ownership characteristics and programming was a central component of the FCC's recent reconsideration of a wide range of electronic media ownership regulations (Federal Communications Commission, 2002, 2003). In an effort to guide this inquiry, the FCC commissioned a series of studies addressing various economic and social policy concerns arising from the ownership regulations (Bush, 2002; Roberts, Frenette, & Stearns, 2002; Waldfogel, 2002; Williams, Brown, & Alexander, 2002).[2] Some of these studies directly addressed the relationship between media ownership characteristics and media content (Einstein, 2002; Pritchard, 2002).

One of the studies focused on Big Four (ABC, NBC, CBS, FOX) broadcast network affiliates' provision of local news and public affairs programming, in an effort to examine possible relationships between station ownership characteristics and the provision of informational programming (Spavins, et al., 2002). This study primarily was concerned with programming behaviors across two ownership variables: (a) broadcast network ownership; and (b) newspaper ownership. These areas of focus reflect current policy concerns. For instance, the Commission considered lifting or relaxing the existing television station ownership cap (the cap currently stands at 35 percent national audience reach) (Federal Communications Commission, 2002). However, some stakeholders argue that any opportunity for the Big Four broadcast networks to own a greater number of stations, or to reach a larger percentage of the

national television audience may represent a particular harm to the welfare of the television audience (Network Affiliated Stations Alliance, 2001).

Another issue that was central to the FCC's reconsideration of its ownership regulations is television-newspaper cross-ownership. The FCC recently decided to relax the restrictions on common ownership of television stations and a daily newspapers in the same market (Federal Communications Commission, 2003). The data gathering and analysis conducted by the Commission in its study (Spavins, et al., 2002) went beyond the issue of newspaper-television cross-ownership at the local level, examining the behavior of stations with any newspaper holdings (regardless of geographic location) relative to the behavior of stations without any such holdings (newspaper-TV station cross-ownership is permitted when the two outlets are not located in the same market). This more expansive focus suggests that the Commission also was concerned with the more general question of whether the performance of television stations with newspaper holdings differs from the performance of stations without newspaper holdings.

Unfortunately, the Commission engaged in a fairly rudimentary analysis of the relationship between ownership characteristics and the provision of informational programming. The Commission's study offered only basic means comparisons between network-owned and non-network-owned affiliates and between affiliates with newspaper holdings and affiliates without newspaper holdings. More important, the Commission's analysis did not account for the broader range of market and station characteristics that previous research suggests are related to the provision of news and public affairs programming. Consequently, it would be premature to draw firm conclusions from the Commission's analysis. As the authors of the study noted, "We have used in this paper relatively simple quantitative methods of examining the data . . .. As such, extensions or modifications to the methodologies employed in this paper may permit additional or contrary findings to those discussed herein" (Spavins, et al., 2002, p. 5). Following this lead, this paper attempts to pick up where the FCC's study left off, using the data set provided by the Commission as a starting point for a more comprehensive analysis of the factors related to the provision of local news and public affairs programming, in an effort to better determine whether ownership characteristics such as network ownership and newspaper ownership are indeed related to the

provision of local news and public affairs programming. This investigation can provide insights of relevance not only to current policy deliberations but also to the broader question of the relationship between media ownership characteristics, market structure, and the provision of informational programming.

Market Structure, Station Ownership, and Local News and Public Affairs Programming

Previous research suggests that station provision of local news and public affairs programming is a function of a wide range of factors. These factors can be organized into two broad categories: (a) market factors; and (b) station factors.

Market Factors

Station behaviors are a function of the competitive dynamics and revenue prospects within their local markets (see generally, Owen and Wildman, 1992). Competition for television audiences can come both from other broadcast stations in the market and from alternative program sources, such as cable television (Direct Broadcast Satellite services also are a source of competition, but to a much lesser degree at this point than cable, particularly in terms of providing local content). Individual markets differ in terms of the total number of broadcast stations available. They also differ in terms of the extent to which households in the market subscribe to cable television. The intensity of competition from alternative program sources may be reflected in a station's news and public affairs programming output as stations respond to the program offerings of their competitors (Napoli, 2001a; Powers, 2001).

The competitive conditions that any individual station faces also are a function of the overall size of the station's market in terms of the potential audience. The broadcast license allocation process in the United States was handled in such a way that, while larger markets tend to have more stations than smaller markets, licenses were not allocated in proportion to differences in market size (Noll, Peck, & McGowan, 1973; Thomas & Litman, 1991). Thus, the ratio of stations to television viewers is different across markets. Previous research has found that market size was positively related to station provision of local news and public affairs programming, when these types of programming were considered in combination (Federal Communications Commission, 1984), suggesting that stations in larger markets

face stronger incentives to produce informational programming. However, research that focused exclusively on local public affairs programming found no relationship between market size and the quantity of local public affairs programming (Napoli, 2001a).

Station Characteristics

The characteristics of individual stations also may affect the quantity of informational programming they provide. A station's financial resources may be one such factor, with stations with greater financial resources perhaps more inclined to provide such informational programming. Research that has examined news and public affairs programming in combination has supported this assumption (Federal Communications Commission, 1984). Research that examined news and public affairs programming independently, however, only found a significant relationship between station revenues and news programming (Wirth & Wollert, 1979). A more recent study that focused on public affairs programming found no relationship between station revenues and the provision of such programming (Napoli, 2001a).

The characteristics of individual station owners also may bear some relationship to station programming output. There is a long history of the FCC crafting ownership regulations based on assumed relationships between particular ownership characteristics and media content. License allocation preferences for local owners, female owners, and minorities all have been premised on assumptions that such owners would program their stations differently than other owners (either in terms of providing greater content diversity or in terms of better serving the informational needs and interests of the community of license) (Compaine, 1995; Wilson, 1988). Ownership limits (in terms of number of number of outlets or audience reach, or in terms of cross-media ownership) have been premised upon similar assumptions. Only in recent years have we begun to see systematic empirical investigations of these assumptions. Although some of these studies have failed to find meaningful relationships between these ownership characteristics and media content (Pritchard, 2001; 2002), others have found a relationship (Bachen, et al., 1999; Dubin & Spitzer, 1995; Napoli, 2002; Ofori, 1999). Few of these studies, however, have examined ownership characteristics in relation to the quantity of informational

programming that stations provide. A study by Wirth and Wollert (1979) found no relationship between group ownership and the provision of news or public affairs programming, while Napoli (2002) found a significant positive relationship between local ownership and the provision of public affairs programming (though only when local and non-local public affairs programming were included in the analysis).

The ownership characteristics central the FCC's recent policy analysis (Spavins, et al., 2002) are broadcast network ownership and newspaper ownership. Some stakeholders have argued that network owners are particularly 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. News or public affairs programming produced locally still can (and often does) address issues of national concern (Napoli, 2001a), which might facilitate economies of scale in the production of such programming for network owned and operated stations. This perspective receives support in the Commission's recent analysis (Spavins, et al., 2002).

In terms of newspaper ownership, there is the possibility that stations with newspaper holdings may exhibit a greater commitment to news and public affairs programming given that journalistic performance is more central to the mission of newspapers than it traditionally has been for television stations. Moreover, the economies of scale in the process of news gathering, presentation, and analysis may make the presentation of news and public affairs programming a more viable economic proposition for stations with newspaper holdings than stations without such holdings. These economies of scale may even extend to situations in which a station owner owns newspapers, but none in the market in which it owns a station, given the extent to which even local news and public affairs programs address issues and events that take place outside of the immediate market. Early research on this topic failed to find a relationship between newspaper ownership and the provision of local news or public affairs programming

(Wirth & Wollert, 1979), a result which contrasts with the more recent findings of the Commission's study, which found that stations with newspaper holdings generally provide more local news and public affairs programming than stations without newspaper holdings (Spavins, et al., 2002).

It is important to recognize that much of this 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. The extent to which the typical television market has changed over the past two decades suggests that renewed analysis of the relationship between market and ownership characteristics and informational programming provision is necessary to help guide current ownership policy.

Previous research does, however, suggest that the quantity of news and public affairs programming that a station provides may be a function of a wider range of market and station factors than the Commission examined in its analysis (Spavins, et al., 2002). Previous research also suggests that news programming and public affairs programming may be different in terms of the factors that influence their provision. 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. Moreover, the relevant explanatory variables frequently have been different across the two program types (see Federal Communications Commission, 1984; Napoli, 2001a; 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; Meredith Corporation, 2001). 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). In only considering news and public affairs programming in combination, the Commission's analysis did not address the possibility of significant differences in the factors related to

station provision of local news programming versus those related to station provision of local public affairs programming. This study attempts to improve upon these shortcomings in the FCC's analysis.

Method

The starting point for this analysis is the data set compiled by the FCC and made available as a series of appendices to their study titled "The Measurement of Local Television News and Public Affairs Programs," (Spavins, et al., 2002). This data set included information on the total hours of local news and public affairs programming provided by each Big Four network affiliate in November, 2000 in those markets in which at least one – but not all four – of the affiliates are owned by one of the Big Four broadcast networks.[3] The Commission researchers justified their focus on markets with network owned and operated stations in order to facilitate direct comparisons between O&Os and affiliates. The researchers justified excluding those markets in which all stations were O&Os because in those markets, "there was no affiliate against which the O&O stations would compete" (Spavins, et al., p. 2). These exclusions limit the overall generalizability of the data (i.e., to commercial television stations as a whole); however, the data do still provide a useful means of gaining insights into the behavior of Big Four affiliates (typically the most widely viewed stations in their markets) in markets in which there is a network ownership presence (generally most of the larger markets in the U.S.). The data set also included information on the owners of each station (i.e., whether the station owner had any newspaper holdings and whether the station was network-owned).

For this study, the data gathered by the FCC were supplemented with additional data gathered from the 2001 *Broadcasting and Cable Yearbook* and from the third quarter of 2000 edition of the *Investing in Television Market Report,* a quarterly industry report published by BIA Research (2000). Station revenue data for 1999 were gathered in order to account for the possibility that a station's financial performance in 1999 was related to the quantity of news and public affairs programming provided in 2000 (i.e., stations with greater resources are better able to fund the production of local news and public affairs programming). Additional data gathered included market characteristics such as size (in terms of number of television households), the number of commercial and non-commercial television

stations in the market, and cable penetration. These data were gathered in order to control for possible relationships between competitive conditions and the provision of local news and public affairs programming.

Because not all stations in a market report their revenues to BIA Research (though every station in this data set did report their revenues), it was not possible to calculate a more precise measure of competitive conditions, such as a Herfindahl-Hirschman index using total broadcast television advertising revenues in each market. In addition, because of the fairly limited scope of the Commission's original data set, it was not possible to incorporate additional ownership variables of potential relevance (e.g., local ownership, group ownership, minority ownership). Most of the stations studied were in fairly large markets and, of course, all were Big Four network affiliates. Consequently, many of these stations were owned by a well-known handful of large U.S. station groups (e.g., Belo, Sinclair) if they were not owned by one of the Big Four networks. This led to limited variability across some ownership characteristic variables.

In addition to adding these market and station characteristic data, the program hours data gathered by the Commission were recalculated to produce additional independent variables: the average amount of news programming, the average amount of public affairs programming, and the combined average of news and public affairs programming provided by the three other Big Four affiliates against which an individual station competes. Thus, for instance, for an NBC affiliate in the San Francisco, California market, the mean news, public affairs, and combined news and public affairs programming hours for the other three Big Four affiliates (ABC, CBS, FOX) were computed. Similarly, for the FOX station in the San Francisco market, means were computed using the ABC, CBS, and NBC affiliate program hour totals. These variables were created in order to account for the possibility that a station's local news and public affairs programming decisions are related to those of its major broadcast competitors. Previous research suggests that television programming practices are a function of the behavior of competitors (Kennedy, 2002; Powers, 2001). Despite the cross-sectional nature of this data set, it seems reasonable to presume that an individual station's current programming practices can be viewed as a response to it's

competitors' current programming practices, given that in television, program production and scheduling decisions are announced (or obtainable via informal communication within the industry) well before programming appears on the air. However, because only news and public affairs programming data for the Big Four network affiliates were available (independent, non-commercial, and "emerging" network affiliates were left out of the Commission's data gathering) this variable provides only a partial indicator of the local informational programming environment in which a station operates. Nonetheless, to the extent that the Big Four affiliates typically represent the most formidable competitors in the local television news market, and to the extent that any Big Four affiliate is likely to pay closer attention to (and is probably more likely to respond to) the behavior of the other Big Four affiliates than to the behavior of other stations in the market, this measure does provide a useful indicator of market-wide informational programming patterns that could influence a station's own news and public affairs programming decision-making. All of the independent variables utilized in this analysis are summarized in Table 1.

Table 1 Here

Finally, a number of corrections were made to the original data, where errors were detected. These corrections generally were minor, and included eliminating two stations (one independent station and one WB network affiliate) from the data set that were not Big Four network affiliates, and correcting ownership classifications for two stations.[4] In addition, the data fields for the Marquette, Michigan FOX affiliate did not include ownership data, nor any data on news or public affairs programming. It is possible that the station provided no news or public affairs programming, as the Commission researchers left cells blank in their database when no programming was provided, rather than inserting a 0 (though an on-line search determined that the station began offering a 10:00 PM nightly newscast in 1999). However, the fact that no ownership data were reported suggests that the researchers may have intended to exclude this station, particularly since the station is jointly affiliated with the UPN broadcast network, and would thus be the only station in the data set with a joint affiliation. In light of this uncertainty, this station was excluded from the analysis.[5]

Results

The data set contains 127 stations across 32 markets. These markets range in size from the fifth-ranked market in the United States (San Francisco, California), to market number 177 (Marquette, Michigan). As Table 2 indicates, forty-five of the stations in the data set are network owned-and-operated stations, while 82 are traditional affiliates. Fifty-nine of the stations are owned by companies that also own at least one newspaper, while 68 of the stations have owners with no newspaper interests. As Table 2 also indicates, stations in the data set provided an average of 19.69 hours of local news programming during November of 2000. They provided an average of .24 hours of local public affairs programming during this time period and an average of 19.93 hours of combined local news and local public affairs programming.

Table 2 Here

Table 3 presents a means comparison of the local news and public affairs programming practices according to station ownership characteristics. The table presents means comparisons across ownership characteristics for local news and public affairs programming combined (this comparison being a replication of the means comparisons presented in the FCC study), as well as for local news and public affairs programming independently. As the first column of Table 3 indicates, when combined local news and local public affairs programming hours means are calculated across these different categories of stations, network owned and operated affiliates provide an average of 22.63 hours of such programming, compared with 18.45 hours for non-network-owned affiliates. This difference is significant at the .01 level ($t = 2.81$; $p < .01$).[6] Stations with newspaper ownership provide an average of 22.50 hours of such programming, while stations without newspaper holdings provide an average of 17.70 hours. This difference also is significant at the .01 level ($t = 3.45$; $p < .01$). When we focus exclusively on news programming (column 2 of Table 3), the results are nearly identical – in terms of the size of the means and the differences across ownership categories – to those for news and public affairs programming combined, given the consistently low levels of public affairs programming across the stations in the sample. Turning to local public affairs programming, the third column of Table 3 indicates that there are

no significant differences between stations in these different ownership categories for local public affairs programming, with all station groups providing an average of roughly a quarter of an hour of local public affairs programming during the one-month time period.

Table 3 Here

Table 4 presents the results of a series of regression analyses. In the first regression, combined local news and public affairs programming hours is the dependent variable. The adjusted R^2 for this model is .23 ($F = 5.65$; $p < .01$). In terms of market characteristics, there is a significant positive relationship between the number of households in the market and hours of local news and public affairs programming ($\beta = .45$; $p < .01$). This finding is consistent with previous research (Federal Communications Commission, 1984) and suggests that stations in larger markets face stronger incentives to produce informational programming than stations in smaller markets. There is a significant negative relationship between the number of non-commercial stations in a market and hours of local news and public affairs programming ($\beta = -.25$; $p < .05$) suggests that stations are less inclined to provide informational programming in markets where non-commercial stations have a stronger presence, perhaps because non-commercial stations likely have a fairly strong commitment to such programming. Rather than compete head-to-head with noncommercial stations for viewers of informational programming, commercial stations may opt for alternative program types (and viewers). The significant negative relationship with the average hours of local news and public affairs programming provided by the competing Big Four affiliates ($\beta = -.28$; $p < .01$) suggests that Big Four affiliates do not try to duplicate the news and public affairs programming practices of their major competitors, but rather try to differentiate their programming practices from them. In terms of station ownership characteristics, the significant positive relationships between network owned-and-operated status ($\beta = .24$; $p < .01$) and newspaper ownership ($\beta = .27$; $p < .01$) suggest that network owned-and-operated affiliates and affiliates with newspaper holdings may in fact be better equipped to provide informational programming.

An examination of the beta coefficients indicates that market size in terms of the number of

television households is the single most important explanatory factor (β = .45), with the remaining independent variables all of relatively equal importance in terms of explanatory power (with βs ranging from .25 to .28). The variables representing cable penetration, the number of commercial stations in the market, and station revenue were not statistically significant. The lack of a significant relationship between revenue and hours of informational programming is somewhat surprising, given that this has been a significant explanatory factor in previous research (Federal Communications Commission, 1984; Wirth & Wollert, 1979). The lack of significance of this variable here may be due to the bias in the data set towards stations with unusually high revenues, given that all stations in the data set are Big Four network affiliates, which typically are the most lucrative stations in a market. Or, it may be that over the past two decades, as local news programming has become an increasingly prominent component of most stations' program offerings (Powers, 2001), the production of news no longer is a function of a station's financial strength. Local news instead may now be something that stations across revenue categories pursue with equal vigor. Tolerance statistics indicated no significant multicollinearity problems among the independent variables for this analysis, or for those that follow.

Table 4 Here

In order to investigate the possibility that those factors predicting local news hours differ from those factors predicting local public affairs hours, each of these program categories was analyzed separately. In the second regression presented in Table 4, local news programming hours is the dependent variable. In terms of the overall explanatory power (R^2 = .23; F = 5.72; p < .01) and in terms of the relationships between the independent variables and the dependent variable, the results are nearly identical to those for the local news and public affairs hours regression. As was the case with combined news and public affairs hours, the number of households in the market is the most important explanatory factor (β = .47; p < .01), with the number of non-commercial stations in the market (β = -.27; p < .05), the competing Big Four's mean news hours (β = -.28; p < .01; note that this variable is slightly different from the one used in the previous regression, as it does not include local public affairs hours), O&O status (β =

.25; $p < .01$), and newspaper ownership ($\beta = .28$; $p < .01$) all comparably related to combined local news hours.

In the third regression presented in Table 4, the total hours of local public affairs programming is the dependent variable. The results differ markedly from what we see when we examine news programming, or news and public affairs programming in combination. The adjusted R^2 for this model is .25 ($F = 6.36$; $p < .01$). Only station revenue is significant at the .05 level ($\beta = .57$; $p < .01$), with the hours of public affairs programming positively related to station revenues. This relationship suggests that stations with higher revenues are more willing to incur the costs associated with the production of local public affairs programming. There is no indication that local public affairs programming hours are a function of either a station having newspaper holdings or being a network owned-and-operated station, nor are any of the other market condition data significantly related to local public affairs programming hours. Thus, as was suggested by previous research, the factors related to the provision of local public affairs programming do in fact appear quite different from those related to the provision of local news programming, with station revenues the driving force for local public affairs programming, but a much broader range of factors (including ownership characteristics) relevant to the provision of local news programming.

Conclusion

This paper has attempted to build upon the analyses conducted by the FCC in its investigation into the relationship between television station ownership characteristics and the provision of local news and public affairs programming. This expanded analysis suggests that the FCC's conclusions – that network owned-and-operated stations, and stations with newspaper holdings, provide significantly more local news and public affairs programming than traditional affiliates or stations without newspaper holdings – requires some qualification. When news and public affairs programming are considered in combination, these relationships do hold. However, when news and public affairs programming are analyzed separately, we find no relationship between these station ownership characteristics and public

affairs programming (public affairs programming instead is a function of station revenues), though the relationship between station ownership characteristics and news programming still holds. Given these differences, it seems particularly important to consider these program types separately, rather than in combination, as both of these program types are considered important to a station's fulfillment of its public interest obligations (Federal Communications Commission, 1999).

Looking, then, exclusively at news programming, while this analysis indicated that newspaper ownership and O&O status are positively related to the provision of local news programming, of greater importance is the size of the market in which a station operates. Stations in larger markets tend to provide more local news programming than stations in smaller markets. This is likely a reflection of the greater revenue potential for stations in larger markets. In addition, this study found that other explanatory factors, such as the number of non-commercial television stations in a station's market, and the amount of local news programming provided by competing Big Four affiliates, were of roughly equal importance as network O&O status and newspaper ownership in explaining the provision of local news programming. From an ownership policy standpoint, these results suggest neither limitations on network ownership of their affiliates, nor on newspaper-television station cross-ownership, are an effective means of preserving or promoting the production of local news programming – at least among the largest network affiliates in a market. Rather, increased network ownership and newspaper-television cross ownership may in fact promote the availability of local news programming from these stations.

None of the relationships found within the context of local news programming are present when we focus exclusively on local public affairs programming. Instead, only station revenue emerges as an important explanatory factor. Those stations in better financial standing are more inclined to incur the expense of providing local public affairs programming. This finding supports the conclusion that, while the news and public affairs program types are similar from a definitional standpoint, they are quite different in the factors related to their provision. This is not surprising when we recall the extent to which the economic incentives a station faces for producing news programming likely are much stronger than the economic incentives a station faces for producing public affairs programming (see above). From a

policy-making standpoint, these results suggest that policies related to network ownership or newspaper-television cross-ownership will not have any bearing on the provision of local public affairs programming – at least by the largest network affiliated stations in a market. These results also conform with those of previous research that concluded if policy-makers wish to improve the generally low quantity of local public affairs programming available, direct behavioral regulation may be necessary (Napoli, 2001a), as no market or structural characteristics appear to induce the production of such programming.

By incorporating a greater range of explanatory factors, and by separately analyzing local news and local public affairs programming, this paper hopefully provides a more fully realized analysis of the factors related to the provision of local news and public affairs programming than was provided in the FCC's initial analysis. Nonetheless, it is important to recognize that there remain significant limitations to the data analyzed here. Specifically, this data set is not a representative sample of the entire population of commercial television stations. This data set is best thought of as a sample (i.e., one month of programming) of the behaviors of the population of Big Four network affiliates in those markets in which traditional affiliates and network owned-and-operated stations coexist. Thus, while it would be inappropriate to generalize these data to the population of television stations as a whole, these data do provide a meaningful avenue of comparative analysis between affiliates and owned-and-operated stations, a level of analysis that may be useful to the Commission in its consideration not only of ownership regulations, but also in its consideration of the ongoing strife in the relationship between the broadcast networks and their affiliates (see Network Affiliated Stations Alliance, 2001). Future research, however, should look beyond the behaviors of Big Four network affiliates and analyze a broader range of stations and account for a broader range of ownership characteristics, so that policy decision-making can be guided by a more thorough account of the relationship between ownership characteristics and the provision of informational programming.

Table 1. Independent Variable Descriptions.

Variable	Description
CABLE	Cable penetration (%) in a station's market.
HOUSEHOLDS	Number of TV households (000) in a station's market.
CSTATIONS	Total number of commercial television stations in a station's market.
NCSTATIONS	Total number of non-commercial television stations in a station's market.
COMPPROG	Competing Big Four stations' average hours of programming (regression 1: local news and public affairs; regression 2: local news; regression 3: local public affairs).
REVENUE	Station annual revenue (000) for 1999.
O&O	Network owned-and-operated station (0=No; 1=Yes).
PAPER	Station's owner owns one or more newspapers (0=No; 1=Yes).

Table 2. Descriptive Data.

Station Characteristics

Network O & O

	Number	Percent
Yes	82	65
No	45	34
Total	127	100

Newspaper Ownership

	Number	Percent
Yes	68	53.5
No	59	46.5
Total	127	100

Programming

Type	Mean Hours	S.D.
Local News	19.69	7.99
Local Public Affairs	.24	.43
News & Public Affairs	19.93	8.08

Table 3. Ownership Characteristics and Local News and Public Affairs Programming Means.

Network O&O	News & Public Affairs	News	Public Affairs
Yes	22.63 (8.19)	22.42 (8.19)	.21 (.45)
No	18.45 (7.68)	18.19 (7.51)	.26 (.42)
t	2.81**	2.87**	.61

Newspaper Owner	News & Public Affairs	News	Public Affairs
Yes	22.50 (8.27)	22.24 (8.20)	.26 (.39)
No	17.70 (7.27)	17.47 (.46)	.23 (7.15)
t	3.45**	3.47**	.40

Note. Standard deviations in parentheses.

** $p < .01$.

Table 4. Simultaneous Regression Analyses of Variables Predicting Local News and Public Affairs Programming Hours (N = 127).

Variable	News & Public Affairs	News	Public Affairs
CABLE	-.08 (-.99)	-.09 (-1.01)	-.006 (-.07)
HOUSEHOLDS	.45** (2.81)	.47** (2.94)	-.24 (-1.70)
CSTATIONS	-.17 (-1.30)	-.17 (-1.33)	.02 (.18)
NCSTATIONS	-.25* (-2.50)	-.27** (-2.67)	.18 (1.85)
COMPPROG	-.28** (-2.94)	-.28** (-2.98)	-.04 (-.52)
REVENUE	.14 (1.52)	.11 (1.22)	.57** (6.23)
O&O	.24** (2.93)	.25** (3.03)	-.11 (-1.40)
PAPER	.27** (3.25)	.28** (3.29)	.05 (.54)
Adjusted R^2	.23**	.23**	.25**
F	5.65	5.72	6.36

Note. Coefficients are standardized betas; *t* statistics in parentheses.

* $p < .05$; ** $p < .01$.

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Notes

1. The FCC maintains distinct definitions for news and public affairs programs, with public affairs programs defined as Aprograms dealing with local, state, regional, national or international issues or problems, documentaries, mini-documentaries, panels, roundtables and vignettes, and extended coverage (whether live or recorded) of public events or proceedings, such as local council meetings, congressional hearings and the like@ (Federal Communications Commission, 1984, p. 172). News programs are defined as Areports dealing with current local, national and international events, including weather and stock market reports, and commentary, analysis, or sports news when they are an integral part of a news program@ (Federal Communications Commission, 1984, pp. 171-172).

2. These studies are available at www.fcc.gov/ownership/studies.html.

3. These programming data (and program type classifications) came from Nielsen Media Research reports.

4. One station (KTVX in Salt Lake City, Utah), was classified as being owned by FOX, although that station did not officially become a FOX-owned station until the FCC approved News Corp's purchase of the Chris-Craft station group in 2001 (recall that the ownership data need to time-match the November, 2000 programming data). In another instance, a station owner (Freedom Communications) was categorized as not having any newspaper holdings, when, according to the 2001 *Broadcasting and Cable Yearbook*, the company owns 29 daily and 33 weekly papers in 12 states.

5. It should be noted that the analyses were run with this dual-affiliate station included, and with all four of the Marquette, MI stations excluded. In neither of these cases were the results significantly different from those presented here.

6. To the extent that the data gathered are not a sample of a particular population of television stations, but rather are a census of all Big Four network-affiliated stations in markets in which there is at least one network owned-and-operated station, it could be argued that significance tests are inappropriate. They

have been included, however, on the basis of the fact that the data do represent a sample of this station group's behavior, drawn from one small period in time.

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WORKING PAPER

MARKET STRUCTURE, STATION OWNERSHIP, AND LOCAL PUBLIC AFFAIRS PROGRAMMING ON LOCAL BROADCAST TELEVISION

Michael Yan
Assistant Professor
Department of Communication Studies
University of Michigan

&

Philip M. Napoli
Director
Donald McGannon Communication Research Center
Associate Professor, Schools of Business
Fordham University

Donald McGannon Communication Research Center
Faculty Memorial Hall, 4th fl.
Bronx, NY 10458
718.817.4195
www.fordham.edu/mcgannon
mcgctr@fordham.edu

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

Abstract

This study analyzes a two-week constructed sample of broadcast television programming in 2003 from a random sample of 285 full power television stations. Half of the stations in the sample did not air any local public affairs programming during the two-week sample period. That figure for commercials stations is 59%. In contrast, less than 10% of the sampled public stations failed to air any local public affairs programming. In addition, the commercial stations aired an average of 45 minutes of local public affairs programming during the two-week sample period, significantly less than what the public stations did.

The results from the regression analyses showed that ownership by one of the big four broadcast networks (ABC, CBS, FOX and NBC) significantly decreased the amount of local public affairs programming on television. In addition, among other findings, stations in larger television markets were less likely to air any local affairs programming, contrary to popular assumption.

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

Introduction

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 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.[i]

This manifestation of the localism principle at one point took the form of specific FCC-imposed requirements for minimum levels of news and public affairs programming (Federal Communications Commission, 1976).[ii] However, 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 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 Third Circuit Court of Appeals' 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).[iii]

Consequently, concerns about whether broadcast stations adequately serve the needs and interests of their local communities via the provision of local news and public affairs programming have arisen in a variety of recent policy contexts. 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 public affairs 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 news and public affairs arose again a few years later in connection with the Commission's biennial review of media ownership regulations (see Federal Communications Commission, 2002, 2003). One key line of inquiry in the ownership proceeding involved whether or not levels of diversity or 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, for instance, the Commission asked, "Has consolidation in local markets led to less or greater diversity?" (Federal Communications Commission, 2002, p. 17), as well as whether "ownership limits are in fact necessary to promote diversity in the media?" (Federal Communications Commission, 2002, p. 18). More directly relevant to this paper, the Commission also asked, "do ownership limits tend to ensure an adequate supply of local information intended to meet local needs and interests?" (Federal Communications Commission, 2002, p. 25). The Commission sought data addressing these questions to inform their decision-making in the media ownership proceeding (e.g., Einstein, 2002; Pritchard, 2002), and conducted their own internal study examining the relationship between ownership and the provision of local information (Spavins, Denison, Roberts, & Frenette, 2002), the results of which contributed to the decision to relax cross-ownership and national broadcast cap regulations (Federal Communications Commission, 2003).

The most recent appearance of the news and public affairs programming issue involved the Commission's recent issuance of a notice of inquiry on broadcast localism (Federal Communications

Commission, 2004). In this notice, the Commission returned to the questions raised in the digital television proceeding, seeking information as to "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).

Commissioner Copps' question gains greater significance in light of the recent decision by the U.S. Court of Appeals for the Third Circuit to remand the bulk of the ownership regulation relaxations contained within the FCC's 2003 media ownership report and order (see Prometheus Radio Project v. Federal Communications Commission, 2004). The nature of this decision suggests that excluding ownership issues from any analysis of localism in broadcasting would be somewhat premature at this point, given that the FCC will likely need to re-examine the factual basis for its initial decision and develop a stronger evidentiary basis for any decision to relax existing media ownership regulations.

In sum, the question of the relationship between market conditions, station characteristics, and news and public affairs programming provision is central to the FCC's ongoing work in the areas of public interest obligations, media ownership, and broadcast localism. Unfortunately, prior studies of these relationships have suffered from a variety of methodological shortcomings (see below) that make it difficult to draw firm conclusions about the relationship between market and station characteristics and the provision of informational programming. Focusing on local public affairs programming, 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 market conditions, station characteristics, and the provision of informational programming. The next section of this paper reviews the literature on the relationship between market and ownership characteristics and the provision of news and public affairs programming. This section is followed by a description of the methodology employed for this study, which is followed by a presentation of the results. The concluding section discusses some policy implications.

Literature Review

Previous research suggests that station provision of local news and public affairs programming may be a function of a wide range of factors. These factors can be organized into two broad categories: (a) market factors; and (b) station factors.

Market Factors

Local media markets in the U.S. differ dramatically across a number of characteristics, including the size of the market (in terms of population and advertising dollars), the number of commercial and non-commercial stations in the market, the penetration levels of alternative program delivery systems such as cable television, and the viewing behavior and demographic make-up of the potential audience. These market characteristics may impact the extent to which individual broadcast stations offer news and public affairs programming, as stations seek to provide the optimal programming mix that effectively differentiates them from their competition for both audience attention and advertising dollars and attempt to navigate the distinctive economic and structural conditions of the market in which they operate (see Napoli, 2004). These market variables are included in this study to determine if, or to what extent, market forces effectively encourage the production of informational programming such as local public affairs (See Table 3 for a complete list of independent variables).

Previous research suggests that the intensity of competition from competing program sources may be reflected in a station's news and public affairs programming output as stations respond to the program offerings of their competitors (Napoli, 2001a, 2004; Powers, 2001). Napoli (2001a), for instance, 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. This relationship proved somewhat stronger when local and non-local public affairs were analyzed together (Napoli, 2001a). These results suggest greater competition (in terms of the number of television outlets) may be able to encourage the production of public affairs programming. Previous research also has found that market size was positively related to station provision of local news and public affairs programming, when these types of programming were considered in combination (Federal Communications Commission, 1984; Napoli, 2004), suggesting that stations in larger markets face stronger economic incentives to produce informational programming. However, research that focused exclusively on local public affairs programming found no relationship between market size and the quantity of local public affairs programming (Napoli, 2001a, 2004), suggesting that news and public affairs programming are very different in terms of the structural and economic factors that impact their production.

Station Characteristics

The characteristics of individual television stations also may affect the quantity of informational programming they provide. A station's financial resources may be one such factor, with stations with greater financial resources perhaps more inclined to provide such informational programming. Research that has examined news and public affairs programming in combination has supported this assumption (Federal Communications Commission, 1984). Research that examined news and public affairs programming independently, however, only found a significant relationship between station revenues and news programming (Wirth & Wollert, 1979). More recent studies have produced inconsistent results, in some cases finding a significant positive relationship between station revenues and the provision of local public affairs programming (Napoli, 2004), while in other cases finding no such relationship (Napoli, 2001a).

The characteristics of individual station owners also may bear some relationship to station programming output. A number of ownership factors are included in this study to examine this ownership pattern-programming output relationship, including whether a station is owned by a broadcast network or a station group, whether a station owner is located in the station's market area and whether a station

owner also owns another station in the market.

Station group owners, for example, may be able to convert their economies of scale into greater amounts of news and public affairs programming. A study by Wirth and Wollert (1979) found no relationship between group ownership and the provision of news or public affairs programming, while Napoli (2002) found a significant positive relationship between local ownership and the provision of public affairs programming (though only when local and non-local public affairs programming were included in the analysis).

In terms of network ownership, some stakeholders have argued that network owners are particularly 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 Commission's study (Spavins, et al., 2002), though subsequent reanalysis suggests that this relationship holds true only for news and not for public affairs (Napoli, 2004).

Duopoly, in which case a company owns two stations in a local television market, is another ownership issue of central concern. For decades, the government had prohibited a company from owning more than one television station in a single market. In 1999, the FCC relaxed this limit and allowed duopoly ownership (FCC, 1999c). In June 2003, as part of its comprehensive review of the broadcast ownership rules, the FCC further relaxed the local TV multiple ownership rules (FCC, 2003).[iv] In relaxing the multiple ownership restrictions, the FCC assumed that the new rules would allow the commonly owned stations to operate more efficiently by taking advantage of their combined resources, which would lead to increased local and public affairs programming in the local market. However, there is no systematic evidence that this assumption is true. As the FCC acknowledged, much of the evidence regarding the benefits of TV joint

ownership is anecdotal and is provided by broadcasters drawing upon their own experience (Federal Communications Commission, 1999c). An econometric analysis prepared for Sinclair Broadcasting by Robert Crandall found that entering into a common ownership led to a small increase in the probability that a station will cover news at all, but there was no statistically significant difference in terms of the amount of news provided (cited in Cooper, 2003). The study, however, was based on only one geographical area. Beyond this work, there appears to be little additional research examining the effects of local common TV station ownership on the quantity and quality of local and public affairs programming.[v]

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. The extent to which the typical television market has changed over the past two decades suggests that renewed analysis of the relationships between market and ownership characteristics and informational programming provision is necessary to help guide decision-making in the many policy areas (see above) in which these relationships are of relevance. Another shortcoming of much of this early work is that it relied primarily upon station self-reports for their programming practices - a research strategy that can be called into question by documented tendencies by stations to misrepresent their programming practices when reporting to regulators or researchers operating on their behalf (Kunkel, 1998).[vi]

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 [Napoli, 2001a, 2002] or reliance on commercial scheduling data sources [Napoli, 2004; Spavins, et al., 2002]) that may be more reliable than station self-reports, but still suffers from a number of important shortcomings. For instance, Napoli's (2001a) 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 (2001a) 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).[vii] 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.[viii] 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.

As should be clear, research on the relationship between market and station characteristics and the provision of news and public affairs 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 characteristics.

Method

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.[ix] Table 1 shows the frequency distribution of the remaining 285 stations by their network affiliation status. Data for station and market variables (see Table 3) 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.

For each of these stations, a constructed two-week sample of programming schedules was obtained from Tribune Media Services (operator of the zip2it.com online television program schedule database).[x] 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, and duration of program broadcasts. The data set also contained a number of useful descriptive fields for identifying public affairs programming. The Program Type field classified each program according to a wide range of programming types, including Public Affairs. 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 Public Affairs. Thus, it was possible for a program to be described as Network or Syndicated in the Program Type field, and as Public Affairs in the Category field. Similarly, a program might be described as Public Affairs in the Program Type field, but then described as Community or Documentary in the Category field. The data set also included three

Description fields that included descriptions of the individual programs as well as descriptions of the individual episodes. Examination of these Description fields made it clear that it was appropriate to include programs described as Public Affairs in either the Program Type or Category field in the analysis. Finally, 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 classifying each public affairs program as local or non-local.

Rather than relying completely on the labels assigned to each program by Tribune Media Services, a verification process was conducted as follows: For each program identified as a public affairs program in either the Program Type or Category data fields, the program titles and descriptions were checked to determine whether they adhered to the FCC's definition of a public affairs program. The FCC defines public affairs programs as: "Programs dealing with local, state, regional, national or international issues or problems, documentaries, mini-documentaries, panels, roundtables and vignettes, and extended coverage (whether live or recorded) of public events or proceedings, such as local council meetings, congressional hearings and the like." (Federal Communications Commission, 1984, p. 172).

In cases of uncertainty, television station web sites were consulted and/or the stations were called directly in order to ascertain the nature of the program. The same procedure was employed to verify whether a program was a local program, when there was reason to suspect that a program was misclassified as a local program (for instance, when the same program appeared in the schedules of different stations in different markets across the country, or when the program description offered no indication of a local orientation).

As a result of this verification process, a number of misclassifications in the program schedule database were identified and the dataset was modified accordingly. 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 sets were altered accordingly to reflect these corrections.

Results

Local Public Affairs Programming on Television

Only 143 stations (50% of 285) aired any local public affairs programs during the two-week sample period in 2003. In addition, 29 stations (10%) did not air any type of public affairs programs, local or national. Among the 233 commercial stations, 137 stations (or 59%) did not air any local public affairs programming during the sample period, while 26 (or 11%) failed to broadcast any local or national public affairs programs. In contrast, only 5 of the 52 public stations did not air any local public affairs programming during the sample period.

As shown in Table 2, the sample stations averaged one hour and 44 minutes of local public affairs programming during the two-week sample period. However, public service stations aired significantly more such programming than commercial stations. While the public stations broadcast over 6 hours of local public affairs programming, the commercial stations aired only about 45 minutes of the said programming, on average. The difference is statistically significant ($F=155.7$, $p<.0001$).

Napoli (2001a), using the 1999 data of 112 commercial stations, found that a typical station aired 1.06 hours (or 64 minutes) of local public affairs programming (see the last column of Table 2). This is about 30% more than what is found in this study, a difference that may be attributable to the January, 2000 programming sample utilized in Napoli (2001a), which may have contained an excess of public affairs programming dedicated to the presidential primaries.

Finally, for the 143 stations that aired any local public affairs programming at all during the sample period in 2003, the average commercial station put on close to an hour of the said programming per week. The number for an average public station is 3 hours and 24 minutes (see Table 2.1).

Regression Results

To examine the relationship between the provision of local public affairs programming and

market conditions and station ownership characteristics, regression analysis was conducted, using the 233 commercial stations in the sample. Twelve stations did not have station revenue data and had to be excluded from the regression analyses. All of the dependent and independent variables used in the statistical analysis are summarized in Table 3, their summary statistics in Table 4.

As mentioned before, 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 (or PA_TOTAL) 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 dataset 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 Travedi (1998) proposed two zero modified count models to deal with the excess zeros, namely, the zero-inflated model and the hurdle.[xi] 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.[xii]

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 affected a television station's decision whether 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 statistically significant, positive effect on that decision.[xiii] All other things being equal, being a VHF station, local ownership, ownership by a larger company (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 to carry 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 to offer any local public affairs programming. Other market and station ownership variables had no statistically significant effect on the station's decision whether 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 significantly decreased the local public affairs hours. Indeed, it is the only variable showing statistically significant effect in this model.

The results of the ZINB model are consistent with those of the zero-truncated negative model. The effect of big four network ownership (TOP4) was significantly negative. So was that of another variable, COMTV_M (number of commercial television stations in a station's market), although the latter

effect is only significant at the .10 level.

Regression analyses were also conducted using as the dependent variable PA_TOTAL, defined to include both local and non-local public affairs programming. The results, using the same estimation models, are presented in Table 6.

The results for PA_TOTAL are consistent with those for PA_LOCAL with one major difference in all of the models reported. That is, BIG4, a variable indicating whether a television station is affiliated with one of the BIG FOUR broadcast networks, had a significantly positive relationship on a) a station's likelihood to carry any public affairs programming (local or national) (see the probit model in the hurdle model) and b) the amount of public affairs programming aired by a station (see other models in Table 6). The positive effect of BIG4 on total public affairs programming may be because BIG FOUR affiliated stations aired more network-produced (i.e., non-local) public affairs programming. The opposite effects of BIG4 (major network affiliation) and TOP4 (major network ownership) on PA_TOTAL underscore the strong negative effect of TOP4 on PA_LOCAL.

Conclusion

Adequate provision of local and public affairs programming has always been an important part of the local television broadcasters' public interest obligations. It is essential to localism, one of the most cherished media policy goals in the U.S. However, this study shows that half of the stations in the sample did not air any local public affairs programming during the two-week sample period in 2003. For commercial stations, that figure is 59%. On average, a commercial station aired about 45 minutes of local public affairs programming during the two weeks, or less than half an hour per week. While there exists no *a priori* standard for the adequacy of local public affairs programming on television, the meager amount of time that the commercial stations devoted to this type of programming does not seem sufficient. In a way, the condition of the programming data used in this study, with symptoms of excess zeros and over dispersion, is itself an indication that the behavior of broadcasters in this area of programming is erratic.

Not surprisingly, the vast majority of the public stations in the sample (about 90%) aired some

local public affairs programming during the sample period. On average, they broadcast about three and one half hours of said programming per week. Clearly, commercial imperatives of ad-supported broadcast television inhibit the production of local public affairs programming.

The study also examined the relationship between the market and station ownership characteristics and the provision of local public affairs programming through regression analyses. The results indicate that the provision of local public affairs programming on television is related to market conditions and station ownership patterns in ways that are sometimes surprising.

First, the study found that stations in bigger television markets (measured by the number of television households in a market) were less likely to air any local affairs programming, contrary to popular assumption. These results suggest that the size of a station's potential audience does not compel a station to pursue that audience via a strategy that involves providing more public affairs programming. In addition, while the existence of a larger number of commercial stations in a market increased a station's probability in the market 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. The other market-related variables included in the analyses, including the penetration of cable television in the market and the viewing behavior and ethnicity of a station's potential audience, bore no significant relationship with the availability and amount of local public affairs programming on television. In combination, these results address FCC's open question regarding whether competitive conditions in a station's market provide incentives for programming addressing local interests and concerns. The results of this study indicate no meaningful linkage between competitive conditions and the provision of local public affairs programming. Consequently, variations in market conditions do not appear related to the production of such programming.

Perhaps more interesting are the findings regarding the effects of the station ownership characteristics. First, if there is any result that has been consistent throughout the models, it is the negative effects of TOP4, the ownership by one of the big four broadcast networks. Coupled with the marginally significant, positive effect of local ownership, these findings suggest that (big four) network ownership

has hampered the provision of local public affairs programming.

Equally interesting is the lack of significant effect of duopoly ownership found in the study. In relaxing the multiple ownership rules in 1999, the FCC argued that the new rules would lead to increased local news and public affairs programming in the local market by emphasizing the economic efficiencies and public service benefits to be gained from combined resources under common ownership of stations. However, these programming benefits have not materialized, according to the finding presented here. More damaging to the FCC's reasoning, the study also found that a station's public affairs programming decision was not affected by its financial resources (as measured by a station's 2002 revenues).

Together, the findings regarding local ownership, network ownership and duopoly ownership call into question the underlying rationale of the FCC's current policies toward more relaxed national and multiple ownership rules (particularly in terms of economies of scale contributing to greater production of such programming). As far the provision of public affair programming is concerned, the relaxation of these ownership rules would not appear to encourage the production of such programming. At the very least, the results presented in this study suggest that it would be premature for the Commission to ignore the question of ownership in its ongoing localism inquiry.

The chronically low level of local public affairs programming on television, despite drastic changes in local media market in recent years, should serve as a hint that any policy purporting to promote the provision of such programming is unlikely to work if based on market incentives. Policymakers who view the levels of public affairs programming indicated in this study as insufficient may want to reconsider explicit behavioral obligations as a mechanism for promoting the production of such programming.

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Table 1 Sample 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 2 Mean Public Affairs Programming on Television (Minutes)

	NET	IND	COM	PUB	Overall	COM (Napoli, 2001a)
Local PA	37.35	110.00	44.83	368.46	103.88	1.06 hr
Non-local PA	154.63	143.75	153.51	940.21	297.05	
Total	191.97	253.75	198.33	1308.67	400.92	3.66 hr
N	209	24	233	52	285	112

Table 2.1 Mean Public Affairs Programming on Television (Minutes)
(For stations that aired some local public affairs programming)

	NET	IND	COM	PUB	Overall
Local PA	92.92	220.00	108.80	407.66	207.03
Non-local PA	180.13	230.00	186.36	1018.53	459.87
Total	273.05	450.00	295.17	1426.19	666.90
N	84	12	96	47	143

Table 3 Variable Names and Descriptions

Dependent Variables:

PA_LOCAL	Amount of local public affairs programming broadcast by a commercial station during the two week sample period (in minutes)
PA_TOTAL	Amount of local and non-local public affairs 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 of 2003, unless otherwise indicated.

Table 4 Summary Statistics
(Based on 221commercial stations included in the regression analysis)

	Mean	Std Dev.	Min.	Max.
PA_LOCAL	42.7828	87.6836	0	720
PA_TOTAL	191.9910	170.1708	0	1290
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 Results of Regression Analysis (Dep. Var.=PA_LOCAL, *N* = 221)

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

*** Significant at the .01 level
** Significant at the .05 level
* Significant at the .10 level

Table 6 Results of Regression Analysis (Dep. Var.=PA_TOTAL, *N* = 221)

		Hurdle Model		
	OLS	Zeros (Probit)	Positives (Truncated NB)	ZINB
Intercept	-65.104	-6.580**	4.415***	4.123***
	(-0.394)	(-2.148)	(5.360)	(4.967)
VHFUHF	47.356*	1.280*	0.196	0.203
	(1.742)	(1.779)	(1.539)	(1.567)
REV_S	0.658	-0.002	0.001	0.002
	(1.206)	(-0.171)	(0.478)	(0.565)
DUO_S	-21.051	0.159	-0.185	-0.188
	(-0.651)	(0.292)	(-1.115)	(-1.129)
LOCAL	-3.499	0.137	0.032	0.047
	(-0.122)	(0.278)	(0.209)	(0.309)
BIG4	81.329***	2.350***	0.325**	0.415***
	(2.657)	(4.077)	(2.230)	(2.876)
TOP4	-130.875***	-1.651**	-0.581**	-0.667***
	(-2.714)	(-2.029)	(-2.265)	(-2.702)
PENE_O	65.288	3.339**	0.095	0.262
	(0.737)	(2.336)	(.223)	(0.625)
TVHH_M	-16.629	-0.623	-0.010	0.059
	(-0.828)	(-1.623)	(-.063)	(0.397)
COMTV_M	7.285	0.346***	0.020	0.031
	(1.304)	(2.823)	(0.668)	(1.069)
PTV_M	-5.914	-0.239	-0.028	-0.030
	(-0.642)	(-1.354)	(-0.604)	(-0.634)
CABLE_M	0.141	0.006	0.004	0.005
	(0.116)	(0.289)	(0.808)	(0.848)
PTVVIEW	0.372	-0.218	-0.010	-0.011
	(0.033)	(-1.068)	(-0.206)	(-0.206)
OTHVIEW	2.901	0.066**	0.005	0.007
	(1.530)	(2.006)	(0.661)	(0.867)
WHITE	-0.199	0.019	-0.001	0.000
	(-0.210)	(1.040)	(-0.116)	(0.027)
Log Likelihood	-1427.875	-31.982	-1237.194	-1300.472

*** Significant at the .01 level
** Significant at the .05 level
* Significant at the .10 level

Endnotes

[i] For a discussion of the theoretical underpinnings of the localism principle in communications policy, see Napoli (2000).

[ii] For an historical overview of the localism principle in communications policy, see Napoli (2001c).

[iii] 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).

[iv] For example, in markets with 18 or more TV stations, a company can own three stations provided that only one of these stations is among the top four in ratings (FCC, 2003).

[v] Other significant 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.

[vi] 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).

[vii] "Sweeps" months (November, February, May, July) are months when all 210 television markets in the U.S. are measured by Nielsen Media Research. During these measurement periods, stations often will employ particularly aggressive or sensationalistic programming strategies in order to maximize their ratings – strategies they often will not employ to the same degree during the other months throughout the year when their audiences are not being measured (see Ehrlich, 1995).

[viii] 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).

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

[x] 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.

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

[xii] 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).

[xiii] Note that the effect of LOCAL was only significant at the .10 level.