Peer Review

"Local Information Programming and the Structure of Television Markets" by Jack Erb.
FCC Media Ownership Study #4.

June 22, 2011

Reviewer:

Ali Yurukoglu
Stanford University Graduate School of Business

This paper reviews the FCC Media Ownership Study #4, "Local Information Programming and the Structure of Television Markets" by Jack Erb. First, I summarize the paper. Second, I analyze issues in the data employed in the study. Third, I comment on the econometric methodology and results. Finally, I evaluate whether the stated conclusions follow from the analysis. Overall, I found this study to be of high quality, though limited in some dimensions. The main limitation is that the author conducts a purely statistical analysis, without attempting to uncover the causal effects of ownership on local news and public affairs programming. The author does a fine job of pointing out this and other, more minor, limitations that exist.

The author analyzes the statistical relationship between the amount of local news and local public affairs programming on local broadcast television at both the station and market level as functions of various measures of market structure, the extent of cross-ownership with newspapers and radio stations, and market condition and demographic factors. In particular, measures of whether a television station is in the same ownership group as another station in its market, whether a station is in the same ownership group as a newspaper in its market, and whether and to what extent a station is in the same ownership group with radio stations in its market are of particular interest. The main conclusions of the paper are that there are statistically and economically significant positive associations between radio and newspaper cross-ownership with minutes of local news at the station level, but at the market level the picture becomes cloudy. Cross-ownership with newspapers is negatively associated with local news minutes at the market level, but the association is not statistically significantly different from zero. Cross-ownership with radio's direction of association depends on how many radio stations the ownership group owns nationwide and in the market, and could be positive or negative for reasonable values of both of those factors. Ownership of multiple television stations within the market does not have a statistically significant relationship with local news minutes at either the station or market level. However, the extreme points of the estimated 95\% confidence intervals suggest a low to moderate magnitude of effects in any case. The results on local public affairs programming are de-emphasized as

there is both less total and less variation across markets in local public affairs programming minutes from which to draw strong inferences.

I will now in sequence analyze the data used in the study, analyze the econometric methodology, and evaluate whether the conclusions of the paper follow from the stated assumptions and analysis.

Data Section

The data are rich in some dimensions and lacking in others. The data is a combination of two data sources. The first is the FCC ``Study Zero'' data on ownership and market characteristics of local media markets. This data provides measures of cross-ownership, numbers of stations, market demographics, and similar. The second data source is from Tribune Media Services (TMS). This data provides schedules of programming from individual stations. It provides a categorical variable of genre from which the author can compute measures of local news minutes shown. The author is careful in pointing out the limitations of this data. Most importantly, it does not account for the heterogeneity within minutes of local news shown. Some local news might be higher quality or have more awareness than others. An ideal measure would account for these differences. I agree with the author that, in the absence of an ideal measure, this study based on minutes is still a worthwhile undertaking. Whether ratings, programming expenditures, or content analysis would be useful measures of quality is worth thinking about for future research on this question.

The data does not account for local cable news. Some markets have important local cable news stations, like NY1 in New York City, NECN in Boston, and Newschannel 8 in DC. The local news provided by these stations is likely similar to the local news the FCC seeks to promote at the broadcast level. The study would be strengthened by incorporating local cable news into the analysis. At the very least, whether a local cable news station exists, and perhaps its ratings, would make sense as an explanatory variable in the regressions the author studies.

The measures of market structure are simple counts of stations or newspapers. It is common practice in industrial organization to include some measure of concentration when thinking about market structure. There might be ten stations in a market, but if one has a share of 99% of the viewers, and the other nine split the other 1%, much theoretical analysis would predict behavior in such a market more similar to a single station market than to a market where all ten stations have equal market share.

The data cover only 2007 and 2009. This limits the amount of analysis that can be done by looking at the same market over time as there are only two observations at the market level. Examining the questions from the within-market over-time angle would be useful because it would help to isolate the changes in local news that are due to changes in cross-ownership. I understand the scheduling data is of lower quality going back in time. Future studies similar to this one will, and should, benefit from studying changes in cross-ownership over time as well as differences across markets as future data becomes available.

The scheduling data is sampled from very specific weeks of the year as noted in footnote 20. There are seven weeks for 2007/2008 and three weeks for 2009. These weeks might not be representative of the rest of the year.

The definition of local news is a news program that is locally originated. This could include national news that is produced at the local level. Whether the FCC would like to count this in their ideal measure of local news depends on how one interprets the goal of localism.

Econometric Analysis

The author studies two primary regression models: one for station-level local news and one for market-level local news. He then analyzes a series of models with alternative assumptions to assess the robustness of his findings in the primary regression models.

The stated goal of the study is to analyze the ``Best Linear Predictors'' (BLP) of these relationships. Practically, this means the author is not as concerned with the causality of the explanatory variables, but rather the statistical correlations. This approach is at odds with recent fashion in empirical economics which seeks to uncover causal effects. For evaluating policy, the causal effects are more useful as they isolate what changes cause what outcomes. Nonetheless, studying the BLP is a well defined and researchable question. The language employed by the author throughout the study properly recognizes the distinction between studying the BLP and causal effects. The author could think about what assumptions that would be necessary to interpret the estimated relationships as causal break down in this specific institutional setting. What omitted variables would he be worried about and which explanatory variables would they be correlated with? Such an analysis would help the reader gain a higher level of understanding of the primary regressions that are analyzed. It would be one step closer to analyzing causal effects which would ultimately be more useful for policy making purposes.

In estimating the BLP's, the author's methodology is sound. He employs the workhorse method of Ordinary Least Squares which chooses the parameters of the BLP model to minimize the total squared error of predictions. He conducts a battery of robustness checks to assess how the results would change due to different definitions of local news, incorporating a selection model to account for missing scheduling data from 2007, incorporating a Tobit model to account for the mass of observations of 0 minutes, and including market level fixed effects\footnote{He is limited in this analysis because of the lack of variation in cross-ownership within markets, partially due to the short length of his panel data set.} The results are generally robust to these alternative specifications.

Do the Conclusions Follow from the Analysis?

In short, yes. The conclusions in this study are statements of the econometric results. The assumptions underlying the estimation of the BLP's are correct. The robustness results give comfort that the results are not driven by an unusual feature of the data or econometric assumption. As mentioned, BLP's are

limited in their applicability to policy. However, the assumptions required for estimating a BLP relationship are weak. Therefore, there is very little to argue about in terms of whether the conclusions follow from the analysis.

Conclusion of Review

The author has carried out a detailed study on the statistical relationships between minutes of local origination news programming at the station and market level and measures of market structure and cross-ownership with other media. The author is upfront that the relationships estimated can not necessarily be taken as causal relationships. More assumptions, which the author has not felt comfortable making, would be necessary to interpret the results as causal. However, that is the direction future research in this area ought to go. Future studies could attempt to find new data and reasonable sets of assumptions for estimating causal effects.

The author is successful at estimating the statistical relationships between these variables. He employs a data set that is comprehensive in terms of geographical coverage. It is not comprehensive in the time dimension. Future research on this question will benefit from additional richness in the data in the time dimension.