

**Peer Review Evaluation**  
FCC Media Ownership Study #6  
News Coverage of Cross-Owned Newspapers and Television Stations  
Study author: Jeffrey Milyo  
Reviewer: Matthew Gentzkow

## 1. Purpose

The purpose of this evaluation is to determine: (i) whether the study's methods are reasonable and technically correct; (ii) whether they are consistent with accepted practice; (iii) whether the data used are reasonable and of sufficient quality for purposes of the analysis; and (iv) whether the conclusions follow from the analysis.

In evaluating (iv), I take the study's conclusions to be the following:

- "Cross-owned stations contain about 1-2 minutes more news coverage overall, or 4-7% more than the average for non-cross-owned stations"
- "Cross-owned stations... show 6-8% more local news (including sports and weather)"
- "[Cross-owned stations show] 30% more news coverage of state and local political candidates"
- "Cross-owned stations devote about 10 seconds more time to show candidates speaking for themselves; this is 40% more than the average for non-cross-owned stations"
- "With regard to partisan slant of news coverage, there is no difference between cross-owned stations and other major network-affiliated stations in the same market"

I will not comment on the implications of these findings for (i) inference about any *causal* relationship between cross-ownership and the measured outcomes or (ii) implications of these findings for FCC policy.

## 2. Are the methods reasonable and technically correct?

This study uses multiple regression analysis to estimate differences in news coverage between cross-owned and non-cross-owned stations controlling for a variety of observable station characteristics. That is, the study estimates differences in coverage *relative* to the average coverage of observably similar stations. For example, all results reported in the study control for the market within which the station is located, so the results reflect differences in coverage relative to the market average. The main specifications also control for broadcast date, radio cross-ownership, parent company characteristics, network affiliation, and (in some cases) the time and length of the broadcast.

This method is a reasonable and widely used tool for assessing differences along a particular dimension (e.g. cross-ownership) while controlling for differences along other dimensions (e.g. network affiliation). The tests of statistical significance employed, and the clustering procedure used to correct the standard errors, are standard and appropriate. As to the particular set of controls, alternative choices could affect the conclusions that can be drawn about casual relationships or about policy, but these issues fall outside the scope of this review.

In order to assess whether the results reported are technically correct, I attempted to replicate the results in tables 2-19 using the data made publically available with the study. I was unable to exactly replicate any of the main specifications of interest.

In discussion with the author, it was determined that the discrepancy arose because of two errors in the dataset used to produce the original results. The author believes the publicly distributed dataset to be correct in both cases. The errors in the data used in the analysis were: (i) a miscoding of the "network owned and operated" variable for two stations and (ii) a miscoding of the "endorsement in 2004" variable for one station.

The author supplied me with the original (erroneous) version of both variables. Using them, I was able to replicate all the results in tables 2-16 (up to some minor typos in the tables that would not affect the substantive conclusions). In the remaining tables, I was unable to replicate the following results even using the erroneous variables:

- In table 17 column 4, I obtain a coefficient on "cross-owned radio and newspaper" of 8.65 (0.70) rather than 0.1 (0.21) as printed in the table;
- I was unable to replicate columns 6 or 8 of table 18;
- I was unable to replicate columns 2, 4, 6, or 8 of table 19.

Aside from the errors in the ownership and endorsement variables, the results which could not be replicated, and the minor typos, I judge the analysis to be technically correct.

Determining the extent to which correcting the errors will change the substantive conclusions of the study is beyond the scope of this review. However, my impression from having worked with the data is that the corrections are unlikely to change either the direction or the statistical significance of the coefficients of primary interest.

### **3. Are the methods consistent with accepted practice?**

The methods used are consistent with accepted practice for assessing the magnitude and statistical significance of differences along a particular dimension while controlling for differences along other dimensions.

### **4. Are the data reasonable and of sufficient quality?**

The data are reasonable and appear to be of very high quality, setting aside the errors already mentioned. The author is correct in stating that evidence on local news content has previously been severely limited by lack of data, and the data collected for this study represent a significant advance. The data give a rich, fine-grained picture of the news coverage of local television stations unlike anything that was available before.

The sample selection criteria make sense, and maximize the power of the within-market comparisons the author makes. An obvious caveat is that the data cover only three days in November 2006. The differences found may or may not be similar to differences that would be found in other periods. The author acknowledges this issue clearly on p. 9.

Coding the content of a news broadcast is challenging and inherently subjective. However, the author has focused primarily on measures such as minutes of news in particular categories that are well-defined, easy to interpret, and potentially replicable. The procedure for identifying the partisan issues listed in Table A1 was more subjective than some of the other measures, and there is little detail on how issues were defined or how the author assessed whether an issue "appeared repeatedly and prominently on the websites of one party but not the other." However, taking the described procedures at face value, the measures appear to capture in broad terms the content dimensions of interest.

I identified one minor error in the public version of the data. The variable giving the share of US households reached by each station's parent company (called `parent_coverage` in the data spreadsheet) is equal to zero for one station (WEMT). It is logically impossible for this variable to take on a value of zero. The author has confirmed that this variable should have been equal to 0.147%. Although I have not attempted to re-run the analysis using the corrected version of the variable, this is a very small change and I do not expect it to substantively affect any of the study's conclusions.

## **5. Do the conclusions follow from the analysis?**

I will discuss the extent to which the conclusions follow from the results as published, ignoring the errors described in section 2. Assessing how the conclusions would change if these errors were corrected is beyond the scope of this review.

I find the link from published results to conclusions to be sound, with one exception. All of the specifications of primary interest include both a main effect of the newspaper-cross-ownership variable and an interaction between this variable and the radio-cross-ownership variable. Standard practice in reporting results from regressions of this form would be to report either the effect of newspaper-cross-ownership at the mean of the radio-cross-ownership variable, or to describe the range of the effect of newspaper-cross-ownership as radio-cross ownership varies. The conclusions as stated, however, are based on the main effect coefficients without taking account of the interaction. This means that the reported differences apply only to the subset of stations that are not cross-owned with radio rather than to the sample as a whole.

To be correct, the conclusions should either be reported in one of the standard forms just mentioned, or make explicit that they only apply to cases where the radio-cross-ownership variable is equal to zero.