Review of Tasneem Chipty's "FCC Media Ownership Study #5: Station Ownership and Programming in Radio" by Andrew Sweeting, Duke University

This note provides a review of Tasneem Chipty's paper examining how radio station ownership affects programming. I start by providing an overview of the paper and its results, and then describe some issues which should be kept in mind when reading the paper.

Overview

The paper addresses the question of how radio ownership affects programming. Most of the previous interest in this question (e.g., Steiner, 1952 and Berry and Waldfogel, 2001) has concerned the effects of common station ownership at the local level. A common owner might want to increase "variety" so that its stations do not compete for the same listeners, but on the other hand economies of scope might lead a common owner to offer similar programming on different stations. As well as being of theoretical interest to economists, the question has practical importance because of public licensing of broadcast stations and legitimate concerns about viewpoint diversity and coverage of local issues. The previous literature has provided some evidence on these questions, but empirical work has been handicapped by a lack of good data on programming.

Chipty's paper tries to address this problem using an extensive database of radio station programming created by Edison Media Research for the FCC, as well as traditional measures of variety such as station format labels and measures of advertising prices. Chipty uses information in the Edison database to examine how much time stations devote to music and different types of non-music programming (DJ banter, advertising, news, sports, syndicated, live and local programming). While the focus is still on the effects of within-market common ownership of radio stations, Chipty also looks at the effect of cross-market radio station ownership and cross-ownership with local television stations and local newspapers.

The paper provides an exhaustive analysis of the data using lots of different measures of programming and ways of treating the data (e.g., looking at programming using market-level averages or using observations on each stations). The econometric analysis is quite simple, mainly consisting of OLS regressions, and the specifications are explained in a transparent way which should make the results straightforward to replicate.

Chipty highlights the following results:

Result 1. There is no evidence that local ownership concentration reduces the number of available formats in a market, and there is some evidence that it may reduce the amount of "pile-up" of stations in particular formats.

Result 2. Owners of multiple local stations tend to offer longer, uninterrupted blocks of sports programming in the evening. Other types of programming are correspondingly reduced.

Result 3. While there is some overlap of news/talk programming amongst commonly owned stations in the same market, there is no overlap of sports programming.

Result 4. There are no significant differences on the effects of ownership consolidation on content in big and small markets.

Result 5. Local ownership consolidation within radio has no statistically significant effect on advertising prices. Local cross-ownership with TV stations may raise advertising prices in larger markets, while national radio ownership seems to reduce advertising prices.

Result 6. Cross-ownership with local newspapers has a positive effect on station listenership.

There is one general caveat which needs to be understood when interpreting all of these results (the paper says this too, but I would like to amplify it). These results reflect correlations in the data between ownership and programming and there is no direct evidence of causal effects. For example, local newspapers may maintain ownership of well-established stations with many listeners (such as WBZ-AM in Chicago) without there being a causal effect of cross-ownership on programming quality or listenership (Result 6).

With this caveat (and others I outline below), do these highlighted results reflect a fair reading of the statistical results? I believe that the answer is yes.

Additional Caveats or "A Reader's Guide"

There are several additional issues which a reader should keep in mind when reading the report. Some of the issues affect more than one part of the analysis.

Statistical significance

1. The paper reports several thousand coefficients from regression analyses. Some of them are asterisked as being statistically significant at the 5% level. In layman's language, this means that if there was really no statistical correlation between the outcome variable and the explanatory variable, we would expect to see a "t-statistic" as large as the one reported less than 5% of the time.

This means that when seeing thousands of coefficients we should expect some of them to be statistically significant even when there is no true correlation (e.g., with 1,000 coefficients, we would expect 50 to be significant at the 5% level by chance). Therefore, at a minimum, we should only attach importance to patterns which are robust across several specifications as these are more likely to indicate true correlations.

An example illustrates the point. In Table 18 it appears that in markets where stations commonly owned with newspapers or TV stations, FM stations tend have more news programming in the morning. This might suggest the existence of economies of scope with news gathering in different media. However, in Table 21 we find that FM stations owned which are commonly owned with TV stations or newspapers do not themselves have more news programming in the morning. This result weakens the case for economies of scope and suggests that some other correlation may be driving the Table 18 result.

2. Many of the regressions are repeated with and without controls for market demographics. The idea of controlling for demographics is that these may provide a reason for differences in programming (for example, we would expect fewer Urban and Gospel stations in markets with smaller black populations) which are nothing to do with ownership. This provides a reason to prefer the results with demographics and I believe that the results without demographics should be ignored.

3. Some of the most statistically significant results come from the analysis of station-pairs. These specifications examine, for example, whether programming similarity on a pair of stations varies with whether the pair is commonly owned. While this type of analysis is interesting (and I have used it in my own work), one needs to be careful when thinking about statistical significance. When creating pairs the number of observations tends to increase dramatically (e.g., 10 stations give 45 pairs), and this tends to lead conventionally-calculated standard errors to fall and the coefficients appear to be more significant than they may actually be (e.g., 5% significance may only be 15% significance).

Data

4. One of the best features of the report is its use of new data in the form of the Edison database. This was based on a random sample of stations which were listened to for six twenty minute intervals on a given day in the summer and autumn of 2005.

The sample was created based on a stratified random sampling scheme which was designed to provide sufficient observations on different types of stations (e.g., big vs. small markets, AM vs. FM, music vs. talk). The design of the sample seems to me to be scientific and appropriate. However, I would note one caveat. Different stations were monitored on different days and this could give misleading impressions of programming overlap. For example, some common owners switch syndicated shows across stations in the same market, so that they might appear in the database as being offered on both stations even though they were never available on both stations on the same day (which seems the more relevant criterion for overlap).

Measures

5. The report presents many different measures of programming. Some may be more interesting than others. For example, it may be important to know how ownership affects the number of commercials played or the amount of local or news programming. It is less clear to me that the balance of music and DJ banter or whether the banter comes in long or short blocks matters.

Advertising

6. The paper also provides an analysis of advertising prices. The prices are market-level averages reported by SQAD. The only result that comes out strongly is that small markets with more national radio owners have lower advertising prices. This may be consistent with these owners being able to sell advertising time more efficiently. However, if this was the case we would also expect the number of commercials to increase (lower prices move us down the advertising demand curve), but this result is not confirmed in the programming regressions (although these do not look separately at small markets). Without this confirmation we should be cautious about interpreting the price coefficients.