FCC Media Ownership Study #5:
Station Ownership and Programming in Radio

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I.　Introduction

Out of concern that common ownership of media may stifle diversity of voices and viewpoints, the Federal Communications Commission ("FCC") has historically placed limits on the degree of common ownership of local radio stations, as well as on cross-ownership among radio stations, television stations, and newspapers serving the same local area. The 1996 Telecommunications Act loosened local radio station ownership restrictions, to different degrees across markets of different sizes, and it lifted all limits on radio station ownership at the national level. Subsequent FCC rule changes permitted common ownership of television and radio stations in the same market and also permitted a certain degree of cross-ownership between radio stations and newspapers.

These changes have resulted in a wave of radio station mergers as well as a number of cross-media acquisitions, shifting control over programming content to fewer hands. For example, the number of radio stations owned or operated by Clear Channel Communications increased from about 196 stations in 1997 to 1,183 stations in 2005; the number of stations owned or operated by CBS (formerly known as Infinity) increased from 160 in 1997 to 178 in 2005; and the number of stations owned or operated by ABC increased from 29 in 1997 to 71 in 2005. Over this same period, Cumulus Broadcasting has become the second largest radio station owner in the country, with 297 commercial radio stations in 2005.

In the face of this consolidation, there has been a great deal of debate and concern over the effects of ownership structure on the availability of programming content. Critics of consolidation worry, for example, that consolidation is associated with fewer niche programming formats, too much voice-tracked (and not enough live) programming, and too little local content. Questions of whether and how common ownership affects radio station programming and listenership are the subject of on-going FCC review of the ownership rules. Economic theory suggests that common ownership can have both anti-competitive and pro-competitive effects. On the one hand, consolidation in ownership may lead to the classic monopoly-like results of quality deterioration and

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output reduction, with less desirable programming, reduced listening, and higher advertising prices. On the other hand, consolidation may allow firms to exploit economies of scale and scope in programming specific genres, attracting and promoting talent, obtaining desirable non-music programming, and selling advertising. Consolidation may also allow firms to internalize the benefits of offering a wider array of station formats, including some niche formats, without fear of losing listeners to mainstream formats. These pro-competitive benefits of consolidation may result in quality enhancements and greater listening. Ultimately, whether and how common ownership affects radio station programming and listenership are empirical questions, and the answers depend on the relative importance of the different effects, including the degree to which terrestrial radio faces competition from other media – such as audio programming on cable and satellite television, satellite radio, and internet radio.

The existing literature, which is described in more detail below, has focused on the effects of consolidation on the availability of program formats, including overlap in actual song lists across various music formats. While there is some mixed evidence, the general consensus – at least from the academic literature – appears to be that consolidation is associated with more program formats and that there is substantial overlap in the actual song lists across different formats of music. As far as I am aware, there is little systematic evidence on the effects of consolidation on non-music programming or many of the other dimensions of programming, such as live versus taped programming or local versus network/syndicated programming. In addition, much of literature has focused on the effects of local ownership of radio and has not addressed the impact of national ownership or local cross-ownership across different media.

This paper empirically studies the effects of radio ownership structure on content diversity, using a rich, cross-sectional dataset reflecting information from the third quarter of 2005. These data include format information for each of the stations in the United States as well as more detailed content information from a new airplay database commissioned by the FCC (referred to as the "Edison Database"). The Edison Database provides a unique opportunity to study the effects of ownership structure on non-music content, particularly news and sports programming. It also provides an opportunity to study station programming decisions, such as percentage of time devoted to advertising,

talk entertainment, sports, and news. Using these data, I assess the effects of ownership structure on various measures of program content for commercial, in-market stations, which are described in more detail below. I also study the effects of ownership structure on advertising prices and listenership using data from SQAD and Arbitron. Where possible, this analysis is conducted at the Arbitron market level, the station level, as well as at the station-pair level. In addition, where possible, the analysis is conducted separately for FM only stations and for big and small markets.

Some of the main findings, which are discussed in the remainder of this report, are summarized as follows. Consolidation of radio ownership does not diminish the diversity of local format offerings. If anything, the market level analysis suggests that more concentrated markets have less pile-up of stations on individual format categories, and large national radio owners offer more formats and less pile-up. Consolidation of local radio ownership has a statistically significant and economically meaningful effect on the composition of non-music programming content. In particular, owners with several local stations offer longer, uninterrupted blocks of sports programming in the evening. This shift towards sports programming is accompanied by reductions in other types of programming. The analysis also suggests that common ownership results in more diversity in actual programs aired. Based on an analysis of news and sports formatted stations, I find there is some overlap in actual programs aired across the two formats generally, but not within commonly owned station-pairs within the same market. Further, there are no significant differences in the effects of consolidation in radio on programming content, across big and small markets.

I also find that consolidation in local radio has no statistically significant effect on advertising prices. National radio ownership has a negative effect on prices and cross-ownership with local television has a positive effect on advertising prices in big markets. I find that stations operating in markets with other commonly owned stations achieve higher ratings, than do independent stations. In addition, cross-ownership with local newspapers has a statistically significant, positive effect on listenership.

The remainder of this report is organized as follows. The next section provides a description of terrestrial radio, including an overview of ownership structure and programming content. Section III reviews relevant literature. Section IV describes the

various data sources used in my analysis. Section V provides some summary statistics of ownership structure, programming content, advertising prices, listenership, and demographics based upon my analysis database. Section VI provides an overview of the empirical models. Section VII presents evidence on the effects of ownership structure on diversity of formats. Section VIII presents evidence on the effects of ownership structure on other measures of content. Section IX presents evidence specifically for non-music programming on sports and news format stations. Section X presents evidence on the effects of ownership structure on advertising prices. Section XI presents evidence on the effects of ownership structure on listenership. Section XII concludes.

II.   Description of Terrestrial Radio

Radio station owners make programming decisions and provide audio content, including music, talk, news, sports, and advertisements, to listeners in their local markets. Radio stations make money by selling advertising time to companies seeking to reach specific demographic segments, and the rates they obtain for advertising time depends on their ability to attract listeners within the companies' target demographic segment. Listeners, or consumers of broadcast radio, choose whether and to which radio stations to listen.

The last decade has brought a number of significant technological advances in the provision of audio content, and many new services compete with terrestrial radio by offering potential listeners an increasing number of choices for audio entertainment. New media technologies and services include audio programming by digital audio satellite radio services, Music Choice on cable television, XM and Sirius satellite radio on the direct broadcast satellite services DirecTV and EchoStar, internet-based audio services,[1] high-definition radio,[2] and low-power FM radio,[3] as well as MP3 players, such

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[1] According to Tom Taylor, who edits *Inside Radio*, approximately one-third of radio stations now stream their broadcasts online. (See Journalism.org, *The State of the News Media 2007: An Annual Report on American Journalism, Radio*, p. 7, available at http://stateofthemedia.org/2007/printable_radio_chapter.asp?media=1&cat=1

[2] HD Radio can provide multi-channel, multi-format digital radio services in the same bandwidth currently occupied by traditional AM and FM radio services.

[3] Low-power FM ("LPFM") stations broadcast with a power of 100 watts or less (yielding a service range of approximately 5.5 miles), and LPFM FM licenses are limited to nonprofit educational organizations and

as the popular iPods. According to statistics from Arbitron, the percentage of Americans over the age of 12 who listen to radio each week fell from 95.3 percent in fall 1998 to 92.8 percent in 2006, a drop of 2.5 percentage points.[4] Thus, while terrestrial radio listening is falling, it is still a very effective medium for reaching the American audience. In 2006, the highest radio listenership was for women between the ages of 25 and 34 (95.8 percent), and the lowest was for women over the age of 65 (85.4 percent).[5]

In 2005, there were 13,514 radio stations in the United States, of which 10,833 were classified as commercial radio stations. Commercial radio stations rely on revenues from selling air-time to advertisers, as opposed to non-commercial radio stations, which obtain funding primarily from listeners. Of the 10,833 commercial radio stations, 6,223 are FM stations, and 4,610 are AM stations. Of the 2,681 non-commercial radio stations, 2,557 are FM stations[6] and 124 are AM stations.

Radio stations are typically described as being "in-market" or "out-of-market" stations, where the term "market" refers to Arbitron-defined radio markets. Today, there are 298 Arbitron-defined radio markets in the United States, which largely align with the Office of Management and Budget's Metropolitan Statistical Area ("MSA") definitions. Generally speaking, rural areas of the United States do not fall into MSAs (or radio markets), and 4,260 of the U.S. commercial radio stations did not have listeners residing in any Arbitron market in 2005.[7] The remaining 6,573 U.S. commercial radio stations have listeners residing in at least one Arbitron market. While a station may reach

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state and local government entities. As of March 2005, there were approximately 590 LPFM stations operating. (See http://www.fcc.gov/mb/audio/lpfm/.)

[4] Sources: 1998 datum from Journalism.org, *The State of the News Media 2007: An Annual Report on American Journalism, Radio*, p. 2, available at http://stateofthemedia.org/2007/printable_radio_chapter.asp?media=1&cat=1, and 2007 datum from Arbitron, *Radio Today, 2007 Edition*, p. 90, available at http://www.arbitron.com/downloads/radiotoday07.pdf.

[5] Source: Arbitron, *Radio Today, 2007 Edition*, p. 90, available at http://www.arbitron.com/downloads/radiotoday07.pdf.

[6] This total does not include LPFM stations.

[7] Of the 2,681 non-commercial U.S. radio stations, 1,000 stations were not part of an Arbitron-defined market.

listeners residing in more than one Arbitron market, the majority of these stations reach listeners in a single home market.[8]

1. Ownership

The 1996 Act substantially loosened local radio ownership restrictions and lifted all limits on national radio ownership. Subsequent regulatory changes have modified the methods used by the FCC to define local station ownership caps,[9] permitted common ownership television and radio stations in the same market[10] and also permitted some cross-ownership between radio stations and newspapers.[11]

On the national level, ownership of radio stations has become substantially more concentrated over the nine years from 1996 to 2005. For example, in 1997, Capstar Broadcasting Partners[12] was the largest owner of radio stations nationally (in terms of station counts), owning a total of 299 stations, and collectively, the top 10 owners owned

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[8] Fewer than 300 stations have listeners residing in multiple markets.

[9] Currently, a party may own, operate, or control up to: (1) 8 commercial radio stations, not more than 5 of which are in the same service (AM or FM), in a radio market with 45 or more radio stations; (2) 7 commercial radio stations, not more than 4 of which are in the same service, in a radio market with between 30 and 44 radio stations; (3) 6 commercial radio stations, not more than 4 of which are in the same service, in a radio market with between 15 and 29 radio stations; and (4) 5 commercial radio stations, not more than 3 of which are in the same service, in a radio market with 14 or fewer radio stations. In addition, a party may not own, operate, or control more than 50 percent of the stations in any local radio market. "Markets" are now being defined on the basis of Arbitron's definition, rather than by using the FCC's prior signal-contour method. Because Arbitron's market definition was more restrictive than the signal-contour market, some ownership positions were no longer within the FCC's rules. In these cases, owners have been allowed to maintain their historical ownership positions, but their ability to sell their holdings is restricted.

[10] In larger markets, a single entity may own additional radio stations depending on the number of other independently-owned media outlets in the market.

[11] The current rule prohibits common ownership of a full-service broadcast station (television or radio) and a daily newspaper if the station's service area completely encompasses the newspaper's city of publication. In June 2003, the Commission relaxed this rule and the separate radio/television cross-ownership restriction by replacing both regulations with a set of "cross-media limits." The new limits were tiered according to the size of the local market: (a) in those with three or fewer TV stations, all newspaper/broadcast and radio/television combinations were prohibited; (b) in markets with between four and eight stations, an entity could own a combination that includes a newspaper and either (i) one television station and up to 50 percent of the radio stations that may be commonly owned under the applicable radio cap, or (ii) up to 100 percent of the radio stations allowed under the applicable radio cap; and (c) in markets with nine or more television stations, cross-media combinations would be permitted without limit as long as they complied with the applicable local television and local radio caps. These rules have not been implemented due to a judicial stay ordered by the Court of Appeals for the Third Circuit in June 2004. (See United States Court of Appeals for the Third Circuit, *Prometheus Radio Project vs. Federal Communications Commission; United States of America*, June 24, 2004.)

[12] Capstar Broadcasting Partners is now part of Clear Channel Communications.

a total of 1,128 radio stations. (See Table 1.) In 2005, Clear Channel Communications was (and still is) the largest national owner, owning 1,183 stations – 821 FM radio stations and 362 AM radio stations – and operating in a total of 207 Arbitron markets. Cumulus Broadcasting, Inc. was the second largest owner of radio stations, with 297 stations (217 FM and 80 AM stations), operating in 61 markets. Collectively, the top ten owners owned a total of 2,400 radio stations or over 22 percent of all U.S. commercial radio stations. (See Table 2.) The top five owners based on all commercial stations are also the top five owners based on commercial FM stations.

2. Programming Content

Radio programming can be described in a number of different ways. One widely-used approach is based on the station's reported format. For example, BIA*fn* surveys radio station owners and asks them to identify their primary, secondary, and tertiary radio formats, recognizing that stations may vary their format based on time of day or day of week.[13] BIA*fn* identifies 101 specific radio formats, which are fairly narrowly defined,[14] and groups these 101 specific formats into 20 general groups.[15] The 20 general groups are titled Adult Contemporary, Album-Oriented Rock/Classic Rock, Classical, Contemporary Hit Radio/Top 40, Country, Easy Listening/Beautiful Music, Ethnic, Jazz/New Age, Middle of the Road, Miscellaneous, News, Nostalgia/Big Band, Oldies, Public/Educational, Religion, Rock, Spanish, Sports, Talk, and Urban.[16] (See Table 3 for a 2005 breakdown of formats for commercial stations, by band and by format.) Based on a review of detailed music airplay logs for 1,095 contemporary music

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[13] In other words, a station might be classified as "talk radio" during the morning commute, but play "beautiful music" during the afternoon commute.

[14] For example, 70s & 80s, 70s Hits, 70s Oldies, and 80s Hits are all considered to be different formats.

[15] According to a BIA Financial Network Study, "While acknowledging that there are differences between the programming of similarly classified stations, BIAfn tries to provide some framework for analysis by characterizing the many different programming formats…." (See Over-The-Air Radio Service to Diverse Audiences, BIA Financial Network, October 23, 2006, p. 4, available at http://www.nab.org/xert/corpcomm/pressrel/102306_Local_Diversity_Report.pdf.) This report left out a few BIA-reported format groups, such as public/educational, no reported format, and dark. (See Exhibit B to "Reply Comments by Clear Channel Communications, Inc., 2006 Quadrennial Regulatory Review, FCC MB Docket No. 06-121, January 16, 2007.)

[16] For example, 70s & 80s, 70s Hits, 70s Oldies, and 80s Hits, along with 80s & 90s, Adult Hits, Beach, Dance Oldies, and Oldies are grouped together in the grouping "Oldies."

stations, Andrew Sweeting further consolidates the BIA*fn* categories into eleven broader categories due to substantial overlaps in playlists across a number of BIA*fn* format categories.[17] My analysis of the effects of ownership structure on the availability of formats considers three different levels of format categorization, which I refer to as "Format 101," "Format 20," and "Format 11." (See Appendix 1 for a description of the individual format categories, under these different classification schemes.)

Other approaches to describing radio programming may be based on station's actual airplay. For example, one could measure the percentage of a station's airtime devoted to program categories such as music, news, sports, or talk. One could also measure the percentage of time spent on live versus taped programming, and percentage of time spent on local, versus syndicated or network programming or voice tracked. Syndicated programming refers to "rented" programming, whereby the radio station purchases the rights to broadcast programming created by someone else. The "syndicator" or distributor typically attempts to sell its show to at least one station in each media market, in order to increase circulation. "Voice tracking" refers to pre-recording of disc jockey talk that can then be combined with songs, advertisements, and other programming to create an appearance of live programming. Finally, as with music, one could study overlap across formats and across stations within formats, in programs or personalities that comprise the non-music programming. My analysis of the effects of ownership structure on programming evaluates each of these alternative measures.

III.   Relevant Literature

Economists have been thinking (and writing) about the effects of competition and ownership concentration on program diversity in radio for more than half a century. In his seminal paper, Steiner (1952) develops a stylized model of spatial competition that shows that two stations owned by different owners would tend to be programmed more

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[17] Sweeting includes Album-Oriented Rock/Classic Rock and Rock in the category "Rock," groups News/Sports and Talk into "News/Talk," groups Classical, Jazz/New Age, Easy Listening, Middle of the Road, Nostalgia/Big Band, Miscellaneous, and Ethnic into "Other Music," and retains the BIAfn groups Adult Contemporary, Contemporary Hit Radio/Top 40, Country, Oldies, Religion, Spanish, and Urban. (See Sweeting, Andrew, The Costs of Product Repositioning: The Case of Format Switching in the Commercial Radio Industry, Northwestern University Working Paper, November 2006, pp. 6-7 and Table 1.) At points in his paper, Sweeting groups Adult Contemporary, Contemporary Hit Radio/Top 40, Country, Oldies, Rock, and Urban into a new category called "Contemporary Music." (See ibid., p. 7.)

similarly than two stations owned by the same owner. In his most simplistic two-station model, Steiner looks at two stations that choose formats in succession. The first station will choose the most popular format, thus obtaining the largest possible audience (denoted L_1). When the second station chooses its format, it compares the number of listeners it would get if it also offered that format (namely $L_{1/2}$) to the number of listeners in the next most popular format (L_2), and will choose to duplicate the first station's format if $L_{1/2}$ exceeds L_2. On the other hand, if the stations are commonly owned, the first station will offer the most popular format and the second station will offer the next-most popular format, thus achieving total listenership of L_1 plus L_2. In theory, however, consolidation of ownership in spatial models can result in minimal or maximal differentiation (and anything in between), depending on the assumptions underlying the model.[18] Ultimately, whether and how ownership structure affects program diversity is an empirical question.

Indeed, there has been a growing empirical literature studying the effects of ownership structure on program variety in terrestrial radio. These studies include Rogers and Woodbury (1996); Berry and Waldfogel (2001); William, Brown, and Alexander (2002); Romeo and Dick (2005); William and Brown (2005); and Sweeting (2006). The common themes are that consolidation in ownership is associated (at least weakly) with greater number of formats and greater listening, although there are some mixed results regarding the similarity (or diversity) of song playlists on music stations. I describe each of the studies in turn.

Using data from Spring 1987, Rogers and Woodbury (1996) examine the relationships among the number of advertiser-supported radio stations, the number of programming formats offered by those stations, and radio listenership. The authors find that increasing the number of stations increases the number of programming formats offered, although a 10 percent increase in the number of stations leads to less-than a 2 percent increase in the number of formats, and that a 10 percent increase in the number of formats leads, on average, to a 2.25 percent increase in radio listenership. Based on these results, the authors find that doubling the number of stations would lead to a 4.24 percent

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[18] For example, Beebe (1977) shows that Steiner's conclusion that common ownership leads to increased program diversity depends on his assumption that potential listeners will listen only to one program (and choose not to listen if that program is not offered).

increase in radio listenership. The authors also investigate the relationship between the number of stations within a format and radio listenership and reject the hypothesis that listenership is evenly spread amongst stations within a given format.

Using data from 1993 and 1997, Berry and Waldfogel (2001) assess the impact of mergers among radio stations on program variety, using program formats as a measure of variety. They find that concentration (measured by the reduction in the number of owners per market) increases the number of formats relative to the number of stations operating in a market. They also find some evidence for an increase in variety overall as a result of increasing concentration.

Williams, Brown, and Alexander (2002) also assess the impact of consolidation of radio station ownership on diversity in broadcast radio, where diversity is measured by the songs played by radio stations. For stations in top-tier markets, the authors obtained lists of the top songs played by stations covered by R&R Magazine. Using this information, they created what they term a distance measure of diversity among stations, based on the top ten songs played by each station, and they conducted a pair-wise analysis of the effects of consolidation on their sample of 174 stations, between March 1996 and March 2001. The authors conclude that "recent consolidation has played very little role in playlist diversity, although this might not be the case in smaller markets[.]"[19]

Romeo and Dick (2005) investigate the relationship between ownership and format changes by radio stations and station listenership in ten MSAs, ranging in size from New York to Kalamazoo, MI, over the period from 1988 to 1998.[20] The authors find that major format changes made upon station acquisition were made for stations with ratings that were significantly below average, while minor format changes were made for stations with above-average ratings. They find that major format changes were associated with a 23 percent increase in listenership shares. However, minor format changes were not associated with increasing listenership shares, although they were a "useful tool for differentiating a station in a crowded format space."[21] The authors find no additional

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[19] Williams, Brown, and Alexander, p. 18.

[20] The authors report 153 major format changes and 104 minor format changes in their data set of 924 station-years.

[21] Romeo and Dick, p. 24.

impact of changes in ownership on listener shares, although nearly half of major format changes were made close to the date of an ownership change. The authors did find that "being part of a large local radio group generates economies of scale in the listening performance of individual stations within the group" and found evidence that "having a large local presence improves a radio group's prospects for success when making format changes."[22]

Williams and Brown (2005) use playlists obtained from the R&R Magazine, for March 1996 and March 2004, to address changes in diversity following the 1996 Telecommunications Act. Employing the same methodology used by Williams, Brown, and Alexander (2002), these authors find that when two stations in the same market went from separate to common ownership, the stations grew more different, while station-pairs in the same format that went from separate to common ownership grew more similar, and that this relationship continued to hold when the station-pairs were in the same market. They conclude that "[commonly owned stations within the same format and market play more similar music than separately-owned stations within the same format and market, because common ownership within format generates greater play list similarity."[23]

Using a panel dataset from 1998 to 2001, Sweeting (2006) investigates the impact of common ownership (both of stations in the same local market and stations in different local markets) on programming and listenership for 1,095 contemporary music radio stations, using a dataset created from station airplay logs. He finds that commonly-owned station-pairs in the same local market and format category are more highly differentiated than their separately-owned station-pairs counterparts, with the percentage of songs played by one station but not the other increasing from 55 percent when the stations are not commonly owned to 67 percent when the stations are under common ownership.

To my knowledge, none of the previous studies examines programming content in conjunction with listenership and advertising prices. By contrast, this study examines the effect of ownership structure on all three - programming, listenership, and advertising prices. In addition, none of the previous studies has examined programming content

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[22] Romeo and Dick, pp. 17-18.

[23] Williams and Brown, p. 19.

beyond formats and music playlists. In addition to a more conventional analysis of formats, the data I use permit me to study the effects of ownership structure on numerous other measures of programming, including variety in non-music programming, the choice between live and taped programming, and the choice between local and network/syndicated programming. Finally, the previous studies focus on the effects of local radio ownership on program offerings. In addition to local radio ownership, I examine the effects of national radio ownership as well as the effects of cross-ownership between radio and local newspapers and local television.

IV. Data

This study relies on data from a number of different sources, including the Edison Database, station characteristic and demographic data from BIA Financial Network ("BIA*fn*"), ratings data from Arbitron, advertising cost data from SQAD, and additional demographic data from the U.S. Census Bureau. I next describe each of these data sources in turn.

1. Edison Database

In the summer of 2005, the FCC commissioned Edison Media Research to collect information on radio station programming. Edison researchers collected detailed airplay content information for a random sample of 1,014 U.S. radio stations, including 790 commercial stations and 222 non-commercial stations. For each station, Edison researchers recorded what was broadcast during each of six 20-minute periods in a given day, primarily in the summer of 2005.[24] For each such period, they recorded the broadcast content in 5-second increments and categorized the content along several dimensions, including the content type (e.g., Music, Commercials, Sports), the broadcast mode (local, network-syndicated, or voice-tracked), and the live type (live or taped).[25]

I restructure these data into what I call "content segments," which are consecutive observations that differ only by the 5-second period in which they were captured. For

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[24] Eighty-two percent of stations were listened to between June 1, 2005 and August 31, 2005. Twelve percent of stations were listened to between August 31, 2005 and December 31, 2005. The remaining five percent were listened to at some point in 2006.

[25] This dataset contains roughly 1.4 million observations (1,014 stations x 6 survey periods per station x 20 minutes per survey period x 12 five-second increments per minute = 1,460,160 observations).

example, if Station ABCD played the Celine Dion song, "My Heart Will Go On," beginning at 2:00 pm, the Edison database would display 72 identical observations (one for each 5 second-increment of the 5 minute, 30 second-long song). I collapse these 72 5-second observations down to a single content-segment observation with a "Start Time" of 2:00:00 pm and an "End Time" of 2:05:30 pm. Similarly, the 6 identical observations comprising a 30-second commercial would collapse to one, 30-second content-segment.

Using these data, I describe programming content in a number of different ways.[26] First, I calculate the percentage of airplay dedicated to each content type;[27] the percentage of airplay by broadcast mode (local, network/syndicated, and other), and the percentage of airplay devoted to live programming. In addition, I determine the average length of uninterrupted blocks of music and other content types, including commercial breaks. Because airplay on a given station can vary substantially within a day, I calculate all of these statistics by "day part." I assign the 20-minute survey periods occurring on weekdays (Monday through Friday) to one of 5 Arbitron-defined weekday day parts: (1) The AM Drive (6 AM-10 AM), (2) Daytime (10 AM-3 PM), (3) The PM Drive (3 PM-7 PM), (4) Evening (7 PM-Midnight), and (5) Overnight (Midnight-6AM). Twenty minute slots occurring between 12AM Saturday morning and 12AM Monday morning are grouped into a sixth day part called "Weekend."[28] Survey periods that overlap two day parts are excluded from my day part-specific analysis.[29] In addition, not all stations were surveyed during each of the six day parts.

Finally, I identify the number of personalities hosted by a station as well as the actual sports and news programs on stations that are classified as having sports or news

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[26] My analysis relies primarily on the Edison database, as audited by the FCC. In some of my earlier analysis, I used both the audited and unaudited Edison data and found the results to be stable across the two.

[27] Edison categorized content as falling into one of twelve mutually-exclusive types: (1) Advertising, (2) Announcements, (3) Dead air/Unknown, (4) Entertainment, Leisure or DJ Banter, (5) Fundraising & Charity, (6) Music, (7) News, (8) Other, (9) Public Affairs, (10) Religious (Non-Music), (11) Sports, and (12) Static/Interference.

[28] My understanding that these are the most listened-to day parts is based on the fact that SQAD, the exclusive source reporting radio advertising prices paid, reports rates for only these four day parts.

[29] There are two stations surveyed by Edison whose 20-minute survey segments overlapped different day parts.

formats, in order to study the effect of national and local consolidation on non-music programming in more detail.[30]

2. Station Characteristics

The FCC provided me with a database on radio station ownership in the United States, which reflected ownership as of year-end 2005.[31] My understanding is that the FCC database is a modified version of the BIA*fn* database for the same year. For each of 13,514 U.S. radio stations, the database lists the station's call letters, band (AM or FM), owner, commercial status (commercial or non-commercial), station age, format category, and radio market(s) served.[32] Of the 13,514 stations, 262 have listeners residing in two Arbitron radio markets, 19 have listeners residing in three Arbitron markets, and 1 station has listeners residing in four Arbitron markets.[33] As a result, the ownership database yields 13,818 station-market specific observations. Merging these data to the Edison database of surveyed stations yields an analysis database of 1,037 station-market specific observations.[34]

In addition, I use the 2005 MEDIA Access Pro™ database from BIA*fn*, which includes information on all U.S. radio stations, to obtain information on station characteristics, such as its daytime and nighttime power levels as well as its age (years since it first began operating). I also obtained listenership (or ratings) data from Arbitron for each commercial, in-market station in my sample. Arbitron estimates each commercial station's share of listening by asking a sample of listeners in each of its

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[30] In principle, the Edison Database also contains information on song titles and artists. My study does not currently make use of this aspect of the database.

[31] Because most stations were surveyed by Edison during mid-year 2005, the time frame captured by the Ownership database is roughly six months later than that captured by the content database. I am only aware of one radio merger that could potentially result in a mismatch between the ownership and content information. Cumulus Broadcasting announced its purchase of Susquehanna Radio at the end of October 2005, and the acquisition became effective in May of 2006. The ownership database for 2005 describes the formerly Susquehanna stations distinctly as "Cumulus Media Partners," not Cumulus Broadcasting, Inc. Thus, these stations are appropriately treated as separate from the Cumulus radio group.

[32] Many other data are also listed, including station class, station format (a sub-categorization of format category), licensee, and owner parent.

[33] For example, a radio station physically located in Washington, DC, may have listeners residing in the Baltimore, MD Arbitron market.

[34] There are exactly 25 of the stations surveyed by Edison that serve two Arbitron markets and are, accordingly, represented twice in the station-market counts.

markets to record what they listen to and for how long in a seven-day diary.[35] Based on these diaries, Arbitron calculates an Average Quarter-Hour ("AQH") Rating by demographic group for each day part.[36] Because stations' listeners may reside in more than one radio market (due to some overlap), a station may be rated in as many as four Arbitron-defined markets. To date, I have only included ratings information for commercial stations that are part of an Arbitron-defined radio market.[37] My listenership analysis is based on AQH ratings for Adults 18-years and older from the spring 2005.[38]

3. Owner Characteristics

Based on information in the FCC ownership database, I have calculated the number of stations each radio-station owner owns by band, by commercial status, and by format category, both nationally and by market. In addition, the FCC ownership database provides information on whether a local radio station owner owns a local newspaper and whether the owner owns a local television station. These data are merged onto the 1,037 observation analysis dataset for each of the 531 owners (of which 381 are owners of in-market stations), by owner or by owner and market.

4. Market Characteristics

Finally, I add market level data to the analysis database. Market level data are primarily of three forms: (1) demographic information about the listener population, (2) market-average radio advertising rates, and (3) radio competition and listenership information.

A. Demographic Information

I obtain market level demographic information for each of the Arbitron radio markets from the BIA*fn* MEDIA Access Pro™ database. The demographics include

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[35] See Arbitron Radio Report Reference Guide, p. 9.1.

[36] According to Arbitron, AQH persons is "the average number of persons estimated to have listened to a station for a minimum of five minutes during any quarter-hour in a time period" (or day part). The AQH Rating is "calculated by dividing the number of AQH Persons by the survey area population within the same sex/age group." (See Arbitron Guide, p. 2.1.)

[37] Arbitron does not provide ratings data for non-commercial stations, and it provides listener data (but not ratings) for stations outside of Arbitron markets.

[38] I do not have station-specific ratings data for 152 of 569 commercial, in-market stations in my database.

market population, the market effective buying income ("EBI") per capita, and a breakdown of population along race and age.[39] Additionally, I obtain information on the breakdown of population by highest education level attained and the market average car-commuting time[40] for 2005 from the U.S. Census Bureau, which I merge on to my database by MSA.

B. Advertising Prices

SQAD (formerly known as Spot Quotations And Data, Inc.) publishes prices for radio spots (airtime). For each radio market,[41] SQAD reports the average cost per point ("CPP") and cost per thousand ("CPM") paid to advertise during a given day part, to reach an audience with given demographic characteristics on a quarterly basis. I use the market-average CPP by day part for Adults 18-years and older for the spring 2005 quarter in my analysis. The time period for the SQAD data (Spring 2005) corresponds to the time period of the Arbitron data (also Spring 2005), while the majority of radio stations in the Edison Database were sampled in the summer of 2005.

C. Radio Competition and Listenership

My analysis of the effects of consolidation focuses on in-market, commercial stations only. To the extent that some out-of-market market stations compete with certain-in-market stations for listenership, my focus on in-market only stations will overstate concentration and understate the number of stations and owners offering radio programming to listeners in local markets.

For each commercial, in-market station in the Edison sample, I summarize competition in the markets in which it is rated. Based on the FCC ownership database, I calculate, for each radio market, the number of all radio stations by band, by commercial status, and by format category. In addition, I calculate the number of owners of

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[39] The population and EBI data are from 2005, whereas the population breakdown data are from 2006.

[40] My base specification excludes average commuting time, because it is missing for most of the markets in the sample. I have however, included the variable as an additional regressor in extensions of the base specification, the results of which suggest that commuting time is a statistically significant determinant of listenership and advertising prices. However, inclusion (or exclusion) of the variable does not affect the coefficients on the ownership variables, which measure the effect of consolidation and cross ownership on various outcome measures.

[41] SQAD has data for only 241 of the 251 markets in my analysis database.

commercial stations that have stations in the market and the number of stations owned

nationwide by those owners, and I calculate ownership- and format-based Herfindahl-

Hirschman indices ("HHI").[42] Finally, I calculate the level of average radio listenership

within a market as the average of the individual station-level AQH rating for adults 18-

years and older from station-specific Arbitron data.

V.   Descriptive statistics

The Edison Database includes information for 569 commercial, in-market

stations, across 251 (of the 298) Arbitron markets in the United States, excluding Alaska,

Hawaii, and Puerto Rico. Of these 569 stations, 255 were surveyed at least once during

the AM drive and 281 were surveyed at least once in the evening. To examine whether

the effects of ownership structure vary by market size, I define markets with strictly

fewer than 30 stations as "small" markets and those with 30 or more stations as "big"

markets.[43] By this definition, 104 of the 251 markets are big markets and the remaining

147 are small markets. Table 4 provides descriptive statistics at the market level, across

all 251 Arbitron markets, and Table 5 shows the same descriptive statistics broken out for

big and small markets. Table 6 provides descriptive statistics at the station level.

Overall, the median Arbitron market has 20 radio stations and 8 owners, offering

a total of 11 of BIA's major 20 major format categories.[44] The largest number of

commercial stations in any given market is 88 (Chicago, IL), while the smallest is 4

(Sussex, NJ). The largest number of formats in any market is 37 (based on BIA's 101

format categories) or 18 (based on the 20 major format categories). By comparison, the

minimum number of formats in any market is either 3 (Sussex, NJ and Ann Arbor, MI) or

4 (Sussex, NJ), depending on format classification. The median small Arbitron market

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[42] The HHI is a widely used measure of concentration. It is calculated as the sum of squared market shares. Depending on whether the shares are expressed as a fraction or a percentage, the HHI can range from 0 to 1 or 0 to 10,000. The bigger the HHI, the more concentrated the market. For example, a monopoly market would have a single firm, with share of 100 percent and an associated HHI of 10,000.

[43] This big/small distinction is appealing in that it is broadly consistent with how markets are grouped for determining ownership caps. Indeed, pre-1996, markets with fewer than 30 stations were subject to the same caps. There are, of course, other divisions (e.g. based on population) that are equally reasonable, at least for the purpose of examining differential effects across markets of different sizes.

[44] The average number of FM stations is 14, the average number of station owners is 6 (who collectively own 1088 FM stations nationally), and the average number of formats based on BIA categories is 7.

has 16 commercial stations and 7 owners, offering 9 of the 20 major format categories, whereas the median big Arbitron market has 34 commercial stations and 14 owners, offering 13 of the 20 major format categories.

1. Radio Ownership and Cross Media-Ownership

There are a total of 262 unique radio station owners across the 569 commercial, in-market stations, spanning a total of 251 Arbitron markets included in my analysis data base. The number of commercial station owners in any given market ranges from 1 to 36.[45] The total number of stations owned nationally by all of the owners in any market ranges from 6 to 2,241 stations, and the median is 1,315.[46] The percentage of stations cross-owned with local television stations ranges from zero to 39 percent, and the median is 4 percent. Local television cross-ownership is somewhat greater in larger markets, relative to small markets. (The median percentage of stations with cross-owned television stations in large markets is 7 percent, while the median percentage in small markets is zero.) The percentage of stations cross-owned with local newspapers ranges from zero to 13 percent. Local newspaper cross-ownership is somewhat greater in small markets, relative to larger markets.

2. Programming Content

Table 7 shows the distribution of stations by format (for each of the 20 BIA major format categories) for all commercial stations. As seen in this table, Country is the most common format for radio stations in the United States, both for in-market stations (12.1 percent) as well as for out-of-market stations (29.9 percent). Adult Contemporary is the second most common format for both groups (11.4 percent for in-market stations and 17.1 percent for out-of-market stations). Religion is the third most common format for in-market stations (10.8 percent), followed by News (9.2 percent), Spanish (8.7 percent),

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[45] The market with one owner is Sussex, NJ. Under the current definitions used by the FCC, no single owner can own all commercial stations in a market; however, some owners have been allowed to maintain their historical ownership positions, because their acquisitions pre-dated the operational changes. See Footnote 9 above.

[46] The vast majority of stations are listened to by listeners in a single Arbitron market. However, a handful of stations are listened to by listeners in up to 4 Arbitron markets. In my station level analyses, presented below, stations that are listened to by listeners in multiple markets are double counted in the national ownership measure.

Rock (7.0 percent), Oldies (6.1 percent), and Album-Oriented Rock (5.7 percent). On the other hand, for out-of-market stations, Oldies (9.8 percent) is the third most common format, followed by Religion (9.2 percent), News (9.5 percent), Album-Oriented Rock (4.4 percent), Rock (3.8 percent), and Nostalgia/Big Band (3.6 percent).

Table 7 also shows the distribution of formats for stations in the Edison Database. This distribution of formats for in-market stations includes Country (13.9 percent), News (12.5 percent), Adult Contemporary (9.9 percent), Sports (7.6 percent), Spanish (7.4 percent), Nostalgia/Big Band (7.0 percent), Rock (6.9 percent), and Oldies (6.5 percent). These data show that Edison commercial, in-market surveyed stations are more skewed towards news and sports formats, relative to the population as a whole.

Table 4 summarizes other measures of programming content, for different day parts. For example, during the morning commute – across all formats for both AM and FM bands in the Edison – surveyed stations, 23 percent of airtime is allocated to advertising, 23 percent to talk entertainment,[47] 31 percent to music, 9 percent to news, and 6 percent to sports. In addition, 61 percent of content is local, while 30 percent is network/syndicated. 61 percent of content is live, while the remainder is taped. The average length of a block of uninterrupted music during the morning commute is 2 minutes, the average advertising block just over 1 minute, the average talk entertainment block close to 2 minutes, the average news block about 1 minute, and the average sports block 30 seconds. (See Table 4 for a similar breakdown for FM only stations and Table 5 for a breakdown for big and small markets.)

In the evening, 18 percent of radio station airtime is allocated to advertisements, 8 percent to talk entertainment, 52 percent to music, 3 percent to news, and 12 percent to sports. In the evening, 71 percent of content is local and 65 percent of content is live. The average length of a block of uninterrupted music during the evening is nearly just over 2 minutes and 30 seconds, the average advertising block about 1 minute, the average talk entertainment block close to 1 minute, the average news block 30 seconds, and the average sports block 1 minute.

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[47] Throughout this paper, I use the term "talk entertainment" as a short-hand for the Edison category "Entertainment, Leisure or DJ Banter."

3. Advertising Prices and Listenership

Tables 8 and 9 provide descriptive statistics on advertising prices and listenership, at the market and station levels, respectively. As expected, advertising prices and listenership in the morning drive (which is prime-time for terrestrial radio) are higher than in the evening. In addition, median advertising prices as measured by CPP are higher in big markets, relative to small markets. This pattern likely reflects that fact that in absolute terms, a percentage of the population in a big market is larger than a percentage of the population in small markets. By contrast, the median advertising prices as measured by CPM are higher in small markets, relative to big markets. Listenership, as measured by the share of the listening population that tuned in for an average quarter hour, is approximately equal across big and small markets.

4. Demographics

The median market population is 355,000, with populations ranging from 69,000 to 18,230,000, and the median percentage of the population that is white is 81 percent, with the percentage white ranging from 46 percent to 98 percent. College graduates represent 24 percent of the population of the median market, with their percentage ranging from 12 to 47 percent. The median age distributions are 35 percent under 24, 13 percent between 24 and 34, 14 percent between 35 and 44, 25 percent between 45 and 64, and 13 percent 65 and over. The effective buying income per capita in the median market is $17,895, with market-average EBIs ranging from $9,926 to $34,326. In addition, smaller markets have lower effective buying income, relative to bigger markets. They also have a greater percentage white and a somewhat older population. (See Table 8.)

VI.   Empirical Models

I study the effects of ownership structure of terrestrial radio stations on various measures of programming content, listenership, and advertising prices, using both descriptive and regressive analyses. The descriptive analyses focus primarily on differences in means across subgroups that are defined to reflect varying degrees of common ownership. The regression analyses include a series of reduced form models

that capture the net effect of ownership structure on the outcome variables of interest. These analyses are presented separately for all commercial radio stations, for FM commercial stations only, and for big and small Arbitron markets.

When possible, I evaluate the effects of ownership structure using three different levels of aggregation: (1) market level analyses, which focus on Arbitron-defined market level outcomes; (2) station level analyses, which focus on station-specific outcomes; and (3) station-pair analyses, which focus on station-pair level outcomes both for station-pairs in the same market and for station-pairs across different markets. Each of these approaches has its advantages and disadvantages, as I describe below, and consideration of all three provides a more complete understanding of the causal link between ownership structure on the various outcome measures.

1. Market Level Analyses

The market level analyses aggregate across stations in the same market. The base specifications take the following form:

$$
\begin{aligned}
Outcome_i = \beta_o &+ \beta_1 HHI_i + \beta_2 Stations_i + \beta_3 HHI_i \text{ x } Stations_i + \beta_4 Stations^2 \\
&+ \beta_5 Local\ Newspaper_i + \beta_6 Local\ Television_i + \beta_7 National\ Radio_i + \varepsilon_i
\end{aligned} \quad (1)
$$

where $Outcome_i$ is the outcome measure (such as number of formats, format concentration, or average listenership – for all stations in the market) for Arbitron market i; HHI is the ownership HHI, which measures the concentration of ownership across all commercial stations in market i; $STATIONS$ is the number of commercial radio stations in market i, and $STATIONS^2$ is the number of commercial stations in the market squared;[48] HHI x $Stations$ is an interaction term that allows the effect of concentration to vary in different sized markets; $Local\ Newspaper$ measures the fraction of commercial stations in the market that are commonly owned with a local newspaper; $Local\ Television$ measures the fraction of commercial stations in the market that are commonly owned with a local television station; $National\ Radio$ is are the total number of in-market commercial radio

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[48] Specification testing supports the inclusion of the *STATION* squared term, suggesting that the relationship between market-wide station outcomes and the number of commercial stations in the market is nonlinear.

stations owned nationally by the radio station owners in market i; the βs are the associated parameters; and ε_i is the additive stochastic error term.

The parameters are estimated using the method of Ordinary Least Squares ("OLS"). For some models where the outcome variable is binary (e.g. an indicator variable that equals 1 if two stations are the same format, zero otherwise), the parameter are estimated using Maximum Likelihood ("Probit"). Let $\hat{\beta}$ denote the estimated parameter values. The estimated model can then be used to determine the marginal effect associated with increased concentration in ownership (as measured by the ownership HHI). In the base model, the marginal effect is calculated as: $\hat{\beta}_1 + \hat{\beta}_3 Stations$ (evaluated at the average number of *Stations* in the sample), and the standard error of the marginal effect is calculated using the Delta Method, a widely-used technique in the field of econometrics that accounts for combinations of estimated parameters ($\hat{\beta}_1$ and $\hat{\beta}_3$, in this case).

The base specification likely omits other relevant variables that may also be determinants of station outcomes. These variables include listener demographics and advertiser characteristics (referred to collectively as "demographics"). Accordingly, I extend my base specification to include: total population, effective buying income per capita; a set of region indicator variables;[49] the number of retail establishments; the percentage of the population that is white (to measure racial diversity); the percentage of the population between ages 25 to 34, between ages 35 to 44, between ages 45 to 64, and over 65 (to measure age diversity); and the percentage of the population that has graduated from college, all variables that have been found to be important predictors of station outcomes in the previous literature.[50] Effective buying income and the number of retail establishments are expected to affect equilibrium station level outcomes through the

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[49] The region variables include "MIDWEST," "SOUTH," and "WEST," and "NORTHEAST" is the excluded indicator variable.

[50] For a subset of the markets, I also have information on the percent of the population that commutes to work, a measure that is thought to be predictive of terrestrial radio listening. Accordingly, I have evaluated an alternative specification that also includes this measure. My results are consistent with the expectation that the presence of commuters raises the demand for radio programming, overall listening, as well as advertising prices. However, inclusion of this variable does not affect the general pattern of results associated with the ownership variables. Accordingly, because the measure is not available for a substantial number of the analysis sample, I exclude the variable in the specifications presented here.

demand for advertising, while the remaining variables may affect equilibrium station level outcomes through the demand for listening and tastes for certain types of programming. This extended specification is written as follows:

$$Outcome_i = \beta_o + \beta_1 HHI_i + \beta_2 Stations_i + \beta_3 HHI_i \text{ x } Stations_i + \beta_4 Stations^2 + \beta_5 Local\ Newspaper_i \qquad (2)$$
$$+ \beta_6 Local\ Television_i + \beta_7 National\ Radio_i + \beta_8 Demographics + u_i$$

Finally, I consider the possibility that certain markets are likely to be more concentrated than others, and that ownership concentration may itself be an "outcome" that is influenced by a combination of observable and unobservable market characteristics. Under such circumstances, the explanatory variable included in the regression model (ownership HHI, in this case) would be correlated with the error term (ε_i or u_i). It is a well-known result in econometrics that inclusion of such explanatory variable can bias OLS estimates of the underlying parameters, rendering the estimates uninterpretable. One way to resolve this correlation problem, in theory, is to use instrumental variables estimation, which requires a valid instrumental variable – something that is correlated with ownership concentration, but does not itself belong in the specification of the outcome regression model. As a practical matter, it is often difficult to find appropriate instrumental variables, though there are categories of valid variables, such as "lagged endogenous variables" that one might try. I have estimated the market level models using lagged ownership variables from 2002 (using ownership data from BIA*fn* from 2002). The results from the instrumental variables estimation (which are not reported here) are very similar to those from the OLS estimation. Accordingly, OLS is the primary estimation method employed in this paper.

2. Station Level Analyses

The station level analyses are less aggregated than the market level analyses and exploit the station-level variation in the Edison Database. The specifications take the following form:

$$Outcome_{ijk} = \beta_o + \beta_1 Sisters_{ijk} + \beta_2 Sisters^2_{ijk} + \beta_3 Local\ Newspaper_{ijk}$$
$$+ \beta_4 Local\ Television_{ijk} + \beta_5 National\ Radio_k + \beta_6 Demographics_j \qquad (3)$$
$$+ \beta_7 Marktet\ Characteristics_j + \beta_8 Station\ Characteristics_i + \varepsilon_{iji}$$

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where i indexes the station, j indexes the market, and k indexes the owner. *Outcome*$_{ijk}$ is the station-specific outcome measure (such as programming content or listenership); *Sisters*$_{ijk}$ is number of commonly owned local stations in the same market as station i; *Sisters^2*$_{ijk}$ is *Sisters*$_{ijk}$ squared;[51] *Local Newspaper*$_{ijk}$ is an indicator variable that equals 1 if the station owner also owns a local newspaper; *Local Television*$_{ijk}$ is an indicator variable that equals 1 if the station owner also owns a local television station; *National Radio*$_k$ is a count of the total number of commercial radio stations owned nationally by the owner of the local radio station; *Demographics*$_j$ include the same set of listener demographics and advertiser characteristics described above; *Market Characteristics*$_j$ include owner HHI, the number of stations in the market, and an interaction term between HHI and stations in the market; *Station Characteristics*$_i$ include an indicator variable that equals 1 if the station is an FM station, the station's nighttime power, its daytime power, and station age; *βs* are the associated parameters; and ε_{ijk} is the additive stochastic error term.

As before, let $\hat{\beta}$ denote the estimated parameter values from OLS. The estimated model can then be used to determine the marginal effect associated with greater ownership. In the base model, the marginal effect of local radio ownership is calculated as: $\hat{\beta}_1 + \hat{\beta}_2 Sisters$, evaluated at the average number of sister stations in the sample, and the standard error of the marginal effect is calculated using the Delta Method.

When possible, I replace the market level demographics and other market characteristics with market fixed effects. I also replace the national owner variable with owner fixed effects. These fixed-effects specifications are superior to the extent they capture other relevant variables about market-specific and owner-specific characteristics that may be omitted from the specification described above. For example, an owner-specific characteristic that may be relevant is whether the station-owner is vertically integrated into network programming, information which is not reflected in my specification. In addition, the results, as I describe below, provide estimates separately for all stations and for FM only stations.

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[51] Specification testing supports the inclusion of this squared term, suggesting that the relationship between station outcomes and local radio ownership is nonlinear.

3. Station-Pair Level Analyses

The station-pair level analysis provides a closer look at the similarities and differences in programming content by ownership structure. For this analysis, I characterize the multi-faceted programming decisions of stations in three different ways. First, I characterize each station with a vector that measures percentage of airplay time on different types of programming: percentage advertising, percentage announcement, percentage talk entertainment, percentage fundraising/charity, percentage music, percentage news, percentage public affairs, percentage religious, and percentage sports.[52] Second, I characterize each station with a vector that measures percentage of airplay time by program origination: percentage local, percentage network/syndicated, and percentage voice tracked. Third, I characterize each station with a vector that measures percentage of airplay time that is devoted to live content and the percentage devoted to taped content.

I then measure the similarity between two stations by the distance between their two vectors (as measured by the "angle" between the vectors).[53]   Two stations that are identical in the way in which they allocate their airtime across the different categories of play would have a distance measure of zero degrees. Two stations that are diametrically opposite (for example, one plays only live content and the other only taped content) would have a distance measure of 90 degrees. More generally, the smaller is the angle between the vectors, the more similar are the stations' programming content.

The base station-pair specifications take the following form:

$$Angle_{ij} = \beta_o + \beta_1 Common\ Owner_{ij} + \varepsilon_i \qquad\qquad (4)$$

where i and j index the two stations being compared, $Common\ Owner_{ij}$ is an indicator variable that equals 1 if the two stations are commonly owned; β are the associated parameters; and ε_{ij} is the additive stochastic error term. A negative coefficient on the

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[52] The analysis also controls for the small percentage of airplay time that is dead, statistic/interference, and uncategorized.

[53] Specifically, I measure the distance as the arc cosine of the inner product of the two vectors, divided by the product of their norms. This is a conventional measure of distance between two vectors, from linear algebra. (See for example, Gilbert Strang. "Introduction to Linear Algebra". Wellesley-Cambridge Press, 2nd ed., 1998.)

Common Owner variable would suggest that common ownership results in less variety or more similar programming.

The base specification compares all commercially owned, in-market stations in the Edison Database. In the results I present below, I extend the analysis by restricting the sample to comparisons of same-market stations only. I further extend the analysis by controlling for market fixed effects. In addition, I estimate these models without Clear Channel stations to determine whether the estimated effects are simply a "Clear Channel" effect.

Finally, I refine the analysis by focusing on stations with sports and news formats only. For each of these two formats, I redo the angle analysis described above. I also study the overlap in actual programs played, using three different measures of program overlap. To understand these different measures, consider the following example. Suppose there are two news stations, "A" and "B." A plays a total of 5 unique programs over the course of the Edison sample period, and B plays a total of 10 unique programs over the course of the Edison sample period. Further suppose that 2 of the 5 programs played by station A are also played on station B. The first measure of program overlap simply counts the number of common programs (2 in this example). The second measure of program overlap is the percentage of unique programs across the two stations that are common to both (2 divided by 13, or 15 percent, in this example). The third measure of overlap is the average overlap across the two stations (the average of 2 divided by 5 and 2 divided by 10, or 30 percent, in this example). For each of these outcome measures, I estimate the same base specifications as well as the extensions described above.

VII.   Effects of Ownership Structure on Diversity of Formats

In this section, I discuss the effects of ownership structure on format diversity. As explained before, my analysis includes three different descriptions of format: BIA's 101 formats ("Format 101"), BIA's 20 major format categories ("Format 20"), and a modified version of BIA's 20 major format categories ("Format 11"). I describe my market level and station-pair level analysis, in turn.

Market Level Analysis

For each market, I construct measures of the number of available formats as well as a format HHI, which measures concentration in formats. To see the distinction between formats and the format HHI, consider the following example. Suppose there are two markets, each with 10 stations and 5 formats. The first market has 2 stations per format, and the second market has 1 station for each of 4 formats and 6 stations for the fifth format. Looking at format counts, the two markets appear to be identical. However, looking at format HHI, market two appears to be more concentrated, in that it has more pile-up on a particular format. In this example, market one has a format HHI (defined as the sum of squared market shares) of 0.2, and market two has a format HHI of 0.4.

Table 10 presents a comparison of means across markets with differing levels of radio ownership concentration. As seen is this table, more concentrated markets offer fewer formats and have more pile-up. As a general matter, however, it is important to recognize that smaller markets have (by definition) fewer stations and are more concentrated. This greater concentration is a result of the current ownership rules that permit owners to own a larger fraction of stations in smaller markets, relative to bigger markets. Simply observing that smaller markets have fewer formats is not by itself evidence that concentration results in less program diversity. Indeed, one must investigate whether concentration (or other measures of ownership structure) is associated with a larger or smaller number of formats, *controlling* for market size.

Table 11 presents a summary of the corresponding regression results. Within the "All Stations" analysis, the top panel presents results corresponding to model (1) above, and the bottom panel presents results corresponding to the extended model including demographics (i.e., model (2) above). Excluding demographics, there are 251 observations in regression sample and the adjusted R-squared, measuring the goodness of fit of the model, ranges from 0.36 to 0.88.

Controlling for the number of stations and the interaction effects between stations and concentration (via the ownership rules), concentration has no statistically significant effect on the number of available formats. However, the results suggest that stations are more spread out across existing formats in more concentrated markets. That is, concentrated markets have significantly less pile-up, as measured by less format

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concentration. These results are robust to the inclusion of additional covariates, as seen in the "With Demographics" panel of Table 11. In addition, I find that markets with more stations have more formats and less pile-up, as seen by the marginal effect of an increase in the number of stations. Cross-ownership with local radio and/or local television stations does not appear to have a noticeable effect on the number of formats or on format pile-up. Finally, markets with large national radio owners appear to have more formats and less pile-up. (See Appendix 2, Column 1 for the full set of regression results corresponding to the Format 101 HHI specification. I find, for example, that there is more pile-up in markets with larger populations and greater effective buying income per capita and less pile-up in more educated markets.)

Table 11 also presents the results for the same models based on the FM only stations sample. As with all stations, the results suggest that concentration does not affect the number of formats, but it is associated with less format pile-up. Table 12 presents the results separately for big and small markets. Consistent with all markets, consolidation in big markets has no statistically significant effect on the number of formats, and it is associated with less-pileup. In addition, national radio ownership (as measured by the number of commercial stations owned nationally the owners in the market) is also associated with more formats and less pile-up. In small markets, consolidation is associated with fewer formats as measured by Formats 11. However, this effect disappears (at least statistically) upon moving to more finely defined format categories.

Station-Pair Level Analysis

There are 163,853 station-pairs across all commercial, in-market stations in the Edison sample. Of these, 42,175 are FM only pairs and 739 are same market pairs. For each station-pair, I construct an indicator variable that equals 1 if the two stations have the same format and zero otherwise. Table 13 presents a descriptive comparison of the likelihood that two stations have the same format, across same owner and different owner pairs. These data suggest that commonly owned stations in the same market are more likely to have the same format than are stations owned by different owners. However, this pattern is reversed when I look only at pairs of FM stations. In addition, commonly owned stations in different markets are also more likely to have the same format.

Table 14 presents a summary of the corresponding regression results. Panel [1] presents a comparison of all station-pairs, and panels [2] and [3] present a comparison of station-pairs in the same market. Panels [1] and [2] correspond to model (4) above, and panel [3] extends panel [2] by controlling for market fixed effects. The regression sample includes 163,853 station-pairs across all markets, 739 same-market pairs, and anywhere from 335 to 493 same-market station pairs that have variation in the dependent variable. The pseudo R-squared (a measure of goodness of fit for Probit models) is very small for models without market fixed effects. The pseudo R-squared, including market fixed effects, ranges from 0.08 to 0.13.

The point estimates shown in the table are marginal effects which measure change in the basis points associated with common ownership. For example, a marginal effect of 0.05 indicates that commonly owned stations are 5 percentage points more likely to be the same format than stations owned by different owners. In any case, the results using the sample of same-market pairs with and without market fixed effects show no statistically significant effect of ownership structure on the likelihood that two stations would be the same format. Instead, the market demographics (as captured in the market fixed effects) appear to be better predictors of same format, as evidenced by the improvement in the pseudo R-squared.

Table 15 presents the results of the station-pairs in the same market, with market fixed effects, analyzed separately for big and small markets. Of the 493 same-market commercial station-pairs in the regression sample with Format 11, 452 are in big markets (defined to be markets with greater than 30 radio stations) and the remaining 47 are in small markets. Consolidation of ownership has no statistically significant effect on any of the format measures in big markets. In small markets, consolidation is associated with fewer formats, as measured by Format 11 and 101; however the Format 101 effect is highly unstable due to the small sample size (16 observations, spanning 5 markets).

Conclusions

Taken together, both the market level and the station-pair level analysis suggest that consolidation of radio ownership does not diminish the diversity of local format offerings. If anything, the market level analysis suggests that more concentrated markets

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have less pile-up of stations on individual format categories, and large national radio owners offer more formats and less pile-up.

VIII.   Effects of Ownership Structure on Other Measures of Content

In this section, I discuss the effects of ownership structure on other measures of programming content. As explained before, my analysis includes a number of new measures of programming content that characterize airplay time beyond simply radio format. One set of measures describe the percent of airplay time devoted to different types of programming content:

- Percentage local content in the AM drive;
- Percentage network/syndicated in the AM drive;
- Percentage live programming in the AM drive;
- Percentage advertising in the AM drive;
- Percentage talk entertainment in the AM drive;
- Percentage music in the AM drive; and
- Percentage news in the AM drive.

These same measures are also constructed for the evening day part. Another set of measures describe the length of uninterrupted minutes of different types of programming:

- Average length of block of advertising in the AM drive;
- Average length of block of talk entertainment in the AM drive;
- Average length of block of music in the AM drive; and
- Average length of block of news in the AM drive.

These same measures are also constructed for the evening day part. For the station level analysis, I also evaluate the effects of ownership structure on the number of syndicated programs offered as well as the number of on-air personalities. For the station-pair level analysis, I also evaluate the effects of ownership structure on the overlap of specific news and sports programming. I describe my market, station, and station-pair level analyses of the effects of consolidation on these outcome measures, in turn.

Market Level Analysis

Table 16 presents a comparison of means across markets with differing levels of radio ownership concentration. The means in the top panel are calculated across all station formats, across both bands. The means in the bottom panel are calculated across all station formats in the FM band only. (A format-specific discussion, for news and sports stations, is provided in a later section of the report.)

Across all stations, more concentrated markets offer more local programming, more news, and more advertising in the AM drive and less local programming, less news, and less advertising in the evening, relative to less concentrated markets. They offer less network/syndicated programming and sports in the AM drive and more network/syndicated programming and sports in the evening, relative to less concentrated markets. They offer more live programming and music in both day parts and less talk entertainment in both day parts, relative to less concentrated markets. Across FM stations, the patterns are a little different. For example, more concentrated markets offer less local and less live programming in both day parts, relative to less concentrated markets.

In addition, across all stations, more concentrated markets offer shorter blocks of advertising and talk entertainment and longer blocks of music in both day parts, relative to less concentrated markets. They offer longer blocks of news in the AM drive and shorter blocks of news in the evening and offer shorter blocks of sports in the AM drive and longer blocks of sports in the evening drive, relative to less concentrated markets. The only noticeable difference for FM stations is the pattern for average block of sports programming. FM stations in more concentrated markets appear to offer shorter blocks of sports programming both in the AM drive and evening, relative to less concentrated markets.

Tables 17 and 17a present a summary of the corresponding regression results based on all stations. (Table 17 presents only a subset of those results that are significantly different from zero, while Table 17a presents the full set of coefficients associated with ownership structure.) The top panel presents results corresponding to model (1) above, and the bottom panel presents results corresponding to the extended model including demographics (i.e., model (2) above). Excluding demographics, there

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are either 165 or 169 observations in the regression sample. This difference stems from the fact that not all stations were surveyed during the same day parts. Similarly, Tables 18 and 18a present a summary of the regression results based on FM only stations. The measures of model fit (adjusted R-squareds) are very small in all cases (and this lack of explanatory power persists even at the station level).

Nonetheless, the available evidence suggests that consolidation as measured by local radio station owner HHI has virtually no statistically significant effect on these measures of programming content. The exceptions are for the average length of uninterrupted blocks of talk entertainment, music and sports in the evening – based on all stations. Here, the results, controlling for demographics, suggest that consolidation is associated with shorter blocks of uninterrupted talk entertainment in the AM drive and shorter blocks of music in the evening. In addition, consolidation is associated with longer blocks of sports programming in the evening. For FM only stations, the only statistically significant effect of consolidation appears for news programming. In particular, consolidation is associated with a lower percentage of airplay time for news programming in the evening.

Finally, the results on cross-ownership suggest that local newspaper cross-ownership is associated with more talk entertainment and longer blocks of uninterrupted talk entertainment in the AM drive. For FM only stations, it is associated with more news in the AM drive. Local television ownership is associated with more advertising in the AM drive and less news and shorter blocks of news in the evening. For FM only stations, local television ownership is associated with more news in the AM drive and shorter blocks of music in the evening. Increasing radio ownership at the national level is associated with more talk entertainment and less sports programming in the AM drive. For FM only stations, increasing radio ownership at the national level is associated with less news and shorter blocks of news in the evening.

Station Level Analysis

Table 19 presents a comparison of means across stations based on whether or not the station operates in a market with other commonly owned stations. As explained before, "Sisters" is a count of the number of stations commonly owned in the market, so that "Stations with At Least One Sister" are those of an owner that owns at least two

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stations in the market. The means in the left panel are calculated across all station formats, across both bands. The means in the right panel are calculated across all station formats in the FM band. Tables 20 and 21 present a summary of the corresponding regression results based on all stations and FM only stations, respectively. The regression models correspond to model (3) above.[54] There are either 250 or 276 observations in regression sample, depending on whether programming is measured in the AM drive or evening, respectively. This difference stems from the fact that not all stations were surveyed during the same day parts. In addition, there are 561 observations in the sample for the number of syndicated programs and personalities. As with the market level regressions, the measures of model fit (adjusted R-squared) are generally very small, though they can get as high as 0.36.

In the all stations sample, the results suggest operating in a market with other commonly owned stations has no statistically significant effect on how a station is programmed. In the FM only stations sample, the only effect of owning multiple radio station is to reduce the percent live programming in the AM drive, the percent news program in the AM drive, and reduce the average length of an uninterrupted block of news in the AM drive. Controlling for the number of commonly owned stations, stations that operate in more concentrated markets offer less local, live, and music programming and more network/syndicated programming in the evening. All else equal, concentration is also associated with longer blocks of uninterrupted sports in the evening. In addition, there is no statistically significant effect of concentration on any of these program outcome measures for the sample of FM only stations.

Finally, the results on cross-ownership suggest that newspaper cross-ownership is associated with longer blocks of uninterrupted talk in the AM drive and longer blocks of uninterrupted news in the evening. Stations that have large national owners offer more syndicated programs and spend a statistically significantly greater percentage of airtime on network/syndicated programming. In addition, national ownership is associated with a statistically significant, negative effect on length of an uninterrupted block of music in the evening.

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[54] Because not all stations were surveyed during the AM drive and the evening, there are insufficient observations to estimate the model with either market fixed effects or owner fixed effects.

Station-Pair Level Analysis

In the station-pair analysis, I evaluate whether the combinations of programming offered by common stations is more or less similar than the combinations offered by separately owned stations. As explained before, each station is characterized by three different vectors of programming. The first is what I call a "content" vector that measures percent of time on advertisements, announcements, talk entertainment, fundraising/charity, music, news, other, public affairs, religious, and sports. The second is an "origination" vector that measures percent of time on local, network/syndicated, and voice tracked programming. The third is a "live" vector that measures the percent of time on live and taped programming. I then measure distance in programming between any two station-pairs by the angle between their two vectors. This angle will range between zero and 90 degrees, where a value closer to zero can be interpreted as more similar and a value closer to 90 as more disparate.

Table 22 presents a description of the effect of common ownership on the measured angles. The top panel compares all station-pairs (across all formats), and the bottom panel compares FM only station-pairs (across all formats). Commonly owned stations in the same market appear to be programmed more similarly by these measures in the daytime, evening, and midnight to 6AM day parts. They appear to be programmed less similarly in the AM drive, the PM drive, and the weekend day parts. FM only station-pairs exhibit a similar pattern.

Table 23 presents a summary of the corresponding regression results, for all stations. (There are insufficient FM only station-pairs that are commonly owned and in the same market, in the Edison sample. Thus, I do not present regression results for FM only station-pairs.) Panel [1] corresponds to model (4) above. Panel [2] is the same as Panel [1], except that the sample is restricted to same-market pairs only. Finally, Panel [3] extends the model from Panel [2] by including market fixed effects. There are 14,524 to 43,332 station-pairs, depending on day part. The adjusted R-squareds for the models without fixed effects are very low. The adjusted R-squared for the models with fixed effects range between 0.02 and 0.95. The results suggest that the differences seen in the descriptive table are statistically insignificant. That is, the common ownership does not have any statistically significant effect on any of these measures of program content.

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Table 24 provides a descriptive look at a pairwise comparison of news and sports format stations. In Edison sample, there are 69 sports and 42 news commercial, in-market stations in the Edison Database. The top panel of Table 24 presents a summary of the vector comparisons for the available news pairs, by day part, and the bottom panel presents the same summary for the available sports pairs. This characterization suggests that commonly owned news stations are programmed more similarly during the daytime and midnight to 6 AM day parts, and less similarly during the AM drive and evening day parts. Further, commonly owned stations in different markets are programmed more similarly than separately owned stations in different markets. The pattern for sports is less sparse – as there are insufficient observations to do this pairwise analysis by day part.[55]

Conclusions

The available evidence based on the market level, station level, and the station-pair level analyses suggest that consolidation of radio ownership has, for the most part, no statistically significant effect on these measures of program outcome. For each of the handful of instances in the market and station level analyses where ownership structure has a statistically significant effect on programming content, I have evaluated the magnitude of the estimated effect. In the case of HHI, I estimate the implied change in the outcome measure associated with a 100 point change in the mean HHI. For all other measures of ownership structure (e.g. percent of stations that cross-own local newspapers or number of radio stations owned nationally by the owners in the market), I calculate the implied change in the outcome measure associated with a 10 percent increase in ownership.[56] Table 25 presents a summary of these calculations. This pattern of results suggests that:

- Cross-ownership of local newspaper and television rarely has a statistically significant effect on programming content, and when it does, the effect is small in

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[55] See Appendix 2, Columns 2 and 3 for a full set of market level results for the programming outcome variables "Percent Local, Evening" and "Average Block, Entertainment/Leisure/DJ Banter, AM Drive" which encompasses talk radio. See Appendix 3, Columns 1 and 2 for a full set of two different station level specifications.

[56] The estimated effect is calculated as the 10 times the elasticity of the program content measure with respect to the measure of ownership evaluated at the sample means.

magnitude. For example, a 10 percent increase in newspaper cross-ownership in the average market is associated with a 0.53 percent increase in airplay of talk programming and an increase of 0.77 minutes in the average uninterrupted block of talk entertainment in the AM drive.

- Local radio consolidation is associated with less music (4 percent), less local (3 percent), less live programming (3 percent), and less news programming (18 percent) in the evening, though this last effect is estimated from an FM only stations sample.

- All else equal, stations in more concentrated markets offer substantially longer segments of uninterrupted sports programming. A 100 point increase in the HHI would increase the average length of an uninterrupted sports program in the evening by 15 minutes, across all stations. The pattern of results suggests that this expanded offering is offset with the shorter segments of news programming in the evening.

IX.   Effect of Ownership Structure on the Variety of Actual, Non-Music Programs Aired

In this section, I evaluate the effects of ownership structure on the choice of programs offered by sports and news radio stations. As explained before, the Edison Database identifies the name of the program actually aired. However, a preliminary investigation of the data suggests that there may be a substantial missing data problem. In fact, only 53 percent of the 66,720 minutes sampled by Edison have an identified program name. A closer look at missing patterns by format suggests that sports, news, and talk have substantially more names identified than do other station formats. However, there are no two talk stations in the Edison Database that are commonly owned and operate in the same market, which would be required to study the effects of consolidation in local radio. Thus, I focus here only on news and sports stations.

There are 358 commercial, in-market sports stations and 602 commercial, in-market news stations in the United States. By comparison, there are 69 sports and 42 news commercial, in-market stations in the Edison Database, so little more than 10 percent of either type is represented in the sample. In the sample, all sports stations have program information available, and the median station has the program name identified

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98 percent of the time. Similarly, all but one news station has program information available, and the median news station has the program name identified 83 percent of the time.

The top four news station programs in the Edison Database are "Coast to Coast AM," "The Rush Limbaugh Show," "Sean Hannity," and "Savage nation with Michael Savage."   These programs are carried on multiple radio stations across the country and possibly within the same market. Other shows, which are not as widely distributed include "The Ed Schultz Show," a progressive radio talk show that is carried on radio stations across the country (and in 9 of the top 10 Arbitron markets) and "The Bob Rose Show," a local talk show covering a range of topics including politics, sports, and current events – airing on 97.3 FM, in Gainesville, Fl.   See Table 26 for the names of the top 50 programs identified on news stations, along with the frequency with which each appears on the Edison sampled stations.

The top six sports programs are ESPN and Fox Sports programs: "Gamenight on ESPN Radio," "Allnight on ESPN Radio," "The Jim Rome Show on Fox Sports Radio," "ESPN Radio," "The Dan Patrick Show on ESPN Radio," "Mike & Mike in the Morning," and "Fox Gametime React with JT the Brick." Other shows, which are not as widely distributed include "The Tim Brando Show" and "The Dr. Bob Martin Show. "The Tim Brando Show" broadcasts sports, news, talk, scores, and sports highlights and is part of Sporting News Radio, which is carried on AM and FM stations around the country with select programming also available on XM Satellite radio (on XM Sports Nation). "The Dr. Bob Martin Show" is a syndicated alternative health show with call-in programs carried by various radio stations across the country. See Table 27 for the names of the top 50 program names identified on sports stations, along with the frequency with which each appears on the stations in the Edison Database.

There are a total of 111 unique sports programs and a total of 139 unique news programs identified across the 69 sports and 42 news stations in the Edison Database. Some of the programming across the two formats is common. For example, some news stations carry talk shows that focus on sports. Across all of the news and sports formatted stations generally, there are 17 programs in the Edison data that are available on both news and sports format stations. These 17 represent 7.3 percent of all the 233

unique news and sports programming. Alternatively, 15.3 percent of the identical sports station programs are available on news stations, and 12.2 percent of the identical news station programs are available on sports stations – for an average overlap of 13.75 percent.

I estimate the effects of ownership structure on measures of program duplication, within format, separately for sports and news stations. As explained earlier, I measure variety, or rather program duplication, in three different ways: "Common Programs," "% Overlap," and "Avg. % Overlap." The first is a count of the number of common programs across two station-pairs of the same format. The second measures the percentage of unique programs offered across two station-pairs that are common to both. The third measures the average duplication across two station-pairs.

Table 28 presents a description of the effect of common ownership on program overlap. Stations owned by different owners appear to have no overlap in programming, for either news or sports. Commonly-owned news stations in the same market overlap in 14 to 22 percent of their programming and commonly-owned news stations in different markets overlap in 8 to 14 percent of their programming, depending on the measure of overlap. By contrast, commonly-owned sports stations in the same market have no overlap in their programming, and commonly-owned sports stations in different markets have overlap in 5 to 9 percent of their programming.

Table 29 presents a summary of the corresponding regression results. The top half of the table is for news stations, and the bottom half is for sports stations. Within each, panel [1] corresponds to model (4) above, and panel [2] extends model (4) by including two additional regressors: an indicator variable that equals 1 if the two stations are in the same market ("Same Market") and an interaction term between "Same Owner" and "Same Market." The coefficient on the interaction term measures the extent to common ownership within a market affects programming decisions differently from common ownership across markets.

There are 2,211 news station-pairs and 820 sports station-pairs. The adjusted R-squareds for the news models range between 0.03 and 0.04. The adjusted R-squareds for the sports models are even smaller, driven by the fact that there is virtually no variation in the dependent variables. The results suggest that the differences in news

station-pairs seen in the descriptive tables are statistically significant. That is, the overlap in programming across commonly owned news stations is statistically significant, and there may be more overlap within markets rather than across markets. The estimated results suggest that commonly owned stations-pairs have about one third more programs in common or program overlap that is 5 to 8 percent more, relative to independently owned station-pairs. However, the differences in the sports station-pairs are not statistically significant; not only is the same owner coefficient in the bottom panel of Table 29 never statistically significant, but the magnitude of the point estimates themselves are very close to zero. Thus, there is no overlap in sports programming for commonly-owned stations either within or across markets. This result likely reflects practices in the underlying sports broadcast rights market, where a live (often local) sporting event is typically broadcast by a single radio station within a radio market.

X. Effects of Ownership Structure on Advertising Prices

In this section, I discuss the effects of ownership structure on advertising prices. As explained before, terrestrial radio stations sell advertising to businesses interested in reaching the station's listening audience. Consolidation in local radio may result in higher advertising prices, if advertisers have no reasonable substitutes to advertising on radio. To the extent that local radio groups are more efficient at selling advertising, consolidation in radio may actually result in lower prices. Absent one of these mechanisms, consolidation should have no effect on advertising prices.

I study this effect of consolidation with two measures of advertising prices at the market level – cost per point ("CPP") and cost per thousand ("CPM"). These measures are computed by SQAD, based on proprietary data collected from advertising agencies and media buyers. CPP is the cost of reaching one percentage point of the listening audience, and the average CPP in my analysis sample is $61.29. By contrast, CPM is the cost of reaching 1,000 listeners, and the average CPM in my analysis sample is $11.78, equivalent to 1.2 cents per listener reached. I study the effects of consolidation on CPP

and CPM in the AM drive, in the evening, and on average across all day parts, using a market level model.[57]

Table 30 presents a comparison of means across markets with differing levels of radio ownership concentration. The means in the top panel are calculated across all station formats, across both bands. The means in the bottom panel are calculated across all station formats in the FM band. In both panels, concentration is associated with lower CPPs and higher CPMs. The lower CPP in more concentrated markets may simply reflect the fact that more concentrated markets are by construction smaller markets, due to ownership rules that permit owners to own a larger fraction of stations in smaller markets. In smaller markets, one percent of listeners is a smaller total number of listeners; hence it should follow (all else equal) that CPP is lower in smaller markets. The CPM measure is an absolute measure (cost per thousand listeners) and is not confounded by market size.

Table 31 presents a summary of the corresponding market level regression results based on all stations. The top panel presents results corresponding to model (1) above, and the bottom panel presents results corresponding to the extended model including demographics (i.e., model (2) above). Excluding demographics, there are 241 observations in regression sample. The measures of model fit (adjusted R-squareds) range from 0.33 to 0.94. I find that consolidation in local radio has no statistically-significant effect on advertising prices. As the number of stations in the market increases, prices decrease – a result that is consistent with competition among radio stations for advertising dollars. There is some evidence that cross ownership with television results in higher prices in the AM drive (top panel of Table 31); however, this results disappears when I control for demographics (bottom panel of Table 31).

Table 31 also presents an analogous summary of the market level regression results based on FM only stations. The measures of model fit (adjusted R-squareds) range from 0.32 to 0.93. As before, the results show that consolidation in local radio has no statistically-significant effect on market prices and that prices decrease as the number of stations in the market increases. In addition, television cross-ownership is associated

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[57] Because CPP and CPM are only available at the market, not station level, there is no additional information to be exploited in moving to a station or station-pair level regression model.

with statistically significantly higher CPPs, for both all stations and FM only stations. There is also some evidence that national ownership of FM radio stations results in lower advertising prices.

Table 32 presents the results of the advertising price analysis separately for big and small markets. Of the 236 markets in the regression sample with demographic controls, 103 are in big markets (defined to be markets with greater than 30 radio stations) and the remaining 133 are in small markets. There are no differential effects of local radio consolidation of ownership across big and small markets. National ownership has a statistically significant, negative effect on advertising prices and cross ownership with television has a statistically significant, positive effect on advertising prices in big markets across a number of the specifications – but not in small markets. Not only is there no statistical significance associated these estimates in the small markets, but the magnitude of the corresponding coefficients are noticeably smaller.

See Appendix 2, Column 4 for the full set of regression results corresponding to the CPP, AM drive specification. In addition to the results reported above, I also find CPP is higher in markets with more people; it is higher in the western region of the U.S. (relative to the northeast); and among the different age categories, it is highest for the 35 to 44 age category.

XI.   Effects of Ownership Structure on Listenership

In this section, I discuss the effects of ownership structure on radio station listenership. From the perspective of an economist, listenership is a useful measure in evaluating the effects of consolidation on public welfare. It provides a summary measure of listeners' valuations of a station's performance. If consolidation in local radio ownership results in inferior programming, as critics of consolidation claim, one should observe listeners reducing their time spent listening to radio. Alternatively, if consolidation results in improved programming, one should observe increased time spent listening.

I study this effect of consolidation with a measure of listening called AQH listening ("Rating"). This measure is computed by Arbitron, based on proprietary survey data collected from listener diaries. Ratings are available by station, and market level

ratings are calculated as the average ratings across the available stations in the market. Accordingly, I estimate the effect of ownership structure on listenership using both my market level and station level analysis, in turn.

Market Level Analysis

Table 33 presents a comparison of means across markets with differing levels of radio ownership concentration. The means in the top panel are calculated across all station formats, across both bands. The means in the bottom panel are calculated across all station formats in the FM band. In both panels, concentration is associated with greater listenership, even though there are fewer radio stations available in more concentrated markets.

Table 34 presents a summary of the corresponding market level regression results based on all stations. The top panel presents results corresponding to model (1) above, and the bottom panel presents results corresponding to the extended model including demographics (i.e., model (2) above). Excluding demographics, there are 249 observations in regression sample. The measures of model fit (adjusted R-squared) range from 0.33 to 0.62. The results are that consolidation in local radio has no statistically significant effect on average listening. As the number of stations in the market increases, average listening to any one station decreases. Listeners served by large radio groups, as measured by the number of commercial stations owned nationally by in-market owners, listen more. In addition, there is some evidence that local newspaper cross ownership increases overall and AM drive listening, as measured by average quarter hour or ("AQH"), and that national ownership of radio stations is associated with increased AM drive listening.

See Appendix 2, Column 5 for the full set of regression results corresponding to the average ratings, AM drive specification. In addition to the results reported above, I also find average ratings are higher in the Midwest (relative to the Northeast); people ages 45 to 64 are most likely to listen to terrestrial radio, and people over 65 are least likely to listen to terrestrial radio (relative to others in the age distribution).

Table 34 also presents a summary of the market level regression results based on FM only stations. The measures of model fit (adjusted R-squared) range from 0.26 to 0.54. As with all stations, the results are that consolidation in local radio has no

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statistically significant effect on listenership. As with the all stations result, markets with more stations have less listening to any one station relative to markets with fewer stations. Finally, there are no statistically significant effects of cross-ownership on listening in the FM only sample.

Table 35 presents a summary of the market level regression results broken out by big and small markets. The most interesting result here is that all else equal, concentration in big markets is associated with lower average station AQH ratings, suggesting that listeners in big markets are not tuning in by as much as listeners in small markets. The natural question is why are listeners in big markets are not tuning in? Is it because the programming quality of concentrated station owners in big markets is below standard? Or is it a fact that consumers in big, concentrated markets are more likely to switch to new media technologies like satellite radio and internet radio. My study of this finding is on-going.

Station Level Analysis

Table 36 presents a comparison of means across stations with differing levels of radio ownership concentration. The means in the left panel are calculated across all station formats, across both bands. The means in the right panel are calculated across all station formats in the FM band. In both panels, concentration is associated with greater listenership, even though there are fewer radio stations available in more concentrated markets.

Table 37 presents a summary of the comparable regression results and is based on model (3) above. There are 410 or 420 observations in the regression samples. The measures of model fit (adjusted R-squareds) range from 0.143 to 0.195. I find that stations operating in markets with other commonly owned stations achieve higher ratings (as measured by the coefficient on "Sisters") than independent stations. In addition, cross-ownership with local newspapers has a statistically-significant positive effect on listenership. There are no other statistically significant effects of ownership structure on listenership.[58]

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[58] Tables 38 and 39 presents results for the same model re-estimated by replacing the market-specific variables with market fixed effects and the owner-specific variables with owner-fixed effects. Table 38 uses the sample of all commercial, in-market stations surveyed by Edison, while Table 39 uses the FM

XII. Conclusions

This study evaluates the effects of ownership structure on programming, advertising prices, and listenership for terrestrial radio. The paper catalogues the effects of ownership structure across numerous different measures of programming content, including: format counts; format concentration; percent of station airplay on music; news; sports, talk entertainment; advertisements, by day part; percent of station programming that is live; percent of station programming that is network/syndicated and voice-tracked; number of syndicated programs, and the number of on-air personalities. The paper also offers an examination of overlap in programming for sports and news format stations. Finally, it assesses the effects of ownership structure on two different measures of advertising prices and listenership.

Using a combination of descriptive and econometric analyses, I find that consolidation of radio ownership does not diminish the diversity of local format offerings. If anything, more concentrated markets have less pile-up of stations on individual format categories, and large national radio owners offer more formats and less pile-up. Consolidation of local radio ownership also has a statistically significant and economically meaningful effect the composition of non-music programming. In particular, I find that owners with several local stations offer longer, uninterrupted blocks of sports programming in the evening. This shift towards sports programming is accompanied by reductions in other types of programming. Beyond this effect, ownership structure generally does not have much of an effect, either statistically or in terms of practical magnitude, on programming content. In addition, there are no significant differences in the effects of consolidation in radio across big and small markets.

The analysis also suggests that common ownership results in more diversity in actual non-music programs aired. Based on an analysis of news and sports formatted stations, I find there is some overlap in actual programs aired across the two formats generally, but not within commonly owned station-pairs within the same market. In particular, I estimate that there is about a 15 percent overlap in the programs aired across

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only, in-market stations. In both sets of tables, the results are that consolidation in local radio (as measured by the marginal effect of Sisters) has no statistically-significant effect on listenership.

the two types of stations.   However, there is only a 5 to 7 percent overlap in the actual news programs aired on commonly owned news station-pairs within the same market. In addition, there is virtually no overlap in the actual sports programs aired on commonly owned sports station-pairs within the same market.

From the point of view of audiences, I find that stations operating in markets with other commonly owned stations achieve higher ratings, than do independent stations. In addition, cross-ownership with local newspapers has a statistically significant, positive effect on listenership. However, there is some evidence that listenership is lower in more concentrated big markets, relative to small markets. Finally, I find that consolidation in local radio has no statistically significant effect on advertising prices. National radio ownership has a negative effect on prices. In addition, cross-ownership with local television has a positive effect on advertising prices in big markets.

These results are broadly consistent with the previous literature that finds more concentrated markets are associated with more, not less, program variety. Some of the new contributions of this study, enabled in part by the Edison Database, include consideration of a host of other measures of programming content, examination of non-music programming, and comparison of big and small markets. Consideration of these new findings sheds some light on the questions of whether and how ownership affects radio station programming and listenership.

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Table 1 - 1997 Top Owners in 2005

Owner Name	1997		2005	
	Station	Revenues	Station	Revenues
CBS (Name Change to Infinity in 2005)	160	$ 1,529.40	178	not reported
CHANCELOR MEDIA CORPORATION	108	$ 996.00	*Note 1*	
JACOR COMMUNICATIONS	204	$ 602.20	*Note 2*	
CAPSTAR BROADCASTING PARTNERS	299	$ 537.70	*Note 3*	
CLEAR CHANNEL COMMUNICATIONS	196	$ 452.30	1,183	$ 3,632
ABC RADIO	29	$ 310.40	71	$ 469.85
COX RADIO	59	not reported	78	$ 494.90
EMMIS BROADCASTING (Name Change to Emmis Communications in 1998)	13	$ 156.70	24	$ 315.53
HEFTEL BROADCASTING	39	$ 155.50	*Note 4*	
SUSQUEHANNA RADIO	21	$ 141.40	*Note 5*	

Notes:

1. Became AMFM Inc. after series of mergers; Acquired by Clear Channel in 2000; http://www.fcc.gov/Bureaus/Mass_Media/News_Releases/2000/nrmm0034.html.
2. Acquired by Clear Channel in August 2000; http://www.clearchannel.com/Radio/PressRelease.aspx?PressReleaseID=1599&p=hidden.
3. Acquired by Chancellor Media Corporation in 1999.
4. Acquired by Clear Channel in 1996.
5. Acquired by Cumulus Media Partners LLC in 2005.
6. Revenues in 000,000.

Source: BIA 1997 and BIA 2006

Table 2: Largest Radio Station Owners in the U.S., 2005[1]

No.	OwnerCode	Owner	Commercial			Non-Commercial	
			#	%	Cumul. %	#	%
1	50152	Clear Channel Communications	1,183	10.9%	10.9%	0	0.0%
2	58079	Cumulus Broadcasting Inc	297	2.7%	13.7%	0	0.0%
3	50926	Citadel Broadcasting Corp	223	2.1%	15.7%	0	0.0%
4	58707	CBS Radio	178	1.6%	17.4%	0	0.0%
5	50975	Salem Communications Corporation	105	1.0%	18.3%	0	0.0%
6	50914	Entercom	103	1.0%	19.3%	0	0.0%
7	50295	Saga Communications Inc	86	0.8%	20.1%	0	0.0%
8	58103	Cox Radio Inc	78	0.7%	20.8%	0	0.0%
9	57059	Regent Communications, Inc	74	0.7%	21.5%	0	0.0%
10	50232	Univision Communications Inc	73	0.7%	22.2%	0	0.0%
11	50312	ABC/Disney	71	0.7%	22.8%	0	0.0%
12	61094	Radio One Inc	69	0.6%	23.4%	0	0.0%
13	67894	NRG Media LLC	59	0.5%	24.0%	0	0.0%
14	59062	NextMedia Group	58	0.5%	24.5%	0	0.0%
15	50308	Entravision Holdings LLC	52	0.5%	25.0%	0	0.0%
16	56751	Three Eagles Communications Incorporated	45	0.4%	25.4%	0	0.0%
17	52621	Nassau Broadcasting Partners LP	45	0.4%	25.8%	0	0.0%
18	52170	Multicultural Radio Broadcasting Inc	45	0.4%	26.3%	0	0.0%
19	58942	Triad Broadcasting Company	44	0.4%	26.7%	0	0.0%
20	62155	Cherry Creek Radio LLC	42	0.4%	27.0%	0	0.0%
21	50870	Beasley Broadcast Group	42	0.4%	27.4%	0	0.0%
22	51175	Midwest Communications Incorporated	39	0.4%	27.8%	0	0.0%
23	50180	Max Media LLC	37	0.3%	28.1%	0	0.0%
24	50115	Journal Communications Inc	37	0.3%	28.5%	0	0.0%
25	50010	Bonneville International Corp	37	0.3%	28.8%	0	0.0%
26	63288	Davidson Media Group LLC	37	0.3%	29.2%	0	0.0%
27	58728	New Northwest Broadcasters, LLC	36	0.3%	29.5%	0	0.0%
28	68144	Cumulus Media Partners LLC[2]	36	0.3%	29.8%	0	0.0%
29	52283	MCC Radio LLC	33	0.3%	30.1%	0	0.0%
30	51427	Forever Broadcasting Incorporated	33	0.3%	30.4%	0	0.0%
31	61815	Qantum Communications Corp	31	0.3%	30.7%	0	0.0%
32	61657	Border Media Partners LLC	29	0.3%	31.0%	0	0.0%
33	50902	Crawford Broadcasting Company	29	0.3%	31.3%	0	0.0%
34	58729	Bicoastal Media LLC	27	0.2%	31.5%	0	0.0%
35	52290	Black Crow Media Group	27	0.2%	31.8%	0	0.0%
36	61484	Backyard Broadcasting	27	0.2%	32.0%	0	0.0%
37	51196	Access.1 Communications	27	0.2%	32.3%	1	0.0%
38	61279	Mapleton Communications LLC	26	0.2%	32.5%	0	0.0%
39	51907	Pamal Broadcasting Ltd	26	0.2%	32.7%	0	0.0%
40	61542	Bustos Media Enterprises LLC	26	0.2%	33.0%	0	0.0%
41	50955	Lotus Communications Corp	24	0.2%	33.2%	0	0.0%
42	67864	Double O Radio LLC	24	0.2%	33.4%	0	0.0%
43	51154	Fisher Radio Regional Group	24	0.2%	33.6%	0	0.0%
44	51037	Renda Broadcasting Corporation	24	0.2%	33.9%	0	0.0%
45	58400	Emmis Communications	24	0.2%	34.1%	0	0.0%
46	52121	Simmons Media Group Inc	24	0.2%	34.3%	0	0.0%
47	50864	American General Media	23	0.2%	34.5%	0	0.0%
48	59072	First Media	23	0.2%	34.7%	0	0.0%
49	57011	Commonwealth Broadcasting Corporation	23	0.2%	34.9%	0	0.0%
50	51176	Northeast Broadcasting Company	23	0.2%	35.2%	0	0.0%
51	50113	Withers Broadcasting Co	23	0.2%	35.4%	0	0.0%
52	50905	Cromwell Group Inc, The	22	0.2%	35.6%	0	0.0%
53	50163	Flinn Broadcasting Corporation	22	0.2%	35.8%	0	0.0%
54	50957	Mid-West Family Broadcast Group	22	0.2%	36.0%	16	0.6%
55	50885	Baker Family Stations	22	0.2%	36.2%	0	0.0%

Notes:

1. Numbers reflect all U.S. commercial and non-commercial radio stations.

2. In October 2005, Cumulus Media Inc. (which ranks as the 943rd largest commercial radio owner) announced the purchase of Susquehana Radio. The newly acquired stations would be owned and operated under the new Cumulus identity, Cumulus Media Partners LLC. Cumulus Media Partners' count of commercial stations, reported here at 36, reflects the acquisition of 32 Susquehana stations and 4 Cumulus Broadcasting stations.

Source: Ownership database (from FCC)

Table 3 - Stations by Band and Format

Format 20	Commercial & Non-Commercial			Commercial	
	Total	AM	FM	AM	FM
Religion	2,084	833	1251	767	335
Country	2,081	605	1476	603	1468
Adult Contemporary	1,514	172	1342	172	1302
News	1,147	883	264	861	60
Rock	836	38	798	34	589
Oldies	831	301	530	301	519
Spanish	739	381	358	374	314
Miscellaneous	640	121	519	116	51
Album Oriented Rock/Classic Rock	602	11	591	11	552
Contemporary Hit Radio/Top 40	488	11	477	10	428
Sports	465	432	33	432	33
Urban	421	86	335	86	316
Talk	419	346	73	343	57
Nostalgia/Big Band	373	314	59	312	45
Classical	302	8	294	6	27
Public/Educational	165	10	155	3	0
Jazz/New Age	151	8	143	6	70
Ethnic	116	86	30	86	18
Middle of the Road	75	60	15	60	12
Easy Listening/Beautiful Music	65	28	37	27	27
Total	**13,514**	**4,734**	**8,780**	**4,610**	**6,223**

Source: Ownership Database (from FCC), Edison Airplay Database

Table 4: Market Level Descriptives
Commercial, In-Market, Edison Surveyed Stations

Variable	All Stations					FM Only Stations				
	Mean	Median	Min	Max	N	Mean	Median	Min	Max	N
Number of Commercial Stations	24.20	20	4	88	251	14.36	13	2	44	251
Number of Commercial Owners	10.15	8	1	36	251	6.29	6	1	18	251
Number of Stations Owned Nationally by Owners in Market	1,087.9	1,315	6	2,241	251	731	895	2	1,424	251
Percentage of Stations with Cross-Owned Newspaper in Market	0%	0%	0%	13%	251	0%	0%	0%	13%	251
Percentage of Stations with Cross-Owned TV Station in Market	7%	4%	0%	39%	251	8%	5%	0%	38%	251
Format 101 Count[1]	14.94	14	4	37	251	10.35	10	2	25	251
Format 20 Count[2]	10.70	11	3	18	251	7.44	7	2	14	251
Format 11 Count[3]	8.04	8	3	11	251	6.47	7	2	10	251
Percent Local, AM Drive	68%	76%	0%	100%	165	78%	89%	0%	100%	100
Percent Network/Syndicated, AM Drive	30%	21%	0%	100%	165	20%	11%	0%	90%	100
Percent Live, AM Drive	61%	70%	0%	100%	165	67%	74%	0%	99%	100
Percent Advertisements, AM Drive	23%	23%	0%	59%	165	24%	24%	0%	56%	100
Percent Entertainment/Leisure/DJ Banter, AM Drive	23%	16%	0%	88%	165	24%	16%	0%	78%	100
Percent Music, AM Drive	31%	32%	0%	98%	165	41%	45%	0%	98%	100
Percent News, AM Drive	9%	5%	0%	43%	165	6%	4%	0%	39%	100
Percent Sports, AM Drive	6%	0%	0%	83%	165	1%	0%	0%	9%	100
Percent Local, Evening	71%	85%	0%	100%	169	84%	95%	0%	100%	114
Percent Network/Syndicated, Evening	26%	12%	0%	100%	169	13%	4%	0%	100%	114
Percent Live, Evening	65%	75%	0%	100%	169	74%	82%	0%	100%	114
Percent Advertisements, Evening	18%	18%	0%	48%	169	16%	16%	0%	45%	114
Percent Entertainment/Leisure/DJ Banter, Evening	8%	3%	0%	84%	169	6%	2%	0%	84%	114
Percent Music, Evening	52%	61%	0%	99%	169	70%	77%	0%	99%	114
Percent News, Evening	3%	0%	0%	45%	169	1%	0%	0%	19%	114
Percent Sports, Evening	12%	0%	0%	93%	169	4%	0%	0%	93%	114
Average Block, Advertisements, AM Drive	1.36	1.09	0	5.58	165	1.33	1.00	0	5.58	100
Average Block, Entertainment/Leisure/DJ Banter, AM Drive	2.18	1.31	0	17.63	165	2.04	1.34	0	15.17	100
Average Block, Music, AM Drive	1.91	2.05	0	8.44	165	2.49	2.69	0	8.44	100
Average Block, News, AM Drive	0.73	0.58	0	3.10	165	0.62	0.50	0	3.67	100
Average Block, Sports, AM Drive	0.64	0.00	0	7.29	165	0.16	0.00	0	2.00	100
Average Block, Advertisements, Evening	1.18	1.04	0	7.50	169	1.07	0.77	0	7.50	114
Average Block, Entertainment/Leisure/DJ Banter, Evening	0.82	0.25	0	7.39	169	0.62	0.28	0	6.25	114
Average Block, Music, Evening	2.57	2.90	0	11.53	169	3.23	3.25	0	11.53	114
Average Block, News, Evening	0.37	0.00	0	2.83	169	0.12	0.00	0	2.15	114
Average Block, Sports, Evening	0.99	0.00	0	13.08	169	0.34	0.00	0	8.23	114
Midwest Census Region	25%				251	25%				251
South Census Region	40%				251	40%				251
West Census Region	17%				251	17%				251

Notes:
1. "Format 101 Count" counts the number of formats out of BIA's 101 format categories.
2. "Format 20 Count" counts the number of formats out of BIA's 20 format categories.
3. "Format 11 Count" collapses the 20 BIA format categories into 11 based on Andrew Sweeting's analysis of BIA's music formats.
4. "Average Block" is measured in minutes.

Source: BIA*fn,* Ownership database (from FCC), SQAD, Arbitron, Census, Edison Airplay Database, Sweeting (2006)

Table 5: Market Level Descriptives, Big versus Small Markets
All Commercial, In-Market, Edison Surveyed Stations

Variable	Big Markets, 30+ Stations					Small Markets, 1-29 Stations				
	Mean	Median	Min	Max	N	Mean	Median	Min	Max	N
Number of Commercial Stations	36	34	20	88	104	16	16	4	27	147
Number of Commercial Owners	15	14	5	36	104	6	7	1	14	147
Number of Stations Owned Nationally by Owners in Market	1,401	1,525	46	2,241	104	866	1,212	6	1,721	147
Percent of Stations with Cross-Owned Newspaper in Market	0.3%	0%	0%	5%	104	0.5%	0%	0%	13%	147
Percent of Stations with Cross-Owned TV Station in Market	9.0%	7%	0%	30%	104	5.0%	0%	0%	39%	147
Format 101 Count[1]	20	20	12	37	104	11	11	4	17	147
Format 20 Count[2]	13	13	9	18	104	9	9	3	13	147
Format 11 Count[3]	9	9	6	11	104	7	7	3	10	147
Percent Local, AM Drive	71%	77%	0%	100%	82	65%	76%	0%	100%	83
Percent Network/Syndicated, AM Drive	26%	19%	0%	100%	82	33%	21%	0%	98%	83
Percent Live, AM Drive	63%	69%	0%	98%	82	60%	71%	0%	100%	83
Percent Advertisements, AM Drive	23%	23%	0%	56%	82	23%	24%	0%	59%	83
Percent Entertainment/Leisure/DJ Banter, AM Drive	23%	20%	0%	78%	82	22%	15%	0%	88%	83
Percent Music, AM Drive	32%	33%	0%	98%	82	30%	26%	0%	95%	83
Percent News, AM Drive	9%	5%	0%	43%	82	8%	5%	0%	41%	83
Percent Sports, AM Drive	7%	0%	0%	83%	82	6%	0%	0%	72%	83
Percent Local, Evening	72%	84%	1%	100%	83	70%	85%	0%	100%	86
Percent Network/Syndicated, Evening	24%	12%	0%	99%	83	27%	11%	0%	100%	86
Percent Live, Evening	65%	76%	0%	99%	83	64%	74%	0%	100%	86
Percent Advertisements, Evening	18%	19%	1%	48%	83	17%	18%	0%	45%	86
Percent Entertainment/Leisure/DJ Banter, Evening	9%	3%	0%	84%	83	7%	2%	0%	65%	86
Percent Music, Evening	52%	56%	0%	97%	83	52%	65%	0%	99%	86
Percent News, Evening	3%	0%	0%	45%	83	3%	0%	0%	21%	86
Percent Sports, Evening	11%	0%	0%	93%	83	12%	0%	0%	81%	86
Average Block, Advertisements, AM Drive	1.41	1.16	0.00	5.58	82	1.30	1.02	0.00	5.58	83
Average Block, Entertainment/Leisure/DJ Banter, AM Drive	2.22	1.64	0.00	15.50	82	2.14	1.12	0.00	17.63	83
Average Block, Music, AM Drive	1.97	2.05	0.00	8.44	82	1.85	2.00	0.00	4.97	83
Average Block, News, AM Drive	0.72	0.57	0.00	3.10	82	0.75	0.63	0.00	2.90	83
Average Block, Sports, AM Drive	0.63	0.00	0.00	7.29	82	0.65	0.00	0.00	7.00	83
Average Block, Advertisements, Evening	1.14	1.06	0.06	3.60	83	1.21	1.03	0.00	7.50	86
Average Block, Entertainment/Leisure/DJ Banter, Evening	0.84	0.31	0.00	7.39	83	0.79	0.22	0.00	6.49	86
Average Block, Music, Evening	2.46	2.71	0.00	11.53	83	2.66	3.13	0.00	7.04	86
Average Block, News, Evening	0.28	0.00	0.00	2.71	83	0.45	0.10	0.00	2.83	86
Average Block, Sports, Evening	0.93	0.00	0.00	7.47	83	1.04	0.00	0.00	13.08	86

Notes:
1. "Format 101 Count" counts the number of formats out of BIA's 101 format categories.
2. "Format 20 Count" counts the number of formats out of BIA's 20 format categories.
3. "Format 11 Count" collapses the 20 BIA format categories into 11 based on Andrew Sweeting's analysis of BIA's music formats.
4. "Average Block" is measured in minutes.
Source: BIA*fn,* Ownership database (from FCC), SQAD, Arbitron, Census, Edison Airplay Database, Sweeting (2006)

Table 6: Station Level Descriptives
All Commercial, In-Market, Edison Surveyed Stations

Variable	Mean	Median	Min	Max	N
Percent Local, AM Drive	0.70	0.85	0.00	1.00	255
Percent Network/Syndicated, AM Drive	0.28	0.14	0.00	1.00	255
Percent Live, AM Drive	0.61	0.72	0.00	1.00	255
Percent Advertisements, AM Drive	0.23	0.23	0.00	0.59	255
Percent Entertainment/Leisure/DJ Banter, AM Drive	0.22	0.11	0.00	0.99	255
Percent Music, AM Drive	0.30	0.23	0.00	0.98	255
Percent News, AM Drive	0.09	0.05	0.00	0.61	255
Percent Sports, AM Drive	0.06	0.00	0.00	0.83	255
Percent Local, Evening	0.71	0.90	0.00	1.00	281
Percent Network/Syndicated, Evening	0.26	0.09	0.00	1.00	281
Percent Live, Evening	0.65	0.78	0.00	1.00	281
Percent Advertisements, Evening	0.18	0.18	0.00	0.48	281
Percent Entertainment/Leisure/DJ Banter, Evening	0.08	0.01	0.00	0.93	281
Percent Music, Evening	0.51	0.69	0.00	1.00	281
Percent News, Evening	0.03	0.00	0.00	0.61	281
Percent Sports, Evening	0.11	0.00	0.00	0.93	281
Average Block, Advertisements, AM Drive	1.42	1.10	0.00	10.75	255
Average Block, Entertainment/Leisure/DJ Banter, AM Drive	2.11	1.00	0.00	17.63	255
Average Block, Music, AM Drive	1.89	2.22	0.00	8.44	255
Average Block, News, AM Drive	0.76	0.58	0.00	7.42	255
Average Block, Sports, AM Drive	0.59	0.00	0.00	7.29	255
Average Block, Advertisements, Evening	1.20	1.00	0.00	7.50	281
Average Block, Entertainment/Leisure/DJ Banter, Evening	0.82	0.18	0.00	11.25	281
Average Block, Music, Evening	2.55	2.97	0.00	20.00	281
Average Block, News, Evening	0.35	0.00	0.00	5.42	281
Average Block, Sports, Evening	0.95	0.00	0.00	13.08	281
Number of Syndicated Programs	1.34	0.00	0.00	19.00	569
Number of Personalities	2.93	2.00	0.00	21.00	569

Note: "Average Block" is measured in minutes.

Source: Ownership database (from FCC), Edison Airplay Database

Table 7: Distribution of Commercial, In-Market Stations Across Formats

No.	Format 20	Edison Surveyed Stations	All U.S. Stations
1	Country	13.9%	12.1%
2	News	12.5%	9.2%
3	Adult Contemporary	9.9%	11.4%
4	Sports	7.6%	5.4%
5	Spanish	7.4%	8.7%
6	Nostalgia/Big Band	7.0%	3.1%
7	Rock	6.9%	7.0%
8	Oldies	6.5%	6.1%
9	Talk	6.0%	4.3%
10	Album Oriented Rock/Classic Rock	5.6%	5.7%
11	Contemporary Hit Radio/Top 40	5.1%	5.6%
12	Religion	4.7%	10.8%
13	Urban	4.0%	5.3%
14	Ethnic	0.9%	1.3%
15	Middle of the Road	0.7%	0.5%
16	Miscellaneous	0.5%	1.6%
17	Classical	0.4%	0.4%
18	Easy Listening/Beautiful Music	0.4%	0.4%
19	Jazz/New Age	0.2%	1.0%
20	Public/Educational	0.0%	0.02%

Source: Ownership Database (from FCC), Edison Airplay Database

Table 8: Market Level Descriptives
Commercial, In-Market, Edison Surveyed Stations

Variable	All Stations					FM Only Stations				
	Mean	Median	Min	Max	N	Mean	Median	Min	Max	N
CPP, AM Drive	67	33	7	979	241	67	33	7	979	241
CPP, Evening	43	26	3	550	241	43	26	3	550	241
CPP, Average	61	31	7	859	241	61	31	7	859	241
CPM, AM Drive	12	10	4	44	241	12	10	4	44	241
CPM, Evening	10	7	3	52	241	10	7	3	52	241
CPM, Average	12	10	5	43	241	12	10	5	43	241
Average Rating	1%	1%	0%	3%	249	1%	1%	0%	3%	248
Average Rating, AM Drive	1%	1%	0%	5%	249	1%	1%	0%	5%	248
Average Rating, Evening	0%	0%	0%	1%	249	0%	0%	0%	1%	248
Population (000s)	910	355	69	18,230	250	910	355	69	18,230	250
EBI Per Capita ($)	18,279	17,895	9,926	34,326	250	18,279	17,895	9,926	34,326	250
Percentage of Population White	79%	81%	46%	98%	250	79%	81%	46%	98%	250
Percentage of Population 25-34	13%	13%	9%	20%	250	13%	13%	9%	20%	250
Percentage of Population 35-44	14%	14%	10%	17%	250	14%	14%	10%	17%	250
Percentage of Population 45-64	24%	25%	15%	36%	250	24%	25%	15%	36%	250
Percentage of Population 65 and Over	13%	13%	7%	32%	250	13%	13%	7%	32%	250
Percentage of Population, College Graduates	25%	24%	12%	47%	244	25%	24%	12%	47%	244

Variable	Big Markets, 30+ Stations					Small Markets, 1-29 Stations				
	Mean	Median	Min	Max	N	Mean	Median	Min	Max	N
CPP, AM Drive	120	63	16	979	103	28	20	7	155	138
CPP, Evening	70	39	9	550	103	23	18	3	158	138
CPP, Average	107	56	15	859	103	27	20	7	159	138
CPM, AM Drive	10	9	6	27	103	14	13	4	44	138
CPM, Evening	6	6	3	21	103	13	10	3	52	138
CPM, Average	9	8	5	24	103	14	12	5	43	138
Average Rating	1%	1%	0%	1%	104	1%	1%	0%	3%	145
Average Rating, AM Drive	1%	1%	0%	2%	104	1%	1%	1%	5%	145
Average Rating, Evening	0%	0%	0%	0%	104	0%	0%	0%	1%	145
Population (000s)	1,805	1,005	226	18,230	104	273	213	69	1,201	146
EBI Per Capita ($)	19,414	19,095	13,203	27,819	104	17,471	16,965	9,926	34,326	146
Percentage of Population White	75%	77%	50%	97%	104	82%	85%	46%	98%	146
Percentage of Population 25-34	14%	14%	11%	18%	104	13%	13%	9%	20%	146
Percentage of Population 35-44	15%	15%	12%	17%	104	14%	14%	10%	17%	146
Percentage of Population 45-65	24%	25%	18%	29%	104	24%	25%	15%	36%	146
Percentage of Population Over 65	12%	12%	7%	24%	104	14%	13%	7%	32%	146
Percentege of Population, College Graduates	26%	26%	13%	44%	104	23%	22%	12%	47%	140

Source: BIA*fn,* Ownership database (from FCC), SQAD, Arbitron, Census, Edison Airplay Database

Table 9: Station Level Descriptives
All Commercial, In-Market, Edison Surveyed Stations

Variable	Mean	Median	Min	Max	N
CPP, AM Drive	106.73	44.00	8.00	979.00	555
CPP, Evening	63.06	30.00	3.00	550.00	555
CPP, Average	95.85	41.00	7.00	859.00	555
CPM, AM Drive	11.08	9.58	4.25	38.33	555
CPM, Evening	8.54	6.18	3.04	51.58	555
CPM, Average	10.55	8.99	4.86	34.84	555
Adult AQH Rating, AM Drive	1.13	0.78	0.00	11.57	427
Adult AQH Rating, Evening	0.28	0.21	0.00	2.54	417
Adult AQH Rating, Average	0.87	0.65	0.00	6.18	417
Number of Sisters in Market	3.05	3.00	0.00	10.00	569
Number of Commercial Stations in Market	30.07	27.00	4.00	88.00	569
Market HHI	0.16	0.15	0.04	1.00	569
Percentage of Stations with Cross-Owned Newspaper in Market	0.01	0.00	0.00	1.00	569
Percentage of Stations with Cross-Owned TV Station in Market	0.10	0.00	0.00	1.00	569
Number of Stations Owned Nationally by Owners in Market	272.68	37.00	1.00	1,243.00	569
Number of Markets in which Owner is Present	48.75	8.00	1.00	207.00	569
Population 2005 (000s)	1,571.67	558.50	69.20	18,230.20	567
EBI Per Capita 2005 ($)	18,808.38	18,624.01	9,926.10	27,819.23	567
Midwest Census Region	0.23	0.00	0.00	1.00	569
South Census Region	0.40	0.00	0.00	1.00	569
West Census Region	0.21	0.00	0.00	1.00	569
Northeast Census Region	0.17	0.00	0.00	1.00	569
Percentage of Population White	78%	80%	46%	98%	567
Percentage of Population 25-34	13%	13%	9%	20%	567
Percentage of Population 35-44	15%	15%	10%	17%	567
Percentage of Population 45-64	24%	25%	15%	36%	567
Percentage of Population 65 and Over	13%	12%	7%	32%	567
Percentage of Population, College Graduates	26%	25%	12%	47%	561

Source: Ownership database (from FCC), SQAD, Arbitron, Census, Edison Airplay Database

Table 10: Market Level Summary of Formats, Stratified by HHIs
All Commercial, In-Market, Edison Surveyed Stations

Variable	Mean for All Stations	Means for Stations in Markets with HHI in Range					Effect of Consolidation? [6] = [5]-[1]	
		0 ≤ HHI < 1,000 [1]	1,000 ≤ HHI < 2,000 [2]	2,000 ≤ HHI < 3,000 [3]	3,000 ≤ HHI < 4,000 [4]	4,000 ≤ HHI [5]		
All								
Format 101 Count	14.94	23.94	16.23	11.80	9.93	6.29	-17.66	-
Format 101 HHI	0.10	0.07	0.09	0.11	0.12	0.20	0.13	+
Format 20 Count	10.70	14.53	11.44	9.36	8.17	5.86	-8.67	-
Format 20 HHI	0.14	0.11	0.13	0.14	0.16	0.22	0.11	+
Format 11 Count	8.04	9.56	8.54	7.50	6.63	5.00	-4.56	-
Format 11 HHI	0.17	0.16	0.16	0.18	0.19	0.25	0.10	+
Number of Stations	24.20	47.68	26.00	16.85	13.00	8.57	-39.11	-
FM Only								
Format 101 Count	10.35	15.50	11.24	8.64	7.03	4.29	-11.21	-
Format 101 HHI	0.14	0.09	0.12	0.14	0.18	0.30	0.21	+
Format 20 Count	7.44	9.97	7.87	6.66	5.80	3.86	-6.11	-
Format 20 HHI	0.19	0.15	0.17	0.19	0.22	0.34	0.19	+
Format 11 Count	6.47	8.24	6.84	5.93	5.20	3.43	-4.81	-
Format 11 HHI	0.21	0.17	0.20	0.22	0.24	0.36	0.19	+
Number of Stations	14.36	23.47	15.80	11.20	8.77	5.57	-17.90	-

Source: Ownership Database (from FCC), Edison Airplay Database

Table 11: Market Level Regressions Estimating the Effect of Ownership Structure on Format
Commercial, In-Market, Edison Surveyed Stations

All Stations

Dependent Variable	HHI Marg. Effect	HHI T-Stat	Stations Marg. Effect	Stations T-Stat	Percent of Stations with Cross-Owned Newspaper Marg. Effect	Percent of Stations with Cross-Owned Newspaper T-Stat	Percent of Stations with Cross-Owned TV Station Marg. Effect	Percent of Stations with Cross-Owned TV Station T-Stat	Number of Commercial Stations Owned Nationally by In-Market Owners Marg. Effect	Number of Commercial Stations Owned Nationally by In-Market Owners T-Stat	Adj R-Squared	N
Format 101 Count	-0.600	(0.18)	0.426 *	(14.76)	3.682	(0.50)	2.235	(1.34)	0.000747 *	(3.13)	0.878	251
Format 101 HHI	-0.101 *	(2.38)	-0.003 *	(8.16)	-0.082	(-0.88)	0.012	(0.55)	-0.000007 *	(-2.38)	0.531	251
Format 20 Count	2.091	(0.86)	0.230 *	(10.94)	3.411	(0.64)	0.761	(0.63)	0.000357 *	(2.05)	0.740	251
Format 20 HHI	-0.200 *	(3.64)	-0.004 *	(7.54)	-0.217	(-1.79)	0.031	(1.14)	-0.000007	(-1.69)	0.404	251
Format 11 Count	-0.354	(0.23)	0.103 *	(7.60)	1.026	(0.30)	-0.008	(-0.01)	0.000201	(1.80)	0.607	251
Format 11 HHI	-0.173 *	(3.09)	-0.003 *	(6.90)	-0.221	(-1.79)	0.003	(0.09)	-0.000003	(-0.73)	0.361	251

With Demographics:

Dependent Variable	HHI Marg. Effect	HHI T-Stat	Stations Marg. Effect	Stations T-Stat	Percent of Stations with Cross-Owned Newspaper Marg. Effect	Percent of Stations with Cross-Owned Newspaper T-Stat	Percent of Stations with Cross-Owned TV Station Marg. Effect	Percent of Stations with Cross-Owned TV Station T-Stat	Number of Commercial Stations Owned Nationally by In-Market Owners Marg. Effect	Number of Commercial Stations Owned Nationally by In-Market Owners T-Stat	Adj R-Squared	N
Format 101 Count	3.399	(1.00)	0.405 *	(13.68)	0.920	(0.13)	1.526	(0.93)	0.000426	(1.73)	0.892	244
Format 101 HHI	-0.109 *	(2.51)	-0.003 *	(7.03)	-0.037	(-0.40)	0.002	(0.11)	-0.000006	(-1.91)	0.582	244
Format 20 Count	4.374	(1.70)	0.208 *	(9.31)	1.894	(0.35)	0.369	(0.30)	0.000159	(0.85)	0.751	244
Format 20 HHI	-0.200 *	(3.61)	-0.003 *	(6.61)	-0.129	(-1.10)	0.022	(0.81)	-0.000007	(-1.62)	0.491	244
Format 11 Count	-0.212	(0.13)	0.090 *	(6.34)	0.089	(0.03)	0.070	(0.09)	0.000105	(0.89)	0.638	244
Format 11 HHI	-0.148 *	(2.56)	-0.003 *	(5.75)	-0.186	(-1.51)	-0.005	(-0.18)	-0.000003	(-0.68)	0.426	244

FM Only Stations

Dependent Variable	HHI Marg. Effect	HHI T-Stat	Stations Marg. Effect	Stations T-Stat	Percent of Stations with Cross-Owned Newspaper Marg. Effect	Percent of Stations with Cross-Owned Newspaper T-Stat	Percent of Stations with Cross-Owned TV Station Marg. Effect	Percent of Stations with Cross-Owned TV Station T-Stat	Number of Commercial Stations Owned Nationally by In-Market Owners Marg. Effect	Number of Commercial Stations Owned Nationally by In-Market Owners T-Stat	Adj R-Squared	N
Format 101 Count	0.282	(0.14)	0.555 *	(16.84)	0.4504	(0.06)	1.272	(1.15)	0.000812 *	(3.21)	0.850	251
Format 101 HHI	-0.087 *	(1.96)	-0.007 *	(9.60)	0.0762	(0.49)	-0.032	(-1.29)	-0.000015 *	(-2.73)	0.706	251
Format 20 Count	-0.133	(0.08)	0.281 *	(10.74)	1.9880	(0.36)	0.355	(0.40)	0.000307	(1.53)	0.687	251
Format 20 HHI	-0.110 *	(2.00)	-0.007 *	(8.09)	-0.1562	(-0.81)	-0.008	(-0.28)	-0.000005	(-0.64)	0.592	251
Format 11 Count	-0.926	(0.68)	0.202 *	(8.99)	-1.6748	(-0.35)	0.742	(0.99)	0.000269	(1.56)	0.629	251
Format 11 HHI	-0.028	(0.49)	-0.006 *	(6.32)	0.0083	(0.04)	-0.039	(-1.19)	-0.000006	(-0.82)	0.537	251

With Demographics:

Dependent Variable	HHI Marg. Effect	HHI T-Stat	Stations Marg. Effect	Stations T-Stat	Percent of Stations with Cross-Owned Newspaper Marg. Effect	Percent of Stations with Cross-Owned Newspaper T-Stat	Percent of Stations with Cross-Owned TV Station Marg. Effect	Percent of Stations with Cross-Owned TV Station T-Stat	Number of Commercial Stations Owned Nationally by In-Market Owners Marg. Effect	Number of Commercial Stations Owned Nationally by In-Market Owners T-Stat	Adj R-Squared	N
Format 101 Count	1.603	(0.81)	0.512 *	(15.16)	-3.8074	(-0.55)	0.751	(0.68)	0.000276	(1.02)	0.865	244
Format 101 HHI	-0.105 *	(2.43)	-0.006 *	(8.14)	0.1564	(1.03)	-0.034	(-1.40)	-0.000003	(-0.57)	0.742	244
Format 20 Count	0.038	(0.02)	0.237 *	(8.95)	-1.0067	(-0.19)	0.181	(0.21)	-0.000123	(-0.58)	0.725	244
Format 20 HHI	-0.117 *	(2.14)	-0.006 *	(6.56)	-0.0650	(-0.34)	-0.016	(-0.51)	0.000006	(0.83)	0.634	244
Format 11 Count	-0.554	(0.42)	0.170 *	(7.55)	-4.6768	(-1.02)	0.824	(1.12)	-0.000092	(-0.51)	0.683	244
Format 11 HHI	-0.039	(0.70)	-0.005 *	(5.09)	0.0882	(0.45)	-0.047	(-1.50)	0.000006	(0.74)	0.624	244

Note: Asterisk denotes statistical significance at least at the 5 percent level. Each row summarizes the results of a single regression model.
Source: BIA, Ownership Database (from FCC), Edison Airplay Database, Sweeting (2006)

Table 12: Market Level Regressions Estimating the Effect of Ownership Structure on Format, Big versus Small Markets
Commercial, In-Market, Edison Surveyed Stations

| | Big Markets, 30+ Stations | | | | | | | | | | | |
| | HHI | | Stations | | Percent of Stations with Cross-Owned Newspaper | | Percent of Stations with Cross-Owned TV Station | | Number of Commercial Stations Owned Nationally by In-Market Owners | | | |
Dependent Variable	Marg. Effect	T-Stat	Marg. Effect	T-Stat	Marg. Effect	T-Stat	Marg. Effect	T-Stat	Marg. Effect	T-Stat	Adj R-Squared	N
Format 101 Count	2.867	(0.27)	0.296 *	(5.96)	10.3716	(0.44)	1.871	(0.58)	0.001932 *	(3.45)	0.726	104
Format 101 HHI	-0.098	(1.17)	-0.001	(1.45)	-0.1761	(-0.95)	0.013	(0.51)	-0.000011 *	(-2.52)	0.072	104
Format 20 Count	1.226	(0.17)	0.116 *	(3.55)	11.1151	(0.72)	0.578	(0.27)	0.000810 *	(2.20)	0.426	104
Format 20 HHI	-0.203	(1.94)	-0.001	(1.79)	-0.3479	(-1.52)	0.025	(0.80)	-0.000008	(-1.42)	0.074	104
Format 11 Count	-0.441	(0.13)	0.040 *	(2.47)	-4.0090	(-0.53)	-1.588	(-1.53)	0.000417 *	(2.31)	0.209	104
Format 11 HHI	-0.219 *	(2.23)	-0.001	(1.55)	-0.4659 *	(-2.17)	0.020	(0.67)	-0.000009	(-1.67)	0.035	104
With Demographics:												
Format 101 Count	11.711	(1.10)	0.268 *	(4.96)	11.8832	(0.50)	2.130	(0.64)	0.001146	(1.93)	0.763	104
Format 101 HHI	-0.154	(1.76)	-0.001	(1.39)	-0.1049	(-0.54)	0.006	(0.22)	-0.000007	(-1.37)	0.132	104
Format 20 Count	6.131	(0.83)	0.086 *	(2.30)	12.1382	(0.74)	-0.831	(-0.36)	0.000475	(1.16)	0.452	104
Format 20 HHI	-0.245 *	(2.36)	-0.001	(1.54)	-0.1909	(-0.82)	0.033	(1.03)	-0.000008	(-1.37)	0.204	104
Format 11 Count	-0.003	(0.00)	0.025	(1.42)	-4.0104	(-0.51)	-1.296	(-1.19)	0.000246	(1.27)	0.294	104
Format 11 HHI	-0.221 *	(2.13)	-0.001	(1.46)	-0.4641 *	(-2.00)	0.014	(0.44)	-0.000008	(-1.46)	0.056	104

| | Small Markets, 1-29 Stations | | | | | | | | | | | |
| | HHI | | Stations | | Percent of Stations with Cross-Owned Newspaper | | Percent of Stations with Cross-Owned TV Station | | Number of Commercial Stations Owned Nationally by In-Market Owners | | | |
Dependent Variable	Marg. Effect	T-Stat	Marg. Effect	T-Stat	Marg. Effect	T-Stat	Marg. Effect	T-Stat	Marg. Effect	T-Stat	Adj R-Squared	N
Format 101 Count	-3.743	(1.70)	0.454 *	(11.64)	0.7515	(0.13)	1.269	(0.75)	0.000204	(0.98)	0.692	147
Format 101 HHI	0.022	(0.53)	-0.005 *	(6.22)	-0.0513	(-0.45)	0.016	(0.48)	-0.000005	(-1.18)	0.438	147
Format 20 Count	-1.847	(0.95)	0.300 *	(8.68)	1.2134	(0.23)	0.380	(0.25)	0.000119	(0.65)	0.548	147
Format 20 HHI	-0.036	(0.63)	-0.005 *	(5.39)	-0.1836	(-1.21)	0.033	(0.76)	-0.000005	(-0.94)	0.345	147
Format 11 Count	-3.079 *	(2.09)	0.171 *	(6.53)	0.8787	(0.22)	0.638	(0.57)	0.000109	(0.78)	0.488	147
Format 11 HHI	-0.001	(0.02)	-0.006 *	(5.50)	-0.1456	(-0.94)	-0.006	(-0.13)	0.000000	(-0.01)	0.349	147
With Demographics:												
Format 101 Count	-2.902	(1.28)	0.421 *	(9.84)	0.9066	(0.15)	0.822	(0.48)	0.000037	(0.16)	0.720	140
Format 101 HHI	0.018	(0.43)	-0.004 *	(4.96)	-0.0530	(-0.46)	0.005	(0.15)	-0.000005	(-1.18)	0.495	140
Format 20 Count	-1.282	(0.62)	0.274 *	(7.02)	0.4563	(0.08)	0.948	(0.60)	-0.000069	(-0.33)	0.568	140
Format 20 HHI	-0.029	(0.50)	-0.005 *	(4.85)	-0.1312	(-0.86)	0.017	(0.39)	-0.000005	(-0.92)	0.431	140
Format 11 Count	-3.547 *	(2.30)	0.137 *	(4.71)	0.1767	(0.04)	0.652	(0.56)	-0.000015	(-0.10)	0.530	140
Format 11 HHI	0.038	(0.65)	-0.005 *	(4.27)	-0.1334	(-0.86)	0.001	(0.02)	0.000001	(0.09)	0.439	140

Note: Asterisk denotes statistical significance at least at the 5 percent level. Each row summarizes the results of a single regression model.
Source: BIA, Ownership Database (from FCC), Edison Airplay Database, Sweeting (2006)

Table 13: Station Pair Summary of Formats, Stratified by Common Ownership and Market
All Commercial, In-Market, Edison Surveyed Stations

Variable	All Station Pairs	Same Owners		Different Owners		Effect of Common Ownership?			
		Same Market [1]	Different Market [2]	Same Market [3]	Different Market [4]	Same Market [5] = [1]-[3]		Different Market [6] = [2]-[4]	
				All Station Pairs					
Same Format 11	5.8%	14.6%	18.2%	13.5%	13.4%	1.1%	+	4.8%	+
Same Format 20	0.0%	7.9%	11.5%	7.4%	7.9%	0.5%	+	3.6%	+
Same Format 101	0.0%	6.7%	8.7%	4.9%	5.7%	1.8%	+	3.0%	+
				FM Only Pairs					
Same Format 11	15.4%	8.7%	20.9%	15.0%	15.1%	-6.3%	-	5.8%	+
Same Format 20	11.9%	4.3%	18.3%	10.5%	11.5%	-6.2%	-	6.8%	+
Same Format 101	7.0%	0.0%	10.7%	5.3%	6.8%	-5.3%	-	3.9%	+

Source: BIA, Ownership Database (from FCC), Edison Airplay Database

Table 14: Station Pair Probit Regressions Estimating the Effect of Ownership Structure on Format
Summary of the Marginal Effect of Same Owner Indicator

	All Markets [1]				Same Markets [2]				Same Markets, With Market Fixed Effects [3]				
					All Commercial, In-Market, Edison Surveyed Stations								
Dependent Variable	**Marginal Effect**	**Z-Stat**	**Pseudo R-Squared**	**N**	**Marginal Effect**	**Z-Stat**	**Pseudo R-Squared**	**N**	**Marginal Effect**	**Z-Stat**	**Pseudo R-Squared**	**N**	**# Mkts**
Same Format 11	0.05 *	(9.79)	0.0009	163,853	0.01	(0.27)	0.0001	739	0.12	(1.56)	0.0788	493	47
Same Format 20	0.04 *	(8.77)	0.0010	163,853	0.005	(0.16)	0.0001	739	0.06	(0.91)	0.0934	425	34
Same Format 101	0.03 *	(8.44)	0.0012	163,853	0.02	(0.65)	0.0016	739	0.13	(1.55)	0.1345	335	25
					FM Only, In-Market, Edison Surveyed Stations								
Dependent Variable	**Marginal Effect**	**Z-Stat**	**Pseudo R-Squared**	**N**	**Marginal Effect**	**Z-Stat**	**Pseudo R-Squared**	**N**	**Marginal Effect**	**Z-Stat**	**Pseudo R-Squared**	**N**	**# Mkts**
Same Format 11	0.06 *	(6.13)	0.0012	42,175	-0.06	(-0.95)	0.0057	156	-0.01	(-0.06)	0.1055	50	11
Same Format 20	0.07 *	(7.59)	0.0023	42,175	-0.06	(-1.23)	0.0104	156	-0.01	(-0.06)	0.0903	50	11
Same Format 101	0.04 *	(5.36)	0.0017	42,175	-	-	-	-	-	-	-	-	

Note: Asterisk denotes statistical significance at least at the 5 percent level. Each row summarizes the results of a single regression model. The effect of ownership structure on the likelihood of two stations being of the same Format 101 in the same market cannot be estimated due to insufficient sample size.

Source: BIA, Ownership Database (from FCC), Edison Airplay Database, Sweeting (2006)

Table 15: Station Pair Probit Regressions Estimating the Effect of Ownership Structure on Format, Big versus Small Markets
All Commercial, In-Market, Edison Surveyed Stations
Summary of the Marginal Effect of Same Owner Indicator
With Market Fixed Effects

| Dependent Variable | Same Markets | | | | | Big Markets, 30+ Stations | | | | | Small Markets, 1-29 Stations | | | | |
	Marginal Effect	Z-Stat	Pseudo R-Squared	N	# Mkts	Marginal Effect	Z-Stat	Pseudo R-Squared	N	# Mkts	Marginal Effect	Z-Stat	Pseudo R-Squared	N	# Mkts
Same Format 11	0.12	(1.56)	0.0788	493	47	0.06	(0.91)	0.077	452	36	0.69 *	(3.07)	0.194	47	11
Same Format 20	0.06	(0.91)	0.0934	425	34	0.05	(0.80)	0.090	403	28	0.22	(0.53)	0.062	28	8
Same Format 101	0.13	(1.55)	0.1345	335	25	0.09	(1.28)	0.128	325	21	1.00 *	(315.96)	0.275	16	5

Notes: Asterisk denotes statistical significance at least at the 5 percent level. FM Only results for big versus small excluded due to insufficient sample size.

Source: BIA, Ownership Database (from FCC), Edison Airplay Database, Sweeting (2006)

Table 16: Market Level Summary of Other Program Content Measures, Stratified by HHIs
Commercial, In-Market, Edison Surveyed Stations

Variable	Mean for All Stations	Means for Stations in Markets with HHI in Range					Effect of Consolidation? [6] = [5]-[1]	
		0 ≤ HHI < 1,000 [1]	1,000 ≤ HHI < 2,000 [2]	2,000 ≤ HHI < 3,000 [3]	3,000 ≤ HHI < 4,000 [4]	4,000 ≤ HHI [5]		
All Stations								
Percent Local, AM Drive	0.68	0.65	0.72	0.65	0.63	0.68	0.03	+
Percent Network/Syndicated, AM Drive	0.30	0.34	0.25	0.34	0.34	0.32	-0.02	-
Percent Live, AM Drive	0.61	0.59	0.64	0.59	0.59	0.60	0.01	+
Percent Advertisements, AM Drive	0.23	0.23	0.22	0.24	0.21	0.27	0.04	+
Percent Entertainment/Leisure/DJ Banter, AM Drive	0.23	0.29	0.23	0.20	0.20	0.14	-0.15	-
Percent Music, AM Drive	0.31	0.28	0.32	0.30	0.30	0.42	0.14	+
Percent News, AM Drive	0.09	0.08	0.09	0.07	0.09	0.12	0.04	+
Percent Sports, AM Drive	0.06	0.06	0.07	0.06	0.03	0.03	-0.03	-
Percent Local, Evening	0.71	0.75	0.72	0.68	0.69	0.68	-0.07	-
Percent Network/Syndicated, Evening	0.26	0.22	0.23	0.29	0.31	0.32	0.10	+
Percent Live, Evening	0.65	0.68	0.64	0.64	0.60	0.77	0.09	+
Percent Advertisements, Evening	0.18	0.21	0.18	0.16	0.18	0.11	-0.10	-
Percent Entertainment/Leisure/DJ Banter, Evening	0.08	0.09	0.08	0.08	0.07	0.02	-0.07	-
Percent Music, Evening	0.52	0.50	0.55	0.49	0.44	0.60	0.10	+
Percent News, Evening	0.03	0.04	0.02	0.03	0.03	0.02	-0.01	-
Percent Sports, Evening	0.12	0.12	0.09	0.14	0.19	0.14	0.02	+
Average Block, Advertisements, AM Drive	1.36	1.71	1.27	1.37	1.01	1.63	-0.07	-
Average Block, Entertainment/Leisure/DJ Banter, AM Drive	2.18	2.73	2.36	1.54	2.64	0.63	-2.11	-
Average Block, Music, AM Drive	1.91	1.95	1.94	1.84	1.65	3.06	1.11	+
Average Block, News, AM Drive	0.73	0.57	0.84	0.63	0.74	0.88	0.30	+
Average Block, Sports, AM Drive	0.64	0.64	0.65	0.61	0.75	0.61	-0.02	-
Average Block, Advertisements, Evening	1.18	1.27	1.10	1.15	1.55	1.06	-0.22	-
Average Block, Entertainment/Leisure/DJ Banter, Evening	0.82	0.73	0.87	0.81	0.90	0.13	-0.60	-
Average Block, Music, Evening	2.57	2.77	2.60	2.40	2.44	2.95	0.18	+
Average Block, News, Evening	0.37	0.31	0.33	0.43	0.59	0.24	-0.07	-
Average Block, Sports, Evening	0.99	0.81	0.77	1.26	1.69	1.13	0.32	+
Number of Stations	24.20	47.68	26.00	16.85	13.00	8.57	-39.11	-
FM Only Stations								
Percent Local, AM Drive	0.78	0.87	0.76	0.79	0.83	0.68	-0.18	-
Percent Network/Syndicated, AM Drive	0.20	0.13	0.21	0.21	0.17	0.32	0.18	+
Percent Live, AM Drive	0.67	0.74	0.66	0.66	0.64	0.60	-0.13	-
Percent Advertisements, AM Drive	0.24	0.25	0.23	0.23	0.26	0.27	0.01	+
Percent Entertainment/Leisure/DJ Banter, AM Drive	0.24	0.21	0.25	0.23	0.29	0.14	-0.07	-
Percent Music, AM Drive	0.41	0.50	0.37	0.42	0.38	0.42	-0.08	-
Percent News, AM Drive	0.06	0.03	0.07	0.06	0.07	0.12	0.09	+
Percent Sports, AM Drive	0.01	0.00	0.01	0.005	0.00	0.03	0.03	+
Percent Local, Evening	0.84	0.85	0.80	0.91	0.76	1.00	0.15	+
Percent Network/Syndicated, Evening	0.13	0.13	0.14	0.09	0.24	0.00	-0.13	-
Percent Live, Evening	0.74	0.73	0.71	0.79	0.65	0.93	0.20	+
Percent Advertisements, Evening	0.16	0.20	0.15	0.15	0.20	0.06	-0.14	-
Percent Entertainment/Leisure/DJ Banter, Evening	0.06	0.09	0.04	0.07	0.19	0.03	-0.06	-
Percent Music, Evening	0.70	0.67	0.67	0.75	0.61	0.89	0.22	+
Percent News, Evening	0.01	0.00	0.01	0.005	0.01	0.00	-0.002	-
Percent Sports, Evening	0.04	0.02	0.06	0.01	0.00	0.00	-0.02	-
Average Block, Advertisements, AM Drive	1.33	1.84	1.23	1.31	1.03	1.63	-0.21	-
Average Block, Entertainment/Leisure/DJ Banter, AM Drive	2.04	1.44	2.48	1.65	2.04	0.63	-0.82	-
Average Block, Music, AM Drive	2.49	3.18	2.33	2.51	2.00	3.06	-0.11	-
Average Block, News, AM Drive	0.62	0.39	0.70	0.56	0.59	0.88	0.48	+
Average Block, Sports, AM Drive	0.16	0.06	0.20	0.07	0.11	0.61	0.55	+
Average Block, Advertisements, Evening	1.07	1.19	0.91	1.17	2.28	0.63	-0.56	-
Average Block, Entertainment/Leisure/DJ Banter, Evening	0.62	0.84	0.42	0.69	1.97	0.20	-0.65	-
Average Block, Music, Evening	3.23	3.41	3.09	3.36	2.68	4.42	1.01	+
Average Block, News, Evening	0.12	0.03	0.17	0.09	0.27	0.00	-0.03	-
Average Block, Sports, Evening	0.34	0.18	0.54	0.11	0.00	0.00	-0.18	-
Number of Stations	14.36	23.47	15.80	11.20	8.77	5.57	-17.90	-

Source: Ownership Database (from FCC), Edison Airplay Database

Table 17: Market Level Regressions Estimating the Effect of Ownership Structure on Other Program Content Measures
All Commercial, In-Market, Edison Surveyed Stations
Statistically Signficant Results

Dependent Variable	HHI		Stations		Percent of Stations with Cross-Owned Newspaper		Percent of Stations with Cross-Owned TV Station		Number of Commercial Stations Owned Nationally by In-Market Owners		Adj R-Squared	N
	Marg. Effect	T-Stat	Marg. Effect	T-Stat	Marg. Effect	T-Stat	Marg. Effect	T-Stat	Marg. Effect	T-Stat		
Percent Local, AM Drive	0.5537	(0.73)	0.0032	(0.62)	-0.3853	(-0.31)	0.7700 *	(2.44)	0.000024	(0.53)	0.0126	165
Percent Network/Syndicated, AM Drive	-0.4505	(0.61)	-0.0031	(0.61)	0.6219	(0.51)	-0.7086 *	(-2.31)	-0.000009	(-0.21)	0.0086	165
Percent Advertisements, AM Drive	0.0985	(0.38)	0.0002	(0.13)	0.0273	(0.06)	0.2759 *	(2.52)	-0.000007	(-0.47)	0.0108	165
Percent Entertainment/Leisure/DJ Banter, AM Drive	-0.4551	(0.83)	-0.0026	(0.70)	2.6298 *	(2.90)	-0.0113	(-0.05)	0.000090 *	(2.73)	0.0580	165
Percent Sports, AM Drive	-0.2897	(0.75)	0.0007	(0.26)	-0.8431	(-1.32)	-0.1345	(-0.83)	-0.000064 *	(-2.76)	0.0207	165
Percent Local, Evening	-1.6863 *	(2.17)	-0.0085	(1.55)	-0.7657	(-0.54)	0.2292	(0.77)	-0.000038	(-0.81)	-0.0020	169
Percent Network/Syndicated, Evening	1.6671 *	(2.31)	0.0081	(1.60)	0.8858	(0.67)	-0.1363	(-0.49)	0.000006	(0.14)	0.0034	169
Average Block, Music, Evening	-8.9919 *	(2.08)	-0.0594	(1.95)	-8.0426	(-1.01)	0.1339	(0.08)	-0.000068	(-0.26)	-0.0053	169
Average Block, Sports, Evening	12.1597 *	(2.45)	0.0954 *	(2.73)	-2.7839	(-0.31)	-2.6692	(-1.40)	-0.000388	(-1.30)	0.0244	169
With Demographics:												
Percent Advertisements, AM Drive	0.1565	(0.56)	-0.0002	(0.10)	-0.0097	(-0.02)	0.2625 *	(2.23)	-0.000008	(-0.47)	-0.0381	161
Percent Entertainment/Leisure/DJ Banter, AM Drive	-0.8221	(1.37)	-0.0057	(1.35)	2.4257 *	(2.53)	-0.0354	(-0.14)	0.000096 *	(2.64)	0.0589	161
Percent Sports, AM Drive	-0.1603	(0.39)	0.0017	(0.58)	-0.8116	(-1.23)	0.0064	(0.04)	-0.000064 *	(-2.56)	0.0673	161
Percent News, Evening	0.1985	(1.44)	0.0008	(0.83)	0.2831	(1.18)	-0.1233 *	(-2.42)	0.000000	(-0.05)	0.0883	164
Average Block, Entertainment/Leisure/DJ Banter, AM Drive	-15.6691 *	(2.06)	-0.0675	(1.25)	34.1562 *	(2.80)	-3.8290	(-1.20)	0.000841	(1.82)	0.0474	161
Average Block, Music, Evening	-9.6674 *	(1.99)	-0.0551	(1.59)	-8.9634	(-1.06)	-0.7137	(-0.40)	-0.000015	(-0.05)	-0.0375	164
Average Block, News, Evening	2.7455	(1.70)	0.0054	(0.47)	5.4568	(1.94)	-1.2399 *	(-2.08)	-0.000011	(-0.11)	0.0409	164
Average Block, Sports, Evening	13.6651 *	(2.50)	0.0743	(1.91)	0.6487	(0.07)	-2.4003	(-1.19)	-0.000611	(-1.80)	0.0366	164

Note: Asterisk denotes statistical significance at least at the 5 percent level. Each row summarizes the results of a single regression model. See Table 17a for the full set of coefficients.

Source: Ownership Database (from FCC), Edison Airplay Database

Table 17a: Market Level Regressions Estimating the Effect of Ownership Structure on Other Program Content Measures
All Commercial, In-Market, Edison Surveyed Stations

Dependent Variable	HHI Marg. Effect	T-Stat	Stations Marg. Effect	T-Stat	Percent of Stations with Cross-Owned Newspaper Marg. Effect	T-Stat	Percent of Stations with Cross-Owned TV Station Marg. Effect	T-Stat	Number of Commercial Stations Owned Nationally by In-Market Owners Marg. Effect	T-Stat	Adj R-Squared	N
Percent Local, AM Drive	0.5537	(0.73)	0.0032	(0.62)	-0.3853	(-0.31)	0.7700 *	(2.44)	0.000024	(0.53)	0.0126	165
Percent Network/Syndicated, AM Drive	-0.4505	(0.61)	-0.0031	(0.61)	0.6219	(0.51)	-0.7086 *	(-2.31)	-0.000009	(-0.21)	0.0086	165
Percent Live, AM Drive	0.2581	(0.39)	0.0020	(0.43)	-1.4351	(-1.31)	0.3552	(1.28)	-0.000022	(-0.56)	-0.0161	165
Percent Advertisements, AM Drive	0.0985	(0.38)	0.0002	(0.13)	0.0273	(0.06)	0.2759 *	(2.52)	-0.000007	(-0.47)	0.0108	165
Percent Entertainment/Leisure/DJ Banter, AM Drive	-0.4551	(0.83)	-0.0026	(0.70)	2.6298 *	(2.90)	-0.0113	(-0.05)	0.000090 *	(2.73)	0.0580	165
Percent Music, AM Drive	0.2264	(0.34)	0.0004	(0.08)	-1.6975	(-1.53)	0.0622	(0.22)	-0.000003	(-0.07)	-0.0237	165
Percent News, AM Drive	0.1305	(0.56)	0.0011	(0.66)	0.6358	(1.64)	0.0643	(0.66)	0.000003	(0.25)	-0.0134	165
Percent Sports, AM Drive	-0.2897	(0.75)	0.0007	(0.26)	-0.8431	(-1.32)	-0.1345	(-0.83)	-0.000064 *	(-2.76)	0.0207	165
Percent Local, Evening	-1.6863 *	(2.17)	-0.0085	(1.55)	-0.7657	(-0.54)	0.2292	(0.77)	-0.000038	(-0.81)	-0.0020	169
Percent Network/Syndicated, Evening	1.6671 *	(2.31)	0.0081	(1.60)	0.8858	(0.67)	-0.1363	(-0.49)	0.000006	(0.14)	0.0034	169
Percent Live, Evening	-0.8940	(1.30)	-0.0053	(1.09)	-0.1246	(-0.10)	-0.1266	(-0.48)	0.000030	(0.71)	-0.0163	169
Percent Advertisements, Evening	-0.2276	(0.95)	-0.0009	(0.53)	0.1473	(0.34)	0.0822	(0.90)	0.000001	(0.04)	-0.0185	169
Percent Entertainment/Leisure/DJ Banter, Evening	0.4102	(1.15)	0.0023	(0.93)	-0.8489	(-1.30)	0.0749	(0.55)	-0.000012	(-0.56)	0.0340	169
Percent Music, Evening	-1.5286	(1.89)	-0.0093	(1.64)	-0.9096	(-0.61)	0.1878	(0.60)	-0.000028	(-0.57)	-0.0115	169
Percent News, Evening	0.1167	(0.88)	0.0009	(1.01)	0.2722	(1.13)	-0.0935	(-1.85)	0.000005	(0.60)	-0.0074	169
Percent Sports, Evening	0.8596	(1.55)	0.0064	(1.63)	-0.3343	(-0.33)	-0.3462	(-1.62)	-0.000004	(-0.11)	-0.0054	169
Average Block, Advertisements, AM Drive	-2.2022	(0.97)	-0.0162	(1.04)	-2.4554	(-0.65)	0.8560	(0.90)	0.000122	(0.89)	0.0206	165
Average Block, Entertainment/Leisure/DJ Banter, AM Drive	-11.5482	(1.69)	-0.0591	(1.25)	36.1875 *	(3.20)	-3.2451	(-1.13)	0.000728	(1.77)	0.0621	165
Average Block, Music, AM Drive	-1.0256	(0.26)	-0.0159	(0.58)	-7.5466	(-1.14)	1.2490	(0.74)	0.000179	(0.74)	-0.0204	165
Average Block, News, AM Drive	1.0363	(0.59)	0.0070	(0.58)	3.9749	(1.38)	0.1461	(0.20)	-0.000091	(-0.87)	-0.0205	165
Average Block, Sports, AM Drive	-1.6682	(0.50)	0.0004	(0.02)	-3.9202	(-0.71)	-1.7066	(-1.22)	-0.000275	(-1.36)	-0.0171	165
Average Block, Advertisements, Evening	0.3211	(0.13)	-0.0002	(0.01)	-2.0275	(-0.44)	1.6795	(1.75)	-0.000020	(-0.14)	-0.0221	169
Average Block, Entertainment/Leisure/DJ Banter, Evening	2.2775	(0.64)	0.0096	(0.38)	-8.0704	(-1.23)	-0.0114	(-0.01)	-0.000050	(-0.23)	-0.0090	169
Average Block, Music, Evening	-8.9919 *	(2.08)	-0.0594	(1.95)	-8.0426	(-1.01)	0.1339	(0.08)	-0.000068	(-0.26)	-0.0053	169
Average Block, News, Evening	2.0215	(1.35)	0.0087	(0.83)	4.2657	(1.56)	-0.8622	(-1.50)	0.000069	(0.77)	-0.0016	169
Average Block, Sports, Evening	12.1597 *	(2.45)	0.0954 *	(2.73)	-2.7839	(-0.31)	-2.6692	(-1.40)	-0.000388	(-1.30)	0.0244	169

With Demographics:

Dependent Variable	HHI Marg. Effect	T-Stat	Stations Marg. Effect	T-Stat	Percent of Stations with Cross-Owned Newspaper Marg. Effect	T-Stat	Percent of Stations with Cross-Owned TV Station Marg. Effect	T-Stat	Number of Commercial Stations Owned Nationally by In-Market Owners Marg. Effect	T-Stat	Adj R-Squared	N
Percent Local, AM Drive	0.8570	(1.03)	0.0066	(1.12)	-0.7900	(-0.59)	0.5229	(1.50)	0.000025	(0.50)	-0.0302	161
Percent Network/Syndicated, AM Drive	-0.7680	(0.96)	-0.0070	(1.23)	1.1732	(0.91)	-0.4603	(-1.37)	-0.000010	(-0.20)	-0.0094	161
Percent Live, AM Drive	0.5842	(0.80)	0.0053	(1.03)	-1.9433	(-1.66)	0.2815	(0.92)	-0.000037	(-0.83)	-0.0364	161
Percent Advertisements, AM Drive	0.1565	(0.56)	-0.0002	(0.10)	-0.0097	(-0.02)	0.2625 *	(2.23)	-0.000008	(-0.47)	-0.0381	161
Percent Entertainment/Leisure/DJ Banter, AM Drive	-0.8221	(1.37)	-0.0057	(1.35)	2.4257 *	(2.53)	-0.0354	(-0.14)	0.000096 *	(2.64)	0.0589	161
Percent Music, AM Drive	0.4767	(0.64)	0.0035	(0.67)	-1.4839	(-1.25)	-0.1520	(-0.49)	0.000003	(0.07)	-0.0657	161
Percent News, AM Drive	0.0993	(0.39)	0.0012	(0.67)	0.6661	(1.61)	0.0908	(0.84)	0.000004	(0.26)	-0.0137	161
Percent Sports, AM Drive	-0.1603	(0.39)	0.0017	(0.58)	-0.8116	(-1.23)	0.0064	(0.04)	-0.000064 *	(-2.56)	0.0673	161
Percent Local, Evening	-1.4686	(1.71)	-0.0055	(0.89)	-1.0313	(-0.69)	0.0698	(0.22)	-0.000033	(-0.62)	-0.0138	164
Percent Network/Syndicated, Evening	1.3656	(1.77)	0.0044	(0.81)	1.2251	(0.92)	0.0149	(0.05)	-0.000002	(-0.04)	0.0582	164
Percent Live, Evening	-1.4112	(1.90)	-0.0064	(1.22)	-0.0005	(-0.00)	-0.1572	(-0.58)	0.000032	(0.69)	0.0107	164
Percent Advertisements, Evening	-0.1253	(0.47)	-0.0015	(0.79)	-0.0585	(-0.13)	0.0660	(0.68)	-0.000010	(-0.63)	-0.0483	164
Percent Entertainment/Leisure/DJ Banter, Evening	0.0723	(0.19)	0.0025	(0.91)	-0.8255	(-1.23)	0.1290	(0.90)	-0.000008	(-0.34)	0.0127	164
Percent Music, Evening	-1.6500	(1.81)	-0.0058	(0.89)	-1.2161	(-0.77)	0.1298	(0.39)	0.000002	(0.03)	-0.0592	164
Percent News, Evening	0.1985	(1.44)	0.0008	(0.83)	0.2831	(1.18)	-0.1233 *	(-2.42)	0.000000	(-0.05)	0.0883	164
Percent Sports, Evening	0.9383	(1.55)	0.0046	(1.07)	0.0268	(0.03)	-0.2838	(-1.27)	-0.000013	(-0.34)	-0.0004	164
Average Block, Advertisements, AM Drive	-0.5314	(0.21)	-0.0203	(1.13)	-2.0355	(-0.50)	0.4556	(0.43)	0.000083	(0.54)	-0.0257	161
Average Block, Entertainment/Leisure/DJ Banter, AM Drive	-15.6691 *	(2.06)	-0.0675	(1.25)	34.1562 *	(2.80)	-3.8290	(-1.20)	0.000841	(1.82)	0.0474	161
Average Block, Music, AM Drive	1.9068	(0.43)	-0.0034	(0.11)	-4.9048	(-0.69)	-0.1302	(-0.07)	0.000144	(0.53)	-0.0689	161
Average Block, News, AM Drive	0.9254	(0.50)	0.0076	(0.57)	4.7581	(1.59)	0.2985	(0.38)	-0.000085	(-0.75)	0.0212	161
Average Block, Sports, AM Drive	-1.0400	(0.29)	0.0146	(0.58)	-2.9481	(-0.52)	-0.3340	(-0.23)	-0.000205	(-0.96)	0.0751	161
Average Block, Advertisements, Evening	-0.2326	(0.09)	-0.0116	(0.66)	-2.4954	(-0.58)	1.6611	(1.83)	-0.000219	(-1.43)	-0.0480	164
Average Block, Entertainment/Leisure/DJ Banter, Evening	-0.8028	(0.20)	0.0090	(0.32)	-8.3112	(-1.22)	0.2358	(0.16)	-0.000040	(-0.16)	-0.0623	164
Average Block, Music, Evening	-9.6674 *	(1.99)	-0.0551	(1.59)	-8.9634	(-1.06)	-0.7137	(-0.40)	-0.000015	(-0.05)	-0.0375	164
Average Block, News, Evening	2.7455	(1.70)	0.0054	(0.47)	5.4568	(1.94)	-1.2399 *	(-2.08)	-0.000011	(-0.11)	0.0409	164
Average Block, Sports, Evening	13.6651 *	(2.50)	0.0743	(1.91)	0.6487	(0.07)	-2.4003	(-1.19)	-0.000611	(-1.80)	0.0366	164

Note: Asterisk denotes statistical significance at least at the 5 percent level. Each row summarizes the results of a single regression model.
Source: Ownership Database (from FCC), Edison Airplay Database

Table 18: Market Level Regressions Estimating the Effect of Ownership Structure on Other Program Content Measures
FM Only, In-Market, Edison Surveyed Stations
Statistically Signficant Results

Dependent Variable	HHI		Stations		Percent of Stations with Cross-Owned Newspaper		Percent of Stations with Cross-Owned TV Station		Number of Commercial Stations Owned Nationally by In-Market Owners		Adj R-Squared	N
	Marg. Effect	T-Stat	Marg. Effect	T-Stat	Marg. Effect	T-Stat	Marg. Effect	T-Stat	Marg. Effect	T-Stat		
Percent Sports, AM Drive	0.0119	(0.31)	0.0006	(1.23)	-0.0127	(-0.11)	-0.0427 *	(-2.31)	0.000002	(0.53)	0.1027	100
Percent News, Evening	-0.1273 *	(2.11)	-0.0005	(0.69)	-0.2752	(-1.31)	-0.0276	(-1.13)	-0.000020 *	(-3.22)	0.0903	114
Average Block, Sports, AM Drive	-0.5721	(0.63)	0.0027	(0.24)	0.1326	(0.05)	-0.8613 *	(-1.99)	-0.000030	(-0.28)	0.0537	100
Average Block, Music, Evening	-6.3285	(1.67)	-0.0988 *	(2.14)	-0.8090	(-0.06)	-2.0792	(-1.35)	0.000183	(0.47)	0.0389	114
Average Block, News, Evening	-1.3116	(1.71)	-0.0055	(0.58)	-4.2009	(-1.58)	-0.3169	(-1.02)	-0.000295 *	(-3.75)	0.1094	114
With Demographics:												
Percent News, AM Drive	-0.0253	(0.15)	0.0026	(1.19)	1.3032 *	(2.35)	0.2431 *	(2.75)	-0.000030	(-1.39)	0.2061	98
Percent News, Evening	-0.1357 *	(2.20)	-0.0005	(0.66)	-0.1654	(-0.78)	-0.0140	(-0.56)	-0.000020 *	(-2.93)	0.2206	112
Average Block, Music, Evening	-4.3478	(1.06)	-0.1492 *	(2.82)	-3.8024	(-0.27)	-3.7502 *	(-2.23)	-0.000001	(-0.00)	0.0301	112
Average Block, News, Evening	-1.2998	(1.72)	-0.0034	(0.35)	-3.2743	(-1.26)	-0.1307	(-0.42)	-0.000283 *	(-3.38)	0.2903	112

Note: Asterisk denotes statistical significance at least at the 5 percent level. Each row summarizes the results of a single regression model. See Table 18a for the full set of coefficients.

Source: Ownership Database (from FCC), Edison Airplay Database

Table 18a: Market Level Regressions Estimating the Effect of Ownership Structure on Other Program Content Measures
FM Only, In-Market, Edison Surveyed Stations

Dependent Variable	HHI Marg. Effect	T-Stat	Stations Marg. Effect	T-Stat	Percent of Stations with Cross-Owned Newspaper Marg. Effect	T-Stat	Percent of Stations with Cross-Owned TV Station Marg. Effect	T-Stat	Number of Commercial Stations Owned Nationally by In-Market Owners Marg. Effect	T-Stat	Adj R-Squared	N
Percent Local, AM Drive	0.8007	(1.32)	0.0106	(1.39)	0.2772	(0.15)	0.3590	(1.25)	-0.000038	(-0.53)	-0.0209	100
Percent Network/Syndicated, AM Drive	-0.5003	(0.91)	-0.0101	(1.45)	0.0628	(0.04)	-0.2747	(-1.05)	0.000090	(1.40)	-0.0080	100
Percent Live, AM Drive	0.7511	(1.24)	0.0091	(1.19)	-0.1219	(-0.07)	0.1619	(0.56)	-0.000011	(-0.15)	-0.0440	100
Percent Advertisements, AM Drive	0.0730	(0.27)	-0.0009	(0.27)	0.4078	(0.49)	0.1527	(1.17)	-0.000027	(-0.84)	0.0432	100
Percent Entertainment/Leisure/DJ Banter, AM Drive	0.4580	(0.85)	0.0018	(0.26)	-0.3997	(-0.25)	0.1144	(0.45)	0.000099	(1.58)	-0.0153	100
Percent Music, AM Drive	-0.4469	(0.67)	-0.0004	(0.04)	-0.0049	(-0.00)	-0.2926	(-0.92)	-0.000004	(-0.06)	-0.0534	100
Percent News, AM Drive	0.2950	(1.75)	0.0020	(0.96)	0.8740	(1.71)	0.0461	(0.57)	-0.000009	(-0.46)	0.0353	100
Percent Sports, AM Drive	0.0119	(0.31)	0.0006	(1.23)	-0.0127	(-0.11)	-0.0427 *	(-2.31)	0.000002	(0.53)	0.1027	100
Percent Local, Evening	0.0924	(0.12)	-0.0018	(0.19)	3.0242	(1.18)	0.2102	(0.70)	-0.000034	(-0.45)	-0.0119	114
Percent Network/Syndicated, Evening	-0.4731	(0.78)	-0.0028	(0.38)	-2.7553	(-1.31)	-0.0157	(-0.06)	-0.000031	(-0.51)	0.0120	114
Percent Live, Evening	0.3515	(0.50)	0.0034	(0.40)	1.8213	(0.75)	0.1103	(0.39)	0.000006	(0.08)	-0.0232	114
Percent Advertisements, Evening	-0.4042	(1.50)	-0.0044	(1.34)	0.4965	(0.53)	0.1556	(1.43)	-0.000013	(-0.47)	-0.0072	114
Percent Entertainment/Leisure/DJ Banter, Evening	0.3985	(1.19)	0.0007	(0.18)	-1.0350	(-0.89)	0.0295	(0.22)	0.000022	(0.63)	0.1007	114
Percent Music, Evening	-0.0055	(0.01)	-0.0039	(0.45)	1.9243	(0.79)	-0.0725	(-0.25)	0.000020	(0.28)	-0.0147	114
Percent News, Evening	-0.1273 *	(2.11)	-0.0005	(0.69)	-0.2752	(-1.31)	-0.0276	(-1.13)	-0.000020 *	(-3.22)	0.0903	114
Percent Sports, Evening	-0.1516	(0.36)	0.0034	(0.66)	-0.7527	(-0.52)	0.0067	(0.04)	-0.000004	(-0.10)	-0.0344	114
Average Block, Advertisements, AM Drive	-2.1269	(0.87)	-0.0274	(0.89)	0.9645	(0.13)	-0.4389	(-0.38)	0.000291	(1.02)	0.0604	100
Average Block, Entertainment/Leisure/DJ Banter, AM Drive	-1.6632	(0.29)	0.0128	(0.17)	3.0252	(0.17)	-0.2785	(-0.10)	0.000677	(0.99)	-0.0265	100
Average Block, Music, AM Drive	-2.9007	(0.74)	-0.0269	(0.55)	3.7116	(0.31)	-1.7483	(-0.94)	0.000468	(1.02)	-0.0439	100
Average Block, News, AM Drive	1.2358	(0.75)	0.0127	(0.61)	4.3084	(0.86)	0.3669	(0.47)	-0.000215	(-1.11)	-0.0393	100
Average Block, Sports, AM Drive	-0.5721	(0.63)	0.0027	(0.24)	0.1326	(0.05)	-0.8613 *	(-1.99)	-0.000030	(-0.28)	0.0537	100
Average Block, Advertisements, Evening	-0.4363	(0.14)	-0.0304	(0.81)	-3.9987	(-0.37)	1.8923	(1.51)	0.000005	(0.02)	-0.0279	114
Average Block, Entertainment/Leisure/DJ Banter, Evening	2.5794	(0.85)	-0.0124	(0.33)	-8.1034	(-0.77)	0.3907	(0.32)	0.000402	(1.29)	0.0451	114
Average Block, Music, Evening	-6.3285	(1.67)	-0.0988 *	(2.14)	-0.8090	(-0.06)	-2.0792	(-1.35)	0.000183	(0.47)	0.0389	114
Average Block, News, Evening	-1.3116	(1.71)	-0.0055	(0.58)	-4.2009	(-1.58)	-0.3169	(-1.02)	-0.000295 *	(-3.75)	0.1094	114
Average Block, Sports, Evening	-3.6979	(1.04)	0.0114	(0.26)	-8.8459	(-0.72)	-0.3708	(-0.26)	-0.000337	(-0.93)	-0.0191	114
With Demographics:												
Percent Local, AM Drive	1.1783	(1.76)	0.0101	(1.15)	0.8603	(0.39)	0.1060	(0.30)	-0.000046	(-0.54)	-0.0435	98
Percent Network/Syndicated, AM Drive	-0.8749	(1.44)	-0.0105	(1.32)	-0.2946	(-0.15)	-0.0155	(-0.05)	0.000094	(1.21)	-0.0318	98
Percent Live, AM Drive	0.9344	(1.39)	0.0056	(0.63)	-0.6076	(-0.27)	0.0287	(0.08)	-0.000048	(-0.56)	-0.1003	98
Percent Advertisements, AM Drive	0.0665	(0.21)	-0.0006	(0.14)	-0.2077	(-0.20)	0.0752	(0.46)	-0.000030	(-0.77)	0.0017	98
Percent Entertainment/Leisure/DJ Banter, AM Drive	0.2976	(0.52)	-0.0047	(0.63)	-0.9686	(-0.52)	0.2286	(0.76)	0.000076	(1.04)	0.0383	98
Percent Music, AM Drive	0.2951	(0.41)	0.0026	(0.28)	1.1780	(0.50)	-0.6583	(-1.76)	0.000055	(0.60)	-0.0089	98
Percent News, AM Drive	-0.0253	(0.15)	0.0026	(1.19)	1.3032 *	(2.35)	0.2431 *	(2.75)	-0.000030	(-1.39)	0.2061	98
Percent Sports, AM Drive	-0.0151	(0.35)	0.0010	(1.68)	0.0642	(0.45)	-0.0327	(-1.44)	0.000006	(1.08)	0.0932	98
Percent Local, Evening	0.7840	(1.00)	-0.0109	(1.07)	2.3377	(0.87)	-0.2373	(-0.74)	-0.000074	(-0.85)	0.0222	112
Percent Network/Syndicated, Evening	-0.9349	(1.57)	0.0052	(0.68)	-1.2364	(-0.60)	0.2828	(1.16)	-0.000018	(-0.27)	0.1509	112
Percent Live, Evening	0.4082	(0.60)	-0.0054	(0.61)	2.4932	(1.06)	-0.1888	(-0.67)	-0.000004	(-0.05)	0.1272	112
Percent Advertisements, Evening	-0.4107	(1.42)	-0.0060	(1.60)	-0.1071	(-0.11)	0.1326	(1.12)	-0.000053	(-1.65)	-0.0159	112
Percent Entertainment/Leisure/DJ Banter, Evening	0.2117	(0.62)	0.0043	(0.98)	-0.7187	(-0.62)	0.1299	(0.93)	0.000011	(0.30)	0.1015	112
Percent Music, Evening	0.5559	(0.74)	-0.0114	(1.18)	1.4900	(0.58)	-0.4118	(-1.34)	0.000027	(0.32)	-0.0090	112
Percent News, Evening	-0.1357 *	(2.20)	-0.0005	(0.66)	-0.1654	(-0.78)	-0.0140	(-0.56)	-0.000020 *	(-2.93)	0.2206	112
Percent Sports, Evening	-0.0556	(1.22)	0.0056	(0.93)	-0.0054	(-0.00)	0.1860	(0.98)	0.000009	(0.18)	-0.0536	112
Average Block, Advertisements, AM Drive	-1.1853	(0.44)	-0.0332	(0.94)	-6.9594	(-0.79)	-0.9389	(-0.67)	0.000211	(0.61)	0.0695	98
Average Block, Entertainment/Leisure/DJ Banter, AM Drive	-2.7306	(0.42)	-0.0181	(0.21)	-5.1063	(-0.24)	0.8782	(0.26)	0.000836	(1.01)	-0.0319	98
Average Block, Music, AM Drive	-1.2510	(0.28)	-0.0269	(0.47)	8.6750	(0.60)	-3.1237	(-1.35)	0.000491	(0.87)	-0.1021	98
Average Block, News, AM Drive	-0.7098	(0.40)	0.0185	(0.80)	7.1809	(1.23)	1.5244	(1.64)	-0.000299	(-1.32)	0.0220	98
Average Block, Sports, AM Drive	-1.0466	(1.02)	0.0093	(0.68)	1.6708	(0.49)	-0.7564	(-1.40)	0.000024	(0.18)	0.0166	98
Average Block, Advertisements, Evening	-1.4973	(0.51)	-0.0331	(0.86)	-9.8844	(-0.97)	2.1885	(1.80)	-0.000442	(-1.35)	-0.0828	112
Average Block, Entertainment/Leisure/DJ Banter, Evening	1.5856	(0.51)	0.0073	(0.18)	-7.7822	(-0.73)	0.8944	(0.70)	0.000258	(0.75)	-0.0312	112
Average Block, Music, Evening	-4.3478	(1.06)	-0.1492 *	(2.82)	-3.8024	(-0.27)	-3.7502 *	(-2.23)	-0.000001	(-0.00)	0.0301	112
Average Block, News, Evening	-1.2998	(1.72)	-0.0034	(0.35)	-3.2743	(-1.26)	-0.1307	(-0.42)	-0.000283 *	(-3.38)	0.2903	112
Average Block, Sports, Evening	-7.5710	(1.95)	0.0250	(0.50)	-0.4381	(-0.03)	1.3327	(0.83)	-0.000221	(-0.51)	-0.0108	112

Note: Asterisk denotes statistical significance at least at the 5 percent level. Each row summarizes the results of a single regression model.
Source: Ownership Database (from FCC), Edison Airplay Database

Table 19: Station Level Descriptives for Other Measures of Programming Content, Stratified by Common Ownership
Commercial, In-Market, Edison Surveyed Stations

	All Stations					FM Only Stations				
	All	**Stations with No Sisters**	**Stations with At Least One Sister**	**Effect of Common Ownership?**		**All**	**Stations with No Sisters**	**Stations with at least One Sister**	**Effect of Common Ownership?**	
Variable	**[1]**	**[2]**	**[3]**	**[4] = [3]-[2]**		**[5]**	**[6]**	**[7]**	**[8] = [7]-[6]**	
Percent Local, AM Drive	0.70	0.72	0.69	-0.02	-	0.79	0.79	0.79	-0.003	-
Percent Network/Syndicated, AM Drive	0.28	0.26	0.29	0.04	+	0.20	0.15	0.21	0.06	+
Percent Live, AM Drive	0.61	0.65	0.61	-0.04	-	0.67	0.69	0.67	-0.02	-
Percent Advertisements, AM Drive	0.23	0.21	0.24	0.03	+	0.23	0.20	0.24	0.04	+
Percent Entertainment/Leisure/DJ Banter, AM Drive	0.22	0.20	0.23	0.03	+	0.24	0.17	0.25	0.08	+
Percent Music, AM Drive	0.30	0.31	0.30	-0.01	-	0.41	0.39	0.41	0.02	+
Percent News, AM Drive	0.09	0.08	0.09	0.02	+	0.06	0.08	0.06	-0.02	-
Percent Sports, AM Drive	0.06	0.06	0.06	-0.01	-	0.01	0.01	0.01	0.00	-
Percent Local, Evening	0.71	0.71	0.71	0.00	+	0.86	0.84	0.86	0.02	+
Percent Network/Syndicated, Evening	0.26	0.23	0.26	0.03	+	0.11	0.11	0.12	0.01	+
Percent Live, Evening	0.65	0.62	0.66	0.03	+	0.76	0.68	0.77	0.09	+
Percent Advertisements, Evening	0.18	0.17	0.18	0.01	+	0.16	0.15	0.16	0.02	+
Percent Entertainment/Leisure/DJ Banter, Evening	0.08	0.10	0.07	-0.03	-	0.06	0.05	0.06	0.01	+
Percent Music, Evening	0.51	0.50	0.52	0.01	+	0.71	0.72	0.71	-0.01	-
Percent News, Evening	0.03	0.03	0.03	0.00	-	0.01	0.02	0.01	-0.01	-
Percent Sports, Evening	0.11	0.08	0.12	0.04	+	0.03	0.00	0.04	0.03	+
Average Block, Advertisements, AM Drive	1.42	1.52	1.40	-0.12	-	1.36	1.22	1.38	0.16	+
Average Block, Entertainment/Leisure/DJ Banter, AM Drive	2.11	1.63	2.21	0.58	+	2.11	1.46	2.20	0.74	+
Average Block, Music, AM Drive	1.89	1.87	1.90	0.03	+	2.50	2.26	2.54	0.28	+
Average Block, News, AM Drive	0.76	0.67	0.78	0.11	+	0.63	0.72	0.61	-0.11	-
Average Block, Sports, AM Drive	0.59	0.61	0.58	-0.03	-	0.16	0.25	0.14	-0.11	-
Average Block, Advertisements, Evening	1.20	1.20	1.20	0.00	-	1.02	1.04	1.02	-0.02	-
Average Block, Entertainment/Leisure/DJ Banter, Evening	0.82	1.10	0.77	-0.33	-	0.57	0.79	0.54	-0.24	-
Average Block, Music, Evening	2.55	2.79	2.51	-0.28	-	3.29	3.58	3.25	-0.33	-
Average Block, News, Evening	0.35	0.44	0.33	-0.10	-	0.12	0.27	0.10	-0.17	-
Average Block, Sports, Evening	0.95	0.50	1.03	0.53	+	0.29	0.14	0.31	0.17	+
Number of Syndicated Programs	1.34	0.98	1.41	0.43	+	0.64	0.67	0.64	-0.03	-
Number of Personalities	2.93	2.45	3.03	0.58	+	3.60	2.93	3.71	0.78	+

Note: Asterisk denotes statistical significance at least at the 5 percent level. Each row summarizes the results of a single regression model.
Source: Ownership Database (from FCC), Edison Airplay Database

Table 20: Station Level Regressions Estimating the Effect of Ownership Structure on Other Program Content Measures
All Commercial, In-Market, Edison Surveyed Stations
Includes Demographics and Station Characteristics

Dependent Variable	HHI Marg. Effect	T-Stat	Sisters Marg. Effect	T-Stat	Newspaper Cross-Ownership Marg. Effect	T-Stat	Television Cross-Ownership Marg. Effect	T-Stat	Number of Stations Owned Nationally by Owner Marg. Effect	T-Stat	Adj R-Squared	N
Percent Local, AM Drive	0.0464	(0.06)	-0.0191	(1.48)	-0.1720	(-0.72)	0.0731	(1.11)	0.0000	(0.65)	0.0532	250
Percent Network/Syndicated, AM Drive	-0.2566	(0.32)	0.0202	(1.63)	0.1906	(0.83)	-0.0637	(-1.00)	0.0000	(-0.61)	0.0652	250
Percent Live, AM Drive	0.0122	(0.02)	-0.0155	(1.34)	-0.1974	(-0.92)	0.0563	(0.95)	0.0000	(-0.18)	0.0237	250
Percent Advertisements, AM Drive	-0.1182	(0.38)	0.0073	(1.53)	-0.0399	(-0.45)	0.0240	(0.98)	0.0000	(0.02)	0.0034	250
Percent Entertainment/Leisure/DJ Banter, AM Drive	-0.2546	(0.39)	-0.0011	(0.11)	0.2487	(1.32)	-0.0219	(-0.42)	0.0000	(0.74)	-0.0053	250
Percent Music, AM Drive	-0.1036	(0.14)	-0.0072	(0.62)	-0.1191	(-0.55)	0.0034	(0.06)	0.0000	(0.55)	0.0969	250
Percent News, AM Drive	-0.1415	(0.47)	-0.0009	(0.18)	-0.0017	(-0.02)	-0.0024	(-0.10)	0.0000	(-0.73)	0.0958	250
Percent Sports, AM Drive	-0.3178	(0.79)	0.0040	(0.64)	-0.0224	(-0.19)	0.0297	(0.93)	0.0000	(-0.09)	0.1134	250
Percent Local, Evening	-2.2108 *	(2.70)	0.0133	(1.08)	-0.2488	(-1.06)	0.0801	(1.25)	-0.0001	(-1.79)	0.2144	276
Percent Network/Syndicated, Evening	1.9245 *	(2.51)	-0.0085	(0.73)	0.2294	(1.05)	-0.0549	(-0.92)	0.0001 *	(2.33)	0.2540	276
Percent Live, Evening	-1.7999 *	(2.38)	0.0004	(0.03)	-0.1748	(-0.81)	0.0821	(1.39)	0.0000	(0.44)	0.1667	276
Percent Advertisements, Evening	-0.3518	(1.27)	0.0076	(1.80)	0.0253	(0.32)	-0.0212	(-0.98)	0.0000	(-0.55)	0.0401	276
Percent Entertainment/Leisure/DJ Banter, Evening	0.0471	(0.10)	0.0000	(0.00)	-0.0724	(-0.55)	-0.0030	(-0.08)	0.0000	(0.06)	-0.0315	276
Percent Music, Evening	-1.8120 *	(2.34)	0.0120	(1.02)	-0.0628	(-0.28)	-0.0138	(-0.23)	-0.0001	(-1.51)	0.3553	276
Percent News, Evening	0.0460	(0.30)	0.0010	(0.45)	0.0406	(0.92)	-0.0030	(-0.25)	0.0000	(-0.37)	0.1381	276
Percent Sports, Evening	1.1875	(1.92)	-0.0139	(1.49)	-0.1275	(-0.72)	0.0867	(1.80)	0.0001	(1.76)	0.1494	276
Average Block, Advertisements, AM Drive	-0.3488	(0.11)	0.0394	(0.77)	-0.9434	(-1.00)	0.1923	(0.74)	-0.0003	(-1.63)	0.0093	250
Average Block, Entertainment/Leisure/DJ Banter, AM Drive	-4.2684	(0.56)	0.0226	(0.19)	6.0971 *	(2.79)	-0.3916	(-0.65)	0.0003	(0.60)	0.0232	250
Average Block, Music, AM Drive	-0.4603	(0.10)	-0.0554	(0.80)	-0.7444	(-0.58)	-0.3532	(-0.99)	0.0001	(0.50)	0.1028	250
Average Block, News, AM Drive	0.5016	(0.21)	-0.0354	(0.98)	0.4232	(0.63)	-0.2843	(-1.54)	0.0000	(-0.13)	0.0614	250
Average Block, Sports, AM Drive	-1.5018	(0.45)	-0.0109	(0.21)	0.2139	(0.22)	0.1651	(0.62)	0.0001	(0.28)	0.1356	250
Average Block, Advertisements, Evening	-0.5371	(0.21)	0.0377	(0.96)	0.1696	(0.23)	-0.1865	(-0.92)	-0.0001	(-0.86)	0.0337	276
Average Block, Entertainment/Leisure/DJ Banter, Evening	-1.3518	(0.28)	0.0102	(0.14)	-0.7022	(-0.52)	-0.2472	(-0.66)	0.0001	(0.36)	-0.0307	276
Average Block, Music, Evening	-7.5304	(1.49)	-0.0310	(0.41)	-0.7064	(-0.49)	-0.2580	(-0.65)	-0.0007 *	(-2.22)	0.1788	276
Average Block, News, Evening	2.8603	(1.67)	-0.0276	(1.06)	1.0977 *	(2.23)	-0.0870	(-0.65)	0.0001	(1.06)	0.1372	276
Average Block, Sports, Evening	14.3771 *	(2.63)	-0.0751	(0.91)	-0.8603	(-0.55)	0.5272	(1.24)	0.0002	(0.74)	0.1124	276
Number of Syndicated Programs	5.4206	(1.43)	0.0010	(0.02)	0.4993	(0.38)	-0.2558	(-0.78)	0.0006 *	(2.37)	0.1367	561
Number of Personalities	-3.0812	(0.57)	-0.0097	(0.13)	1.3210	(0.71)	0.6883	(1.47)	0.0001	(0.26)	0.1177	561

Note: Asterisk denotes statistical significance at least at the 5 percent level.

Source: Ownership Database (from FCC), Edison Airplay Database

Table 21: Station Level Regressions Estimating the Effect of Ownership Structure on Other Program Content Measures
FM Only, In-Market, Edison Surveyed Stations
Includes Demographics and Station Characteristics

Dependent Variable	HHI		Sisters		Television Cross-Ownership		Number of Stations Owned Nationally by Owner		Adj R-Squared	N
	Marg. Effect	T-Stat	Marg. Effect	T-Stat	Marg. Effect	T-Stat	Marg. Effect	T-Stat		
Percent Local, AM Drive	0.8983	(1.23)	-0.0233	(1.11)	0.0411	(0.49)	0.0001	(0.63)	-0.0224	120
Percent Network/Syndicated, AM Drive	-0.7446	(1.09)	0.0307	(1.57)	-0.0517	(-0.66)	-0.0001	(-0.79)	-0.0100	120
Percent Live, AM Drive	1.0278	(1.38)	-0.0450 *	(2.09)	0.0250	(0.29)	0.0001	(0.66)	-0.0544	120
Percent Advertisements, AM Drive	-0.0969	(0.28)	0.0119	(1.19)	-0.0152	(-0.38)	0.0000	(-0.39)	-0.0413	120
Percent Entertainment/Leisure/DJ Banter, AM Drive	0.0043	(0.01)	0.0324	(1.72)	0.0974	(1.30)	0.0000	(-0.53)	0.0760	120
Percent Music, AM Drive	-0.1942	(0.24)	-0.0003	(0.01)	-0.0953	(-1.01)	0.0001	(0.66)	-0.0073	120
Percent News, AM Drive	0.2084	(1.13)	-0.0187 *	(3.53)	0.0096	(0.46)	0.0000	(-0.23)	0.2289	120
Percent Sports, AM Drive	0.0217	(0.41)	-0.0029	(1.85)	-0.0049	(-0.79)	0.0000	(-0.51)	0.0594	120
Percent Local, Evening	0.3284	(0.43)	0.0191	(1.09)	0.0378	(0.53)	-0.0001	(-1.35)	0.0132	149
Percent Network/Syndicated, Evening	-0.7391	(1.24)	0.0049	(0.36)	-0.0544	(-0.96)	0.0001	(1.59)	0.1203	149
Percent Live, Evening	0.3398	(0.47)	0.0052	(0.31)	0.0873	(1.26)	0.0000	(0.29)	0.0553	149
Percent Advertisements, Evening	-0.5500	(1.70)	0.0120	(1.61)	-0.0237	(-0.77)	0.0000	(-1.29)	0.0096	149
Percent Entertainment/Leisure/DJ Banter, Evening	-0.1381	(0.36)	0.0073	(0.81)	-0.0353	(-0.96)	0.0000	(1.12)	-0.0140	149
Percent Music, Evening	0.3855	(0.50)	0.0048	(0.27)	0.0463	(0.63)	0.0000	(-0.44)	-0.0108	149
Percent News, Evening	-0.0653	(1.07)	0.0005	(0.35)	-0.0089	(-1.54)	0.0000	(-1.47)	0.1747	149
Percent Sports, Evening	-0.2734	(0.63)	-0.0025	(0.25)	0.0291	(0.71)	0.0000	(0.86)	-0.0333	149
Average Block, Advertisements, AM Drive	-2.8683	(0.81)	0.0821	(0.80)	0.2961	(0.73)	-0.0008	(-1.87)	0.0454	120
Average Block, Entertainment/Leisure/DJ Banter, AM Drive	-1.4015	(0.19)	0.2356	(1.12)	0.9776	(1.17)	-0.0006	(-0.62)	0.0273	120
Average Block, Music, AM Drive	-4.5568	(0.97)	-0.0809	(0.60)	-0.6546	(-1.21)	0.0002	(0.34)	-0.0449	120
Average Block, News, AM Drive	0.9583	(0.44)	-0.1953 *	(3.12)	0.0567	(0.23)	0.0000	(0.03)	0.1134	120
Average Block, Sports, AM Drive	0.1035	(0.09)	-0.0351	(1.04)	-0.1342	(-1.00)	-0.0001	(-0.92)	-0.0070	120
Average Block, Advertisements, Evening	-2.0351	(0.66)	0.0581	(0.82)	-0.0498	(-0.17)	-0.0003	(-0.89)	-0.0952	149
Average Block, Entertainment/Leisure/DJ Banter, Evening	0.3571	(0.11)	-0.0237	(0.32)	-0.1937	(-0.63)	0.0005	(1.49)	-0.0709	149
Average Block, Music, Evening	-3.6695	(0.68)	-0.0631	(0.51)	-0.0588	(-0.12)	-0.0009	(-1.64)	0.0408	149
Average Block, News, Evening	-0.3352	(0.42)	0.0043	(0.23)	-0.1513 *	(-1.99)	-0.0001	(-1.67)	0.2134	149
Average Block, Sports, Evening	-4.9202	(1.32)	0.0264	(0.31)	0.0561	(0.16)	0.0000	(-0.05)	-0.0053	149
Number of Syndicated Programs	1.0548	(0.54)	0.0286	(0.57)	0.0336	(0.16)	0.0004	(1.53)	0.0595	284
Number of Personalities	6.8053	(1.16)	-0.0603	(0.40)	1.0496	(1.62)	-0.0004	(-0.57)	0.0690	284

Note: Asterisk denotes statistical significance at least at the 5 percent level.

Source: Ownership Database (from FCC), Edison Airplay Database

Table 22: Station Pair Descriptives for Other Content Program Measures, Stratified by Common Ownership and Market
All Commercial, In-Market, Edison Surveyed Stations

Variable		All	Same Owners Same Market [1]	Same Owners Different Market [2]	Different Owners Same Market [3]	Different Owners Different Market [4]	Effect of Common Ownership? Same Market [5] = [1]-[3]		Effect of Common Ownership? Different Market [6] = [2]-[4]	
					All Stations					
AM Drive	Content Angle	57.1	50.8	53.2	58.1	57.3	-7.3	-	-4.1	-
	Origination Angle	33.2	33.8	31.0	30.5	33.4	3.3	+	-2.3	-
	Live Angle	30.8	31.6	30.7	27.8	30.8	3.9	+	-0.1	-
Daytime	Content Angle	49.8	43.6	51.8	49.7	49.7	-6.1	-	2.1	+
	Origination Angle	31.8	24.6	35.9	28.2	31.6	-3.6	-	4.3	+
	Live Angle	31.1	29.6	35.0	30.5	31.0	-0.9	-	4.0	+
PM Drive	Content Angle	51.1	56.2	46.2	50.3	51.3	5.9	+	-5.1	-
	Origination Angle	30.6	31.8	29.3	30.4	30.7	1.4	+	-1.4	-
	Live Angle	30.6	32.3	30.8	30.9	30.6	1.5	+	0.2	+
Evening	Content Angle	51.2	41.9	55.6	51.8	51.0	-9.9	-	4.5	+
	Origination Angle	34.9	28.5	37.1	31.3	34.8	-2.7	-	2.3	+
	Live Angle	32.9	29.7	29.9	34.1	33.1	-4.3	-	-3.2	-
Midnight-6AM	Content Angle	50.5	52.4	49.5	53.5	50.5	-1.2	-	-1.0	-
	Origination Angle	37.2	35.3	38.6	36.0	37.1	-0.7	-	1.5	+
	Live Angle	36.8	32.2	36.7	38.6	36.8	-6.4	-	-0.1	-
Weekend	Content Angle	45.7	53.7	50.0	40.6	45.6	13.1	+	4.4	+
	Origination Angle	30.5	34.3	30.5	26.6	30.5	7.6	+	0.0	-
	Live Angle	28.2	36.3	29.7	24.0	28.1	12.4	+	1.6	+
					FM Only Stations					
AM Drive	Content Angle	0.1	45.1	40.9	54.7	46.9	-9.6	-	-6.0	-
	Origination Angle	0.1	35.7	21.7	25.8	24.6	10.0	+	-2.9	-
	Live Angle	0.0	35.8	24.0	30.0	27.0	5.8	+	-3.0	-
Daytime	Content Angle	0.0	23.3	15.5	30.6	26.5	-7.4	-	-10.9	-
	Origination Angle	0.0	10.2	10.1	12.9	12.7	-2.8	-	-2.6	-
	Live Angle	0.7	15.8	13.7	20.9	19.9	-5.1	-	-6.2	-
PM Drive	Content Angle	0.1	27.0	21.0	28.3	27.7	-1.2	-	-6.7	-
	Origination Angle	0.1	13.1	15.0	7.8	11.3	5.3	+	3.7	+
	Live Angle	0.1	19.9	16.4	12.7	17.7	7.2	+	-1.3	-
Evening	Content Angle	0.1	13.1	30.8	20.4	26.2	-7.2	-	4.6	+
	Origination Angle	0.0	3.7	25.5	11.1	18.7	-7.3	-	6.9	+
	Live Angle	0.0	11.2	21.7	17.4	22.9	-6.2	-	-1.2	-
Midnight-6AM	Content Angle	0.0	23.7	18.1	28.0	24.3	-4.3	-	-6.2	-
	Origination Angle	0.0	16.6	14.6	23.1	18.6	-6.5	-	-4.0	-
	Live Angle	0.0	17.7	18.2	25.2	23.0	-7.6	-	-4.9	-
Weekend	Content Angle	0.0		15.5	15.5	21.2			-5.7	-
	Origination Angle	0.0		14.7	8.5	17.1			-2.4	-
	Live Angle	0.0		14.8	9.5	16.5			-1.7	-

Notes:

1. "Content" is a vector that includes % of time advertising, announcments, talk, fundraising/charity, music, news, public arffairs, religious, and sports. "Origination" is a vector that includes % of time local, network/syndicated, and voice tracked. "Live" is a vector that includes % of time live and taped.

2. "Angle" measures the distance (in degrees) between the program description vectors of any two station pairs. The angle or distance between two stations with identical programming would be zero degrees, while the angle between two diametrically opposite stations would be 90 degrees.

Source: Ownership Database (from FCC), Edison Airplay Database

Table 23: Station Pair Regressions Estimaing the Effect of Ownership Structure on Other Program Measures

All Commercial, In-Market, Edison Surveyed Stations

Summary of the Marginal Effect of Same Owner Indicator

Dependent Variable		All Stations				Only Same-Market Stations				Same-Market Stations with Market Fixed Effects				
		Marginal Effect	T-Stat	Adj. R-Squared	N	Marginal Effect	T-Stat	Adj. R-Squared	N	Marginal Effect	T-Stat	Adj. R-Squared	N	# Mkts
AM Drive	Content Angle	-4.11 *	(-6.25)	0.0012	32,628	-7.28	(-1.25)	0.00	144	-1.92	(-0.23)	0.02	144	56
	Origination Angle	-2.29 *	(-3.04)	0.0003	32,597	3.33	(0.52)	-0.01	144	5.16	(0.63)	0.25	144	56
	Live Angle	-0.05	(-0.08)	0.0000	32,604	3.87	(0.65)	0.00	144	1.92	(0.25)	0.25	144	56
Daytime	Content Angle	2.02 *	(2.53)	0.0001	43,353	-6.11	(-0.78)	0.00	194	1.86	(0.17)	0.10	194	82
	Origination Angle	4.22 *	(5.53)	0.0007	43,314	-3.63	(-0.50)	0.00	193	14.07	(1.45)	0.17	193	82
	Live Angle	3.95 *	(5.62)	0.0007	43,332	-0.92	(-0.14)	-0.01	194	12.58	(1.50)	0.25	194	82
PM Drive	Content Angle	-4.93 *	(-5.03)	0.0007	34,970	5.95	(0.67)	0.00	145	2.13	(0.19)	0.42	145	75
	Origination Angle	-1.36	(-1.51)	0.0000	34,946	1.39	(0.17)	-0.01	145	10.26	(0.85)	0.23	145	75
	Live Angle	0.25	(0.29)	0.0000	34,950	1.48	(0.20)	-0.01	145	-9.25	(-0.92)	0.34	145	75
Evening	Content Angle	4.38 *	(5.34)	0.0007	39,894	-9.89	(-1.20)	0.00	164	-5.54	(-0.50)	0.22	164	78
	Origination Angle	2.17 *	(2.71)	0.0002	39,872	-2.73	(-0.36)	-0.01	164	-6.55	(-0.68)	0.29	164	78
	Live Angle	-3.24 *	(-4.50)	0.0005	39,878	-4.33	(-0.63)	0.00	164	-4.17	(-0.47)	0.24	164	78
Midnight-6AM	Content Angle	-0.99	(-1.17)	0.0000	42,760	-1.17	(-0.16)	-0.01	171	6.12	(0.61)	0.31	171	76
	Origination Angle	1.47	(1.77)	0.0001	42,742	-0.73	(-0.10)	-0.01	171	-1.73	(-0.17)	0.20	171	76
	Live Angle	-0.20	(-0.25)	0.0000	42,744	-6.45	(-0.95)	0.00	171	-2.28	(-0.22)	0.12	171	76
Weekend	Content Angle	4.51 *	(2.88)	0.0005	14,525	13.09	(0.84)	0.00	65	27.93	(1.26)	0.34	65	35
	Origination Angle	0.03	(0.02)	-0.0001	14,525	7.61	(0.63)	-0.01	65	24.52	(1.48)	0.38	65	35
	Live Angle	1.64	(1.36)	0.0001	14,524	12.39	(1.04)	0.00	65	17.14	(0.95)	0.95	65	35

Notes:

1. Asterisk denotes statistical significance at least at the 5 percent level.

2. "Content" is a vector that includes % of time advertising, annoucnements, talk, fundraising/charity, music, news, public arffairs, religious, and sports. "Origination" is a vector that includes % of time local, network/syndicated, and voice tracked. "Live" is a vector that includes % of time live and taped.

3. "Angle" measures the distance (in degrees) between the program description vectors of any two station pairs. The angle or distance between two stations with identical programming would be zero degrees, while the angle between two diametrically opposite stations would be 90 degrees.

Source: Ownership Database (from FCC), Edison Airplay Database

Table 24: News and Sports Station Pair Descriptives, Stratified by Common Ownership and Market

Variable		All	Same Owners — Same Market [1]	Same Owners — Diff Market [2]	Different Owners — Same Market [3]	Different Owners — Diff Market [4]	Effect of Common Ownership? Same Market [5] = [1]-[3]		Effect of Common Ownership? Different Market [6] = [2]-[4]	
			All Commercial, In-Market, Edison Surveyed News Station Pairs							
AM Drive	Content Angle	51.6	7.2	33.6	56.7	52.8	-49.5	-	-19.1	-
	Origination Angle	40.8	53.0	36.5	48.6	41.0	4.3	+	-4.4	-
	Live Angle	39.3	41.0	38.6	33.1	39.3	7.9	+	-0.7	-
Daytime	Content Angle	50.2	46.8	40.7	50.2	51.1	-3.4	-	-10.4	-
	Origination Angle	33.4	12.1	30.3	25.9	33.8	-13.8	-	-3.5	-
	Live Angle	38.3	40.6	31.2	39.0	38.9	1.5	+	-7.7	-
PM Drive	Content Angle	52.0		48.9	76.8	52.2			-3.3	-
	Origination Angle	41.2		38.5	69.2	41.3			-2.8	-
	Live Angle	42.7		39.1	56.4	42.9			-3.8	-
Evening	Content Angle	64.0	86.2	61.3	57.9	64.1	28.3	+	-2.9	-
	Origination Angle	40.3	5.4	24.9	2.5	41.5	2.9	+	-16.5	-
	Live Angle	41.4	5.9	38.9	24.8	41.7	-18.9	-	-2.9	-
Midnight-6AM	Content Angle	55.5	86.4	49.6	58.1	55.9	28.3	+	-6.4	-
	Origination Angle	26.6	12.3	12.4	17.0	27.9	-4.7	-	-15.5	-
	Live Angle	29.7	1.2	21.4	32.5	30.5	-31.3	-	-9.1	-
Weekend	Content Angle	45.2		43.5		45.3			-1.8	-
	Origination Angle	26.0		18.7		26.6			-7.9	-
	Live Angle	21.7		15.2		22.3			-7.1	-
			All Commercial, In-Market, Edison Surveyed Sports Station Pairs							
AM Drive	Content Angle	38.6	9.9	36.8		39.2			-2.4	-
	Origination Angle	40.9	1.6	48.8		40.2			8.6	+
	Live Angle	28.7	11.0	38.7		27.4			11.3	+
Daytime	Content Angle	25.8		34.2		25.1			9.1	+
	Origination Angle	34.7		9.3		36.9			-27.6	-
	Live Angle	44.3		51.0		43.7			7.3	+
PM Drive	Content Angle	39.6	74.2	39.5		39.4			0.1	+
	Origination Angle	39.9	69.2	38.3		39.7			-1.4	-
	Live Angle	26.4	6.1	39.4		26.0			13.4	+
Evening	Content Angle	31.8		41.2		31.0			10.1	+
	Origination Angle	40.9		42.4		40.8			1.6	+
	Live Angle	40.7		45.2		40.3			4.9	+
Midnight-6AM	Content Angle	31.4		40.3		30.7			9.6	+
	Origination Angle	21.7		13.9		22.3			-8.4	-
	Live Angle	37.9		53.1		36.7			16.4	+
Weekend	Content Angle	23.3		37.2	10.8	22.7			14.5	+
	Origination Angle	23.8		14.2	35.4	24.1			-9.8	-
	Live Angle	37.3		40.5	38.7	37.1			3.4	+

Notes:

1. "Content" is a vector that includes % of time advertising, annoucnements, talk, fundraising/charity, music, news, public arffairs, religious, and sports. "Origination" is a vector that includes % of time local, network/syndicated, and voice tracked. "Live" is a vector that includes % of time live and taped.

2. "Angle" measures the distance (in degrees) between the program description vectors of any two station pairs. The angle or distance between two stations with identical programming would be zero degrees, while the angle between two diametrically opposite stations would be 90 degrees.

Source: Ownership Database (from FCC), Edison Airplay Database

Table 25: Summary of the Market and Station Level Results of the Effects of Ownership Structure on Measures of Programming Content

	All Stations, Market Level								All Stations, Station Level									
	Local Radio HHI		National Radio Ownership		Newspaper Cross Ownership		TV Cross Ownership		Sisters		Local Radio HHI		National Radio Ownership		Newspaper Cross Ownership		TV Cross Ownership	
Category	AM	EVE	AM	EVE	AM	EVE	AM	EVE	AM	EVE	AM	EVE	AM	EVE	AM	EVE	AM	EVE
Talk	-7 min		5%		0.53% 0.77 min										0.23 min			
News								-4% -2.5 min								0.23 min		
Sports		14 min	-12%									15 min						
Music		-5 min										-4%		-0.76 min				
Local												-3%						
Live												-3%						
Syndicated												8%		1%				
Syndicated Programs													1 program					
Advertising							0.83%											
	FM Only Stations, Market Level								FM Only Stations, Station Level									
News		-18%		-31% - 27 min	0.5%		3%		-6.5% -6.6 min									-1.65 min
Music								-0.9 min										
Live									-1.4%									

Notes:

1. Red shading indicates a statistically significant, negative effect of ownership on the measure of programming content. Green shading indicates a statisitically significant, positive effect of ownership on the measure of programming content.

2. Numbers shown in shaded box indicate the effect of a change in ownership structure on either the percentage of airplay time by programming content (expressed in % units) or the change in the length of an uninterrupted block of a particular type of programming content (expressed in minute units).

3. The effects of changes in ownership are calculated based on the elasticity of programming content with respect to the measure of ownership structure (evaluated at the sample means). The local radio HHI effect represents a change in programming content associated with a 100 point increase in the HHI. The other chagnes represent a change in programming content associated with a 10 percent increase in ownership.

Source : Tables 17, 18, 20, and 21.

Table 26: Top 50 Most Commonly Shared Programs on News Stations
All Commercial, In-Market New Stations with Programming Information
Surveyed by Edison

No.	Program Name	# Stations	% Stations Sampled
1	COAST TO COAST AM	26	38%
2	THE RUSH LIMBAUGH SHOW	17	25%
3	SEAN HANNITY	16	23%
4	SAVAGE NATION WITH MICHAEL SAVAGE	7	10%
5	THE LAURA INGRAHAM SHOW	6	9%
6	THE CLARK HOWARD SHOW	6	9%
7	ABC NEWS	6	9%
8	STATION NEWS	5	7%
9	RADIO FACTOR WITH BILL O' REILLY	5	7%
10	THE JIM BOHANNON SHOW	5	7%
11	GLENN BECK PROGRAM	5	7%
12	MICHAEL MEDVED SHOW	4	6%
13	TRAVEL WITH STEPHANIE ABRAMS	4	6%
14	CBS NEWS	4	6%
15	THE TONY SNOW SHOW	3	4%
16	DR. JOY BROWNE	3	4%
17	PAUL HARVEY	3	4%
18	BASEBALL GAME BROADCAST	3	4%
19	FOX NEWS RADIO NETWORK	3	4%
20	THE DAVE RAMSEY SHOW	3	4%
21	THE OSGOOD FILE	3	4%
22	THE PHIL HENDRIE SHOW	3	4%
23	THE LARS LARSON SHOW	2	3%
24	THE JOEY REYNOLDS SHOW	2	3%
25	THE MAJORITY REPORT	2	3%
26	FIRST LIGHT	2	3%
27	HANDEL ON THE LAW	2	3%
28	MIKE GALLAGHER SHOW	2	3%
29	FOX GAMETIME REACT WITH JT THE BRICK	2	3%
30	NEAL BOORTZ SHOW	2	3%
31	DOUG STEPHAN'S GOOD DAY	2	3%
32	ARNIE SPANIER SHOW ON SPORTING NEWS RADIO	2	3%
33	WALLSTREET JOURNAL THIS MORNING	2	3%
34	BASEBALL POST-GAME SHOW	2	3%
35	ADVICE LINE WITH ROY MASTERS	2	3%
36	AMERICA AT NIGHT WITH ERNIE BROWN	2	3%
37	AP NEWS	2	3%
38	USA RADIO NETWORK SPORTS NEWS	2	3%
39	CNN RADIO NEWS	2	3%
40	STEVE CROWLEY'S AMERICAN SCENE	2	3%
41	THE WEEKEND SHOW	2	3%
42	THE ALAN COLMES SHOW	2	3%
43	THE ED SCHULTZ SHOW	2	3%
44	THE BULLPEN	1	1%
45	THE BOB ROSE SHOW	1	1%
46	THE BILL CUNNINGHAM SHOW	1	1%
47	THE BARRIE SINGER SHOW	1	1%
48	THE BOB CHRISTOPHER SHOW	1	1%
49	RUSS & DEE	1	1%
50	SATURDAY OPEN PHONES	1	1%

Source: Ownership Database (from FCC), Edison Airplay Database, BIA

Table 27: Top 50 Most Commonly Shared Programs on Sports Stations

All Commercial, In-Market Sports Stations with Programming Information Surveyed by Edison

No.	Program Name	# Stations	% Stations Sampled
1	GAMENIGHT ON ESPN RADIO	9	21%
2	ALLNIGHT ON ESPN RADIO	8	19%
3	THE JIM ROME SHOW ON FOX SPORTS RADIO	8	19%
4	ESPN RADIO	7	17%
5	THE DAN PATRICK SHOW ON ESPN RADIO	7	17%
6	MIKE & MIKE IN THE MORNING	6	14%
7	FOX GAMETIME REACT WITH JT THE BRICK	6	14%
8	THE HERD WITH COLIN COWHERD ON ESPN RADIO	5	12%
9	THE THIRD SHIFT ON FOX	5	12%
10	SPORTSCENTER ON ESPN RADIO	4	10%
11	AM GAMEDAY ON ESPN RADIO	4	10%
12	FOX SPORTS RADIO	4	10%
13	SPORTSBASH ON ESPN RADIO	3	7%
14	FANTASY FOCUS ON ESPN RADIO	3	7%
15	THE HUDDLE ON ESPN RADIO	3	7%
16	THE V SHOW WITH BOB VALVANO ON ESPN RADIO	3	7%
17	BASEBALL GAME BROADCAST	3	7%
18	FOX MORNING EXTRAVAGANZA WITH VAN EARL WRIGHT AND ANDREW SICILIANO	3	7%
19	THE BASEBALL SHOW ON ESPN RADIO	3	7%
20	FOX GAMETIME SUNDAY	2	5%
21	FOX NATIONAL SPORTS REPORT	2	5%
22	THE FIRST TEAM ON FOX WITH STEVE CZABAN	2	5%
23	ABC NEWS	2	5%
24	THE DRIVE ON FOX WITH CHRIS MYERS & BRYAN COX	2	5%
25	FOX GAMETIME LIVE	2	5%
26	CBS NEWS	2	5%
27	FOX GAMETIME REWIND	2	5%
28	WEEKEND GAMEDAY ON ESPN RADIO	2	5%
29	CNN RADIO NEWS	2	5%
30	THE ED SCHULTZ SHOW	1	2%
31	THE DRIVETIME PLAYERS WITH RICH LORD & MARC VANDERMEER	1	2%
32	THE BUDWEISER BOBCAT MINUTE	1	2%
33	THE BOTTOM LINE	1	2%
34	THE CHRIS RUSSELL SHOW ON SPORTING NEWS RADIO	1	2%
35	THE EDGE	1	2%
36	THE DRIVE WITH CHRIS MEYERS ON FOX SPORTS RADIO	1	2%
37	THE DAN SILEO SHOW	1	2%
38	THE DAVID STEIN SHOW ON SPORTING NEWS RADIO	1	2%
39	THE BEST DAMN SPORTS SHOW PERIOD ON FOX SPORTS	1	2%
40	THE DA SHOW	1	2%
41	THE DOUG KARSCH SHOW ON ESPN RADIO	1	2%
42	THE DR. BOB MARTIN SHOW	1	2%
43	THE BIG MO SHOW	1	2%
44	THE BEAR FACTS WITH BARRY MILLIGAN	1	2%
45	THE TIM BRANDO SHOW	1	2%
46	THE TIM GRUNHARD SHOW	1	2%
47	THE SPORTS RADIO 610 OUTDOOR SHOW	1	2%
48	THE SANDLOT	1	2%
49	THE SPEED ZONE	1	2%
50	XM COLLEGE FOOTBALL MINUTE	1	2%

Source: Ownership Database (from FCC), Edison Airplay Database, BIA

Table 28: News and Sports Program Overlap Descriptives
All Commercial, In-Market Edison Surveyed Stations

Format	Variable	All	Same Owners Same Market [1]	Same Owners Different Market [2]	Different Owners Same Market [3]	Different Owners Different Market [4]	Effect of Common Ownership? Same Market [5] = [1]-[3]		Effect of Common Ownership? Different Market [6] = [2]-[4]	
News Stations	Common Programs	0.272	1.000	0.577	0.000	0.247	1.000	+	0.331	+
	% Overlap	3.3%	14.3%	7.5%	0.0%	3.0%	0.143	+	0.046	+
	Avg % Overlap	6.0%	22.5%	13.4%	0.0%	5.4%	0.225	+	0.080	+
Sports Stations	Common Programs	0.223	0.000	0.375	0.000	0.215	0.000	0	0.160	+
	% Overlap	2.7%	0.0%	5.3%	0.0%	2.6%	0.000	0	0.028	+
	Avg % Overlap	4.9%	0.0%	8.6%	0.0%	4.7%	0.000	0	0.039	+

Source: Ownership Database (from FCC), Edison Airplay Database

Table 29: Station Pair Regressions Estimating the Effect of Ownership Structure on Program Overlap For Sports and News Stations
Summary of the Marginal Effects of Same Owner and Same Market Indicators

	All Commercial, In-Market News Station Pairs											
	Specification 1				Specification 2							
	Same Owner				Same Owner		Same Market		Same Owner x Same Market			
Variable	Marg Eff	T-Stat	Adj R2	N	Marg Eff	T-Stat	Marg Eff	T-Stat	Marg Eff	T-Stat	Adj R2	N
Common Programs	0.284	(8.40) *	0.0305	2,211	0.33	(8.89) *	-0.247	(-1.38)	0.669	(1.76)	0.0304	2,211
% Overlap	0.040	(9.25) *	0.0369	2,211	0.05	(9.85) *	-0.030	(-1.33)	0.097	(2.04) *	0.0367	2,211
Avg % Overlap	0.072	(9.12) *	0.0358	2,211	0.08	(9.67) *	-0.054	(-1.36)	0.145	(1.71)	0.0357	2,211

	All Commercial, In-Market Sports Station Pairs											
	Specification 1				Specification 2							
	Same Owner				Same Owner		Same Market		Same Owner x Same Market			
Variable	Marg Eff	T-Stat	Adj R2	N	Marg Eff	T-Stat	Marg Eff	T-Stat	Marg Eff	T-Stat	Adj R2	N
Common Programs	0.073	(1.25)	0.0007	820	0.08	(1.32)	-0.192	(-0.68)	-0.078	(-0.16)	-0.0006	820
% Overlap	0.012	(1.56)	0.0018	820	0.01	(-1.63)	-0.024	(-0.07)	-0.012	(-0.20)	0.0004	820
Avg % Overlap	0.020	(1.41)	0.0012	820	0.02	(1.48)	-0.045	(-0.66)	-0.021	(-0.18)	-0.0002	820

Note: Askterisk denotes statistical significance at least at the 5 percent level.

Source: Ownership Database (from FCC), Edison Airplay Database

Table 30: Market Level Summary of Advertising Prices, Stratified by HHIs
All Commercial, In-Market Edison Surveyed Stations

Variable	Mean for All Stations	Means for Stations in Markets with HHI in Range					Effect of Consolidation? [6] = [5]-[1]	
		0 ≤ HHI < 1,000 [1]	1,000 ≤ HHI < 2,000 [2]	2,000 ≤ HHI < 3,000 [3]	3,000 ≤ HHI < 4,000 [4]	4,000 ≤ HHI [5]		
All Stations								
CPP, AM Drive	67.1	227.5	54.5	25.8	31.3	31.4	-196.0	-
CPP, Evening	43.1	126.8	35.5	20.9	28.6	27.4	-99.3	-
CPP, Average	61.3	200.3	50.6	24.9	30.5	31.0	-169.3	-
CPM, AM Drive	12.2	8.4	10.6	13.3	17.5	21.5	13.1	+
CPM, Evening	9.9	5.0	7.8	11.4	17.0	19.6	14.6	+
CPM, Average	11.8	7.5	10.1	13.0	17.4	21.0	13.5	+
Number of Stations	24.2	47.7	26.0	16.9	13.0	8.6	-39.1	-
FM Only Stations								
CPP, AM Drive	67.1	227.5	54.5	25.8	31.3	31.4	-196.0	-
CPP, Evening	43.1	126.8	35.5	20.9	28.6	27.4	-99.3	-
CPP, Average	61.3	200.3	50.6	24.9	30.5	31.0	-169.3	-
CPM,AM Drive	12.2	8.4	10.6	13.3	17.5	21.5	13.1	+
CPM,Evening	9.9	5.0	7.8	11.4	17.0	19.6	14.6	+
CPM,Average	11.8	7.5	10.1	13.0	17.4	21.0	13.5	+
Number of Stations	14.4	23.5	15.8	11.2	8.8	5.6	-17.9	-

Source: Ownership Database (from FCC), Edison Airplay Database, SQAD

Table 31: Market Level Regressions Estimating the Effect of Ownership Structure on Advertising Prices
Commercial, In-Market, Edison Surveyed Stations

All Stations

Dependent Variable	HHI Marg. Effect	HHI T-Stat	Stations Marg. Effect	Stations T-Stat	Percent of Stations with Cross-Owned Newspaper Marg. Effect	T-Stat	Percent of Stations with Cross-Owned TV Station Marg. Effect	T-Stat	Number of Commercial Stations Owned Nationally by In-Market Owners Marg. Effect	T-Stat	Adj R-Squared	N
CPP, AM Drive	-150.96	(1.42)	1.35	(1.47)	-59.43	(-0.25)	109.01 *	(2.12)	0.0117	(1.56)	0.70	241
CPP, Evening	-91.33	(1.47)	0.60	(1.11)	29.59	(0.21)	57.01	(1.90)	0.0061	(1.38)	0.64	241
CPP, Average	-129.84	(1.39)	1.15	(1.43)	-44.72	(-0.21)	104.83 *	(2.33)	0.0105	(1.59)	0.70	241
CPM, AM Drive	-1.97	(0.24)	-0.30 *	(4.24)	3.44	(0.19)	0.95	(0.24)	-0.0006	(-1.08)	0.33	241
CPM, Evening	-3.72	(0.40)	-0.39 *	(4.81)	24.20	(1.14)	0.85	(0.19)	-0.0005	(-0.70)	0.41	241
CPM, Average	-2.44	(0.31)	-0.33 *	(4.83)	8.25	(0.46)	2.53	(0.66)	-0.0004	(-0.70)	0.38	241
With Demographics:												
CPP, AM Drive	49.87	(0.94)	-1.02 *	(2.17)	6.30	(0.05)	38.64	(1.53)	-0.0069	(-1.79)	0.94	236
CPP, Evening	26.55	(0.77)	-0.60 *	(1.98)	41.45	(0.53)	14.51	(0.88)	-0.0041	(-1.64)	0.90	236
CPP, Average	48.54	(1.06)	-0.85 *	(2.11)	9.58	(0.09)	40.89	(1.87)	-0.0057	(-1.73)	0.94	236
CPM, AM Drive	1.96	(0.25)	-0.24 *	(3.54)	8.99	(0.52)	-1.30	(-0.36)	-0.0011	(-1.91)	0.47	236
CPM, Evening	-7.14	(0.75)	-0.33 *	(3.96)	16.53	(0.77)	1.58	(0.35)	-0.0008	(-1.18)	0.44	236
CPM, Average	-1.38	(0.18)	-0.26 *	(4.00)	12.02	(0.71)	1.01	(0.28)	-0.0008	(-1.49)	0.50	236

FM Only Stations

Dependent Variable	HHI Marg. Effect	HHI T-Stat	Stations Marg. Effect	Stations T-Stat	Percent of Stations with Cross-Owned Newspaper Marg. Effect	T-Stat	Percent of Stations with Cross-Owned TV Station Marg. Effect	T-Stat	Number of Commercial Stations Owned Nationally by In-Market Owners Marg. Effect	T-Stat	Adj R-Squared	N
CPP, AM Drive	-148.15	(1.63)	2.83	(1.89)	311.00	(0.95)	117.15 *	(2.36)	0.0298 *	(2.57)	0.65	241
CPP, Evening	-82.50	(1.59)	1.40	(1.64)	270.03	(1.45)	62.32 *	(2.20)	0.0157 *	(2.38)	0.59	241
CPP, Average	-126.77	(1.61)	2.39	(1.85)	270.37	(0.96)	109.36 *	(2.54)	0.0259 *	(2.58)	0.65	241
CPM, AM Drive	3.60	(0.56)	-0.36 *	(3.42)	27.49	(1.20)	-0.69	(-0.20)	-0.0014	(-1.76)	0.32	241
CPM, Evening	1.64	(0.21)	-0.50 *	(3.91)	55.57 *	(1.98)	-1.02	(-0.24)	-0.0015	(-1.50)	0.33	241
CPM, Average	1.89	(0.29)	-0.44 *	(4.11)	29.81	(1.29)	0.48	(0.14)	-0.0013	(-1.53)	0.34	241
With Demographics:												
CPP, AM Drive	2.18	(0.05)	-1.40 *	(2.00)	58.73	(0.39)	31.08	(1.35)	-0.0099	(-1.74)	0.93	236
CPP, Evening	-0.55	(0.02)	-0.76	(1.68)	97.46	(1.01)	13.17	(0.89)	-0.0052	(-1.44)	0.90	236
CPP, Average	4.56	(0.13)	-1.20 *	(1.98)	45.68	(0.35)	32.90	(1.67)	-0.0082	(-1.68)	0.93	236
CPM, AM Drive	1.88	(0.32)	-0.28 *	(2.76)	25.27	(1.18)	-2.48	(-0.76)	-0.0017 *	(-2.12)	0.46	236
CPM, Evening	-1.67	(0.22)	-0.35 *	(2.73)	43.69	(1.61)	0.83	(0.20)	-0.0014	(-1.33)	0.41	236
CPM, Average	-0.37	(0.06)	-0.31 *	(3.16)	26.59	(1.25)	-0.38	(-0.12)	-0.0014	(-1.74)	0.48	236

Note: Asterisk denotes statistical significance at least at the 5 percent level. Each row summarizes the results of a single regression model.
Source: Ownership Database (from FCC), Edison Airplay Database, SQAD

Table 32: Market Level Regressions Estimating the Effect of Ownership Structure on Advertising Prices, Big versus Small Markets
All Commercial, In-Market, Edison Surveyed Stations

Big Markets, 30+ Stations

Dependent Variable	HHI Marg. Effect	T-Stat	Stations Marg. Effect	T-Stat	Percent of Stations with Cross-Owned Newspaper Marg. Effect	T-Stat	Percent of Stations with Cross-Owned TV Station Marg. Effect	T-Stat	Number of Commercial Stations Owned Nationally by In-Market Owners Marg. Effect	T-Stat	Adj R-Squared	N
CPP, AM Drive	-635.19	(1.56)	3.02	(1.64)	2.75	(0.00)	255.20 *	(2.17)	0.0314	(1.56)	0.6659	103
CPP, Evening	-312.93	(1.38)	1.84	(1.79)	61.65	(0.13)	123.23	(1.88)	0.0178	(1.59)	0.6235	103
CPP, Average	-521.59	(1.48)	2.63	(1.64)	-1.75	(-0.00)	234.92 *	(2.30)	0.0281	(1.60)	0.6649	103
CPM, AM Drive	7.08	(0.48)	-0.04	(0.64)	-24.85	(-0.81)	5.09	(1.20)	-0.0014	(-1.89)	0.0566	103
CPM, Evening	5.78	(0.50)	-0.05	(0.91)	-11.05	(-0.46)	-0.20	(-0.06)	-0.0017 *	(-2.88)	0.1426	103
CPM, Average	4.76	(0.36)	-0.06	(1.07)	-21.16	(-0.76)	5.84	(1.52)	-0.0013 *	(-2.02)	0.0831	103
With Demographics:												
CPP, AM Drive	20.39	(0.11)	-1.12	(1.20)	210.53	(0.53)	48.39	(0.86)	-0.0180	(-1.80)	0.9373	103
CPP, Evening	39.39	(0.35)	-0.55	(0.99)	76.29	(0.32)	9.56	(0.28)	-0.0080	(-1.33)	0.9170	103
CPP, Average	49.07	(0.31)	-0.93	(1.17)	118.38	(0.35)	49.90	(1.04)	-0.0149	(-1.74)	0.9389	103
CPM, AM Drive	15.44	(1.15)	-0.02	(0.23)	8.98	(0.31)	-0.83	(-0.20)	-0.0021 *	(-2.92)	0.2909	103
CPM, Evening	5.23	(0.42)	-0.03	(0.44)	-0.90	(-0.03)	-3.08	(-0.81)	-0.0014 *	(-2.02)	0.1077	103
CPM, Average	9.24	(0.75)	-0.03	(0.45)	3.68	(0.14)	0.30	(0.08)	-0.0018 *	(-2.66)	0.2916	103

Small Markets, 1-29 Stations

Dependent Variable	HHI Marg. Effect	T-Stat	Stations Marg. Effect	T-Stat	Percent of Stations with Cross-Owned Newspaper Marg. Effect	T-Stat	Percent of Stations with Cross-Owned TV Station Marg. Effect	T-Stat	Number of Commercial Stations Owned Nationally by In-Market Owners Marg. Effect	T-Stat	Adj R-Squared	N
CPP, AM Drive	-11.36	(0.34)	-0.61	(1.02)	-10.24	(-0.11)	8.69	(0.35)	0.0002	(0.06)	0.0032	138
CPP, Evening	0.41	(0.01)	-0.64	(1.20)	45.03	(0.54)	11.58	(0.53)	-0.0002	(-0.07)	0.0080	138
CPP, Average	-8.77	(0.28)	-0.56	(0.99)	1.34	(0.01)	13.27	(0.56)	0.0004	(0.13)	-0.0023	138
CPM, AM Drive	3.79	(0.45)	-0.57 *	(3.74)	11.21	(0.47)	-2.98	(-0.47)	-0.0003	(-0.40)	0.2400	138
CPM, Evening	2.60	(0.25)	-0.66 *	(3.50)	30.12	(1.01)	-0.53	(-0.07)	0.0002	(0.17)	0.2688	138
CPM, Average	3.27	(0.39)	-0.58 *	(3.79)	15.82	(0.66)	-1.07	(-0.17)	0.0000	(0.03)	0.2544	138
With Demographics:												
CPP, AM Drive	6.26	(0.39)	-0.64 *	(2.01)	-0.73	(-0.02)	-17.13	(-1.41)	0.0001	(0.05)	0.7997	133
CPP, Evening	6.16	(0.35)	-0.37	(1.08)	6.31	(0.12)	-5.54	(-0.42)	-0.0002	(-0.11)	0.6959	133
CPP, Average	4.69	(0.32)	-0.44	(1.49)	0.30	(0.01)	-10.95	(-0.99)	0.0005	(0.30)	0.8153	133
CPM, AM Drive	0.87	(0.11)	-0.38 *	(2.46)	8.03	(0.35)	-3.06	(-0.51)	-0.0004	(-0.50)	0.4279	133
CPM, Evening	-5.00	(0.48)	-0.46 *	(2.25)	6.86	(0.23)	0.73	(0.09)	-0.0003	(-0.27)	0.3657	133
CPM, Average	-1.75	(0.23)	-0.36 *	(2.36)	7.93	(0.36)	-0.54	(-0.09)	-0.0001	(-0.17)	0.4556	133

Note: Asterisk denotes statistical significance at least at the 5 percent level. Each row summarizes the results of a single regression model.
Source: Ownership Database (from FCC), Edison Airplay Database, SQAD

Table 33: Market Level Summary of Listenership, Stratified by HHIs
Commercial, In-Market, Edison Surveyed Stations

Variable	Mean for All Stations	Means for Stations in Markets with HHI in Range					Effect of Consolidation? [6] = [5]-[1]	
		0 ≤ HHI < 1,000 [1]	1,000 ≤ HHI < 2,000 [2]	2,000 ≤ HHI < 3,000 [3]	3,000 ≤ HHI < 4,000 [4]	4,000 ≤ HHI [5]		
All Stations								
Average Rating	0.009	0.006	0.008	0.010	0.012	0.018	0.012	+
Average Rating, AM Drive	0.012	0.008	0.010	0.014	0.016	0.025	0.017	+
Average Rating, Evening	0.003	0.002	0.003	0.003	0.004	0.006	0.004	+
Number of Stations	24.199	47.677	26.000	16.851	13.000	8.571	-39.105	-
FM Only Stations								
Average Rating	0.009	0.006	0.008	0.010	0.012	0.020	0.014	+
Average Rating, AM Drive	0.012	0.008	0.011	0.013	0.015	0.028	0.020	+
Average Rating, Evening	0.003	0.002	0.003	0.003	0.004	0.007	0.004	+
Number of Stations	14.359	23.471	15.802	11.203	8.767	5.571	-17.899	-

Source: Ownership Database (from FCC), Edison Airplay Database, SQAD

Table 34: Market Level Regressions Estimating the Effect of Ownership Structure on Listenership
Commercial, In-Market, Edison Stations

	All Stations											
	HHI		Stations		Percent of Stations with Cross-Owned Newspaper		Percent of Stations with Cross-Owned TV Station		Number of Commercial Stations Owned Nationally by In-Market Owners			
Dependent Variable	Marg. Effect	T-Stat	Marg. Effect	T-Stat	Marg. Effect	T-Stat	Marg. Effect	T-Stat	Marg. Effect	T-Stat	Adj R-Squared	N
Average Rating	0.0023	(0.54)	-0.0002 *	(5.28)	0.0202 *	(2.13)	-0.0028	(-1.31)	0.0000005	(1.53)	0.5141	249
Average Rating, AM Drive	-0.0019	(0.30)	-0.0003 *	(6.07)	0.0318 *	(2.26)	-0.0036	(-1.13)	0.0000010 *	(2.22)	0.5154	249
Average Rating, Evening	0.0002	(0.11)	-0.0001 *	(3.76)	0.0061	(1.48)	-0.0015	(-1.57)	0.0000002	(1.63)	0.3308	249
With Demographics:												
Average Rating	-0.0035	(0.83)	-0.0002 *	(5.75)	0.0125	(1.42)	0.0009	(0.47)	0.0000006 *	(1.99)	0.6190	242
Average Rating, AM Drive	-0.0106	(1.75)	-0.0003 *	(6.41)	0.0202	(1.58)	0.0016	(0.56)	0.0000012 *	(2.70)	0.6235	242
Average Rating, Evening	-0.0016	(0.89)	-0.0001 *	(4.47)	0.0024	(0.64)	-0.0002	(-0.28)	0.0000002	(1.41)	0.4830	242

	FM Only Stations											
	HHI		Stations		Percent of Stations with Cross-Owned Newspaper		Percent of Stations with Cross-Owned TV Station		Number of Commercial Stations Owned Nationally by In-Market Owners			
Dependent Variable	Marg. Effect	T-Stat	Marg. Effect	T-Stat	Marg. Effect	T-Stat	Marg. Effect	T-Stat	Marg. Effect	T-Stat	Adj R-Squared	N
Average Rating	0.0005	(0.13)	-0.0004 *	(6.91)	0.0061	(0.47)	-0.0022	(-1.05)	-0.00000023	(-0.48)	0.4689	248
Average Rating, AM Drive	-0.0009	(0.17)	-0.0006 *	(6.79)	0.0130	(0.72)	-0.0016	(-0.56)	0.00000004	(0.06)	0.4606	248
Average Rating, Evening	0.0001	(0.07)	-0.0001 *	(4.51)	0.0008	(0.14)	-0.0013	(-1.40)	0.000000009	(0.04)	0.2646	248
With Demographics:												
Average Rating	-0.0011	(0.29)	-0.0004 *	(6.23)	0.0081	(0.65)	0.0007	(0.33)	-0.00000005	(-0.10)	0.5386	241
Average Rating, AM Drive	-0.0038	(0.77)	-0.0005 *	(6.14)	0.0143	(0.83)	0.0026	(0.94)	0.00000019	(0.27)	0.5309	241
Average Rating, Evening	0.0003	(0.20)	-0.0001 *	(4.49)	0.0007	(0.12)	-0.0003	(-0.29)	-0.00000010	(-0.47)	0.4122	241

Note: Asterisk denotes statistical significance at least at the 5 percent level.

Source: Ownership Database (from FCC), Edison Airplay Database, SQAD

Table 35: Market Level Regressions Estimating the Effect of Ownership Structure on Listenership, Big versus Small Markets
All Commercial, In-Market, Edison Stations

					Big Markets, 30+ Stations							
	HHI		Stations		Percent of Stations with Cross-Owned Newspaper		Percent of Stations with Cross-Owned TV Station		Number of Commercial Stations Owned Nationally by In-Market Owners			
Dependent Variable	Marg. Effect	T-Stat	Marg. Effect	T-Stat	Marg. Effect	T-Stat	Marg. Effect	T-Stat	Marg. Effect	T-Stat	Adj R-Squared	N
Average Rating	-0.0087	(1.39)	-0.0001 *	(3.26)	0.0180	(1.31)	-0.0042 *	(-2.22)	-0.00000062	(-1.90)	0.2964	104
Average Rating, AM Drive	-0.0103	(1.18)	-0.0001 *	(3.10)	0.0153	(0.80)	-0.0063 *	(-2.38)	-0.00000040	(-0.88)	0.2425	104
Average Rating, Evening	-0.0043	(1.49)	0.0000 *	(2.16)	0.0093	(1.47)	-0.0021 *	(-2.43)	-0.000000172	(-1.14)	0.1498	104
With Demographics:												
Average Rating	-0.0154 *	(2.76)	-0.0001 *	(4.68)	0.0015	(0.12)	0.0005	(0.31)	-0.00000039	(-1.25)	0.5142	104
Average Rating, AM Drive	-0.0200 *	(2.52)	-0.0002 *	(4.47)	-0.0067	(-0.38)	-0.0004	(-0.14)	-0.00000020	(-0.45)	0.4574	104
Average Rating, Evening	-0.0065 *	(2.55)	-0.0001 *	(3.94)	0.0028	(0.49)	-0.0002	(-0.22)	-0.00000020	(-1.44)	0.4209	104

					Small Markets, 1-29 Stations							
	HHI		Stations		Percent of Stations with Cross-Owned Newspaper		Percent of Stations with Cross-Owned TV Station		Number of Commercial Stations Owned Nationally by In-Market Owners			
Dependent Variable	Marg. Effect	T-Stat	Marg. Effect	T-Stat	Marg. Effect	T-Stat	Marg. Effect	T-Stat	Marg. Effect	T-Stat	Adj R-Squared	N
Average Rating	0.0077	(1.62)	-0.0002 *	(2.72)	0.0208	(1.65)	-0.0017	(-0.46)	0.00000096 *	(2.15)	0.3471	145
Average Rating, AM Drive	0.0057	(0.80)	-0.0005 *	(3.71)	0.0340	(1.80)	-0.0027	(-0.50)	0.00000166 *	(2.49)	0.3868	145
Average Rating, Evening	0.0029	(1.39)	-0.0001	(1.80)	0.0058	(1.07)	-0.0007	(-0.45)	0.000000390 *	(2.02)	0.2072	145
With Demographics:												
Average Rating	0.0041	(0.92)	-0.0002 *	(2.01)	0.0109	(0.95)	0.0017	(0.50)	0.00000107 *	(2.46)	0.5164	138
Average Rating, AM Drive	-0.0002	(0.03)	-0.0003 *	(2.75)	0.0195	(1.18)	0.0025	(0.51)	0.00000196 *	(3.13)	0.5736	138
Average Rating, Evening	0.0019	(0.97)	-0.0001	(1.60)	0.0015	(0.29)	0.0000	(0.00)	0.00000034	(1.73)	0.3750	138

Note: Asterisk denotes statistical significance at least at the 5 percent level.
Source: Ownership Database (from FCC), Edison Airplay Database, SQAD

**Table 36: Station Level Summary of Listenership, Statified by Ownership Structure
Commercial, In-Market, Edison Surveyed Stations**

	All Stations					FM Only Stations				
Variable	All [1]	Stations with No Sisters [2]	Stations with At Least One Sister [3]	Effect of Common Ownership? [4] = [3]-[2]		All [5]	Stations with No Sisters [6]	Stations with at least One Sister [7]	Effect of Common Ownership? [8] = [7]-[6]	
Adult AQH Rating, AM Drive	1.13	0.61	1.20	0.59	+	1.13	0.69	1.19	0.50	+
Adult AQH Rating, Evening	0.28	0.14	0.30	0.16	+	0.28	0.18	0.30	0.12	+
Adult AQH Rating, Average	0.87	0.47	0.92	0.45	+	0.85	0.51	0.90	0.39	+

Source: Ownership Database (from FCC), Edison Airplay Database, Arbitron

Table 37: Station Level Regressions Estimating the Effect of Ownership Structure on Listenership
Commercial, In-Market, Edison Surveyed Stations
Includes Demographics and Station Characteristics

All Stations

Dependent Variable	HHI		Sisters		Newspaper Cross-Ownership		Television Cross-Ownership		Number of Stations Owned Nationally by Owner		Adj R-Squared	N
	Marg. Effect	T-Stat	Marg. Effect	T-Stat	Marg. Effect	T-Stat	Marg. Effect	T-Stat	Marg. Effect	T-Stat		
Average Rating	-2.4190	(1.64)	0.0498 *	(2.37)	0.9908 *	(2.31)	-0.0354	(-0.29)	0.0001	(1.08)	0.1950	410
Average Rating, AM Drive	-3.5803	(1.61)	0.0477	(1.53)	1.5715 *	(2.42)	0.0529	(0.29)	0.0001	(0.89)	0.1712	420
Average Rating, Evening	-1.2767 *	(2.20)	0.0208 *	(2.51)	0.2981	(1.76)	0.0042	(0.09)	0.0000	(1.24)	0.1427	410

FM Only Stations

Dependent Variable	HHI		Sisters		Newspaper Cross-Ownership		Television Cross-Ownership		Number of Stations Owned Nationally by Owner		Adj R-Squared	N
	Marg. Effect	T-Stat	Marg. Effect	T-Stat	Marg. Effect	T-Stat	Marg. Effect	T-Stat	Marg. Effect	T-Stat		
Average Rating	-1.4175	(1.15)	0.0748 *	(2.44)	-	-	-0.0949	(-0.72)	0.0000	(0.14)	0.1827	243
Average Rating, AM Drive	-1.4072	(0.77)	0.0984 *	(2.17)	-	-	-0.0161	(-0.08)	0.0000	(-0.10)	0.1675	243
Average Rating, Evening	-0.8809	(1.86)	0.0265 *	(2.27)	-	-	-0.0571	(-1.14)	0.0000	(0.25)	0.1196	243

Note: Asterisk denotes statistical significance at least at the 5 percent level. Each row summarizes the results of a single regression model. The effect of newspaper cross-ownership cannot be estimated because there is only one FM commercial, in-market station in the sample that is cross-owned with a local newspaper.

Sources: Ownership Database (from FCC), Edison Airplay Database, Arbitron

Table 38: Station Level Regressions Estimating the Effect of Ownership Structure on Listenership
All Commercial, In-Market, Edison Surveyed Stations

| | With Market Fixed Effects | | | | | | | | | | | |
| | HHI | | Sisters | | Newspaper Cross-Ownership | | Television Cross-Ownership | | Number of Stations Owned Nationally by Owner | | Adj R-Squared | N |
Dependent Variable	Marg. Effect	T-Stat	Marg. Effect	T-Stat	Marg. Effect	T-Stat	Marg. Effect	T-Stat	Marg. Effect	T-Stat		
Adult AQH Rating, AM Drive	-	-	0.00	(0.03)	0.64	(0.76)	0.2607	(1.06)	0.0001	(0.59)	0.11	427
Adult AQH Rating, Evening	-	-	0.02	(1.69)	0.29	(1.33)	0.0034	(0.05)	0.0000	(-0.31)	0.08	417
Adult AQH Rating, Average	-	-	0.02	(0.74)	0.37	(0.64)	0.0708	(0.41)	0.0001	(0.80)	0.10	417

| | With Owner Fixed Effects | | | | | | | | | | | |
| | HHI | | Sisters | | Newspaper Cross-Ownership | | Television Cross-Ownership | | Number of Stations Owned Nationally by Owner | | Adj R-Squared | N |
Dependent Variable	Marg. Effect	T-Stat	Marg. Effect	T-Stat	Marg. Effect	T-Stat	Marg. Effect	T-Stat	Marg. Effect	T-Stat		
Adult AQH Rating, AM Drive	-3.9054	(1.20)	0.0027	(0.04)	1.4134	(0.92)	0.0072	(0.03)	-	-	-0.0544	427
Adult AQH Rating, Evening	-1.1913	(1.43)	-0.0062	(0.38)	0.2524	(0.64)	0.1055	(1.52)	-	-	-0.0576	417
Adult AQH Rating, Average	-2.2134	(1.04)	0.0053	(0.13)	0.7915	(0.79)	0.0353	(0.20)	-	-	0.0037	417
With Demographics:												
Adult AQH Rating, AM Drive	-6.0057	(1.75)	-0.0287	(0.45)	-0.0399	(-0.03)	0.0220	(0.08)	-	-	0.0128	420
Adult AQH Rating, Evening	-1.3835	(1.57)	-0.0158	(0.96)	-0.0729	(-0.18)	0.1430 *	(2.02)	-	-	-0.0079	410
Adult AQH Rating, Average	-3.6829	(1.66)	-0.0238	(0.57)	-0.3192	(-0.31)	0.0664	(0.37)	-	-	0.0637	410

Note: Askterisk denotes statistical significance at least at the 5 percent level.

Source: Ownership Database (from FCC), Edison Airplay Database, SQAD

Table 39: Station Level Regressions Estimating the Effect of Ownership Structure on Listenership
FM Only Commercial, In-Market, Edison Surveyed Stations
With Owner Fixed Effects

Dependent Variable	HHI		Sisters		Newspaper Cross-Ownership		Television Cross-Ownership		Adj R-Squared	N
	Marg. Effect	T-Stat	Marg. Effect	T-Stat	Marg. Effect	T-Stat	Marg. Effect	T-Stat		
Adult AQH Rating, AM Drive	-1.29	(0.45)	0.03	(0.36)	-0.93	(-0.70)	-0.23	(-0.83)	-0.10	246
Adult AQH Rating, Evening	-1.19	(1.84)	-0.01	(0.32)	-0.23	(-0.77)	-0.01	(-0.19)	0.10	246
Adult AQH Rating, Average	-1.75	(0.93)	0.02	(0.32)	-0.58	(-0.67)	-0.15	(-0.81)	0.00	246
With Demographics:										
Adult AQH Rating, AM Drive	-1.54	(0.50)	-0.03	(0.33)	-1.66	(-1.22)	-0.19	(-0.66)	0.01	243
Adult AQH Rating, Evening	-0.55	(0.76)	-0.02	(0.73)	-0.23	(-0.73)	-0.03	(-0.38)	0.14	243
Adult AQH Rating, Average	-1.43	(0.70)	-0.02	(0.30)	-0.93	(-1.02)	-0.16	(-0.82)	0.05	243

Note: Askterisk denotes statistical significance at least at the 5 percent level.

Source: Ownership Database (from FCC), Edison Airplay Database, SQAD

Appendix 1: Format Categorization Schemes

Format 11	Format 20	Format 101
Adult Contemporary	Adult Contemporary	AC
		Adult Hits
		Bright AC
		Charlie
		Hot AC
		Jack
		Lite AC
		Lite Rock
		Mix AC
		Modern AC
		Soft AC
		Soft Hits
		Soft Rock
Contemporary Hit Radio/Top 40	Contemporary Hit Radio/Top 40	Adult CHR
		CHR
		Dance
		Rhythmic
		Top 40
Country	Country	Americana
		Blue Grass
		Country
News/Talk/Sports	News	Business News
		News
	Sports	Sports
	Talk	Motivational
		Talk
Oldies	Oldies	70s & 80s
		70s Hits
		70s Oldies
		80s & 90s
		80s Hits
		Oldies
Other Music	Classical	Classical
	Easy Listening/Beautiful Music	Beautiful Music
		Easy
	Ethnic	Asian
		Ethnic
		Greek
		Hawaiian
		International
		Japanese
		Korean
		Polish
		Portuguese
	Jazz/New Age	Jazz
		NAC
		New Age
		Smooth Jazz
	Middle of the Road	Full Service
		MOR
	Miscellaneous	Children
		Comedy
		Diverse
		Eclectic
		Folk
		Information
		Polka
		Variety
		Variety Hits
	Nostalgia/Big Band	Adult Standards
		Big Band
		Nostalgia
Public/Educational	Public/Educational	Educational
		NPR
		Public
Religion	Religion	Black Gospel
		Christian
		Christian Contemporary
		Gospel
		Inspiration
		Religion
		Religious Music
		Southern Gospe
Rock	Album Oriented Rock/Classic Rock	AOR
		Classic Rock
	Rock	AAA
		Adult Rock
		Alternative
		Classic Hits
		Modern Rock
		New Rock
		Progressive
		Rock
		Rock & Roll
		Rock AC
Spanish	Spanish	Hurban
		Mexican
		Ranchera
		Reggaeton
		Spanish
		Spanish AC
		Tejano
		Tropical
Urban	Urban	Black
		Hip Hop
		R&B Oldies
		Rhythm & Blues
		Urban
		Urban AC
		Urban CHR
		Urban Contemporary

Appendix 2: Market Level Regressions Estimating the Effects of Ownership Structure
Select Results, with Demographics
All Commercial, In-Market, Edison Surveyed Stations

Dependent Variable	Format 101 HHI	Percent Local, Evening	Average Block, Entertainment/Leisure/ DJ Banter, AM Drive	CPP, AM Drive	Average Rating, AM Drive
Constant	-2.8910	1.3334	2.4041	-130.1452	0.0036
	(-0.55)	(1.13)	(0.44)	(-1.61)	(0.39)
Marginal Effect of HHI	3.3992	-1.4686	-0.8028	49.8700	-0.0106
	(1.00)	(1.71)	(0.20)	(0.94)	(1.75)
Marginal Effect of Number of Stations	0.4048 *	-0.0055	0.0090	-1.0161 *	-0.0003 *
	(13.68)	(0.89)	(0.32)	(2.17)	(6.41)
Percentage of Commercial Stations with	0.9200	-1.0313	-8.3112	6.3044	0.0202
Cross-Owned Newspaper	(0.13)	(-0.69)	(-1.22)	(0.05)	(1.58)
Percentage of Commercial Stations with	1.5265	0.0698	0.2358	38.6374	0.0016
Cross-Owned TV Station	(0.93)	(0.22)	(0.16)	(1.53)	(0.56)
Number of Commercial Stations Owned	0.0004	0.0000	0.0000	-0.0069	0.0000 *
Nationally by In-Market Owners	(1.73)	(-0.62)	(-0.16)	(-1.79)	(2.70)
Total 2005 Population (000)	0.0008 *	0.0000	-0.0002	0.0743 *	0.0000
Marginal Effect (Level and Square)	(2.65)	(0.75)	(0.73)	(15.21)	(0.75)
Effective Buying Income Per Capita 2005	0.0003 *	0.0000	-0.0001	-0.0020	0.0000
Marginal Effect (Level and Square)	(3.05)	(0.77)	(1.32)	(1.45)	(1.94)
Midwest	0.4822	0.0611	0.5200	1.4759	0.0016 *
	(1.06)	(0.60)	(1.12)	(0.21)	(2.01)
South	0.0672	0.0248	0.4219	5.4628	0.0002
	(0.14)	(0.24)	(0.90)	(0.75)	(0.29)
West	0.0697	0.1009	0.6713	20.6726 *	-0.0007
	(0.13)	(0.88)	(1.29)	(2.61)	(-0.71)
Number of Retail Establishments	0.0000	0.0000	0.0000	0.0000	0.0000 *
	(0.56)	(1.00)	(-0.03)	(-0.06)	(-2.58)
Percent White	-1.7963	-0.0763	1.1382	-57.7412 *	0.0039
	(-1.14)	(-0.24)	(0.80)	(-2.34)	(1.38)
Percent Age 25 to 34	4.2783	-2.4046	-0.3078	701.3419 *	-0.0329
	(0.24)	(-0.66)	(-0.02)	(2.56)	(-1.05)
Percent Age 35 to 44	-13.1220	2.7932	8.6657	1005.1606 *	-0.0037
	(-0.64)	(0.63)	(0.43)	(3.17)	(-0.10)
Percent Age 45 to 64	-0.5134	-4.5585 *	1.9899	393.5398 *	0.0491 *
	(-0.05)	(-2.01)	(0.19)	(2.21)	(2.37)
Percent 65 and Over	-7.1823	0.6899	2.8181	337.2469 *	-0.0300 *
	(-0.85)	(0.36)	(0.32)	(2.57)	(-2.01)
Percent College Grad	-7.4387 *	-0.4474	2.3033	81.2947	0.0051
	(-2.32)	(-0.63)	(0.71)	(1.64)	(0.90)
Adjusted R2	0.8921	-0.0138	-0.0623	0.9352	0.6235
Observations	244	164	164	236	242

Appendix 3: Station Level Regressions Estimating the Effects of Ownership Structure
Select Results, with Demographics
All Commercial, In-Market, Edison Surveyed Stations

Dependent Variable	Percent Network/Syndicated, Evening	Percent Music, Evening	Average Rating, Evening
Constant	-0.4428	1.0615	-0.5090
	(-0.49)	(1.17)	(-0.72)
Marginal Effect of HHI	1.9245 *	-1.8120 *	-1.2767 *
	(2.51)	(2.34)	(2.20)
Marginal Effect of Number of Sister Stations	-0.0085	0.0120	0.0208 *
	(0.73)	(1.02)	(2.51)
Marginal Effect of Number of Stations	0.0133 *	-0.0140 *	-0.0122 *
	(2.63)	(2.76)	(3.19)
Cross-Owned Newspaper Dummy	0.2294	-0.0628	0.2981
	(1.05)	(-0.28)	(1.76)
Cross-Owned TV Station Dummy	-0.0549	-0.0138	0.0042
	(-0.92)	(-0.23)	(0.09)
Number of Stations Owned Nationally by Owner	0.0001 *	-0.0001	0.0000
	(2.33)	(-1.51)	(1.24)
Station Day Power	0.0000	0.0000	0.0000
	(-0.62)	(-0.48)	(1.70)
Station Night Power	0.0000	0.0000	0.0000
	(0.25)	(0.77)	(-1.00)
Station Age	0.0000	-0.0033 *	0.0035 *
	(-0.04)	(-2.77)	(3.57)
FM Dummy	-0.2889 *	0.3207 *	0.0727
	(-4.50)	(4.95)	(1.49)
Total 2005 Population (000) Marginal Effect (Level and Square)	0.0000	0.0000	0.0000
	(0.09)	(0.80)	(0.60)
Effective Buying Income Per Capita 2005 Marginal Effect (Level and Square)	0.0000	0.0000	0.0000 *
	(0.67)	(0.10)	(2.10)
Midwest	-0.0134	-0.0524	0.0692
	(-0.18)	(-0.69)	(1.22)
South	0.0146	-0.0735	-0.0481
	(0.18)	(-0.90)	(-0.80)
West	-0.0985	-0.0071	-0.0281
	(-1.08)	(-0.08)	(-0.44)
Number of Retail Establishments	0.0000	0.0000	0.0000
	(0.18)	(-0.63)	(-0.62)
Percent White	0.4371	-0.2390	-0.1637
	(1.78)	(-0.97)	(-0.82)
Percent Age 25 to 34	-0.1926	0.2471	2.1662
	(-0.07)	(0.09)	(1.04)
Percent Age 35 to 44	-2.6825	0.7704	2.1990
	(-0.78)	(0.22)	(0.85)
Percent Age 45 to 64	1.6232	0.0004	1.5086
	(0.94)	(0.00)	(1.06)
Percent 65 and Over	-1.4645	0.9383	1.6821
	(-1.00)	(0.64)	(1.58)
Percent College Grad	0.4321	-0.3375	0.2543
	(0.77)	(-0.60)	(0.64)
Adjusted R2	0.2540	0.3553	0.1427
Observations	276	276	410

Note: Asterisk denotes statistical significance at least at the 5 percent level.
Source: Ownership Database (from FCC), Edison Airplay Database, SQAD