

## **ABSTRACT**

IRVIN, MATTHEW WILSON JR. Radio Station Market Concentration and Programming Diversity: The Effect of the Telecommunications Act of 1996 on Local Radio Markets. (Under the direction of Ronald Wimberley.)

The enactment of the Telecommunications Act of 1996 fundamentally changed the basis of broadcast and communication media regulation. Touted by its proponents in media industry as a remedy for a regulatory regime viewed as non-competitive, the Telecommunications Act changed ownership restrictions. Enough time has transpired allowing for the assessment of the Act's effects on radio ownership patterns and effects on variety.

This dissertation examines two affected processes: 1) corporate radio acquisition and 2) radio programming. This dissertation assesses two sets of competing claims. The first set of claims centers on a debate about the effect of deregulation and its effects on media market structure before and after deregulation. Proponents of deregulation held that a relaxed regulatory environment enhances market variability, while opponents of deregulation held that the new regulatory environment favors oligopoly formation at the national level and monopoly control in local markets. This research examines evidence indicating how regulatory change affects the environment in which media owners buy and sell stations in media markets, focusing on regulatory, individual radio station, and media market characteristics and transaction decisions.

The second set of claims centers on the product of radio media markets, specifically radio station programming. Deregulation proponents held that the new environment enhances commercial programming variety; opponents held that deregulation decreases programming variety. Using industry ownership records of radio stations and programming over the period

1993-2001, I assess the validity of these two competing claims, using organizational institutional theory, ecological explanations, and political economy theory to examine the extent to which the organizational field characteristic of media organizations has changed over time due to a diminished number of station owners. Acquisition processes are characterized by new station acquisition in smaller markets, resulting in continued homogeneity in both variability of market formats and changes in variability in individual station programming over time. Both of these processes are affected by an increased market concentration shift to non-local, corporate ownership of individual stations. These research findings indicate support for the regulatory critique, which holds that the abolition or reduction of ownership caps dampens rather than enhances competition.

Radio Station Market Concentration and Programming Diversity:  
The Effect of the Telecommunications Act of 1996 on Local Radio Markets  
By

Matthew W. Irvin, Jr.

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Approved by:

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Rebecca Adams

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Theodore Greenstein

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Chair of Advisory Committee  
Ronald Wimberley

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Donald Tomaskovic-Devey

## **DEDICATION**

This dissertation is dedicated to the memory of Lawrence Eric (Rick, ‘Eric E.’) Stanley, a cultural champion, friend, and band manager, who reshaped the racial and aesthetic terrain of radio- and the local musical community- in Richmond, VA from 1980 to 2003.

## **BIOGRAPHY**

Matthew Irvin was born in Kansas in 1957, and was raised in Alexandria, Virginia. His interest in media, and specifically radio, stems from his thirty years' experience as a professional musician, playing saxophone and woodwinds in jazz, gospel, Latin, and funk bands, beginning in Washington D.C. and continuing in Richmond, VA and North Carolina. In addition to recording, this career also involved sporadic involvement with radio, as a classical music programmer in the mid 1970s at a public radio station in Harrisonburg, Virginia, and as a substitute announcer and programmer for Rick (Eric E.) Stanley's Color Channel Radio 36, an early 1980s precursor that forecast contemporary patterns found in modern community radio programming.

These experiences were coupled with his emergent interest in sociology, a growing passion since taking an introductory class from David Franks in 1984 at Virginia Commonwealth University. He successfully completed work for the Master of Science degree in Sociology in 1993. This increasing sociological imagination informed an awareness of shrinking opportunities for emergent artists to receive airtime-a situation that has increased in magnitude since the mid 1990s and which is addressed in this analysis.

In addition to an interest in market consolidation and its relationship to reduced opportunities for emergent musicians and artists, his foci include workplace inequality and issues of wealth and poverty, as well as an ongoing interest in teaching sociology, with a focus on active learning approaches.

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It was also in Richmond, VA where I began practicing the Buddhism of Nicherin Daishonin. I owe an eternal debt of gratitude to the memory of Ellen Kreitler, who first introduced me to this Buddhism, which has brought me clarity and happiness since 1987, and to all of my friends who continue to practice in Virginia and Raleigh, North Carolina.

It was in Raleigh that I was able to further hone my sociological skills at North Carolina State University. I owe a special thanks to Ronald Wimberley, who provided me with essential hands-on training while I was his research assistant. I also wish to thank him for his unflagging support and insight in the development of this dissertation research.

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## **Chapter 1: Introduction**

The purpose of this dissertation is to explain changes in American broadcast radio ownership, control, and programming over the period 1994-2003, a period defined by the enactment of the Telecommunications Act of 1996. This Act of Congress made fundamental changes to rules specifying media market restrictions (Aufereheide, 2001). Table 1 outlines the extent of change in pre- and post- Telecommunications Act rules for local and national ownership.

Noteworthy in Table 1 is the extent of increase in the maximum allowable number of stations that an individual owner could own, both at the local and national level.

[See Table 1 on pg. 136]

Although the information in Table 1 depicts substantial change in ownership caps, early legislative and judicial actions set a precedent for legislative change of ownership rules, culminating in the latest legislative restructuring in 1996. An examination of these earlier rounds of legislation is useful for understanding how they set the pattern for later changes in media control. Acts of Congress in 1927 and 1934 defined broadcast radio (and, through later interpretations, television) as an essentially commercial broadcast market bound to a civic responsibility to meet the public good. (Aufderheide, 1996, 1999). The Telecommunications Act of 1996, hereafter referred to as the 1996 Act, changes restriction on local media market structures. The degree to which change in market ownership restrictions affects local vs. non-local control of radio is the focus of this proposed research. Such an analysis is important for the following reasons.

First, prior to enactment of the 1996 Act, a synthesis between two opposing models of broadcast media control and ownership defined both constraints on media and required specific content. Two competing theories defined the philosophy behind broadcast media policy: the market-structure-advocacy model vs. the public-sphere model of media control. The 1996 Act signals a shift in the original definition of the airwaves as a public good.

Originally, definitions of broadcast media referenced it as a public good. How the term 'public good' is defined, however, is a point of dissensus and the starting point for the current and ongoing deregulation debate. The points of debate frame arguments throughout the history of radio and communications regulation in the United States since the 1920s.

Critics of the current regulatory regime, in place because of the 1996 Act, hold that broadcasters are, in exchange for their being awarded a license to the exclusive use of a radio frequency, charged with the responsibility to serve extra-market elements of the listening public--whether underserved music formats or alternative political viewpoints. (Aufderheide, 1996). Free market proponents, neoliberal market advocates that believe in the infallibility of market equilibrium, define the public good as the maintenance and protection of an environment that is conducive to markets, an environment in which regulations are reduced or eliminated.

A synthesis of these two oppositional ideas defines broadcast policy from 1934 to 1996. In the 1930s, free market proponents in Congress succeeded in defining corporate media owners as the most effective agents for delivery of radio and then television to the public, but these entities did so under constraints. Public sphere congressional proponents ensured that media outlets had to provide equal coverage of divergent points of view, to



provide alternative programming that served constituencies underserved by markets, and they had to subject their broadcast licenses for public review and comment every five years.

One of the components of the public sphere model of broadcast control informing pre-1996 policy is the salience of local control. Locally controlled media outlets provide local services ranging from local emergency disaster information to the exercise of local tastes, if not locally originated programming. Movement away from local ownership and control signals a retreat from the policy synthesis of market and public sphere policies. In place of this synthesis is a free-market policy that emphasizes protection of market processes as the primary reason why government is involved at all in media regulation. The free market assumptions that dominate current media policy, however, do not take into consideration a media market reality characterized not by the development of new audiences for the product of radio media, but by the need for media owners to provide demographically specific audiences to potential advertisers. The success of the Act of 1996 in reducing and in some cases eliminating market caps signals success for market advocates in the creation of new media policy. A comparison of pre and post Act of 1996 environments with an eye toward the consequences of old and new media policies may indicate the extent to which very large organizations shape, rather than merely respond to, media policy environment. (McChesney, 1993; Aufderheide, 1999; Croteau and Hoynes, 2001).

## **Chapter 2: Organization of This Dissertation**

This dissertation is organized as follows. Chapter 3 provides historical background and defines terms necessary for an understanding of the current points of debate and their salience to this research, covering the interplay between the technological, commercial, and governmental/regulatory elements that shape the environment in which media outlets are bought and sold.

In Chapter 4, I examine five literatures, each with separate contributions useful for an understanding of the characteristics of radio and the radio industry. First, I examine assessments of the effects of the Telecommunications Act of 1996. Second, I review historical accounts that describe the regulatory legacy that precedes the Telecommunications Act of 1996. A third literature provides insight into interaction between advertising and broadcast media; and a fourth literature examines structural patterns linking music production and distribution, specifically radio airtime. Chapter 5 draws on organizational theory to explain processes associated with broadcast media, particularly those that drive action by market actors, i.e., media outlet buyers. I assess the theoretical explanation of market action to determine which theory applies most comprehensively to radio station purchases.

Chapter 6 outlines my conceptualization strategy and hypotheses. Hypotheses are drawn from findings outlined in the literature. The data sources on which I base my analysis, definition of variables, sampling strategy, and the Piecewise Constant Exponential technique used in this analysis are also described in Chapter 6.

In Chapter 7, I outline findings from my analysis. The first section provides descriptive statistics, first for dependent and then for independent variables. The second section includes an analysis of the effects of market and station characteristics on the odds of station acquisition by a non-local or corporate owner.

The discussion in Chapter 8 focuses on the effects of covariates on the processes associated with transfer of ownership from local, individual owners to non-local corporate owners, taking technological, market, and regulatory environmental characteristics into account. In Chapter 9, I provide an interpretation of findings, and suggest possible lines for further inquiry.

### **Chapter 3:**

#### **Background: Understanding Radio: Key Terms and History**

The pre-1996 debate about core issues surrounding changes in the regulatory environment has well-defined lines of contention and salient actors attempting regulatory environmental change. Arguments that center on the importance of the Telecommunications Act of 1996 on ownership and programming coalesce around stakeholders' opposing claims about the effect of the Act of 1996. Stakeholders, ranging from the National Association of Broadcasters, representing industry interests, the American Federation of Radio and Television Actors, the labor union for radio workers, The United Church of Christ, and a host of telephony industry lobbyists, telecommunications labor unions and consumer groups form alliances and oppose other groups around two sets of competing claims. These claims comprise the basis of the debate over the effect of the Telecommunications Act of 1996 on broadcast radio ownership and the outcome of ownership rule changes.

Deregulation proponents hold that a relaxation of restrictions on ownership caps enhances new market entrants due to an increase in new frequencies, while opponents assert that relaxed ownership rules recreate locally owned radio stations in local markets into non-local, remotely owned outposts of nationwide media corporations. Proponents also assert that deregulation will enhance programming variety in markets, while opponents claim that owner concentration within markets will constrict program variety.

This dissertation focuses on these two interrelated claims and proceeds as follows. I assess effects of change in the organizational environment attributable to change in the regulatory environment. The unit of analysis for this segment of the analysis is the radio station, not as a unit of an undifferentiated population of radio stations in the United States,

but as embedded in local media markets in which stations both act and are acted on by stations. Three sets of variables define the research question: 1) time variables, as defined by year of record for radio stations' existences, specifically pre-1997, the first year in which the Telecommunications Act became law; 2) market variables, or the set of market characteristics that act as determinants of a stations' ownership status, and 3) the characteristics of a station itself, specifically its format and its signal strength in kilowatts. These variables act on individual stations embedded in local markets to determine the extent to which stations are individually or group owned, as signals to prospective buyers of medial outlets, and determine ownership characteristics, specifically local vs. non-local and non-corporate vs. corporate, ownership. In the following paragraphs, I describe each set of variables that have a potential effect on transitions in station ownership.

*Year.* Because of the relaxation of ownership caps wrought by the Telecommunications Act in 1996, the potential for non-local, concentrated corporate ownership of stations is greater after 1996.

*Markets.* Stations remain geographically embedded in relatively stable, geographically bounded media markets. Broadcast markets situate radio stations in specific geographical areas defined by the number of potential listeners within a market's *total service area* (TSA). TSAs are roughly equivalent with Census Bureau Metropolitan Statistical Areas. TSAs indicate the total potential number of listeners for a particular radio station in a particular market. Broadcast markets also contain specific, variable-over-time, numbers of individual radio stations.

Broadcast markets occupy a liminal position in that they are defined by policy as both a finite commodity and a public good. Stations must periodically recertify with the Federal Communications Commission and provide evidence of upholding local community standards and in providing a certain segment of programming devoted to public service broadcasting. The definition of standards and service is a loosely defined set of criterion, contingent on the mandates of the Federal Communications Chairman, a political appointee. These service and standards requirements vary and have been historically defined using a range of criteria, from programming variability, to adherence to the Fairness Doctrine before the Reagan Administration, amount of time devoted to children's' programming--more of a concern for television than radio--and appropriateness of content. A station may face losing its license, for example, if accused repeatedly of violations by moral entrepreneurs who monitor media for violations of obscenity definitions (Winfield, 1999). Since its creation in 1934, adherence to, and enforcement of, media regulations originates with the Federal Communications Commission.

FCC market definitions not only provide data to the United States Government for regulatory purposes. FCC market definitions are also used by the broadcast industry, for example, to track the number of potential listeners for a group of stations in a given geographically bounded area. Data for radio markets is calculated on two levels. Using FCC-defined markets, Arbitron, the broadcast industry's clearinghouse for rating information, tracks profitability of both entire markets and individual radio stations within markets (Arbitron, 2005). When media corporations buy and sell radio stations, mandatory public records track old and new owners, sale timing, and amounts of sale. The broadcast industry also compiles this data in order to provide information for advertisers, the purchasers of

media products. Using this data for the period from 1994-2002, I compare the extent to which market changes since 1997, concurrent with implementation of new policies generated by the Act of 1996, occur as a direct effect of the enactment of the Act of 1996 vs. secular market changes? that began earlier than 1996.

*Station characteristics.* Debates centering on increases in format focus on aggregate measures of format and programming diversity, but the actual determinant of station competition and diversity is bracketed within markets. Aggregate definitions of format and programming diversity tend to obscure variability at the market level. I can determine the extent of competitiveness, a key issue in the debate between regulatory change critics and proponents, through a comparison of numbers of similar formats within markets.

I examine changes in radio programming over the ten years, 1993-2003, to assess competing claims made by market deregulation stakeholders. Necessary for an understanding of media markets is knowledge of key structural elements defining media markets.

*Format.* All stations have a station *format*. Each station identifies itself by its dominant format, the focus of the majority of its programming.

*Programming.* Station *programming* reflects a station's format. Programming consists of the content of a given format. If a station has a sports format, for example, its programming consists of blocks of different varieties of sports programming, such as games and news.

*Playlists.* For stations featuring music programming, programming consists of *playlists*. Playlists consist of all recordings broadcast for a given radio station for a particular week. Stations typically report weekly programming data to national trade magazines that

compile playlist averages for the country and in turn provide samples of playlists in weekly magazine format for the broadcast industry. These data are useful for the advertising, broadcast, and recording industries, which use data routinely in decision-making.

*Radio markets.* All radio stations in the United States are embedded in *radio markets*. For broadcast media owners and brokers, market format variability signals the degree to which a market is competitive. Radio markets are geographically bounded, although station signals overlap, and are defined by total service area populations. These populations are the potential audience for a given radio station in a specific market given technical and regulatory limitations on station power; stations in the United States must not exceed 100,000 watts.

To illustrate the concepts used subsequently in this discussion, I provide an example of a small radio market in Figure 1, illustrative of the variables used in this analysis. The data are from the Arbitron Corporation, the industry apparatus responsible for monitoring and reporting programming and market ranking data. It is an example from my yearly sample, Grand Forks, North Dakota, for the year 1996.

[See Figure 1 on pg.129]

Each of these formats contains programming, such as music, talk, or news or a mix of talk and news. Much of the debate surrounding the effect of the Act of 1996 on programming variety stems from differences in operational definitions of variety. Grand Forks has a market population of 170,200, as measured by the Total Service Area population; for the year 1996, it is ranked 251 out of 361 markets for which Arbitron tracked market data. There are 13 stations in Grand Forks. The Gibbs-Martin index of dissimilarity, a measure ranging from 1 if a market contained stations that each had a unique format, to 0 if a market had all of the



same station formats, had a value of .89 for Grand Forks in 1996. The columns for local and corporate ownership indicate whether a station is locally vs. remotely owned, and whether an individual or a corporation owns a station. While there may theoretically be stations that are non-locally owned and not owned by a corporation--i.e. an individual owner residing in a geographic location other than the market-- there are no data to indicate or analyze this scenario. For this analysis, corporate ownership is assumed--i.e., it must be present, for all instances of non-local ownership. Hence, there are three patterns of ownership in this analysis. A station may be locally and non-corporately or individually owned, it may be locally and corporately owned, or it may be non-locally and corporately owned. While an individual could technically own all stock in a privately or publicly traded corporation, and an individual station could be a legal corporation, when this analysis focuses on individual vs. corporate ownership, I define corporate ownership as group ownership. The *Broadcast and Cable Yearbook* defines group ownership as more than three stations. These characteristics are implicit in polemics surrounding the deregulation debate. Deregulation proponents hold that pressures within markets have and will continue to force station owners to increase programming variety to capture different demographic segments of potential listeners in a market as represented by the Total Service Area population described above (National Association of Broadcasters, 2003), and that pre- 1997 ownership caps create markets where there is format redundancy. The proponents' logic holds that it would be counter productive for an owner who owns a majority of stations to have, for example, two or more country stations competing for the same demographic in the same market (Clear Channel, 2004). Deregulation proponents define variety as characterized by a greater number of different formats within a market. However, deregulation advocates and critics

both focus on national aggregate number of formats rather than specific market format variety. Proponents cite increases in the total number of reporting formats over time at the aggregate national level as evidence for increased variety. This national aggregate increase correlates with a rise in non-local corporate station ownership concentration over the same period. See Figure 4 below for national trends in format increase and programming overlap.

Opponents of the post-1996 regulatory environment argue that while the number of formats has increased, the programming content that each format represents has become less exclusive, increasingly overlapping with other formats (DiCola and Thompson, 2002).

Deregulation opponents argue that a reduction in programming variety reflects a reduction in availability of market access for new artists entering the airplay market and who are dependent on radio for exposure. Opponents argue that increases in format numbers are irrelevant, due to format overlap. That the same artists appear in two or more different overlapping formats means that there are now two or more overlapping formats from which new artists are excluded.

I measure *programming variety* using a different period than that for station transactions, due to data availability. I examine degree of programming variety for the 1992-2002 decade using industry programming playlist and format data for specific stations from the dominant industry trade magazine, *Airplay Monitor*. This trade publication provides weekly numerical rankings for the top-30 or top-40 songs, for each format, for leading stations within each format at the national level.

Ideally, playlist variability would match station market data in this analysis. My strategy for playlist sampling is based on my discussions with two key informants, a former program director at a 100-kilowatt adult contemporary station in a large (greater than

1,000,000 persons) market in the Southeast United States, and the coordinator for serial publications in the Arts section of the Library of Congress, where broadcast trade publications are catalogued and stored. They informed me of the scarcity of playlist data, its impermanence, and vagueness in reporting of playlist data by format. For these reasons, my playlist analysis reflects the degree of playlist variability within and between dominant formats rather than actual playlist content, e.g. songs.

## **Chapter 4: Survey of Related Work**

The research summarized in this section focuses on two processes: 1) the ongoing construction of music markets through the institutionalization of categories, which, for broadcast purposes, form the basis for definition of station formats, and 2) the ongoing interplay between broadcast industry and regulatory forces that defines the environment in which music markets are constructed.

This literature review proceeds along four lines. The first two literatures focus on the context and effect of the Telecommunications Act of 1996 on media markets. Both analyses add to an understanding of the first claim assessed in this analysis, that media regulation in the United States is characterized by a tension between free market advocates and those wishing to preserve extra-market features of broadcast media. The first literature consists of analyses of the effect of the Telecommunications Act of 1996 and documents the extent of competition vs. oligopoly in the current regulatory era at both local and national levels. The second literature, historical accounts of the formation and maintenance of U.S. media regulatory environments prior to the Telecommunications Act of 1996, provides context for a historical comparison between market actors and the government before passage of the 1996 Act. Both of these sets of research are necessary for a comparative understanding of the effects of the Telecommunications Act on market concentration and may provide the basis for determining whether this process is similar to other media industry deregulation, such as phone deregulation, or is the result of a unique set of market and regulatory processes.

The third and fourth literatures report the extent to which listener tastes are reflected in radio programming. Accounts of the interplay of broadcast and recording industries and popular music from sociological assessments of music markets allow for an assessment of the second claim made by stakeholders, the degree to which passage of the Telecommunications Act of 1996 provided more or less opportunity for variability in recorded music. Both sets of competing claims outlined above indicate the presence of two markets, one embedded within the other. The market for broadcast radio stations contains within it the market reflected in radio formats and playlists. I review theoretical material from the sociology of formal organizations and markets with the intent of providing a basis for relating the two markets.

#### 4.1 Effects of the Telecommunications Act of 1996

Various policy analyses focus on a set of broad changes wrought by the enactment of the Telecommunications Act across numerous industry clusters at the national level. Competition, market concentration, and definitions of the public interest shift with the enactment of the Telecommunications Act in 1996, not only for broadcast media, but for the entire telecommunications industry as well. Research focusing on all telecommunications sectors, which documents changes that affect telephone, broadcast and emerging broadband and satellite cable industries, finds that competition does not increase uniformly across deregulated industries. Some policy analyses indicate that barriers between previously distinct media, such as telephony, cable TV, and broadcast media became increasingly permeable beginning in the late 1980s. This blurring of barriers leads to competition between heretofore-unrelated industries that did not traditionally compete with one another.

Local phone companies were entering into long-distance competition, and cable and telephone companies competed for Internet customers and for wire access to homes, previously the exclusive purview of telephone companies (Aufderheide, 1997).

Policy analyses indicate that, for the first time in 60 years, traditional broadcast media, television and radio, were experiencing competition for space on the broadcast spectrum. Traditional broadcast media faced other entrants in bidding for scarce broadcast bandwidths as cellular phone companies, wireless home security systems, and on-board automobile satellite tracking systems emerged and grew. The 1990s are characterized by the emergence of transmission of music and other data (Aufderheide, 1999; Aufderheide, 1996; National Association of Broadcasters, 2002).

Evaluations of policy impact make salient distinctions between different industry sectors included under the rubric “telecommunications”. For the cellular telephone industry, competition increased, both between cellular phone companies and between the “Baby Bells,” i.e., telephone companies created by earlier waves of deregulation in telephony in the 1980s (Horowitz, 1992).

Traditional landline-based telephony (as opposed to the new cell-phone industry) is a sector of telecommunications that had a history of incremental deregulation since the initial breakup of the Bell system in the mid-1980s. The same was not true of regulations affecting broadcast ownership rules. Broadcast industry market actors successfully buttressed themselves against incomplete information and market uncertainty characteristic of markets in flux through manipulation of the regulatory environment.

The Telecommunications Act of 1996 sought to deregulate two traditional communications industries, broadcast (i.e., radio and broadcast, not cable or satellite,

television) and the traditional landline based telephone industry that had been, since before first round of deregulation in the mid-1980s, almost totally controlled by Bell Telephone. The enactment of the Act of 1996 fostered further competition in telephony by allowing multiple entrants into the cellular phone market, compounding earlier effects of deregulation from the era of divestiture in the telephone industry. The results of market analysis of competition generated by the Telecommunications Act for traditional broadcast media (i.e. non-cable or satellite television and radio) indicate that there is no evidence of similar levels of increased competition in terms of new market actors. For the broadcast industry sector, the opposite effect seems to be the outcome of deregulation, as the media ownership market changes into a market characterized by the formation of national level oligopolies and local monopolies (Bates and Chambers, 1999).

Analyses more narrowly focused on the broadcast industry sector indicate that the process of radio acquisition transformed the relatively competitive largest 50 pre-1997 radio markets into markets with oligopolistic characteristics, with fewer numbers of group owners dominating top markets and relatively stagnant market entry by new station owners into larger markets (Druschel, 1998).

Broadcast industry analyses (McChesney, 1999; Croteau and Hoynes, 2001; Aufderheide, 1999) also indicate an increase in horizontal integration of broadcast media, including radio, into clusters of larger interrelated media products. A company such as Clear Channel, currently the largest owners of broadcast radio stations, controls not only radio stations, but also large concert venues, traveling groups and exhibits as diverse as an exhibit of artifacts from the shipwreck of the *Titanic*. They are able to promote exhibits and concerts across a variety of broadcast radio venues.

Proponents of deregulation emphasize technological convergence between media. Radio can be streamed over the Internet and played over cell phones. Radio stations also increasingly host websites; hence the need for a deregulated market. Critics of deregulation emphasize that radio programming is not an end in itself, but a means through which owners promote products from other holdings and sell advertising time to advertisers. Radio is also part of a network of convergent technologies that become mutually supporting under ownership by one entity, closing out both small competitors and non-commercial bandwidth in increasingly crowded radio bandwidths.

#### 4.2 Historical Accounts of Media Regulation: The Regulatory Environment

Historical accounts provide the context for assessment of two related processes: 1) the emergence and evolution of the regulatory environment negotiated by broadcast media owners, and 2) the emergence and growth of the relationship between advertising and broadcast media. I recount these two accounts below.

Comparisons of the current regulatory environment with earlier periods indicate a pattern of routinized cooperation and interplay between governmental regulatory agencies and, initially, the radio broadcast industry beginning in the 1920s and both the radio and television industries beginning in the 1950s. Historians of media regulation disagree on whether or not the creation of a new regulatory regime under the Telecommunications Act indicates a break with the regulatory past or the continuation of and latest round of interactions between industry and the government (McChesney, 1999). These accounts concur on the existence of a relationship between industry and government actors and that



this relationship has an effect on the legislative environment but diverge on assessment of the extent to which regulators and industry actors form a media power elite.

Historical accounts (Horwitz, 1989; McChesney, 1993; McChesney, 1999) of the relationship between media industry agents and media regulators date this relationship from the 1920s. Initially, technical experts controlled regulation, beginning with the emergence of commercially sold, mass-produced radios in the 1920s. Individuals responsible for developing, monitoring, and assigning wavelengths came from emerging radio manufacturing and broadcast industries in the 1920s. The interchange between regulatory and industrial structures meant that there was in essence a revolving door between broadcast and radio manufacturing executives and official government regulatory positions. Analysts of early radio regulation hold that this permeability between industry and government was partially responsible for the rise of the commercial model.

By 1934, a commercial system based on advertising revenue won the day over alternatives (McChesney, 1993). This process evolved over the decade prior to 1934. Shortly after the invention of wireless radio and the technology necessary for the mass production of radios in the 1920s, the American Federal government faced a choice. Legislators creating policy for the new broadcast industry could opt for complete government control of the airwaves, a pattern similar to how media was administered in Great Britain. In the British system, the airwaves were declared a public good, similar to roads and bridges. The other choice for legislators drafting media policy in the 1920s was to opt for a system where the airwaves were subject to completely unregulated, free-market forces.

Historical accounts of the period prior to the enactment of the Communications Act of 1934 focus on alternatives to market control by for-profit entities. Prior to 1934, labor

organizations, colleges and universities, and communities all owned radio stations (McChesney, 1999).

Radio began to emerge as a force for social movement organizing in the 1920s and early 1930s. Radio was instrumental in successful labor organizing in the American South in the period 1929-1933 (Rosigno and Danaher, 2000). However, by 1934, prevailing ownership and control patterns coalesce into a regulatory environment favoring commercial manufacturers and broadcast industry owners.

Historical accounts describe a regulatory environment in which private owners could own radio, and later TV, stations within guidelines established by the Communications Act of 1934. The number of stations that a single entity could own was limited. Regulations limited radio station ownership in tandem with newspaper, publishing, motion pictures, or recording production companies except under strict guidelines. Similar restrictions were placed on the movie industry, e.g., production studios could not own theatres, and on cross-ownership between newspapers and publishing concerns. Legislators aimed to keep media oligopolies from forming. Provisions of the Communications Act also kept intact the idea of the airwaves as a public good, albeit in a modified form. A regulated market became the standard for media ownership. A certain portion of radio programming had to address constituencies not served by market forces. This definition becomes law with the enactment of the Communication Act of 1934. With the stabilization of the system after the Radio Act of 1927 and the Communications Act of 1934, media ownership coalesced into a limited market embedded in a regulatory system, albeit a regulatory system characterized by a partnership between media industries and government (Horwitz, 1989).

While radio station ownership was limited, the amount of broadcasting supported by advertising was not. Public service programming, one of the bulwarks of efforts to limit the ceding of broadcast media entirely to market forces, was a highly negotiated feature of the original terms of the Communications Act of 1934. Individual broadcasters determined the terms of both content and timing of public service broadcasting at their discretion.

Histories focusing on FCC policy indicate that in the 15 years prior to 1996, successful court challenges had nearly obliterated the effectiveness of FCC regulatory power in terms of the community service component of public service requirements (Aufderheide, 1997). The casualties of judicial and executive branch action were public service components that addressed the need to serve underserved constituencies, and the so-called “Fairness Doctrine.” The Fairness Doctrine was administered by the FCC under the mandates of the Radio Act of 1927, and it required broadcasters to provide forums for all political views as a criterion for license renewal. The Fairness Doctrine was the casualty of attempts by the Democratic controlled U.S. Congress under the second Reagan administration to codify the Fairness Doctrine into law. Ronald Reagan’s 1987 veto set the precedent for substantial abandonment of the Fairness Doctrine and was the harbinger of new rounds of legislative and judicial action that culminated with the Telecommunications Act of 1996 under a Republican-controlled Congress.

Initial legislative definitions of the public good, which prevailed from the 1930s through the 1980s, also addressed the need for a broadcast outlet for music underrepresented in media markets, accomplished through the formation of nonprofit public radio stations.

Much of the justification for judicial challenges and legislative change in broadcast media stemmed from a redefinition of the public good. Trade associations such as the

National Association of Broadcasters functioned with effective legal and lobbying components that articulated broadcast owners' interests. In alliance with telephone system owners' groups, the public good was successfully recast in terms of market health.

Definitions of the public good in terms of measure of number of customers served, for-profit services provided, and ability of market actors to promote, introduce and sell new technologies supplanted definitions of the public good as separate from markets. By the early 1990s, the idea of extra-market programming, i.e., alternative viewpoints and programming not supported by markets, that guided earlier versions of broadcast media regulation, ceased to exist as a policy mandate. The only barrier to total market definition of media regulation required a legislative remedy to change caps on local and national ownership. The broadcast industry found remedy to this situation in the Telecommunications Act of 1996, which, while not completely removing caps, recreated an environment in which it was possible for one corporation to own a majority of media outlets at both the market and national levels.

#### 4.3 Historical Accounts: The Evolution of Interdependence between Advertising and Broadcast Media

A history of the first three decades of commercial radio broadcasting from 1920 to 1950 (Douglas, 1987) outlines how music became a medium for advertisers to insert awareness of their products into the minds of the listening public. This era sets a precedent of linking advertising and broadcast media. Coupled with an emergent regulatory regime that favored broadcasts as a medium for advertising, the first commercially sponsored broadcasts consisted of blocks of time bought by advertisers and consisted of musical features, often performed live in broadcast studios or broadcast remotely from theatrical venues. Live music was the modality for music delivery to audiences at the outset of commercial broadcasting.

Recordings, while able to produce a product suitable for home reproduction of music, did not initially transfer well when broadcast over radio, facilitating the presence of live musicians in the recording studio. By World War II, however, the quality of recorded music had advanced to a point where it became feasible to broadcast recorded music (Douglas, 1987). This is important in that with the ability to wed recorded music with broadcast technology, the processes of product standardization now became applicable to recorded music. One version of one song by a single artist could be broadcast in a similar manner across the country (Attali, 1992).

The marriage of broadcast and radio also hastened the ability of music programmers to place recorded songs into categories. Recordings had been categorized by race and rural geographical location since the early recording industry first developed marketable recordings in the first two decades of the 20<sup>th</sup> century (Kennedy, 1994; Roy, 2003). The convergence of recording and broadcast technology allowed for these categories to be developed into station formats, which allow for the narrowing of market focus that characterizes radio-programming rationales after the invention of television. (Croteau, 2001).

#### 4.4 Links between Music, Music Distribution, and Demographic Categories: The Rise of Niche Programming

This convergence of broadcast and recording technology was concurrent with other changes in media technology. The post World War II period from the late 1940s through the mid 1950s marks the emergence of widespread commercial television. Television reshaped broadcast radio; in order to survive, radio industry executives moved station programming away from general audiences to targeted underserved demographics, specifically the youth market. Radio abandoned national formats of syndicated shows for local broadcasts. With the

addition of the FM band to commercial radio in the early 1950s, continued advances in recording and broadcast technology converge to make recorded music the logical choice. Audiences heretofore ignored by radio advertising become targeted by advertisers. By the 1980-1990 decade, measuring techniques are able to identify and isolate increasingly fragmented mass markets along demographic lines (Croteau and Hoynes, 2001).

Two processes, one technological, and one political, unfolded over the decade 1990-2000. On the technological front, increasingly sophisticated measuring techniques continued to develop throughout the period, which allowed for further delineation of markets. Using data made available through increased efficiency of audience measurement, industry representatives testified in front of the U.S. Senate in 1995 and 1996 and called for reform, asserting that a deregulated broadcast radio industry would best serve the needs of these newly defined markets (Senate Committee on Telecommunications Oversight, 1996).

Broadcast media industry arguments were successful. When the regulatory environment changed as a result of the passage of the Telecommunications Act, the result was that four firms controlled 75 percent of advertising revenue by 2000 (Lee, 2004), and 80 percent of outright ownership of stations (DiCola and Thompson , 2002). Four firms had the power to dominate the decision-making apparatus in terms of dictating station format in the United States. Station ownership does not necessarily indicate automatic control. Local station owners, beginning in the 1970s and continuing until the period immediately prior to the enactment of the Telecommunications Act in 1996, increasingly sought extra-local control in the form of Arbitron ratings-based programming, and preproduced, “canned” syndicated radio programming. Prior to 1996, there is evidence to indicate a concentration of control over the decision making process that determines what songs were played, how often

songs were played, and the time of day in which songs are played (Ahlkvist, 2000). The success of this technology in defining audiences, however, does not coalesce into actual concentrated ownership until after 1996 with the passage of the Telecommunications Act.

These issues inform the second part of this analysis, which focuses on the shift in control music formats and programming from local to non-local control. I proceed with an examination of findings from the literature that outline characteristics of the relationship between changes in radio programming, the relationship between programming and advertising, and the shift in market focus, from programming targeted at a general population to programming targeted at potential advertising customers.

Analyses of the early history of popular music expand the historical basis of popular music as a mass consumption product predating broadcast media (Attali, 1985).

Although the relationship between live music *in camera* and advertising on the radio was a dead issue by the early 1950s (Croteau and Hoynes, 2001), histories of the early recording industry indicate that the relationship between recording and advertising did solidify a system that existed even prior to broadcast media. Termed the *star system*, impresarios promoted a handful of artists to national prominence in Europe and the United States. This system, extant since the mid-nineteenth century, placed non-local musical artists in local theaters and made possible for the first time the mass consumption of non-local music. Concurrent with this development was the emergence of a managerial cadre that oversaw the production and distribution of music as a commodity, first through live performances (Attali, 1985), and then through recordings (Kennedy, 1994).

By the late 1910s and early 1920s, this already extant star system fit well into another emergent technology, that of the musical recording, although there was a lag between the

initial introduction of music and the ascendance of recorded music as the sole medium through which music was broadcast. There were early, albeit accidental, technological convergences. Recordings still tended to be one of a series of media properties in the 1920s; recording studios were located in piano warehouses, sheet music stores, and other venues. The history of litigation and judicial influence over music distribution technology begins at the beginning of the twentieth century, with lawsuits determining proprietary rights over phonograph and recording technology (Kennedy, 1994).

The technological and legal environment stabilized by the early 1920s. With the advent of musical recordings, the products of this star system could be stockpiled in the form of records and later commercially available tape formats (Attali, 1985). Before the advent of radio and recording technology, the relationship between musical performers and advertising was unidirectional. Promoters advertised musical artists. With the advent of broadcast media after WWI, it became possible for the first time to uncouple live music from advertising. Recorded music was a cheaper and more easily stockpiled, produced, and distributed product that could support advertising. With technological advances in broadcasting and recording, this became the norm by the mid 1950s (Attali, 1985; Douglas, 1987).

The confluence of the star system, the ability to convert live music into a commodity that was no longer time dependent and the advance of broadcast technology heralded a fundamental change in emphasis. The emphasis shifts from music for its use value as an end in and of itself to an emphasis on music as important for its exchange value.

Analyses from the sociology of music (Peterson, 1975; Dowd, 2002; Dowd 2004; Lopes, 1992) focus on music as a form of economic exchange with concomitant networks and markets. With the advent of music's exchange value use, the same generic processes that



characterize all economies of production, distribution, and consumption characterize music markets. Because radio is both historically and contemporaneously the primary mode through which the recording industry distributes its product in the United States, this emphasis on the exchange value of music is complimentary with a line of economic research that examines the effects of market restructuring on station ownership outcomes. Sociology of music analyses assess factors affecting entrance and exit from the mainstream broadcast music market (Lopes, 2002) and the concomitant social processes associated with market participation. This research underscores the ongoing construction of music markets in the United States.

Cultural production analysts (Powell, 1980; DiMaggio, 1977) focus on how mass media products such as television, recordings, and traditional publishing products as well as electronic products are produced, distributed and marketed, as well as the control processes associated with media markets. Some analyses focus on relations between market processes and the production of new music and the market structure through which new music production takes place (Peterson and Berger, 1975; DiMaggio, 1977). Recent research also highlights historical institutional origins of racialized categories in commercial recording beginning in the 1920s (Roy, 2003). Changing market conditions may also facilitate market exit.

For example, Lopes' (2002) analysis describes the process behind the exclusion of jazz music from the mainstream. The institutionalization of popular music in the 1930s stems from the formation of a recording industry music oligopoly that controlled the production, exposure, and distribution of popular music through the mediums of recordings, radio, and film. This oligopoly maintained a narrow set of standards for what constituted popular music.

Recording technology developed to meet recording industry needs for a process to produce a medium that was short in duration, easily and cheaply reproducible, compatible with household sound reproduction equipment, and easily distributable. Jazz was idiomatically developing in a manner incompatible with the new recording technology. Faced with constraints, jazz musicians with practices different from the musical imperatives of an emerging recording industry oligopoly gradually evolved an alternative counter-hegemonic aesthetic to the popular music industry to support jazz performance (Lopes, 2002).

Peterson and Berger's (1975) analysis provides the basis for much of the past 29 years of sociological analyses of cultural production, distribution, and market concentration. They assert that *culture forms*, including the production and distribution of new popular music songs, go through cycles. A culture form is analogous to a media product, such as a television program, a best-selling book, internet product, or song, and its associated mechanisms for production, distribution, and consumption. For the recording industry, Peterson and Berger find that periods of market concentration correspond to periods of homogeneity and periods of competition to periods of diversity. Dowd's analyses (Dowd and Blyler, 2002, Dowd, 2004) supports this assertion for the entry of women and African American acts into the popular music mainstream.

For cyclical variability in new song production, comparatively long periods, stability, oligopolistic control of cultural production in the hands of a few firms, and stagnation characterize periods of homogeneity. Conversely, short periods of innovation and competition characterize periods of production diversity (Peterson and Berger, 1975; DiMaggio, 1977)

Peterson and Berger (1975) develop a theoretical model focusing on market structures and organization. Market structures are defined as the degree to which seller concentration determines the extent of market control, and organization addresses the organization of the creative process, defined by the degree to which production is tightly or loosely controlled by firms. Both of these characteristics are defined by the degree of innovation and diversity of popular culture products (DiMaggio, 1977). Control is defined by the degree of independence that producers have from the firm.

DiMaggio (1977) extends Peterson and Berger's theoretical model of market control. Control of creative products is different from either direct or bureaucratic control. Termed *brokerage administration*, control of cultural products is characterized by loose, contractual arrangements between cultural producers and distributors. Brokers, who contract with independent artists in order to fulfill the needs of the market for new products, attempt to minimize the uncertainty that comes with innovation and mediate control over the creative process. DiMaggio underscores the historical variability of brokerage control and its affect on the production of new cultural products. He counters Peterson and Berger's assertion that alternating periods of stagnation and innovation are cyclical. Citing the emergence of rock music, and periods of relatively less innovation in the years immediately before and after the midpoint of the 1950s, DiMaggio asserts that periods of stagnation and innovation are variable, but not in any discernable pattern, and are characterized by fluidity in relations between cultural brokers and producers.

Lopes' (1992) analysis provides evidence for DiMaggio's theoretical model. In periods of uncertainty and innovation, record companies use an open system of development of cultural products. An open system is a system that relies on a network of small producers

who sell their product to a few record companies. Record companies are positioned as centralized brokers, marketing and distributing the products of small independent producers.

Analyses of patterns of cultural innovation and homogeneity describe conditions necessary for innovation in the form of the inclusion of new artists. Market changes, either in the form of fluctuations in demand or in perceived market uncertainty on the part of the broadcast industry in demand for recorded music, create uncertainty, spurring inclusion of heretofore-excluded groups, minorities and women, into the recording market over a 40-year period from 1940 to 1990 (Dowd, 2004; Dowd and Blyler, 2002).

Nevertheless, record companies ultimately control products in response to periods of innovation and stabilization. Independent producers only produce new products in response to record companies' needs.

These analyses focus on production of recordings by the recording industry, while leaving the analysis of the distribution of cultural processes for other analysts. Recording and broadcast industries and the processes whereby recordings gain market exposure remain tightly coupled despite inroads by other media such as music videos and the internet. (Croteau and Hoynes, 2002).

Variability in music production is mirrored in variability in the number of songs that receive airtime (Di Cola and Thompson, 2002), and the processes of market concentration vs. competition are similar in broadcast and music production. Additionally, the characterization of small producers as independent in recording industry market research belies the dependence of small producers on centralized brokerage processes associated with the recording and broadcast industries; many of these small producers are contractually bound to large centralized recording entities.

Additionally, assessments of market concentration vs. competition based on station format, the central points of debate, are based on aggregate data that do not take into account local variability among markets in terms of variety of formats. Many larger markets have over 70 different formats, while smaller markets may not have a consistent pattern of format distribution between markets.

Ahlkvist and Fischer's (2000) cross-sectional analysis of radio playlists from 1994 does provide evidence that market size has as much effect as market concentration of ownership on playlist homogeneity. Playlists in stations in larger markets tend to be more homogeneous than smaller markets. While their evidence indicates that this holds regardless of station format, there is no indication of the effect of market ownership concentration on station playlists.

Media economic analyses tightly focused on broadcast variety bundle format and programming variety together, condensing them under the concept product variety. Berry and Waldfogel (2001) link both station entrance and ownership concentration with product variety. They test two theses concerning multiproduct firms in the same market because of mergers. First, multiproduct firms, with multiple stations owned by one or a few entities, should logically separate similar products, e.g., formats; or alternatively, that dominant owners engage in product crowding to preempt market entry. Product separation would result in increased variety, while the effects of product crowding on product variety, based on findings in other product analyses, is ambiguous. They find evidence of both processes. While they found evidence of product variety in the form of expanded format choices, they also found that new formats accounted for a 30 percent increase in format redundancy. Stations were playing different formats, but with overlapping playlists between formats.

Product differentiation did not mean programming differentiation; often stations varied not in recording artists but in the frequency with which the same artists received airplay on two different stations (Berry and Waldfogel, 2001).

They based their analysis on a cross-section of programming, from one week in 1998, examining available top 30 playlists for 246 markets. Barry and Waldfogel's research tends to support the Future of Music Coalition's (DiCola and Thompson, 2002) aggregate findings. Their analysis, while thorough in its analysis of one period in 1998, is difficult to generalize to other years, given the fluctuations in market concentration because of the enactment of the Telecommunications Act of 1996. They acknowledge the difficulty of analysis due to the lack of prior research on the effect of market influences on playlists.

While there is a body of research, reviewed above, that examines the influence of market forces on music recording production, there is little research -- save Barry and Waldfogel's (2002) article -- examining market concentration and its effect on playlists at the local level.

The only similar analysis of format overlap and market concentration follows overlap patterns in four years, 1993, 1995, 1997 and 1998, focusing on changes in aggregate overlap. DiCola and Thompson (2002) found that some format pairs had as much as 30 percent overlap in the years subsequent to the enactment of the Telecommunications Act in 1996.

There are lacunae in assessment of market control that I propose to address in my analysis. Faced with further consolidation of broadcast outlets, new market entrants face fewer opportunities for airplay. Much of the salient media market research examining popular music defines market concentration in terms of production. Market concentration variability is defined as the fluctuation of the number of independent record producers,

independent being operationalized as small record producers not affiliated with major labels (Dowd, 2004; Dowd and Blyler, 2002; Peterson and Berger, 1976).

This line of research excludes in-depth consideration of market distribution mechanisms. Record production is tightly coupled with distribution and radio airtime (Davis and Willworth, 1975). Independent record producers historically and contemporaneously depend on major record labels for distribution of products and on radio stations for product exposure. Record distributors historically entered into arrangements with station owners for product exposure. In an environment where station ownership inheres in the hands of a few corporate owners, the concept of independent production does not have the explanatory power that it did when there were thousands of radio station owners (DiCola and Thompson, 2002; Davis and Willworth, 1975).

Historical accounts describe changes in market processes associated with social construction of musical taste and its interplay with systems for the production of music. Recent changes underscore a change from local to non-local control. The sociological media analyses discussed above describe the shift from national to local radio programming control in the 1950s as a response to the advent of television. This period heralded the advent of radio as a local rather than national entity. Recent analyses of radio ownership and centralization of programming state that the radio broadcast industry has maintained and enhanced market segmentation coupled with a movement back to national control (Croteau and Hoynes, 2001).

While historical accounts describe trends in consolidation, they stop short of a detailed analysis linking market consolidation with programming variety, or they subsume the issue of programming variety as epiphenomenal to alternative political points of view

(McChesney, 1999; Croteau and Hoynes, 2001). Economic analyses provide complimentary data but make inferences across time either from a single point (Berry and Waldfogel, 2001) or from aggregate data that may obscure variability between markets (DiCola and Thompson, 2002). This research, therefore, takes into account both change and market variability not only at the aggregate national level, but also in comparisons within and between localized media markets.

#### 4.5 Explanations from Organizational Sociology

Analyses of music as an economic product compliment theoretical explanations from the sociology of formal and complex organizations. Music producers are organizational actors who respond to environmental pressures. These analyses are of cyclical patterns in music production, characterized by alternating periods of market stability and uncertainty. Markets are characterized as raced and gendered artist-specific niches, (Dowd, 2004; Dowd, 2002), mirroring population ecology accounts of organizational forms as diverse as breweries and newspapers (Carroll and Hannon, 1982). Population ecology analyses focus on the birth and death of organizations and the effect of environments on organizational form. These analyses emphasize organizational products, specifically, recordings (Dowd, 2004; Dowd, Littler and Blyler, 2003; Dowd and Blyler, 2002). This application of population ecology provides an explanation of market entrants as a response to environmental uncertainty on the part of record labels. An institutional focus helps to clarify the relationship between record companies and broadcast outlets, a relationship in which both recording and broadcasting entities are embedded in larger political, economic, technical, and regulatory processes that define the environment.



#### 4.6 Summary of Literature

Each of these lines of research contributes to a partial understanding of the mechanisms associated with both the environment in which cultural production as an economic process takes place, and the processes associated with the production, distribution and consumption of music, specifically broadcast music. Taken together, these findings suggest a theoretical model, which I will develop in the following theory section. Each of these pieces of research has strengths, lacunae in what is not considered, and usefulness for my research. Below I will outline a conceptual model suggested by the literature and follow with an assessment of the strengths, weaknesses and possible usefulness for my research. The model in Figure 2 depicts the environment, or organizational field, as bracketing processes associated with music production, distribution, and consumption. The following figure links literature reviewed above to the conceptual model suggested by the literature in Figure 2a. Where one research example explains more than one process, it is repeated.

[See Figures 2 and 2a on pgs. 130 and 131]

This research proceeds based on the following findings from the literature review above. First, an analysis of the organizational field in which radio stations are bought and sold over the period before and after the enactment of the Telecommunications Act of 1996 should inform knowledge of the affect of the Act vs. other market forces. Second, such an analysis should take into account local market variation, omitted from these analyses. Third, an account of changes in ownership should take technological attributes of individual stations, e.g. station strength as measured in kilowatts and frequency, into account. These attributes add to the attractiveness of a station's potential acquisition in that frequency reflects the technical quality of broadcast sound, while kilowatts indicate the potential

number of listeners for a particular station. Fourth, station format is an important indicator of the degree of competition vs. concentration in a local market. The literature indicates that stations with greater degrees of competition should have more format overlap-two competitors vying for the same audience, and that, in areas where there is a high degree of ownership concentration there should be market variety. Finally, an assessment in the growth of local market population may provide information about the desirability of local market penetration by station buyers previously not engaged in a station purchase in a given market.

## **Chapter 5: Theory**

Strengths and lacunae in the literature reviewed above suggest theoretical explanations for the processes associated with radio station acquisition. The literature also indicates relevant actors in the organizational field that defines the sale of radio stations.

The organizational field for radio broadcast media consists of radio station owners, the Federal Communications Agency, advertisers, elements of the recording industry, and interest/lobbying groups. While it is beyond the scope of this analysis to take all organizational field elements into consideration, historical overviews summarized above indicate that broadcast owners have historically and continue to form a dominant coalition in the broadcast media organizational field.

The strength of organizational mobilization and sociology of market theories is in their acknowledgement of organizations as consequential actors capable of acting on environments for favorable outcomes. I base my conceptualization and hypothesis specification on the usefulness of these findings and on four theoretical points. First, market actors-in this research, radio station buyers- move to maximize self-preservation. Second, organizations act within organizational fields. Organizational fields are defined as either sites in which organizations act in response to environmental pressures to survive (Carroll and Hannon, 1989) or as sites in which organizations themselves act to shape the environment, engaging in resource struggles with competitors and forming alliances with organizations with similar goals as active agents in efforts to stabilize the organizational environment and increase the chance of organizational survival. Third, media markets are unique in that their

product is an audience itself and consumers of this audience are advertisers. Finally, preliminary evidence (DiCola and Thompson, 2002) indicates that the organizational field dominated by broadcast owners becomes increasingly and at an accelerated rate isomorphic in terms of product variety because of the enactment of the Telecommunications Act. In this chapter, I provide an overview of theories that address reasons for changes in the organizational environment. Each of these theories informs subsequent hypotheses.

Much of the current work on cultural production and distribution operates implicitly and explicitly through the assumptions of organizational environment theories. Population ecology and new institutional theories emphasize the primacy of the environment in determining a firm's course of action. New institutional theories hold that firms arrange themselves isomorphically as a response to market uncertainty. Organizations tend to, over time, assume forms similar to other organizations in an organizational environment that have successfully developed the characteristics necessary for success within the environment. To minimize uncertainty, radio ownership firms will take on similar forms, broadcasting similar formats and types of music (DiMaggio 1977; DiMaggio and Powell, 1983). If the isomorphic explanation holds, then station formats should converge over time. The expectation would be for station formats to become more similar over time. Claims made by deregulation proponents, specifically the National Association of Broadcasters (National Association of Broadcasters home page, accessed 2004) suggest otherwise. They hold that format variety will increase over time. This is consistent with theoretical explanations associated with another leading formal organizational theory, population ecology.

In contrast to institutional explanations, population ecology theories hold that the response to environmental uncertainty generates more variability in organizational form. The

recording industry, for example, will produce different sorts of music in response to environmental uncertainty. For radio sub-sectors of the broadcasting industry, programming will expand to fill market niches as the environment reaches its capacity in terms of generating new spaces for radio formats and new songs. This would result in different station formats and greater variety in the number of songs receiving airtime (Ahlkvist, 2000; Dowd, 2003; Lee, 2004). Leblebici (1995) identifies the tendency toward a proliferation of programming niches, which take the form of differential radio music formats as the response to the expansion of the broadcasting market environment. The environment expands because of technological advances that make it possible for more radio broadcasting as well as a relaxed regulatory environment that makes it possible for a few owners to expand to fill the environmental niches to meet the demands of their consumers, the advertising industry. Environmental accounts conjecture different outcomes as the environment for media ownership. Some theoretical explanations of radio and recording industry organizational forms have elements of both population ecology and new institutional theories (DiMaggio, 1977; Dowd and Blyler, 2002).

There are points of comparability between the two environmental theoretical approaches. Both isomorphic and polymorphic processes may occur at different points of the business cycle; for example, in periods when media and recording markets are stable, products tend to be similar, while in relatively uncertain periods, innovation creates different products, engendering different organizational forms.

These two competing theories suggest a testable hypothesis. In the hypothesis section below, I test the hypothesis that format variability changes over time, not

because of competing organizations responding to environmental uncertainty, but because there are fewer organizations in the environment over time. The increasingly smaller number of media owners are characterized not by a single type of format, but by large media organizations that have multiple stations in multiple markets with differing formats. I test the proposition that formats change, outlined in hypotheses 5 and 15 below, and that this change accelerates because of environmental uncertainty at a greater rate after 1996.

DiMaggio and Powell (1983) assert that the greater degree of dependency on few resources, the higher the level of isomorphism, or similar organizational forms. The measure of organizational form of interest is the variety of songs given airtime. Formats, the “menu” of radio stations (Lee, 2004) overlap increasingly over time. (See figure three.) Leblecki defines organizational form for radio stations as shaped by two environmental characteristics; first, technical characteristics, such as whether a station has an AM or FM frequency; second, regulatory characteristics, which determine how a station is licensed and owned (Leblebici, 1995).

The degree of differentiation over time from the late 1920s to 1990 is spurred by environmental factors which take the form of technical developments, such as delineation between AM and FM and the development of AM stereo, and regulatory shifts, including the elimination in the late 1980s of the requirement for a certain percentage of local programming. These environmental characteristics shape station characteristics. The technical development of FM frequencies favored the best quality for the broadcast of recorded music. Although AM stereo emerged in the early 1980s, most FM stations had come to feature music broadcasting formats, while AM stations emphasized formats that featured talk or news.

The regulatory environment placed technical limitations on individual stations. The Federal Communications Commission regulates station strength, stereo licensing, and daytime vs. 24-hour licensing. The regulatory environment also addresses ownership restrictions. Media ownership takes place in a regulated environment in which the number of media outlets owned by a single entity is regulated. The FCC regulates content. Current accounts recount FCC enforcement of indecency regulations (Winfield, 1999; Broadcast and Cable Weekly 2004). Before 1989, the Fairness Doctrine held that differing points of political view were to be given equal time in stations in local media markets and that stations were accountable to the FCC for accommodating this policy. The relaxation of enforcement of the Fairness Doctrine heralded the emergence of conservative talk radio in the 1990s (McChesney, 1993).

Both institutional and population ecology approaches posit an environment that determines changes in station characteristics, such as station format and playlists. Both approaches define the environment as the dominant agent in shaping organizational characteristics. Environmental explanations are useful as partial explanations of market conditions necessary for innovation vs. conformity. These approaches do not sufficiently address the possibility of environmental manipulation by organizations themselves.

Resource dependency theory holds that organizations need to control their environment to gain needed resources and advance interests. CEOs are agents of organizational interests (Palmer 1983). At issue is the degree to which organizations mobilize resources that influence actors and actions external to their organizational network (Perruchi, 1989).

The National Association of Broadcasters bands major media owners together to mobilize resources. Resource mobilization takes the form of an official industry-wide lobbying group, representing the collective interests of the broadcast oligopoly. This lobbying group contributes to the political campaigns of Federal level elected officials who share with the broadcast industry a belief in the market model of media regulation.

What is the evidence for theoretical approaches that focus on organizational power and organizational resource mobilization? Figure 3 presents percentages of contributions to Federal candidates and political parties by year, percentage donated to each party, and amount. Resource dependency theory holds that organizations would logically donate to both specific candidates and the incumbent political party in order to have access to legislators that may draft legislation consequential to defining the environment, in terms of laws, within which organizations must act.

[See Figure 3 on pg. 132]

While these donations reflect only about 5 percent on average of total political donations overall, they do indicate the possibility of influence. Environmental accounts do not sufficiently take into consideration the ability of firms, whether as individual entities or through proxies such as the National Association of Broadcasters, to influence policy. Broadcast outlets and their owners are organizational and market actors, similar to other corporate entities in a capitalist system in that they need to insure survival and unique in that they must negotiate specific requirements of the FCC's federal regulatory environment. An understanding of their ability not only to buttress themselves against environmental uncertainties but also to exert power in order to influence state policy, particularly media ownership policy, is necessary for framing this analysis (Perrucci and Potter, 1989).



Donation patterns associated with congressional control coincide with the major parties in control of Congress in general and specifically with the dominant party in control of Congress in 1996. A Republican controlled Congress enacted the Telecommunications Act of 1996, fundamentally changing the regulatory environment.

Organizational mobilization theory accounts for the ability of organizations to manipulate their environment, either separately, or through similar classes of organizations combining resources for a desired outcome (Perruchi and Potter, 1989). Organizations function as consequential corporate actors with variable interests in policy domains, exerting influence on the political environment toward favorable ends (Perruchi and Potter, 1989). Three decades of sociological organizational research reaffirm characteristics of size and scope as consequential for the degree to which an organization's actions are effective (Scott, 1998). Larger organizations have the potential to generate resources, in the form of capital necessary to purchase stations or the ability to affect the legislative environment, necessary to affect their environment. In the case of radio station corporate ownership, an organization's scope is characterized by the organization's range of different functions and extent of market penetration in different markets as reflected in owned units, radio stations, and format variability within markets, as well as its ability either alone or in alliance with other owners to influence its environment.

The effect of organizations on their environment, indirectly through political influence, resulted in the changes embodied in the Telecommunications Act of 1996. This suggests a series of testable hypotheses that examine the degree to which changes wrought by the Act change radio markets from markets dominated by local and non-corporate ownership

to markets dominated by remote and corporate ownership. I test the effects of the Act in hypotheses 1, 5 and 11 below.

Diversity in scope is synonymous with ownership of broadcast outlets in different markets. Media markets and market actors are unique in that there is not the direct relationship between supplier and consumer that exists in other markets. These different outlets constitute different products for the following reasons. The audience that a radio station seeks to reach is not a direct consumer of programming; rather, advertisers are the market for radio programming, and consumers of the product, the station's audience. Media corporations provide a product, a particular segment of a particular local market, to their consumers with advertisers purchasing airtime. Audiences are potential customers for advertisers. The logic that drives current corporate media practice stems from the need to provide advertisers with customers (Croteau and Hoynes, 2001).

Large national corporate actors bring relevant mobilizable resources to bear to affect policy domains in a manner favorable to organizational survival (Laumann and Knoke, 1989). This framework lends itself well to an analysis of media organizations in terms of both market behavior and efforts to affect the regulatory regimes in which media markets are embedded.

Current sociology of market theory defines characteristic motivations for why and how consequential corporate actors act on policy interests, as well as reiterating definitions of policy domains as fields in which the government uses its capacity to intervene and regulate. Corporate actors are defined as firms, workers' groups, and other organized groups. For radio station media owners, corporate actors consist of station owners and others on whom owners must draw on for resources: political alliances such as the National Association of

Broadcasters, advertisers, and other actors in the recording industry. Corporate actors, embodied as decision-making incumbents in organizations, act not only to maximize gain but also to preserve organizations (Fligstein, 2001). While Fligstein's application of this explanation focuses on labor market performance, his insight that organizational actors orient action toward preservation through expansion into all market niches may explain behavior in other types of markets, specifically the behavior of media markets.

The actions of dominant media organizations and consequential actors buying, selling, and negotiating the regulatory environment on their own behalf are bracketed by organizational fields, or groups of organizations that constitute a recognized area of institutional life (DiMaggio and Powell, 1983; Scott, 1998). The theories reviewed above will form the basis for operationalizing variables that define possible rationales for action by dominant media organizations, specifically the purchase of local and non-corporate radio stations, as well as providing the basis for an analytical strategy, which I outline in the following chapter.

## **Chapter 6:** **Data, Methods, Hypotheses, Sampling, and Analysis Strategy**

The summary of research literature and theoretical approaches informs the research questions outlined below. From the survey of literature, I identify as salient for my analysis station frequency

(AM or FM), a measure of sound quality; station strength, a measure of potential audience for a station as measured by kilowatts; market variety in station formats, a measure of competition vs. concentration in a local market; and market size, as measured by population.

From theoretical explanations, I use a series of measures of time to determine the extent to which the changes wrought by the Telecommunications Act, the result of successful efforts by industry actors, had an effect on local market penetration by non-local, corporate owners after 1996 in comparison with before. Such findings would support organizational power explanations asserting that organizations affect their environment.

### 6.1 Conceptualization and Data Sources

I draw on the preceding empirical and theoretical accounts to further specify two research questions to define variables and possible general outcomes of relationships between variables. I propose to assess the question of the effect of regulatory change on market entrants into local markets, corporate media owners purchasing stations for the first time in local markets. I conceptualize *market competition* as a function of a) the number of radio stations existing within a given market, and b) the number of different owners within a given market. There are further technological specifications that define competition. Radio stations broadcast not only from the FCC regulated frequencies assigned to them but also using specifically regulated wattage.

*Wattage* is a direct indicator of the potential audience that a radio station is capable of reaching, i.e., the broadcast strength of a station. Wattage runs from very low powered radio stations (5 to 10 watts) to the maximum allotted power, of 100,000 watts. Stations with higher wattage typically are able to sell advertising at a higher price than those with less wattage.

A selective reading of radio station sale transactions provides accounts of transactions for which there are records of sales of one million dollars or greater. These accounts indicate that higher wattage radio stations, typically those over 25,000 watts, are more valuable than lower wattage stations (*Broadcast and Cable Yearbook*, 1993; 1998).

Records of transactions equal to or over one million dollars include all stations bought and sold by a particular corporation over the course of one year; these transactions seldom include one station, but rather multiple stations. Records of transfers of ownership from local or non-corporate single ownership to non-local multiple or corporate ownership over multiple years provide data from which to measure changes in ownership concentration.

While FCC reports indicate the assignment of approximately 2,100 additional frequencies in the United States between 1993 and 2000 (FCC, 2004), broadcast industry information describes active frequencies which are those that are or are about to begin actively broadcasting. This is a more valid indicator of realized broadcast potential than FCC data in that stations included in broadcast industry information have negotiated license requirements that require both legal and capital resources.

An analysis of changes in existing active broadcast frequencies over time, coupled with ownership records, should indicate whether relaxed ownership caps enhance local competition and market variety as proponents of deregulation hold, or whether opponents are

correct in their assertion that relaxed ownership rules recreate local markets into units of large national corporations with no local ties.

A second issue concerns increased vs. decreased programming variety. This is important in that decreased programming variety over time within an organizational field indicates isomorphism. I propose to assess the extent to which relaxation of ownership caps increases or slows change in format variability. In the following paragraphs, I define the terms station format and station programming and explain their functions.

A *format* indicates the self-reported genre of music or talk that is the primary focus of individual radio stations. Station formats are consequential in that they represent points of contact between production entities, such as recording labels or central syndicated talk studios, and distribution that, for major recording industry firms, is done indirectly through radio.

One of the central policy debates hinges on the assumption, by both proponents and critics of deregulation, that there has been a substantial increase in the number of formats. However, this assumption is based on aggregate data for the largest markets only. I shall test the assertion that market format variability has increased overall by calculating the degree of dissimilarity between formats within markets, using the Gibbs-Martin Index that I define in more detail below. Format variability also signals the degree of potential market entry by large corporate media buyers. A large media buyer could enter a local market characterized by a high degree of competition. In this case, a high degree of competition would make stations with the same format in the same market attractive to a media buyer. Since format competition signals a focus on fewer demographic groups rather than more, a buyer could

acquire stations and adjust formats to reach multiple demographics in the same market (Berry and Waldfogel, 2001).

Formats function as cost effective ways for station owners to present products bundled together to advertisers in a manner consistent with reaching the optimum target consumer group, defined by age, race, and gender. The use of industry wide audience measures are generated by the Arbitron Corporation. Arbitron's function is to measure network and local market radio audiences across the United States and correlate these with consumption and media patterns of local market consumers

(<http://www.arbitron.com/home/content.stm>).

Formats also indicate station profitability to potential media outlet buyers, although they are subject to change, particularly in unstable market environments.

The number of reported formats increased over the period 1990-2000. Deregulation proponents hold that increased format variety characteristic of the post Telecommunications Act is evidence of variety. Opponents cite repetitions of artists in two or more format playlists within the same period as evidence of decreased variety.

[See Figure 4 on pg. 133]

Figure 4 depicts national format data from *Billboard* magazine, a broadcast and recording industry weekly trade journal. Trade magazines such as *Billboard* publish data from the previous month in the third week of the current month. Data for Figure 4 are drawn from annual May *Billboards* from 1991 to 1999. Each format lists the top 30 songs for a week. At the aggregate level, there is evidence for both increases in the number of different formats and increased content overlap between formats taking the form of one song being played repeatedly in more than one format. Format overlap occurs more regularly after 1996.

Reporting stations voluntarily report playlist data to industry trade outlets along with within-market listenership rankings.

While secrecy is typical of many industries, the open reporting system characteristic of ratings and format reporting serves to enhance the market value of a particular media outlet. Contrary to economic analyses that assume that format and format programming are products directly consumed by listeners (Berry and Waldfogel, 2001), audiences are the products of radio stations. Consumers of the audience product are media advertisement buyers. Advertisers and potential station buyers alike can see the value of a station at a glance. Formats provide shorthand for an increasingly specific demographic group. Audience segments characterized by intersections of gender, race, and age define demographic groups. For example, the format “adult contemporary” targets white women between the ages of 25 and 54 years. This target listenership constitutes the product of the radio station for advertisers ([www.clearchannel.com](http://www.clearchannel.com)).

In Figure 4, the Y-axis denotes number of playlist overlaps between formats. Solid lines denote 12 different format overlap combinations for national aggregate compilations of formats: 1) Adult Contemporary (AC) and Mainstream/Album Rock, 2) AC and Adult Top 40, 3) AC and Country, 4) AC and Rhythm and Blues, 6) Mainstream Rock and Top 40, 7) Rhythm and Blues and Top 40, 8) Top 40 and Adult Top 40, 9) Mainstream/Album Rock and Modern Rock, 10) Adult Top 40 and Rhythm and Blues, 11) Top 40 and Country, and 12) Rhythm and Blues and Rap.

Figure 4 indicates increase in both new formats and artist format overlaps after 1995 at the (aggregate) national level. While new formats emerge after the mid-1990s, so do overlaps between formats, indicating the possibility of fewer slots for new artists and song



entrants. At any one time, there is potentially less opportunity for airplay when there is greater format overlap. One market actor in the form an artist takes up two slots in two different formats. This increase in songs played in two different formats indicates the possibility of fewer slots for new artists and song entrants.

The debate about variability through differing formats does not address the possibility of greater or lesser variability *within* station playlists. A *playlist* enumerates the number of times during a week that a song receives airplay on an individual radio station. The *Airplay Monitor*, a recording industry trade publication, provides specific weekly playlist data by format for the most popular national formats for between 35 and 40 markets with the greatest listenership within a given format for a particular week. For example, the 40 stations with the greatest listenership who identify themselves as contemporary country report their playlists for a given week. These playlists include the top 30 to 40 songs receiving airplay, and the number of times a song received airplay in the current week and the previous week.

Of interest to this analysis is the degree to which playlists of individual stations by format reflect greater or lesser variability over time. *Airplay Monitor* provides a bi-weekly count of the number of times a particular song is played for the 30 to 40 stations in the U.S. receiving the greatest audience share by format, as well as the addition of new songs to playlists for individual stations, for the top 30 or 40 songs per format, contingent on reporting conventions for a particular format.

While it would be useful for this analysis, playlist data for stations in smaller markets are proprietary and not maintained in archival form for more than a few weeks. Therefore, analysis of playlist variability will be drawn from issues of *Airplay Monitor* from 1990-2000.

Formats are one market characteristic that informs station acquisition decisions of media owners. Theoretical perspectives reviewed above suggest propositions for analysis of the process that is the focus of this research. How and why do media owners, as formal organizations acting within a changing environment, acquire new stations? While no one perspective covers all action, I assert that new institutional and population ecology theoretical paradigms are useful explanatory approaches, but only when bracketed within theories that recognize organizational power as evidenced by an organizations' ability to manipulate its environment, either unilaterally or in alliances with other organizations.

I draw theoretical propositions from this central assertion. These propositions form the basis for the articulation of specific hypotheses. First, media owners, particularly large media owners, have successfully manipulated the organizational environment in a manner that allows for increased acquisition of stations in all markets across the country.

A set of hypotheses below tests the degree to which changes in ownership mandates have allowed media owners to buy stations in greater numbers after 1996 than before, redefining markets from places where stations are locally owned, with a mix of corporate and individual ownership to places characterized by non-local, corporate ownership of stations.

Media owners face the same generic environmental realities even after successfully manipulating the legal environment to enhance opportunity for fewer limits on station acquisition. They still must base their decisions on incomplete information. For this reason, I theorize that owners examine station characteristics, such as strength as measured in wattage, station frequency, and station format, as characteristics in station acquisition decision-making in an environment that, while rendered less uncertain because of reduction in ownership caps, is still an environment characterized by incomplete information.

## 6.2 Linking Hypotheses to Theoretical and Policy Findings

A series of hypotheses below test this proposition. Hypotheses 1, 6, 11 and 19 examine the years in which stations made the transition to non-local or corporate ownership. These hypotheses are salient for clarification of points raised in the policy debate over deregulation and address the possibility of organizational agency omitted in environmental analyses.

Hypotheses 2, 3, 7, 8, 12, and 13 examine a station's attractiveness in terms of technological characteristics. These technological characteristics are assessed in historical accounts of radio, but omitted in the framing of the deregulation policy debate discussed earlier.

Hypotheses 4, 5, 9, 10, 14, and 15 assess environmental characteristics of radio markets-market population and market station format homogeneity-in terms of their effect on the odds of a station's acquisition by a new owner. These characteristics are important in the assessment of theoretical explanations that describe the degree to which station ownership patterns move from local markets characterized by local competitiveness and local control to ownership patterns more characteristic of non-local, national oligopolies. Points of argument in the deregulation policy debate tend to obscure local variation in environmental characteristics through use of aggregate data; these hypotheses assess the degree to which these patterns vary according to market size and competitiveness. The following section links sets of hypotheses with policy and theory findings.

Hypotheses H1, H6, H11, and H19 estimate the effect of the year on the transition of station ownership. This is important in that it examines the terms of the policy debate as articulated by deregulation critics, such as the authors of the Future of Music Coalition's

policy paper on the effects of the Telecommunications Act on format and programming variety (Di Cola and Thompson, 2001) and deregulation advocates, particularly the National Association of Broadcasters (National Association of Broadcasters, 2004). Of interest is whether station transition occurs before or after 1996.

Hypotheses H2, H3, H7, H8, H12 and H13 examine two technological characteristics of stations-station power and station frequency-and the effect of these characteristics on the odds of a station being sold. Technical information may be consequential for a station's attractiveness as a potential acquisition for corporate ownership.

Hypotheses H4, H5, H9, H10, H14 and H15 assess the environment in which corporate owners would be entering should they buy stations. These hypotheses assess two environmental characteristics: first, the number of potential listeners, and second, the number of possible competitors based on redundant station formats.

Hypotheses H16, H17, H18 and H19 assess the effects of interactions between time and market and station characteristics on the estimated odds of a station being acquired by a non-local owner.

Hypotheses H20, H21, H22 and H23 assess the effects of interactions between time and market and station characteristics on the estimated odds of a station being acquired by a corporate owner.

Hypothesis H24 assesses the degree to which the Telecommunications Act of 1996 actually affected playlist homogeneity after 1996 in comparison to before.

### 6.3 Hypotheses

The analysis tests four sets of hypotheses. The first set of hypotheses, H1 through H5, assesses the odds of a station making the transition from local to non-local ownership and

correlates that may affect this transition. The second set of hypotheses, H6 through H10, assesses the odds of a station making the transition from non-corporate to corporate ownership and correlates that may affect this transition. A third set of hypotheses, H11 through H15, assesses the odds of stations remaining local throughout the period, but which experience the transition from non-corporate to corporate ownership. A fourth set of hypotheses, H16 through H23, addresses the effects of the interaction of time and station and market characteristics on the corporate and local ownership transitions outlined above. A final hypothesis, H24, examines the degree to which playlist homogeneity is, if at all, greater after 1996 than before.

#### **Local to Non-Local Ownership**

For the transition from local to non-local ownership:

- H1: The odds of station acquisition by non-local owners are greater after 1996 than before, indicating a shift in hazard rates. Results are shown in tables 9, 10, 11, Figure 5, and the analysis immediately following.
- H2: The odds of non-local acquisition for stations of 50 kilowatts or greater are significantly greater than for stations with less than 50 kilowatts of power. Results are shown in tables 10 and 11 below and the analysis immediately following.
- H3: FM stations will have greater odds of being non-locally acquired than AM stations. See tables 10 and 11 below and the analysis immediately following for results.
- H4: Total service area population affects the odds of non-local acquisition of stations. See tables 10 and 11 and the analysis below.

- H5: Stations in markets with greater levels of market format homogeneity have significantly greater odds of non-local acquisition. See tables 10 and 11 and analysis following below.

#### **Non-Corporate to Corporate Ownership**

For the transition from non-corporate to corporate ownership, the hypotheses are:

- H6: The odds of station acquisition by a corporate owner will be significant after 1996 in comparison to prior years. Results are found in tables 12, 13, and 14, Figure 6 below, and the analysis immediately following.
- H7: The odds of corporate acquisition for stations 50 kilowatts or higher is significantly greater than for weaker stations. Results are found in tables 13 and 14 below and the analysis that follows.
- H8: FM stations will have greater odds of being corporately acquired than AM stations. The odds of this transition increase after 1996. Results are found in tables 13 and 14 below and the following analysis.
- H9: Total service area population affects the odds of corporate acquisition of stations significantly after 1996 in comparison to previous years. Results are presented in Tables 13, 14, and the following analysis.
- H10: Stations in markets with greater levels of market format homogeneity have significantly greater odds of corporate acquisition. Results are found below in tables 13 and 14.

#### **Non-corporate to Corporate Ownership in Markets where Stations remain Local**

For the transition from non-corporate to corporate ownership, given that local ownership will remain in the market in which the station is embedded:

- H11: For stations remaining local, the odds of a station being acquired by a corporate owner will be significant after 1996 in comparison to prior years. Results are found in tables 15 and 16 below and the following analysis.
- H12: The odds of corporate acquisition for stations 50 kilowatts or stronger is significantly greater than for weaker stations. Results are found in tables 15, 16, and the following analysis.
- H13: FM stations will have greater odds of corporate acquisition than AM stations. Results are found in tables 15, 16, and the following analysis.
- H14: For stations remaining local, total service area population significantly affects the odds of corporate acquisition of stations. Results are found in tables 15, 16, and the following analysis.
- H15: For stations remaining local, stations in markets with greater levels of market format homogeneity have significantly greater odds of corporate acquisition. Results are found in tables 15 and 16 below and the following analysis.

**Interaction Effects: Local to Non-Local Ownership**

The following hypotheses examine interaction effects between time variables, as measured in periods and years and outlined above, and market and station characteristics.

- H16: Stations powered at 50 kilowatts or stronger have significantly greater odds of non-local acquisition in years 1997 and later than prior to 1997. Results are found in tables 17 and 18 below, and the following analysis.

H17: FM stations will have significantly greater odds of non-local acquisition in years 1997 and later than prior to 1997. Results are found in tables 17 and 18 below and the following analysis.

H18: Total service area population significantly affects the odds of non-local acquisition of stations in years 1997 and after. Results are found in tables 17 and 18 below and the following analysis.

H19: Format variability significantly affects the odds of non-local acquisition of stations in years 1997 and after. Results are found in tables 17 and 18 below and the following analysis.

**Interaction Effects: Non-Corporate to Corporate Ownership**

H20: Stations powered at 50 kilowatts or stronger have significantly greater odds of corporate acquisition in years 1997 and later than prior to 1997. Results are found in tables 19 and 20 below and the following analysis.

H21: FM stations will have significantly greater odds of corporate acquisition in years 1997 and later than prior to 1997. Results are found in tables 19 and 20 below and the following analysis.

H22: Total service area population significantly affects the odds of corporate acquisition of stations in years 1997 and after. Results are found in tables 19 and 20 below and the following analysis.

H23: Format variability significantly affects the odds of corporate acquisition of stations in years 1997 and after. Results are found in tables 19 and 20 below and the following analysis.



## **Playlist Variability**

From the debate surrounding degree of variability in numbers of songs receiving airplay, the hypothesis is:

H24: Playlist variability will decrease for the period 1996-2000 in comparison to the period 1990-1995. Results are found in Table 21 with analysis following.

### 6.4 Methodology: Data Collection

I draw on data collected from broadcast industry records. Industry records in the form of bi-weekly serial publications and year-end summaries enumerate station ownership, station and market characteristics, and playlist data. Neither the Federal Communications Commission nor the broadcast industry keeps format or playlist data prior to 2004 in electronic form. This necessitates the coding of station, format, and playlist data into electronic form.

Printed information on market rankings, market characteristics, station ownership, station wattage, and format characteristics is available from the *Annual Broadcasting and Cable Yearbook*. *Airplay Monitor* includes playlist data for selected stations. Both of these sets of material require transcription into a machine-readable spreadsheet. See Appendix 1 for a copy of data entry strategy, excerpted from a national sample of stations and station characteristics. To measure stations and station characteristics, I analyze data from the *Broadcast and Cable Yearbook*. For programming variability, I analyze playlists from a sample of weekly *Airplay Monitor* issues from 1994-2000.

### 6.5 Sampling

Because of data characteristics, I use two sampling approaches. The first three paragraphs below outline the sampling strategy for the first section of my analysis, which

covers changes in radio station ownership patterns. The second part of this section outlines the sampling strategy used for station playlist data.

For analysis of change in station status from local to non-local and from individual to corporate ownership, the characteristics of the data for this analysis make it impractical to do an analysis of the entire population of radio stations. There are typically 5,000 to 7,000 stations per year over time. Therefore, stations are sampled with probabilities proportionate to size (PPS) based on market size for the following reasons.

First, stations do not exist as freestanding entities but are embedded in markets. The Federal Communications Commission establishes radio markets predicated on the population, drawn from most recent decennial census data, of the particular market. The FCC determines the number of commercially available frequencies, power of stations, and allocation of public service broadcast resources based on market population.

Second, markets within which stations are embedded vary greatly in size, rendering simple random sampling and EPSOM (equal probability of selection method) inefficient for the purposes of this analysis (Sudman, 1976; Czaja, 1997). If simple random sampling of radio stations is used, ignoring market size, a station in Minot, North Dakota, where there are only nine stations and where the market was ranked 259<sup>th</sup> in 1995, would have the same probability of selection as a station in Los Angeles, with 99 stations, ranked second in 1995. If EPSOM were used with markets as the primary sampling unit (PSU), the markets for Minot, South Dakota and Los Angeles weigh equally in probability of selection. The limitation of the EPSOM sampling technique in dealing with population variation between market primary sampling units makes it an ineffective technique for generating a representative sample of markets.

Selection of sample market primary sampling units using probability proportionate to size sampling techniques weighs each market's probability of selection according to market population size. It provides a meaningful stratification of the sample according to market size. The use of the probability proportionate to size sampling approach in selection of markets produces a final sample that is representative of characteristics of the population of radio stations in relation to local markets. Finally, the probability proportionate to size sampling approach allows for specification of sample size. A selection of 51 out of 261 markets provides a sample of 1421 stations out of a total population of 5099 stations, allowing for more efficient data entry (Czaja, 1997).

A different sampling tactic is used for playlist data. This sampling technique is predicated on data characteristics, availability, and limitations. Optimally, playlist data would be matched by market and year to selected stations within the first part of this analysis. However, these data are unavailable. For this section of the analysis, therefore, data from the industry publication *Airplay Monitor* provides the number of "hits," or total number of times each of the top 30 songs receives airplay. Playlist data are provided for the top 30 reporting stations within a format for a given week within a year for four format groupings: country, top 40/Contemporary Hit Radio, Rap/R and B, and Rock. Within each format grouping, there are further format divisions based on stations' self-reported format. For example, within the format grouping "country," there are playlists reported for mainstream country, "hot" country, and adult contemporary country.

Formats reported within format groupings vary between years, with some formats being deleted while other formats are added. Data were sampled for all format groupings for the middle week of July. This week is selected based on information from professional radio

programmers within the broadcast industry who indicated that it was the week most temporally distant and hence least likely to be characterized by “specialty” programming, such as seasonal holiday programming, which might provide inaccurate counts of song hits for a particular week within a given year. Playlist data covers the years 1994-2000.

## 6.6 Variables

Variables are defined as follows. There are three dependent variables in this analysis. The policy debate about the effect of ownership concentration (DiCola and Powell, 2002; National Association of Broadcasters, 2004) centers on two processes outlined in Chapter 2, the shift from local to non-local station ownership, and the shift from non-corporate to corporate control. I estimate the odds of individual stations making this transition.

***Non-Local Ownership*** is a categorical dummy variable coded 1 for non-local ownership and 0 for local ownership as reported by *Broadcasting and Cable Yearbook* ownership records. ***Corporate Ownership*** is a dummy variable coded 0 if a station is not owned by a corporate group as defined in *Broadcasting and Cable Yearbook* and 1 if owned by a corporate group. A third dependent variable is defined as follows.

The possibility exists, unacknowledged in the points of the debate, which focuses on aggregate data and not on comparisons of market variability, that larger markets, those markets with greater numbers of stations than smaller markets, may experience different patterns of station acquisition. Corporate owners may be located in larger markets. Larger markets could experience a process whereby local, independently owned stations could make a transition to local, corporately owned stations. Stations in larger markets face the possibility of takeover by geographically proximate media conglomerates. To capture the effects of this process, a third ownership variable, ***Stations Remaining Local and***

*Experiencing Corporate Acquisition*, measures the odds of those stations that remain local but are acquired by corporate owners relative to those stations that remain both local and in non-corporate control, and the correlates of this transaction.

Time is a salient characteristic of this transition process. The debate centers on the period after the enactment of the Telecommunications Act of 1996. My first independent variable is the year during which a station makes the transition from non-corporate to corporate or from local to non-local ownership. The assertion tested in this analysis is that change in the environmental field wrought by the Act should make the odds of this transition statistically significant in years after 1996 in comparison to years prior to 1996. The *year* from 1994 to 2001 indicates the year in which a radio station is actively broadcasting or about to broadcast. I use recodes of year variables to construct three distinct periods for purposes of comparison. *Periods* are divided into three groupings of years. The years 1994-1995 are grouped as one period. Due to the salience of legislation passed during the course of 1996, this year is treated as the second period, and the years 1997 through 2001 are grouped into a third, post-Telecommunications Act period, characterized by new ownership rules in place. This grouping allows for comparison with later years in order to determine if there are any generic characteristics affecting the decision to acquire radio stations that take place external to the effects of the Act.

As station wattage increases, the size of the potential listening audience within a market increases. Station wattage has been and continues to be an important feature in both the formation of and continued successful commercial operation of radio stations (Croteau and Hoynes, 2001; Douglas, 1987). I assert that this feature of a station could make it an attractive target for acquisition by potential corporate, non-local buyers, particularly after

1996 and the relaxed caps on ownership restrictions that result from the Telecommunications Act. The specific definition of a potential listening audience is defined below in the definition of the variable *total service area*. I define station wattage as follows. ***Station wattage*** is a continuous variable that measures station power with a range of 500 watts to 100 kilowatts, the latter being the maximum legally allowable station power. There are thousands of very small low-wattage stations in many radio markets, and if treated as equal with larger stations, these may obscure the effect of stations of greater power and their effect on the dependent variable. For this reason, this variable is recoded into a dichotomous dummy variable as ***more powerful vs. less powerful stations***. Stations with less than 50 kilowatts are coded 0, and those greater than or equal to 50 kilowatts are coded 1.

The ***Yearly Station Market Ranking*** is a definition from *Broadcasting and Cable Yearbook*. The *yearly station market ranking* is an ordinal ranking of media markets. There are 361 markets in the United States for which there are data. Each station in the country exists within a market. *Markets* are defined as follows. The FCC bases its definition of markets on Total Service Area population for the purposes of enforcing the federal ownership regulations. This measure also provides media owners pertinent information with which to attract advertisers. A market's rank is calculated as the number of total potential listeners in a market divided by the population of the United States for a given year.

Organizational environmental theories, specifically population ecology theories, have defined markets in terms of environment (Carroll and Hannon, 1989). Environment for organizations such as independent record producers is often defined by market size in terms of numbers of potential consumers (Dowd and Blyler, 2002; Doud and Littler, 2004). I use a similar logic in including market size in this analysis. The size of the market in which a

station is located may also signal to potential station buyers the attractiveness of a station as a target for acquisition, as well as the ability of an organizational radio station owner to survive in a given environment in relation to the number of competitors in that environment. The other salient aspect of environmental analysis is the number of potential competitors in a particular environment. While there is no direct measure of the number of corporate or non-local owners competing in a specific market, existing research indicates that there are fewer corporate owners overall (McChesney, 1999); hence, a reduction in non- corporate owners signals a reduction in competition. The environmental variable for market population, ***total service area***, for a market and its constituent stations, is the total possible number of listeners reachable by the majority of radio stations in a market.

From the origin of recorded music, musical products in the form of recordings have been categorized for marketing purposes by genres, such as ‘hillbilly’ or ‘race’ music (Kennedy, 1994; Roy, 2003; Attali, 1992). With the convergence of recoding and broadcast industries completed by WWII (Douglas, 1987), these categories or recordings formed the basis for radio station formats. Station formats gain increased importance with further segmentation beginning in the late 1950s (Croteau and Hoynes, 2001). Their use by station owners concurrent with formats that overlap in terms of similar songs is the basis of ongoing debate, particularly after aggregate data indicates that this practice has increased after 1996 (DiCola and Thompson, 2002; National Association of Broadcasters, 2004). ***Station Format*** is the self-reported programming content for a station. Although stations may have more than one format, accurate and timely reportage of dominant station format and format change is imperative for marketing station to advertisers. Formats are industry-wide and represent audiences, the demographically specific shares of a local market. I use the range of different

station formats within markets to determine market format variability. ***Market Format Variability*** is a measure of the number of different formats, based on station format, for a given market and is measured using the Gibbs-Martin Index of Dissimilarity, where 0 is equal to perfect market variability, and 1.00 equals perfect market homogeneity. The formula is

$$1 - [\sum X_i^2 / (\sum X_i)^2],$$

where X= the number of stations occupying a given format per market in each of 20 format categories specified by Broadcast and Cable Yearbook, 100,000 Watts.com, and Clear Channel Radio, and subscript “i” is equal to a format occurrence within a market. This part of the analysis should determine the degree of market format variability. A value of 1.00 indicates total market homogeneity; in a hypothetical market, a value of 1.00 would indicate that there was only one format, while a value of .00 for another hypothetical market would indicate perfect format heterogeneity, with each market slot occupied by a different format.

I use market format variability as an independent variable to estimate the odds of a station being acquired during a given year. Redundant formats, e.g. three country stations, indicate competition; these three stations may be competing for the same listeners. Markets where there is less homogeneity in formats may indicate the presence of fewer owners creating niche-based programming to capture different demographic segments of the market population, indicating less competition. This measure of market format variability predicts the degree to which station buyers are responding to a competitive vs. a non-competitive market in their decision to buy stations.



Finally, I include as control variables **percent local** for the estimate of the transition from local to non-local ownership and **percent non-corporate** for the estimate of the transition from non-corporate to corporate ownership.

### **Playlist Homogeneity**

A second analysis examines the degree of playlist homogeneity for selected stations over a nine-year period from 1993 to 2001. While this data would ideally be tied to the previous analysis, there is no available data with which to conduct this analysis. This second analysis is based on leading reporting station playlist ‘hits’ or variability in the number of times a song receives airplay. This allows for a measurement of the degree of homogeneity of a station’s playlist for a given week. This analysis uses the Gibbs-Martin index of dissimilarity in order to determine the range of homogeneity for a sampled week for the years 1993 to 2001, with 0 indicating total heterogeneity and 1 indicating total homogeneity. This measure of ***Playlist homogeneity*** is based on the sum of the number of times the top 30 or 40 songs within a weekly playlist receives airtime for a given station with a given format in a given year from 1993 to 2001. For individual stations, I examine the degree of programming variability for individual stations across time. Published industry data allow for a measure of degree of variability, calculated with the formula

$$1 - [\sum X_i^2 / (\sum X_i)^2],$$

where X = the number of airtime “hits” or the number of times a song is played, and the subscript ‘i’ is equal to each individual song occurrence for each possible playlist slot, indicating the top 30 or 40 songs receiving airtime for a given week. This formula, the Gibbs-Martin index, allows for a measure of variability comparable across playlists with similar numbers of categories (Gibbs and Martin, 1962). A value of 1.0 would indicate a weekly

playlist where one song received all incidences of airtime. Each increasing value from 0.0 to 1 indicates greater playlist homogeneity. This part of the analysis will allow for an examination of change in degree of playlist homogeneity over time and should provide evidence for hypothesis testing.

### 6.7 Analysis Strategy

This analysis proceeds along two lines. The first section analyzes characteristics affecting changes in station ownership status. The second section analyzes playlist variability. My analysis of station ownership transition examines the effect of station characteristics on two dependent variables: the odds of a station transitioning from local to non-local ownership, and the odds of a station transitioning from individual to corporate, or group ownership. By ‘odds’, I mean the chance of an event happening vs. the chance of an event not happening (Allison, 1999). In this analysis, I measure the odds of a station being acquired by a non-local owner vs. remaining locally owned, by a corporate owner vs. remaining non-corporately owned, and by a corporate owner in the same market vs. retaining individual ownership. Each of these odds ratios is estimated for every year in the analysis except for the omitted year 1996. Local radio markets constitute the environment for individual stations. Two market characteristics that define markets in this analysis - market size, as ranked from smallest to largest market in the U.S., and number of different formats within a market - provide necessary information for an analysis of individual radio stations in that market characteristics may determine the probability of a station moving from local to non-local control.

Station characteristics and year may affect radio ownership consolidation between markets. Both individual station and market characteristics may affect playlist variability for

individual radio stations. To examine change over time in market format variety and the likelihood that a station makes a transition from local to non-local ownership, this analysis is longitudinal.

Some longitudinal analysis techniques assume a constant hazard rate across different periods even though there are few social processes for which this assumption makes theoretical sense. A constant hazard rate assumption holds that there is an equal amount of chance for change at every given period examined in a longitudinal analysis (Blossfeld and Rohwer, 2002). Assessing changes wrought before and after 1996 requires a technique that allows for the observation of changes in the baseline hazard rate. In my analysis, the “hazard” is the likelihood of change of radio station ownership from local to non-local ownership. This is best accomplished through application of the piecewise constant exponential approach (Allison, 1995). This approach allows for an analysis that takes into consideration changes in the hazard rate of radio station ownership status transition.

Piecewise constant exponential (PCE) analyses also allow for assessments of the effects of trends in transition net of the effects of other variables that affect change. These characteristics of PCE make substantive sense for the two questions that define my analysis. Due to regulatory change in 1996, the hazard of transition from local to non-local status after this point should increase. Large media market actors will move to protect themselves from competition and uncertainty through enhancement of the products provided to advertisers. Established, high wattage radio stations in well-populated and/or growing Total Service Area markets should be targets of acquisition.

The first model in this analysis of station ownership transitions describes the odds of a station transitioning from local to non-local ownership. The piecewise constant exponential

model is defined as the hazard (the dependent variable) of station  $L(i)$  transitioning from local to non-local ownership in a specified year (time)  $t$ :

$$HL_i(t) = \beta(x)_1 + \beta(x)_2 + \beta(x)_3 + \beta(x)_4 + \beta(x)_5,$$

where  $H$  indicates the constant hazard and  $L(i)$  indicates the transition from local to non-local ownership. Predictors  $\beta(x)_1$  indicate an individual station's wattage,  $\beta(x)_2$  a station's total service area population,  $\beta(x)_3$ , the format variability of the market in which the station is embedded, and  $\beta(x)_4$ , the station's frequency, AM vs. FM.

The second model describes the odds of a station transitioning from individual to corporate ownership. The dependent variable is the hazard of station  $i$  transitioning from individual to corporate ownership in a specified year (time)  $t$ :

$$HC_i(t) = \beta(x)_1 + \beta(x)_2 + \beta(x)_3 + \beta(x)_4$$

with the same predictors included for model predicting outcomes for the second dependent variable as are used in the first model. In this case,  $H$  indicates the hazard, and  $C(i)$  indicates the transition from non-corporate to corporate ownership. These analyses should provide information necessary for examination of hypotheses to be outlined in Chapter 7.

## **Chapter 7: Descriptive Statistics and Results**

This chapter is organized as follows. The first section of this chapter provides descriptive data for the variables used in this analysis based on the hypotheses specified above in Chapter 6. The third section includes results of my analysis of the effects of covariates on transition to non-local ownership, to corporate ownership, and an analysis of stations that remained local within markets but were acquired by local corporations.

### 7.1.1 Descriptive Statistics: Dependent Variables

[See Tables 2 and 3 on pgs. 137 and 138]

Tables 2 and 3 provide descriptive statistics for the dependent variables non-local and corporate ownership. Tables 4 through 8 provide descriptive statistics for the variables local vs. non-local ownership, corporate vs. non-corporate ownership, station frequency (AM vs. FM) station power in kilowatts, Total Service Area population for sampled markets, total number of stations, and market format variability.

Table 2 describes the frequency distribution for the dichotomous dependent variable, local vs. non-local ownership. Before 1997, the distribution of local vs. non-local ownership is consistent with 54 to 74 percent local ownership vs. 26 to 41 percent non-local ownership. The frequency distribution for 1996, the transitional year in which the Telecommunications Act was passed but its changes not yet enacted, is a year in which 91 percent of the sampled stations were locally owned. The years 1997-2001 see the frequencies of local vs. non-local ownership stable with nearly 60 percent of stations locally owned vs. nearly 40 percent non-locally owned, with a slight increase in the percentage of locally owned radio stations in 2001.

Table 3 describes the frequency distribution for the dichotomous independent variable corporate vs. non-corporate ownership for the years 1994-2001. This is the first in a series of independent variables used to predict rate of transition for stations from non-corporate to corporate ownership over the period 1994-2001. Corporate vs. non-corporate ownership fluctuates between years at approximately 40 to 60 percent for both values.

#### 7.1.2 Descriptive Statistics: Independent Variables

[See Table 4 on pg. 139]

Table 4 describes the dichotomous independent variable AM/FM radio frequency. The percentage of AM stations for this sample is consistent across years, with increases in AM stations in and after 1996 coupled with a slight decrease in the number of FM stations.

[See Table 5 on pg. 140]

Table 5 lists descriptive statistics for the interval level variable **total service area population**, one of the independent variables used to predict changes in ownership status over the years 1994-2001. Values for skewness and kurtosis approach normal distribution values.

[See Table 6 on pg. 141]

Table 6 provides descriptive statistics for the interval level independent variable number of stations per market. This variable tends to be positively distributed across years, with a platykurtic distribution. Values less than 1 for kurtosis indicate that this variable has lower values around the mean than would be expected in a normal distribution.

[See Table 7 on pg. 142-143]

Table 7 provides a description of yearly market rankings for each market. Table 7 describes changes in variance for values for the ordinal level independent variable **Market Rankings**. Year 1994 was the year of the original sampling frame from which markets were sampled from the population of all radio markets. Total service area size determines yearly market rankings. While total service area sizes for all markets tend to increase over years, rankings for the largest four markets remain constant, while all other markets tend to decrease in rankings between 1994 and 2001 due to the addition of new radio stations based on market size and the addition of new FCC defined markets. Data for an analysis of variance indicates whether there are significant differences in means. This data is not included; for each dependent variable the analysis of variance data was significant. This is largely an artifact of the large N, which constitutes the sample on which this analysis is based.

[See Tables 8 and 8a on pgs. 144-145 and 146]

Table 8 describes Gibbs-Martin values for sampled markets by years. Index values tend either to remain stable or to increase slightly over the period 1994-2001-02 for all markets regardless of size.

Table 8a outlines summary descriptive statistics for Gibbs-Martin Index values. Means tend to increase across years, with little standard deviation from the mean. Skewness values across years for means indicate an increase in negative skewness to the left. This indicates that most of the mean values for Gibbs-Martin indexes are clustered around the right end of the distribution of values. Kurtosis values, which begin as relatively normally distributed mesokurtic distributions in 1994 and 1995, increase markedly over the period 1996-1999 and then begin to return to values more indicative of a normal distribution over the period 2001-2002.

## 7.2 Multivariate Analysis: Assessing Patterns of Ownership Changes: From Local to Non-Local and Non-Corporate to Corporate Ownership Transitions

In the following section, I analyze three patterns of ownership transition. First, I assess changes in geographic location of ownership and assess variables that affect transitions from local to non-local ownership. Analysis of the transition from non-corporate to corporate control as a dependent variable follows in the second section of the analysis. A third section will assess the effect of local ownership for a given year on transition from non-corporate to corporate ownership.

The following analyses consist of two parts. In the first part, I assess the effect of station ownership transitions in the period immediately prior to the enactment of the Telecommunications Act in 1996, which was not implemented until 1997. Analyses of the transition from local to non-local and non-corporate to corporate transition is done to assess the effect of two pre-1997 times, 1994-1995 and 1996.

Analysis of these two periods is important for three reasons. First, these two periods immediately precede the first year of the enactment of the Telecommunications Act in 1997 and should provide information about ownership changes and the characteristics that may predicate the purchase of stations under prior, more constrictive ownership caps. Second, these periods provide a point of comparability with post-Telecommunications Act processes. Third, the behavior of station buyers may indicate anticipation on the part of non-local and corporate buyers.

The second part of the following analyses assesses the effect of specific years on the transition of stations out of local or non-corporate control and some of the correlates that media buyers may use in making the decision to purchase a station.



Each of these analyses is useful for the following reasons. First, the transition from local to non-local ownership signals, particularly for smaller markets, the potential for change of community input in terms of practical news, e.g., disaster information (Lee, 2003). Second, the transition from non-corporate to corporate ownership is a point of debate, reflecting a lack of consensus about the effect of corporate ownership concentration on programming variability (Ahlkvist, 2000; Berry, 2001; Drushel, 1998).

Third, the analysis of locally-owned stations transitioning from non-corporate to corporate control is needed because it captures the effect of loss of individual non-corporate control in markets where corporations are located but which initially were characterized by large numbers of independent stations (e.g., New York and San Francisco). In these markets, stations may remain locally owned but controlled by corporations rather than individuals.

Finally, this analysis may clarify theoretical approaches to organizational behavior. In this case, organizations are corporate radio station owners. Some theoretical approaches are useful for examining organizational behavior in an environment where behavior is constrained by, and environmental boundaries set because of, government action. When organizations have successfully formed alliances and changed the environment to their advantage, however, theories of organizational power are needed.

#### 7.2.1 Modeling the Transition from Local to Non-Local Ownership

The analysis of the transition from local-to non-local ownership is divided into three sections. The first section provides estimates of survival and hazard data for the period 1994-2001. The second section provides estimates of the effect of period, market, and station predictors for the two periods prior to 1997 on the odds of a station making the transition from local to non-local ownership. The omitted dummy variable for this second analysis is

the period 1997 to 2001, the era when ownership requirement changes wrought by the Telecommunications Act were in full effect.

[See Figure 5 and Table 9 on pgs. 134 and 147]

Figure 5 and Table 9 provide survival and hazard data for the transition from local to non-local ownership. These data provide information on the probability of failure-or survival, which is merely the inversion of survival- and on whether a station was censored.

The term *censor* in hazard analysis indicates whether a station is absent by the end of the analysis period. The language of hazard analysis includes definition of two types of censorship. *Left censored* cases are cases that are not present at the beginning of the analysis period but appear late, or after the beginning of the analysis period. *Right censored* cases are those cases that drop out of the analysis before the end of the analysis period. This is the conventional language of hazard analysis and will be used subsequently throughout this analysis.

Of 1,452 total stations in the sample for 1994, 1,084, or 76 percent of stations, were locally owned. These stations form the baseline for the longitudinal analysis that follows. Of interest are the characteristics of individual stations and market characteristics that determine a station's transition out of local control. Table 8 provides survival and failure probability estimates for each of the years in this analysis.

The first column indicates the year of the event. Numbers of stations that either made the transition from local to non-local ownership or which were left-censored, i.e. left the sample, are in Columns 2 and 3. The effective sample size indicates the remaining stations for which there is a risk of transitioning to non-local ownership. Of interest are the

probabilities for survival, failure, and hazard. The survival column estimates the probability that the transition from local to non-local ownership occurs during a year greater than or equal to the beginning of each year. The hazard column provides estimates of the hazard of a station transitioning to non-local ownership at the midpoint of the year (Allison, 2000). Of the 1,084 locally owned stations at risk for transitioning to non-local ownership at the beginning of the analysis period in 1994, 392 are known to be non-locally owned by the end of the period, and 108 were right-censored, or fell out of the analysis prior to the last year of the analysis, 2001.

Right censoring of stations could reflect a number of possible scenarios. Stations could have been sold to another local owner and changed format and identification letters or been sold to an owner and subsequently sold to a corporation. These data also do not reflect left-censored late entrants into the risk period, which are included in the following longitudinal models.

Data from these models indicate that the survival and hazard model alone underestimate the effect of the year on the dependent variable. Once allotted by the Federal Communications Commission, a station frequency rarely goes off the air for an extended period. This is reflected in the incremental addition of approximately 2,000 new commercial AM and FM frequencies over the period 1990-2000 (FCC, 2004). However, stations do temporarily go “dark” while transactions take place involving the sale of stations between owners. This may account for the right censoring of stations in column 3 in Table 9.

Although these data only include stations local in 1994, they allow for a graphic depiction of market changes. The Y-axis reflects the range of the probability of hazard of a station experiencing the transition from local to non-local ownership reflected in the Hazard

of Event column in Table 9. Figure 5 is a graphic representation of the hazard function for station transition from local to non-local ownership. The hazard function depicts a peak in the number of stations making the transition to non-local ownership between years 1996 and 1997, concurrent with new relaxed Federal station ownership laws. The number of remaining non-local stations remains stable until 1999, when the number of stations making the transition to non-local ownership begins to increase through until 2001, the last year included in this analysis.

### **Correlates of the Transition from Local to Non-Local Ownership, 1994 through 2001**

Table 3 above describes univariate characteristics of the variable “corporate vs. non-corporate ownership.” The inclusion of this variable in the logistic model used to predict transition of stations from local to non-local ownership, however, leaves all other variables statistically non-significant. This indicates a strong degree of multicollinearity between the variable “corporate vs. non corporate ownership” and “local vs. non local ownership.” This was determined by calculation of a variance inflation factor for the two variables, a standard diagnostic approach to analysis of multicollinearity between variables (Allison, 1999).

A variance inflation factor (VIF) calculation produced a tolerance value of approximately .52 for the variable “local vs. non-local ownership,” rendering it meaningless as a predictor when included in the model. Low tolerances correspond with multicollinearity (Allison, 1995). For this reason, the variable “corporate vs. non-corporate” is excluded from the first set of models and will be addressed later in the analysis.

[See Tables 10 and 11 on pgs. 148 and 149]

For both Tables 10 and 11, column 1 describes results of tests on the effects of baseline yearly coefficients on the outcome variable, the transition of individual radio stations from local to non-local ownership. Column 2 includes dummy variables with the addition of time-invariant variables for station power. I recoded kilowatts into a dichotomous dummy variable, with more powerful stations- those that are 50 kilowatts or greater- as 1, and stations weaker than 50 kilowatts as 0.

Column 2 also includes a binary variable for radio station frequency, coded 0 for AM stations and 1 for FM stations. Column 3 includes two additional time varying variables: Total market area population divided by one million (for ease of computation and interpretation) and the Gibbs-Martin dissimilarity variable for market format variability where 0 indicates total format dissimilarity within a market and 1 indicates total format homogeneity within a market. For ease of computation and interpretation, the Gibbs-Martin index is multiplied by 100. For Table 9, the omitted dummy variable is the grouped period 1997 to 2001.

Column 4 includes estimates of the effect of the control variable, total yearly percentage of local stations, on odds of transition to non-local ownership. This replaces the yearly dummy variable with the percentage of local stations per year described above in Table 1. In Table 9, this is an average for periods one and three. For the period from 1994 to 1995, the average percent local radio stations for the sample is 67 percent, for 1996, the average percentage of local stations is 92 percent, and for the years from 1997 to 2001, the average number of local radio stations is 58 percent. In Table 11, actual yearly percentages are included for each year. Percent local is reported in subscript under the yearly dummy variables in Tables 9 and 10.

For the estimate of pre-Telecommunications Act periods in Table 10, periods 1994-1995, and 1996 are statistically significant. The odds ratios indicate that the odds of a station becoming owned by a non-local owner are approximately 62 percent less in 1994 and 1995 compared with the period 1997 to 2001. Those odds are 11 percent less than in 1996. The dichotomous variable estimating a station's strength in kilowatts, with 1 indicating 50,000 watts or greater and 0 indicating less than 50,000 watts shows that stations with 50,000 watts or greater strength were about 2.5 times as likely to have been purchased by a non-local owner as were strong stations purchased by non-local owners during the period from 1997 to 2001. A station's frequency is not statistically significant for these two periods. The additions of two time-varying predictors in column 3, a measure of yearly market homogeneity and market population, do not significantly change the effect of other variables. These variables, while statistically significant, do not have much of an effect on station ownership transition prior to 1997; for every additional 10,000 people in a station's market area the odds of the station becoming owned by a non-local owner decrease by about 1.4 percent; and for every one-point increase in the index indicating market homogeneity, the odds of a station being acquired by a non-local owner increase about 4 percent.

The inclusion of a control variable for "percent local stations" is significant for both 1994-95 and 1996 periods. Controlling for percent local stations, the effect on odds estimates is magnified. For 1994-95, estimates of the odds of transition to local ownership hold with stations approximately 60 percent less likely to be acquired by a non-local owner than for the period 1997-2001.

With the inclusion of the control variable for percentage, the odds estimates decrease for the first period 1994-1995, with stations almost 80 percent less likely to be acquired by a

non-local owner. For 1996, the critical year when the percentage of local stations increases to 92 percent in my sample and the year in which the Telecommunications Act was passed, the odds estimates for a station being acquired by a non-local owner hold when controlling for percentage of local stations, with stations about 11 percent less likely to be acquired by non-local owners than in the period 1997-2001.

Estimates for station power, defined above, market population, and market format homogeneity remain essentially unchanged. The variable for station frequency, with AM stations as the omitted reference group, is significant with the introduction of the control variable, with FM stations about 11 percent more likely than AM stations to be acquired by non-local owners.

Omitted in Table 11 estimates is the reference variable, the yearly dummy variable for 1996. This year is substantively important in that it was the year in which the Telecommunications Act was passed. Additionally, there were far fewer event occurrences in 1996, rendering all other variables in the analysis statistically non-significant. When there are notably few or many occurrences, in this case events in D3, the dummy for 1996, then there may be statistical non-significance in adjacent variables (Allison, 1999) and multicollinearity. A VIF calculation indicates that the dummy variable for 1996 is multicollinear with other variables in the model, with a tolerance value of .50; hence, this variable is the reference variable and omitted from analysis.

For the analysis of maximum likelihood estimate described in Table 11, column 1 (Baseline) analysis of the point estimates are as follows. Because 1994 is the first year of the analysis, the predicted odds of transition from local to non-local in comparison to 1996 are less than .0001 percent and more salient than subsequent odds ratios. For the dummy variable

for year 1995, the predicted odds of transition from local to non-local ownership are roughly equal to those of transition for the reference year 1996.

For 1997, the predicted odds of transition from local to non-local ownership are not statistically significant. For 1998, the predicted odds of transition from local to non-local ownership are about 18 percent higher than in 1996. By 1999, the predicted odds of a local station making the transition to non-local ownership are approximately 42 percent higher than in 1996. In 2000, the predicted odds of a station making the transition are approximately 21 percent. For 2001, the predicted odds of a station making the transition from local to non-local ownership are actually 14 percent lower than for stations transitioning in 1996, indicating the possibility that the availability of local stations for non-local acquisition had been exhausted by 2001.

There is adequate evidence to support the hypothesis outlined in H1 above, that the odds of a station being acquired by a non-local owner are greater after 1996. For each year after 1996, the odds of transition are significantly higher than for 1996, the reference year and not significant for years 1994 and 1995.

Column 2 includes the addition of two time invariant variables, a dummy variable for station frequency, coded 0 for AM stations, 1 for FM stations and a dichotomous variable that divides station power into two categories, coded 1 if a station operates at 50 kilowatts or greater, and 0 if a station operates at less than 50 kilowatts. For year dummy variables, predicted odds of transition are nearly identical to those in the previous model in Table 10. Frequency is not statistically significant in this second model, indicating that there is no evidence to support H3 above, the hypothesis that states that FM stations have significantly higher odds for non-local acquisition. For station power as measured in kilowatts, the odds of



a station making the transition to non-local ownership are 2.6 times greater for those more powerful stations at 50 kilowatts or greater. This finding supports H2; stations equal to or greater than 50 kilowatts are significantly more likely to be acquired by non-local owners after 1996.

Column 3 includes additional time-varying variables for format variability (Gibbs-Martin index values) and Total Service Area market populations. All other predicted odds for variables included in Table 10 remain virtually unchanged. For the market format homogeneity variable, a one-unit change in index values-- indicating a one-unit increase in market format homogeneity--is associated with a 4.5 percent increase in the odds of a station changing from local to non-local ownership. Results for the variable total service area indicate that, for every additional 14,000 persons per market, the odds of a station transitioning from local to non-local ownership *decrease* by 1 percent in comparison to 1996. This indicates that the larger the market, the greater the odds of local ownership. Each one-unit increase in format variability increases the odds of a station making the transition from local to non-local ownership by approximately 4 percent. Both of these variables are significant in comparison to years prior to 1997; their significance provides satisfactory evidence to support hypotheses 4 and 5.

The inclusion of the control variable for the yearly percentage of locally owned stations, described in the subtext under yearly dummy variables, does not significantly change any of the effects of the variables except for station frequency, which is statistically significant controlling for percentage of local stations. Here, FM stations are about 11 percent more likely to be acquired by non-local owners than AM stations.

### **From Local to Remote Ownership, Pre- and Post- Telecommunications Act**

Estimates in Tables 10 and 11 provide evidence in support of media deregulation critics' assertion that deregulation will weaken, rather than strengthen, local control in 1997 and after. The significance of grouped variables for the years 1994-1995 and 1996, the years prior to full enactment of the Telecommunications Act, suggest an anticipation of looser ownership caps on the part of media owners. While stations are approximately 60 percent less likely be bought by non-local owners in the period 1994-1995, they are only 11 percent less likely to be bought by non-local owners in 1996. This may signal industry-wide knowledge of pending changes.

The estimates in Table 11 provide a more detailed assessment of the effects of the Telecommunications Act on subsequent individual years than would a grouped estimate of the years 1997-2001. The year 1997 is not statistically significant, and 2001, the final year of analysis, actually indicates significantly diminished odds of a station being non-locally acquired. These odds estimates hold even when variables that might signal the attractiveness of a station-such as potential market audience as measured by population, degree of format competition, and technical aspects of a station, such as frequency and strength-are added.

The non-significance of 1997 may indicate two possible processes. First, media owners might have been in the process of developing and implementing new acquisition strategies; another explanation, not exclusive of the first one, is that media owners might have been delaying purchases of stations. Deregulation has historically been a process characterized by litigious challenges to regulatory environmental changes (Horwitz, 1989) and potential buyers might have been waiting to see the degree to which new legislation would have been challenged.

The degree to which there was in a reduction in the odds of a station *not* being acquired from 1994-1995 to 1996 in comparison with the post 1997 period indicates that the first process, one of organizational realignment toward more relaxed ownership requirements, may be a stronger explanation than the need to hedge against uncertainty.

A significant reduction in the estimate of the odds of a station being acquired by a local owner in 2001, which remains unchanged with the addition of additional independent and control variables, may indicate that the potential number of desirable local stations not yet under non-local control had been in the process of being exhausted by that time.

Station strength remains comparably significant over the course of the analysis period, both before, during and after 1997, but under the specific conditions that characterize a less vs. a more relaxed ownership cap regime. Powerful stations, those with broadcast strength of 50 kilowatts or more, remain about 2.5 times as likely to be acquired by a non-local owner as weaker stations.

Stations broadcasting on FM frequencies vs. AM frequencies have traditionally been more attractive stations because of their superior sound quality when broadcasting (Douglas, 1997). Findings for the effect of this variable on station transition are equivocal. This variable in the first part of the analysis is not significant as a predictor of the odds of a station being acquired by a non-local owner. With the inclusion of a control variable for percentage of total local stations, this variable is significant.

Market population might signal to the potential non-local station buyer the desirability of a station in terms of potential audience. This predictor acts in a manner opposite to the hypothesized relationship. The odds of a station being acquired by a local owner actually decrease, although slightly, with increases in market size. As markets become

more homogeneous, the odds of a station being acquired by a non-local owner significantly increase, but the effect is very slight over pre- and post- Telecommunications Act periods.

That the values change little before and after the passage of the Telecommunications Act for this and other predictor variables indicates that market and individual station characteristics that media owners assessed when making decisions under the more constrained pre 1997 ownership cap regime are still salient during and after this year.

### 7.2.2 Modeling the Transition from Non-Corporate to Corporate Ownership

The analysis of the transition from non-corporate to corporate ownership is divided into three sections in a similar manner to the analysis of local stations above. The first section provides estimates of survival and hazard data for the period 1994-2001. The second section provides estimates of the effect of period, market, and station predictors for two periods prior to 1997 on the odds of a station making the transition from non-corporate to corporate ownership. The omitted dummy variable for this second analysis is the period 1997 to 2001, the era when ownership requirement changes wrought by the Telecommunications Act are in full effect.

#### **Survival and Hazard Analysis for Non-Corporate to Corporate Ownership**

[See Figure 6 and Table 12 on pgs. 135 and 150]

Figure 6 and Table 12 provide survival and hazard data for the transition from non-corporate to corporate ownership. These data provide information for the probability of failure or survival and of whether a station was censored, i.e. exited the sample due some process other than transition to corporate ownership.

Of 1452 total stations in the sample for 1994, 882, or 61 percent of stations, were privately, e.g. non-corporately, owned. These stations form the baseline for the longitudinal

analysis that follows. Of interest are the characteristics of individual stations and market characteristics that determine a station's transition out of local control. Table 12 provides survival and failure probability estimates for each of the years in this analysis.

The first column, year, indicates the year of the event. The numbers of stations that made the transition from non-corporate to corporate ownership, and that were left-censored, are in Columns 2 and 3. The effective sample size indicates the remaining stations for which there is a risk of transitioning to corporate ownership. Of interest are the proportions of stations that survived, failed and the hazard of a station transitioning to corporate ownership in a given year. The survival column estimates the probability that the transition from non-corporate to corporate ownership occurs during a year greater than or equal to the beginning of each year. The hazard column provides estimates of the hazard of a station transitioning to non-local ownership at the midpoint of the year (Allison, 2000). Of the 882 non-corporately owned stations at risk for transitioning to corporate ownership at the beginning of the analysis period in 1994, 239 were found to be corporately owned by the end of the period, and 91 were right-censored, or fell out of the analysis prior to the last year of the analysis by 2001.

Censoring of stations could reflect a number of possible scenarios. First, these data--as does the survival and hazard analysis for local to non-local ownership--do not reflect late entrants into the risk period, which are included in the following longitudinal models. These models indicate that survival and hazard models alone underestimate the effect of the year on the dependent variable. Second, some stations could have been temporarily "dark" pending the sales of the stations. A station frequency, once allotted by the Federal Communications Commission, rarely goes off the air for an extended period, but usually only for short periods

while transactions involving the sale of stations between owners are negotiated. Finally, some very small stations may go out of business.

Figure 6 illustrates trends in transition from non-corporate to corporate ownership. There is a pronounced upturn in the number of stations being acquired by corporations and which were not prior to this period corporately owned for the year 1997. Station ownership transfers decline through 1999 and increase through 2000 until the end of the analysis period. The Y-axis ranges from 0 to .10, reflecting the range of probabilities of the hazard of experiencing the event from the column Hazard of Event in Table 12.

#### **Correlates of the Transition from Non-Corporate to Corporate Ownership, 1994 through 2001**

The following two tables summarize odds estimates for two sets of time. Table 13 provides estimates for two periods, 1994-1995 and 1996, immediately prior to the enactment of the Telecommunications Act and its first full year of implementation in 1997. The omitted reference, or dummy variable, is a grouped variable for the years 1997-2001. This analysis should capture the effects of processes that affect corporate acquisition of radio stations prior to new ownership rules in place by 1997, and provide a description of processes that may exist independently of the effect of the Telecommunications Act.

[See Tables 13 and 14 on pgs. 151 and 152]

Tables 13 and 14 summarize odds estimates for the dependent variable, transition to corporate ownership. These models estimate the odds of a station being acquired by a corporate owner. They also estimate the effect of the same independent variables used to predict transition to non-local ownership above. Table 13 summarizes the effect of characteristics that might affect this transition prior to 1997, with periods divided into 1994-95 and 1996. These estimates provide information about generic changes that take place

external to the effect of the Telecommunications Act's full implementation by 1997, and allow for comparison with the years 1997 through 2001 under new, relaxed ownership caps. Also included in Tables 13 and 14 is a control variable that estimates the effect of the yearly percentage of non-corporate stations on the odds of a station being acquired by a corporate owner. These percentages are described in parentheses under yearly dummy variables in Tables 13 and 14.

The period 1994-95 remains unchanged; the introduction of the control variable for "percent non-corporate" is not statistically significant. For 1996, however, the odds of corporate acquisition change dramatically when controlling for the percentage of non-corporate stations. Without this variable, estimated odds of a station being acquired by a corporate owner are 97 percent less than for the period 1997-2001; when the percentage of non-corporate stations is controlled for, however, the odds of a station being acquired by a corporate owner are only 3 percent less than they are for the period 1997-2001. All other odds estimates remain unchanged with the exception of station frequency, which is significant when controlling for yearly percentage of non-corporate ownership. FM stations are approximately 11 percent more likely to be acquired by corporate owners than are AM stations.

Table 14 lists odds estimates for the transition from non-corporate to corporate ownership. Column 1 lists baseline yearly odds ratios. Because D1 (1994) is the first year of the analysis, the predicted odds of transition from non-corporate to corporate ownership in comparison to 1996 are less than .0001 percent. For the second year prior to 1996, the predicted odds of transition from non-corporate to corporate ownership are also less than .0001 percent.

For D4 (1997), the predicted odds of transition from non-corporate to corporate ownership are almost 32 times higher than for 1996. For D5 (1998), the predicted odds of transition from non-corporate to corporate ownership are about 34 times higher than in 1996, and in the year 1999 ( D5) the transition from non-corporate to corporate ownership is approximately 45 times as great as in 1996. However, the odds of transition to corporate ownership declined to 2300 percent by 2001 in comparison to 1996.

Comparatively large odds of transition and significance indicate that there is satisfactory evidence to support H6, which states that the odds of a station's corporate acquisition are significant after 1997 in comparison with prior years.

Column 2 includes the addition of two dichotomous time-invariant variables, station strength and station frequency. Yearly predicted odds of transition are nearly identical to those in the previous model in column 1. The odds of stations operating at 50 kilowatts or greater transitioning to corporate ownership are 2.6 times greater than for stations operating at less than 50 kilowatts. This is adequate evidence to support H7 that stations operating at 50 kilowatts or greater will face significantly higher odds of corporate acquisition after 1996 than those operating at less power.

The odds of FM stations transitioning to corporate ownership are about 14.6 percent higher than for AM stations. The significance of this variable provides satisfactory evidence for support of H8, which states that FM stations will have greater odds of corporate acquisition than AM stations after 1996.

Time varying variables included in the model described in column 3 are significant, although their effects are slight. For every 15,000 additional persons per market there is a 1.6 percent increase in the odds of a station making the transition from non-corporate to



corporate ownership. The significance of this variable indicates that there is adequate support for H9, which states that Total Service Area populations affect odds of corporate acquisition after 1996. It appears that the greater the population of the market, the greater the likelihood that stations are corporately owned.

Analysis of market format variability indicates a 2 percent increase in odds that a station makes the transition from non-corporate to corporate ownership for every unit increase of homogeneity as measured by the Gibbs-Martin Index. Significance levels for this variable indicate satisfactory support for H10, that stations with greater levels of market format homogeneity have significantly greater odds of corporate acquisition after 1996. The greater the uniformity of market format, the greater the chance of corporate acquisition of the station.

The addition of the control variable for yearly percentage non-corporate stations had a negligible effect on yearly variables.

#### **From Non-Corporate to Corporate Ownership, Pre- and Post Telecommunications Act**

A comparison of the information from these two tables indicates that there is a pronounced increase in market concentration in 1997 and after, with anticipatory effects indicated for the year 1996. Variables for station power and frequency, salient for reasons discussed in the previous section, remain reasonable explanations for station acquisition. These characteristics, strength and frequency, seem to make stations attractive to corporate owners with the resources for acquisition. If a fundamental, if not complete, relaxation of ownership caps can be considered a resource, then the post 1996 period is characterized by market concentration. The lack of significance of 1997 for corporate acquisition could be, as it might be for non-local acquisition, a function of either media owners determining the degree to

which the litigious environment would settle, or a preparation and repositioning for a new station acquisition strategy in a new, favorable environment. Odds estimates from Table 13 for the period 1996 indicate that media owners may have been anticipating the pending changes in legislation wrought by the Act and were positioning themselves for a new environment. Decreasing odds estimates for 2001 from the three previous three years might indicate a diminished number of opportunities for acquisition of non-corporate stations.

### 7.2.3 The Relationship between Local and Corporate Ownership

The correlation between locality and corporate ownership (Cronbach's Alpha=.71) indicates a strong relationship between these two characteristics. The possibility exists, particularly in local markets where corporations may be headquartered, that a station may remain under local control but lose its non-corporate status, indicating a movement from individual to corporate control. For this reason, I assess the odds of locally owned stations that remain locally owned after corporate acquisition making the transition from non-corporate to corporate ownership during a specific year.

[See Tables 15 and 16 on pgs. 153 and 154]

Tables 15 and 16 compare two sets of periods, following the logic of the prior two analyses of transitions to non-local and corporate control. Models are defined in a similar manner, with odds estimates in Table 15 comparing two pre-Telecommunications Act periods, with 1994-95 coded as the first period and 1996 coded as the second period. The omitted period, 1997-2001, allows for the determination of any generic processes that exist outside of the effect of the Telecommunications Act.

The first column in table 15 describes odds of transition to corporate ownership, describing yearly odds only. Column 2 describes the effects of the time-invariant variables

of station frequency and station power as measured in kilowatts. Column 3 also describes the effect of two time-variant variables: market size and market variability. For the first period, 1994-95, the effect of corporate acquisition of local stations is not significant in comparison to the period 1997-2001. For 1996, the period prior to changes in ownership caps, stations that remain local but are acquired by corporate owners are approximately 97 percent less likely to change from non-corporate to corporate control. Stations operating at 50 kilowatts or stronger are about 2.5 times more likely to be acquired by corporations; FM stations, about 12 percent more likely to be targets of corporate acquisition.

Odds estimates for market population and format homogeneity, while significant, do not indicate that these variables have much of an effect on corporate acquisition behavior.

Table 16 provides odds estimates for all years with an omitted dummy variable for the year 1996. These estimates are designed to determine the extent to which stations that remain local are acquired by corporate owners. Column 1 includes yearly baseline odds estimates; column 2, odds estimates for station power and frequency, and column 3, odds estimates for the effects of market population and market homogeneity.

For the transition to corporate ownership for stations remaining local, results for 1994 and 1995 are not significant. For 1997, the odds of a locally-owned station experiencing a transition from non-corporate to corporate ownership is about 6.5 times that of stations making a similar transition in 1996. The trend of stations transitioning to corporate ownership peaks in 1999 with the odds being 10 times higher that a station will transition from non-corporate to corporate ownership than in 1996. By 2001, the end of the analysis period, the odds of a local station moving to corporate ownership is about 5 times greater than in 1996. There is sufficient evidence to support H16, which states that for stations

remaining local, the odds of a station acquisition by corporate owners will be significant after 1996 in comparison with previous years.

For stations remaining local, the introduction of two time invariant variables, station strength and station frequency, are not statistically significant. Odds for yearly variables remain unchanged between the baseline model described in column 1, which includes only time variables, and the model odds estimates in column 2, which includes estimates of the effects of radio frequency and power on the odds of transition to corporate ownership. Neither odds estimates for station power or frequency are significant; hence, evidence is insufficient to support either H12 or H13, given these findings.

These estimates provide information about the processes associated with corporate buyers acquiring stations in the markets where they are headquartered. These estimates indicate overwhelmingly that corporate acquisition in local markets is significantly *lower* in comparison with 1996 than in markets where stations are acquired either by non-local or corporate owners for every year in the analysis period. These estimates are the opposite of what is predicted in Hypothesis 12 that corporate acquisition will increase after 1997.

Variables described in column 3 include two time-varying variables measuring market format homogeneity and market population. The addition of the two time-varying variables changes the significance level for the odds of a local station greater than or equal to 50 kilowatts transitioning to corporate ownership. In this model, in contrast with the model described in column 2, station power is significant. Net of year, frequency, format, and market population variables, the odds of a local station making the transition to corporate ownership are about 22 percent greater than for those stations operating at less than 50 kilowatts. This indicates adequate support for H12 that for stations remaining local, stations

at 50 kilowatts or greater face greater odds of corporate acquisition after 1997 than stations operating at less than 50 kilowatts.

Of note is the statistical insignificance of the playlist variability variable that, unlike the effect of this variable in previous models measuring transition of all stations from local to non-local or from non-corporate to corporate ownership, is not statistically significant. This indicates insufficient evidence for support of Hypothesis 13 which predicted that for stations remaining local after 1996, those in markets with greater format homogeneity face greater odds of corporate acquisition. The effect of the market population variable is statistically significant with a one percent increase in the odds of a station making the transition for every additional 49,000 persons per market population. This provides support for Hypothesis 15, which predicted Total service area population would affect the odds of corporate acquisition significantly after 1996 among stations remaining local.

### **From Non-Corporate To Corporate Ownership in Local Markets**

These models provide insight into possible differences in markets where stations remain local but are acquired by corporate owners, an estimate that is not feasible using local ownership as an independent or control variable due to a high degree of multicollinearity (see above for an explanation of the Variance Inflation Factor estimates used to make this determination).

The evidence from these models indicates that corporate media buyers reach outside of their own local markets to acquire new stations, perhaps due to relatively stable corporate ownership patterns of stations that predate the analysis period. Owners could own some stations in local markets prior to 1997 under prior ownership cap rules. Local markets where corporations are headquartered may be comparatively impenetrable when compared with

more general corporate acquisition patterns that indicate massive movements toward ownership concentration by corporate owners described in Tables 15 and 16.

### **Comparison of Non-Local and Market Analyses**

Comparisons of the results presented in Tables 9 through 15 indicate some general patterns. Technical characteristics of stations are significant, although station frequency seems to have less of an effect on the desirability of stations as acquisition targets for non-local and corporate owners. As market populations decrease, the desirability of stations as targets for acquisition for either non-local or corporate owners increases, indicating that the new ownership environment provided opportunities for penetration into markets heretofore not feasible for market entry under more constrictive ownership rules. Corporate acquisition of stations after 1997 tended to be much more pronounced in comparison to the two periods, 1994-95 and 1996, immediately prior to provisions of the Telecommunications Act taking full effect.

These findings clarify the points of policy debate surrounding deregulation. Proponents of deregulation assert that relaxed ownership rules would enhance competition, while critics of deregulation hold that the provisions of the Telecommunications Act would create an environment where market ownership concentration at the national level would result. This analysis looks at a sample of individual markets, rather than aggregate national data, and finds evidence to indicate that the critics of relaxed ownership caps are correct in their assertion that market deregulation diminishes, rather than enhances, competition at the local level. Fewer individual owners and fewer local owners at the market level indicate that there are a diminished number of possibilities for new market entrants in the form of new station owners.

Theoretical explanations from organizational sociology provide explanations for these processes, although there is no one paradigm from this tradition that is comprehensive enough to explain them fully. Elements of environmental explanations, from population ecology explanations to new institutional explanations, are useful in explaining some of the characteristics of the processes associated with station acquisition. The increase in the number of stations acquired by corporations in specific markets after the enactment of the Telecommunications Act in 1997 and afterward is consistent with population ecology explanations. If individual markets are viewed as niches, a central element of population ecology explanations, then the evidence from the post-Telecommunications Act period indicates that media owners move to fill individual market niches.

Media owners seem to define stations that are desirable acquisitions for targets in terms of characteristics, such as station strength and market homogeneity in ways that indicate the desire for similar station and market characteristics. This behavior is consistent with institutional explanations of organizational behavior that hold that organizations will hedge their behavior against uncertainty by engaging in similar, or mimetic, behavior; all corporate owners, before and after 1997, look to a similar set of characteristics.

Environmental explanations must be bracketed by larger explanations that consider organizational power. Environmental theoretical approaches are limited in that they assume that the environment, with little reciprocal effect on the part of organizations themselves, determines organizational behavior.

Organizational power explanations (Perucchi and Potter, 1989; Laumann and Knoke, 1989) provide a larger framework within which environment must be considered. The ability

of media organizations to reshape ownership structure for radio stations is demonstrated in the pronounced increase in corporate acquisition after 1996.

#### 7.2.4. Interactions between Time, Market, and Station Characteristics

Tables 17 and 18 provide estimates for the interactions between time and station and market characteristics.

##### 7.2.4.1. Interaction Effects on Local to Non Local Ownership Transitions

Tables 17 and 18 compare two sets of periods, following the logic of the prior two analyses of transitions to non-local and corporate control. This section of the analysis extends earlier analyses in that it compares the interaction between time and market and station characteristics. Models are defined in a similar manner, with odds estimates in Table 17 comparing two pre-Telecommunications Act periods, with 1994-95 coded as the first period and 1996 coded as the second period. The omitted period, 1997-2001, allows for the determination of any generic processes that exist outside of the effect of the Telecommunications Act.

The first column in Table 17 describes odds estimates of transition to non-local ownership for the period 1994-95; column 2, for 1996, the period immediately prior to changes in ownership caps.

[See Tables 17 and 18 on pgs. 155 and 156]

Odds estimates for station frequency are significant for the period 1994-95, indicating that, for this period, FM stations have approximately 12.3% greater odds than AM stations of being acquired by a non-local owner in comparison to the period 1997-2001. The results of FM vs. AM station acquisition are not significant for 1996 in comparison with 1997-2001.

Station power does affect non-local acquisition in the pre-Telecommunications Act



periods, however. The estimated odds of a 50-kilowatt or greater powered station vs. a station with less than 50kW in 1994-95 are approximately twice that of the period 1997-2001. For 1996, the estimated odds of a 50-kilowatt or greater powered stations vs. weaker stations being acquired by a non-local owner increase to 3.5 times in comparison with 1997-2001. For hypothesis H16, that stations powered at 50 kilowatts or stronger have significantly greater odds of non-local acquisition in years 1997 and later than prior to 1997, there is only partial evidence to suggest support. It appears that a station's power in interaction with time is an equivocal predictor of change in local ownership status after 1997 in comparison with the years prior to 1997.

For hypothesis H17, that FM stations will have significantly greater odds of non-local acquisition in years 1997 and later than prior to 1997, there is enough evidence to support the hypothesis that the year in interaction with station frequency signaled a greater estimated odds of non-local acquisition than prior to 1997.

Total service area population in interaction with time does not significantly affect the estimated odds of non-local acquisition of stations in years 1997 and after. Hypothesis H19, which states that format variability significantly affects the odds of non-local acquisition of stations in years 1997 and after, is rejected.

For market characteristics, the interaction between period and both format variability and market population on the estimated odds of transition to non-local ownership are not significant.

Table 18 provides odds estimates for all years with an omitted dummy variable for the year 1996. For the variable station frequency, AM vs. FM, *all* yearly interactions with station frequency have statistically significant odds estimates in comparison to the omitted

dummy variable year 1996. The odds of FM stations vs. AM stations being acquired by non-local owners increase until 1999, with FM stations more than twice as likely to be acquired than AM stations in comparison with 1996. Of note is the decrease in estimated odds, with FM stations only about 15 percent more likely to be acquired by non-local owners in 2001 than in 1996.

A station's power also affects the estimated odds of it experiencing a change in ownership to non-local ownership, but in no discernable pattern. Both pre-1996 odds for the year 1995 and post Telecommunications Act odds estimates for all years 1997 thorough 2001 consistently indicate that stations at 50 kilowatts or greater are approximately two to three times more likely to experience acquisition by a non-local owner than in 1996. For the years 1999 and 2000 format variability has a significant effect on the estimated odds of a station being acquired by a non-local owner, while total market population does not appear to have an effect on station ownership change.

There is evidence to partially accept hypotheses H16 and H17, that post-1996 frequency and station power characteristics have a greater effect on estimated odds of a station making the transition from local to non-local ownership than prior to the enactment of the Telecommunications Act and the inception of its policies in 1997. More equivocal is the effect of local market characteristics. There seems to be no discernable pattern in either the period prior to or after the enactment of the Telecommunications Act for the effect of the interaction of time and format variability or market population, and hence, no evidence to support hypotheses H18 or H19.

Much of the statistical significance indicated in Table 17 may be the result of changes in patterns after 2000 and the treatment of the period 1997-2001 as one period. It appears that

the market of acquisition of local radio stations may have reached its saturation point by late 1999.

#### 7.2.4.2. Interaction Effects on Non Corporate to Corporate Ownership Transitions

Transfers to corporate ownership are assessed in this section of the analysis using interaction effects similar to those found in 7.2.4.1, the analysis of transfers of stations to non-local ownership.

Tables 19 and 20 compare two sets of periods, following the logic of the prior two analyses of transitions from non-corporate to corporate control. This section of the analysis extends earlier analyses in that it compares the interaction between time and market and station characteristics. Models are defined in a similar manner, with odds estimates in Table 19 comparing two pre-Telecommunications Act periods, with 1994-95 coded as the first period and 1996 coded as the second period. The omitted period, 1997-2001, allows for the determination of any generic processes that exist outside of the effect of the Telecommunications Act.

The first column in table 19 describes odds estimates of transition to corporate ownership for the period 1994-95; column 2, for 1996, the period immediately prior to changes in ownership caps.

[See Tables 19 and 20 on pgs. 157 and 158]

Odds estimates for station frequency are significant for the period 1994-95, indicating that, for this period, FM stations have approximately 68 percent greater odds than AM stations of being acquired by a corporate owner in comparison to the period 1997-2001. The results of FM vs. AM station acquisition are not significant for 1996 in comparison with 1997-2001.

Station power does affect corporate acquisition in the pre-Telecommunications Act periods, however. The estimated odds of a 50-kilowatt or greater powered station vs. a station with less than 50 kilowatts in 1994-95 are approximately twice that of the period 1997-2001. For 1996, the estimated odds of a 50-kilowatt or greater powered stations vs. weaker stations being acquired by corporate owner increase to approximately 5.5 times in comparison with 1997-2001.

For the hypothesis H19, that FM stations will have significantly greater odds of corporate acquisition in years 1997 and later than prior to 1997, while there is enough evidence to support the hypothesis that the year in interaction with station frequency signaled a greater estimated odds of corporate acquisition than prior to 1997, the results are significant for the period both prior to and after enactment of the Telecommunications Act. Estimated odds for transition to corporate ownership also do not follow any discernable pattern prior to, during, or after 1997.

Total service area population in interaction with time does not significantly affect the estimated odds of corporate acquisition of stations in years 1997 and after.

For market characteristics, the interaction between period and both format variability and market population on the estimated odds of transition to corporate ownership are not significant for the period prior to 1997.

Table 20 provides odds estimates for all years with an omitted dummy variable for the year 1996. For the variable station frequency, *all* yearly interactions with station frequency have statistically significant odds estimates in comparison to the omitted dummy variable year 1996. The odds of FM stations vs. AM stations being acquired by non-non-corporate owners increase until 1999, with FM stations more than twice as likely to be

acquired than AM stations in comparison with 1996. Of note is the decrease in estimated odds, with FM stations only about 15 percent more likely to be acquired by corporate owners in 2001 than in 1996.

A station's power also affects the estimated odds of it experiencing a change to corporate ownership, but in no discernable pattern. Both pre-1996 odds for the year 1995 and post Telecommunications Act odds estimates for all years 1997 thorough 2001 consistently indicate that stations at 50 kilowatts or greater are approximately two to three times more likely to experience acquisition by a non-non-corporate owner than in 1996. For the years 1999 and 2000 format variability has a significant effect on the estimated odds of a station being acquired by a non-non-corporate owner, while total market population does not appear to have an effect on station ownership change.

There is evidence to partially accept hypotheses H18 and H19, that post 1996 frequency and station power characteristics have a greater effect on estimated odds of a station making the transition from non-corporate to non-non-corporate ownership than prior to the enactment of the Telecommunications Act and the inception of its policies in 1997. More equivocal is the effect of non-corporate market characteristics. There seems to be no discernable pattern in either the period prior to or after the enactment of the Telecommunications Act for the effect of the interaction of time and format variability or market population, and hence, no evidence to support hypotheses H20 or H19. Market format homogeneity actually seems to decrease the odds of a station being acquired by a corporate owner in comparison to 1996.

Much of the statistical significance indicated in Table 19 may be the result of changes in patterns after 2000 and the treatment of the period 1997-2001 as one period. It appears that

the market of acquisition of corporate radio stations may have reached its saturation point by late 1999.

**Analysis: Interaction Effects: The Effects of Time, Station, and Market Characteristics on Station Ownership Changes.**

Results of the effects of the interaction of time with market and station characteristics are similar to the effects measured in the preceding analyses. Some characteristics, such as station power and frequency in interaction with time, affect odds estimates of a station being acquired by a non-local or corporate owner with slightly diminished effects on estimated odds of transition than found in analyses where variables are analyzed separately. Neither market homogeneity nor population in interaction with time seem to have any effect on station ownership status transitions. Station and market characteristics taken into consideration with time seem to lessen the effect of time on station transition, rather than explaining it.

This analysis indicates that time-pre-and post-Telecommunications Act-still explains most of the estimated odds of a station's acquisition by either a non-local or a corporate owner. The persistence of station characteristics as significant, although not as consequential for the change, does indicate that environmental characteristics continue to shape decisions made by non-local/ corporate owners, but not to the extent that a relaxed regulatory environment does, as indicated by the effect of time variables on estimated odds of ownership transition.

7.3 Playlist Homogeneity in the 1990s and Early 2000s.

Another central aspect of the debate surrounding the deregulation of media markets focuses on playlist variability. Figure 1 above provides aggregate evidence of an increase in

playlist overlap between formats from selected markets for the years 1993 through 2001. In Table 21, I provide mean Gibbs-Martin index values for the top 30 stations by format as reported in Airplay Monitor.

[See Table 21 on pgs. 159-160]

## **Analysis**

Table 21 lists mean Gibbs-Martin index values for the top reporting formats by year. Mean values range from a low of .943 for rhythm and blues stations in 1999 to a high of .969 for top 40 mainstream stations in 1995. While an analysis of variance indicated that the model was statistically significant overall, there were no two years that were statistically significantly different; hence, the hypotheses that there are differences between pre- and post-Act playlist variability is rejected. Noteworthy in this data are the lack of difference in variability between or within formats, either before or after the enactment of the Telecommunications Act. This may be an artifact of the type of station for which data are available. There is insufficient evidence to support H24, which states that playlist variability diminishes after 1996.

## **Homogeneity Before and After 1996**

The policy debate focuses on the prospect of diminished playlist variety after 1996. Deregulation proponents hold that playlist variety would increase. Their assertion was that, as owners moved into new markets and own increasing numbers of stations in the same market that playlist variability would increase. Deregulation critics hold that after 1996 playlist variability would decrease as a corollary of market concentration.

## **Chapter 8:**

### **Discussion: From Local, Individual Ownership to Remote Corporate Ownership**

In this chapter, I consider a range of alternative explanations for the analyses discussed in Chapter 7. The evidence from these analyses indicates a strong movement toward market ownership consolidation after 1996. What is important in this analysis is an assessment of the degree to which salient points of the policy debate, that of aggregate market consolidation and a move toward homogeneity in the variety of material available on public airwaves, have been affected in the manner that stakeholders in the debate assert. My analysis indicates that there are nuanced differences between markets that are obscured by aggregate data used as arguing points in the policy debate, which I will discuss below.

I also consider theoretical approaches appropriate to the analysis of media owners' acquisition of radio stations in a manner that results in ownership concentration. Corporate media owners *are* organizations and are subject to organizational pressures. A treatment of radio media owners as formal organizations may be useful in gaining analytical perspective, particularly in assessing the more contentious points associated with this debate. My purpose in examining formal organizational theories is not to establish the supremacy of one theory in opposition to others, but to assess the degree to which each of the theories considered informs an understanding of the processes analyzed in Chapter 7.

#### 8.1 A Move toward Non-Local and Corporate Ownership

The rate of acquisition of locally owned radio stations is significant, although not consistently so. There is evidence, given the 14 percent reduction in odds of transfer to local ownership by 2001, of market actors having exhausted the environment's capacity for new station acquisition. There were fewer stations for acquisition after the initial activity



subsequent to 1996, given the diminishing number of available stations after the peak year 1999. Similar patterns hold for corporate acquisition. The odds of a station being acquired by either a non-local owner or a corporation are still great after 1996, but begin to taper off beginning in 1999.

The analysis of stations that remain local and are acquired by corporations may explain the difference in patterns of station acquisition between non-local and corporate acquisition. It appears that prior to the analysis period, corporations may have bought geographically proximate stations. After the enactment of the Telecommunications Act, non-local owners moved to smaller markets, buying up local stations, until the supply of acquisition targets in the form of available local stations was exhausted. An alternative explanation could be that remotely located owners acquired new stations as the Federal Communications Commission released new frequencies for licensing, and that new stations were never locally owned.

Evidence of the transition of non-corporate stations to corporate ownership is of considerably greater magnitude in comparison with the transition from local to non-local ownership.

From the standpoint of population ecology theory, station owners in both analyses of local and non-corporate acquisition of stations moved into existing markets and absorbed all available resources, crowding out the possibility of competition; if the metaphor of local markets as population niches is applied, then media owners acted to fill existing niches. This explanation is consistent with the evidence that both local and non-corporate stations are characteristic of an environmental resource necessary for organizational survival-in this case, the survival of media owners who have, as part of their set of resources, radio stations.

Explanations from institutional theory may also inform this analysis of station ownership changes. Continuing with the focus of media owners as formal organizations, this analysis focuses on how stations might have drawn on similar station characteristics, resulting in similar patterns of the effect of station and market characteristics on the decision of media owners to acquire local or non-corporate stations. While this analysis does not directly measure how mimetic processes result in similar organizational forms in terms of how large media organizations are structured, this analysis does examine how owners draw on similar market and station characteristics in the decision to purchase stations.

There may have been an initial market uncertainty, resulting in initial inertia as reflected in the statistical insignificance of 1997 for non-local acquisition. Given the contentious litigation history of media and deregulation, particularly in the period prior to the enactment of the Telecommunications Act, market actors may have perceived the initial year after enactment as not yet clear of any potential judicial challenges and waited to minimize risks and transaction costs associated with potential litigation. Alternately, it may have taken about a year for the process of acquisition to take place once they were authorized by the 1996 Act. The comparison of pre- and post-Act periods in Tables 9 to 20 above indicates that the latter explanation, that of owners realigning themselves toward the new environment, and the salience of 1996 in relation to 1994-95, with increased odds of a station being the target of acquisition (although still less than in comparison with 1997 to 2001) indicates that owners were, at least in terms of buying stations, realigning themselves for anticipated changes. If owners were hedging against possible reversals in the emerging new environment, their actions would be characterized by inaction in 1996. The differences outlined in Tables 10 and 13 indicate that there was significantly more station acquisition in

1996 in comparison with the previous period, indicating an anticipatory effect on the part of media owners.

## 8.2 The Effect of Technological Characteristics: Frequency and Power

### 8.2.1 Station Frequency

Station frequency and strength are characteristics that may signal a station's desirability as an acquisition target to potential owners. Leblebici (1995) identifies technological characteristics of the environment as important in the evolution of radio as a medium. Historical analyses of the advent of FM radio identify it as superior to AM for music broadcast. Since the 1970s, AM radio is primarily a medium characterized by news and talk (Croteau and Hoynes, 2004).

Hypothesis 3 above (H3) stems from arguments made by deregulation proponents that music variety would result from concentrated ownership of multiple stations in markets. One of the historical indicators of the potential for music variety at the individual station level throughout the history of radio is station frequency, hence my use of this measure. If music variety were increased, the number of FM stations that were acquisition targets would be significant. My findings are not strong enough to support this hypothesis. The odds of an FM station vs. an AM station being acquired by a non-local owner are not significant. Based on this, I reject the hypothesis that FM radio stations are significantly more likely than AM radio stations to be acquired.

The explanation for this non-significance may indicate that this pattern of station acquisition is a departure from earlier patterns of corporate radio station ownership that favored corporate FM radio station ownership from the initiation of FM broadcasting in the post World War II era through the 1980s (Douglas, 1987; Croteau and Hoynes, 2001).

Possible reasons for FM stations not being more desirable than AM stations as a resource for non-local acquisition may reflect in station formats typical of AM and FM stations. Music may be only one consideration in the decision-making process associated with station acquisition. The number of talk radio stations, typically AM stations, increases in the eight-year period immediately prior to the Telecommunications Act, followed by the dismantling of the Fairness Doctrine after Ronald Reagan's veto of the 100<sup>th</sup> Congress' attempt to make it a Federal law. AM stations are also less expensive to run, and they do not have to maintain extensive music libraries or pay music syndication and ASCAP/BMI royalty fees. Talk and sports AM stations also have a relatively homogeneous demographic of older white males, an attractive product in terms of an audience with which to attract potential advertisers (Limburg, 2005, McChesney, 1999).

Comparisons of different ownership acquisition patterns are equivocal. Patterns for the transition to non-local ownership indicate statistical insignificance, while corporate acquisition is significant and is significant in markets where stations remain local but are corporately acquired. Taken together, these analyses indicate that corporations acquired FM stations non-locally and locally in equal amounts and that there may be some degree of corporate acquisition of local AM stations. The lack of significance of AM/FM frequencies for local markets indicates that, in larger local markets characteristic of markets where stations remain local but are corporately acquired, AM/FM frequencies are not a factor in station acquisition.

### 8.2.2 Station Power

This analysis measures station power using a dichotomous variable that divides stations into two categories, a category for stations less than 50 kilowatts in power, and a

category for stations of 50 kilowatts or greater. While station power varies based on geographical terrain in which a market and its stations are situated, it is the most consistent, if not exact, measure of a station's potential to reach listeners in its market.

That these variables have consistent statistical odds values for non-local and corporate transition indicates that a station's power is a factor in corporate acquisition of locally owned stations. Its lack of significance in the process of local stations being acquired by corporations in the same market is salient. These findings indicate that the process of acquisition is consistent with analyses that describe post-Telecommunications Act ownership shifts as characteristic of a shift from local individual ownership to corporate oligopolical ownership (Bates, 1999; McChesney, 1999). The findings also indicate manipulation of the regulatory environment by prominent market actors, minimizing the effects of regulatory change on market uncertainty and allowing for a focus on technological characteristics of the environment (Lebleblici, 1995).

For the analysis of market penetration, where the corporation is located in the market in which the station exists, the findings are consistent with the manner in which stations might have behaved before 1997. The least corporate acquisition of stations takes place in market areas where corporations are headquartered. This is consistent with earlier ownership limitations whereby media owners had already acquired the maximum number of stations allowable under prior, more restrictive, ownership caps.

For the interaction between station power and time, the estimated odds for both pre- and post-Act periods are significant, indicating the ongoing use by non-local and corporate media outlet buyers of station characteristics as a signal for station desirability.

### 8.3 The Effect of Market Characteristics: Format Variability and Market Population Size

#### 8.3.1 Format Variability

Format variability, as measured by the Gibbs-Martin index, must be examined alongside univariate data in Table 7a. Ranges for Gibbs-Martin values indicate that there is wide variation in market variability before and after 1996 with ranges of variability similar at the beginning and end of the analysis period.

This pattern of values coupled with statistical significance suggests two processes and rules out one process discussed earlier. Market actors are *not* going into markets where there is a high degree of competition, as earlier theorized; market action by non-local and corporate acquisition is characterized by a high degree of market format variability. What this means is that there is partial support for the argument that there are increasing numbers of formats within markets, but this is not driven by ownership concentration as proponents of deregulation argue. Market variability exists prior to station acquisition and not because of it. Additionally, market format variability returns to pre-Telecommunications Act levels, contradictory to arguments made by critics of deregulation. Both critics and proponents of deregulation argue points based on assessments of large scale, aggregate data that tend to obscure variation at the market level.

What explains the pattern of format variation and market action in markets where variability already exists? First, potential media owners, who had acted successfully to reshape the regulatory environment, still have to deal with market uncertainty. If market variability is examined in concert with station power, it could be that market actors acquire a variety of different types of high-power stations in a particular market but hedge against uncertainty until all transactions are completed. At that time, only formats that produce

desired demographic characteristics are maintained, returning ranges of market variability to pre-1997 levels.

### 8.3.2 Market Population

Another market characteristic, the potential audience for a particular station, is measured using the service area population for each specific market. Market size was to be negatively correlated with both acquisition of local and non-corporate ownership, but only slightly. The estimated odds post -1996 of either non-local or corporate acquisition increase for every 3 to 5 thousand fewer people in a total service area population. These processes are examples of movement into new markets made available due to the change in ownership caps, a change that opens new market accessibility to media owners.

Both format variability and market population as signals of the attractiveness of an individual station as an acquisition target may be examples of the isomorphic processes discussed in the beginning of this chapter. As owners are apprised of market characteristics through public information, they could acquire stations in similar patterns as other market actors. Also of note is that format variability for markets is statistically insignificant for stations that remain local but are acquired by corporations. This is possibly due to locally situated corporations already being present in these markets at the beginning of the analysis period. Local corporate station owners traditionally have more detailed knowledge of the nuances of demographics, station history, and they may also have first-hand knowledge of market format mix and target audiences.

While there is no concrete evidence for possible isomorphic processes in terms of market penetration by media owners, there are routine, structured processes whereby salient actors, i.e. media owners, regulators, program directors, and stockholders in large publicly

traded companies gain and exchange information. The data on which this analysis is based is drawn from the broadcast industry targeted publication, *Broadcast and Cable Yearbook*, for example. One comprehensive source of industry information that includes many of the mainstream business articles, industry-targeted opinion pieces, and analyses, is LexusNexus, a database of pertinent business articles. LexusNexus can be accessed by date, industry focus, and topic. An examination of LexusNexus by broadcast industry targeted articles and date, using “Telecommunications Act of 1996” as a keyword, yielded the following results described below in Table 22.

[See Table 22 on pg. 161]

Information, an attempt to hedge against environmental uncertainties, would seem to affect decisions made about the desirability of stations as targets for acquisitions for all station characteristics: individual station characteristics, such as frequency and power, and market characteristics, such as the degree of competition in a specific market and the potential audience for a station. Further analysis is necessary to determine the frequency of topics discussed in articles posted on LexusNexus, but this preliminary observation suggests that media owners are reading the same information and making station acquisition decisions based on the similar criteria.

#### 8.4 Changes in Playlist Variability?

Table 21 describes data for an analysis of playlist homogeneity for the top-30 reporting stations per format. An examination of these formats indicates that, while there is a trend toward increase in the number of formats, playlist variety remains generally low, e.g., with Gibbs-Martin Indexes close to 1, constantly over an eight-year period. Playlist variability, at least in terms of the number of different airings of individual songs remains



low and invariant both before and after the enactment of the Telecommunications Act in 1996.

While the contention by critics of deregulation (DiCola and Thompson, 2002) may be partially correct in that documentation indicates that new artists are increasingly marginalized from entry onto playlists after 1996, variability in terms of difference in songs played has been consistently low both before and after the environmental changes wrought by the Telecommunications Act. Mimetic processes, in which stations copy one another in terms of playlists, are an entrenched part of the broadcast industry and are characterized by relatively tightly coupled relationships between the broadcast and recording industries (Berry and Waldfogel, 2001; Alkvist, 2000).

The argument made by deregulation critics (DiCola and Thompson, 2002) regarding diminishing playlist variability wrought by the Telecommunications Act does not seem to have the strength of the first argument regarding market ownership concentration. Here, the evidence is equivocal for both points of this aspect of the debate. Deregulation proponents asserted that playlist variability would increase because of enhanced ability of media owners to serve markets (National Association of Broadcasters, 2004). There is evidence that the transformed ownership environment brought about because of the Telecommunications Act did little more than reinforce a process of song selection already in existence that emphasized sameness in playlist programming rather than variety (Berry and Waldfogel, 2001).

## **Chapter 9: Rethinking Applications of Organizational Theory's Approach to Patterns of Cultural Distribution and Delivery**

In this chapter, I continue assessing organizational theoretical approaches discussed briefly in chapter 8. I conclude with a discussion of the limitations of this study and how this initial analysis suggests further lines of future research.

My analysis has disaggregated trends in ownership consolidation discussed in general and at the aggregate level throughout the literature (Lee, 2004; DiCola and Thompson, 2002; McChesney, 1999). I have demonstrated the degree to which the effects of patterns of station acquisition under a new regulatory regime necessitate the need to modify earlier theories of programming and format diversity.

While both institutional and population ecology theories of organizations view the environment as the determining characteristic in station format, playlist characteristics, and music production decisions (Dowd and Blyler, 2002; Dowd, 2004), these approaches make the most sense when placed in historical context. Environmental factors did generate alternations between competition, consolidation of markets for records, and for new venues, e.g., new broadcast stations, from which to give recordings exposure to the public through airtime. This only holds for the earlier ownership regime, where ownership caps were in place in the broadcasting industry

Under the new regulatory regime, however, new theoretical assessments need to be brought to bear on processes rendered fundamentally different by the imposition of the new environment. My analysis provides stronger support for resource mobilization theoretical explanations (Perruchi and Potter, 1989; Laumann and Knoke, 1989). From the vantage point of ten years after the enactment of the Telecommunications Act, the environment seems

to have been completely reshaped through efforts of a network of organizations and station owners that have successfully controlled their environment toward the end of nearly complete ownership consolidation.

For the broadcasting industry, the organizational network that shapes a new deregulated media environment is the National Association of Broadcasters. This organization, a powerful lobbying group in terms of donations--see Tables 1a and 1b above--also forms networks with other consequential lobbying groups in other sectors of telecommunications. The result is an environment in which acquisition of once locally controlled and individually owned stations continue until market saturation.

While my analysis describes changes in the magnitude of these processes, there is no measure of organizational size. To place this analysis in context, I have compared the number of and size of largest group owners in comparison to the number of major recording labels who have direct control over production of new musical material in Figure 8. Figure 8 describes parallel changes in ownership consolidation between the recording and broadcast industries.

[See Table 23 on pg. 162]

This information places my analysis in context in terms of the transition period between old and new regulatory eras. Fewer corporate non-local market actors with increasing numbers of stations acquire increasing numbers of local, individually owned stations, *particularly* after 1996. Stations do not act in a vacuum, however. Column 2 in Figure 6 depicts the number of recording labels with direct control over artists in terms of distribution and production. Where there are many actors in the recording industry, systems of artist brokerage emerge, where control over production and distributions are negotiated

between the artist, the producer, and the distributor (DiMaggio, 1977). Were there to remain a relatively competitive recording industry characterized by the alternating cycles of innovation and stability (Dowd and Blyler, 2002; Dowd, 2004), corporate broadcast outlet owners might have to respond by expanding numbers of formats. However, what is emerging is a market with little room for market entrants, and a market characterized by very large economies of scale with two consolidated industries dictating content along narrowly defined demographic lines.

Laumann and Knoke's explanation (1989) provides the most comprehensive assessment for processes associated with media consolidation. Large national corporate actors bring relevant mobilizable resources to bear, first to affect policy domains, and subsequently, to eliminate any uncertainty in the environment through establishing networks with corporate entities of similar size and scope: national advertisers, and large, corporately controlled record labels. This serves both to maximize gain and to buttress the organization against future market uncertainty. Since 2000, record labels, which are increasingly fewer in numbers, have greatly reduced their numbers of artists, production staff, and technological personnel associated with music production (DiCola and Thompson, 2002) in changes that mirror reductions in personnel in broadcasting outlets. Programming decisions are increasingly the responsibility of fewer decision-makers, in remote, corporate locations (Lee, 2004).

My findings indicate a curvilinear pattern of range of format variability between markets with a low degree of variability at the beginning of the analysis period in 1994, an increase in format variability in 1996 and 1997, and a decreasing format variability through 2001. This is consistent with aggregate findings for format changes in general.

### 9.1 Limitations, Possible Suggestions for Further Research, and Post 2001 Developments

My purpose in conducting this analysis is to provide a complimentary detailed analysis to research that tackles critical questions of the effects of the Telecommunications Act but omits detailed minutiae about variability among markets. There are three possible future lines of research suggested by these findings and subsequent developments after 2001.

In a reality where there is an optimal match between theoretical questions, empirical observations, the data necessary for rigorous analysis, and where time is not a constraint, this research would have been more thoroughgoing by using data that would match characteristics of individual corporate owners; i.e., size, scope, and political power, to the processes described earlier. However, other lines of research, descriptions, and accounts provide contextual information not included in this analysis.

Future work will be necessary in order to assess the relationship between environmental characteristics, year, and playlist variability. Researchers assessing changes in playlist variety face paucity in the availability of data that accurately tracks incidences of playlist occurrences of songs. Future analysis will involve tracking numbers of songs, covered earlier here, with incidences of individual songs being played, covered sporadically in industry data.

The current broadcast industry environment is also characterized by a convergence of technologies that has emerged since the last period covered in this analysis. Stations not only broadcast, but also simultaneously must maintain a Web presence, both through station home pages and Web casting. An assessment of these characteristics provides the possibility for further examination. In a new environment in which political, legal and regulatory environmental features have been stabilized, do isomorphic or polymorphic processes come

into play? An examination of commercial stations' Web presence, now possible, may begin to answer this question.

Technological developments in the environment may destabilize the hegemony of the broadcast oligopoly. The irony of the successful manipulation of the regulatory environment by the broadcast industry is that, although regulatory changes wrought by effective industry action created a stable environment where competition between broadcast owners is minimized, commercial radio itself faces market competition from satellite and internet radio, downloadable music formats, and other technological innovations not yet extant in 1996 when the Telecommunications Act was passed. Further analysis should assess the degree to which commercial radio's market share has been compromised by other technological developments.

A third possible line of research should examine the impact of the community radio movement in the United States. The Media Access Project (Media Access Project, 2000) is an advocacy group representing interests of the emergent community and low power FM radio movement, which has successfully advocated for the use of AM and low-power FM radio stations as community-based stations, available for use by educational, non-profit, and community groups. Under pressure from Congress and other groups, Michael Powell, FCC chair during the first and part of the second G.W. Bush administrations, set aside a specified number of low-power FM and AM frequencies for use by non-profit organizations. Media access advocacy groups have successfully thwarted initiatives by the broadcast industry to limit or eliminate these alternatives to community radio, as well as an attempt by Powell in 2004 to eliminate all restrictions on large-scale ownership. The existence of these groups

may create a new organizational field in which further changes to the environment in which large-scale corporate media owners may emerge.

Finally, theories of cultural production and distribution would explain *more* about innovation, variability in programming, and control of media content if cultural theories considered economic structure. Social structures of accumulation (SSA) theories (O'Hara, 2006) conceptualize economic structures as characterized by relations between capitalists, workers, and the political system. All of these elements have an impact on economic form, the salient idea being that routine processes spawn institutional forms and mechanisms, which outlive their usefulness, generating the potential for a crisis. For entire economies, this crisis results, according to this theoretical approach, in a society-wide depression. However, SSA theory has been expanded to include the possibility of specificity in economic social structures; these structures can be geographically specific, or specific to sectors of the economy. In the case of the media industry, processes characterized by the political, legal and economic structures dominating media ownership since the enactment of key legislation in 1927 and 1934 were not necessarily conducive to further profit for the media industry. Anticipating a crisis as competing technologies began to encroach on traditional boundaries between media, a concerted media industry, through its legislative trade associations, acted to create an environment in which new social structures of accumulation not possible under the old regulatory regime could emerge. Future analyses of cultural production would be well served in considering the regulatory regime which brackets innovation and conformity in cultural production.

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## Figures

Data for Grand Forks, North Dakota, 1996

Total Service Area Population: 170,200

Market Ranking for 1996: 251<sup>st</sup> out of 361 U.S. markets

Number of Stations in Grand Forks, ND 1996: 13

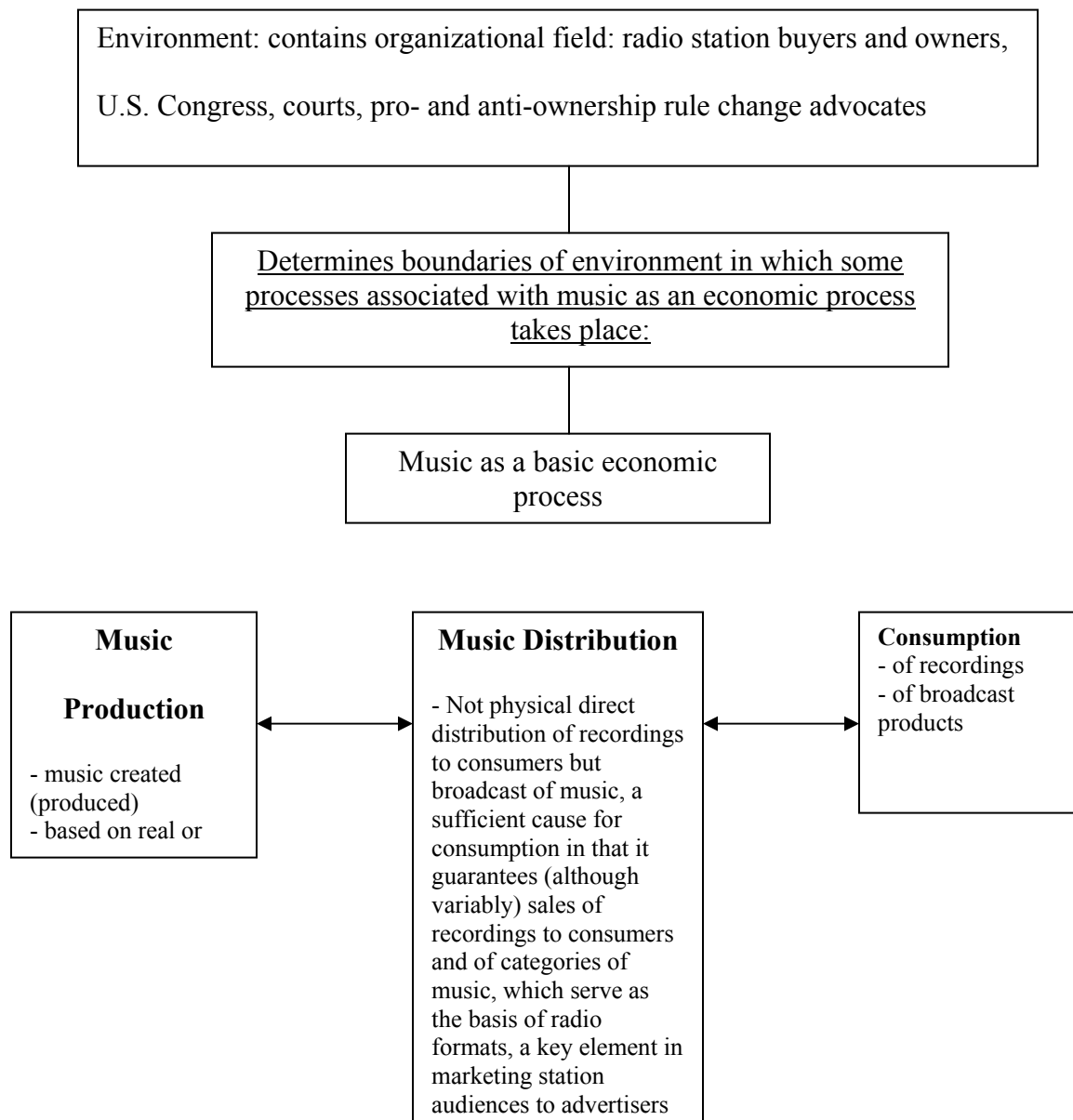
<u>Station Identifiers</u> (Call Letters)	<u>Frequency</u> AM/FM	<u>Power</u> in Kilowatts	<u>Format</u>	<u>Locally</u> <u>Owned?</u>	<u>Corporately</u> <u>Owned?</u>
KCNN	AM	5	news/talk	yes	no
KJKJ	FM	100	aor*	yes	no
KKCQ	AM	5	country	yes	no
KKEQ	FM	50	country	yes	no
KKXL	AM	1	news/talk	yes	no
KKXL	FM	65	chr**	yes	no
KNOX	AM	5	mor***	yes	yes
KNOX	FM	100	country	yes	yes
KQHT	FM	100	chr	yes	no
KROX	AM	100	alternative	no	yes
KSNR	AM	100	oldies	yes	no
KYCK	FM	100	C and W* ++	yes	yes
KZLT	FM	100	AC*+	yes	no

- \* Album oriented rock
- \*\* Contemporary hit radio
- \*\*\* Middle of the road
- \*+ adult contemporary
- \*++ Country and Western

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(Arbitron, 2004, [http://www.arbitron.com/radio\\_stations/home.htm](http://www.arbitron.com/radio_stations/home.htm), accessed September 28<sup>th</sup> 2004)

**Figure 1. Example of Arbitron Radio Market**



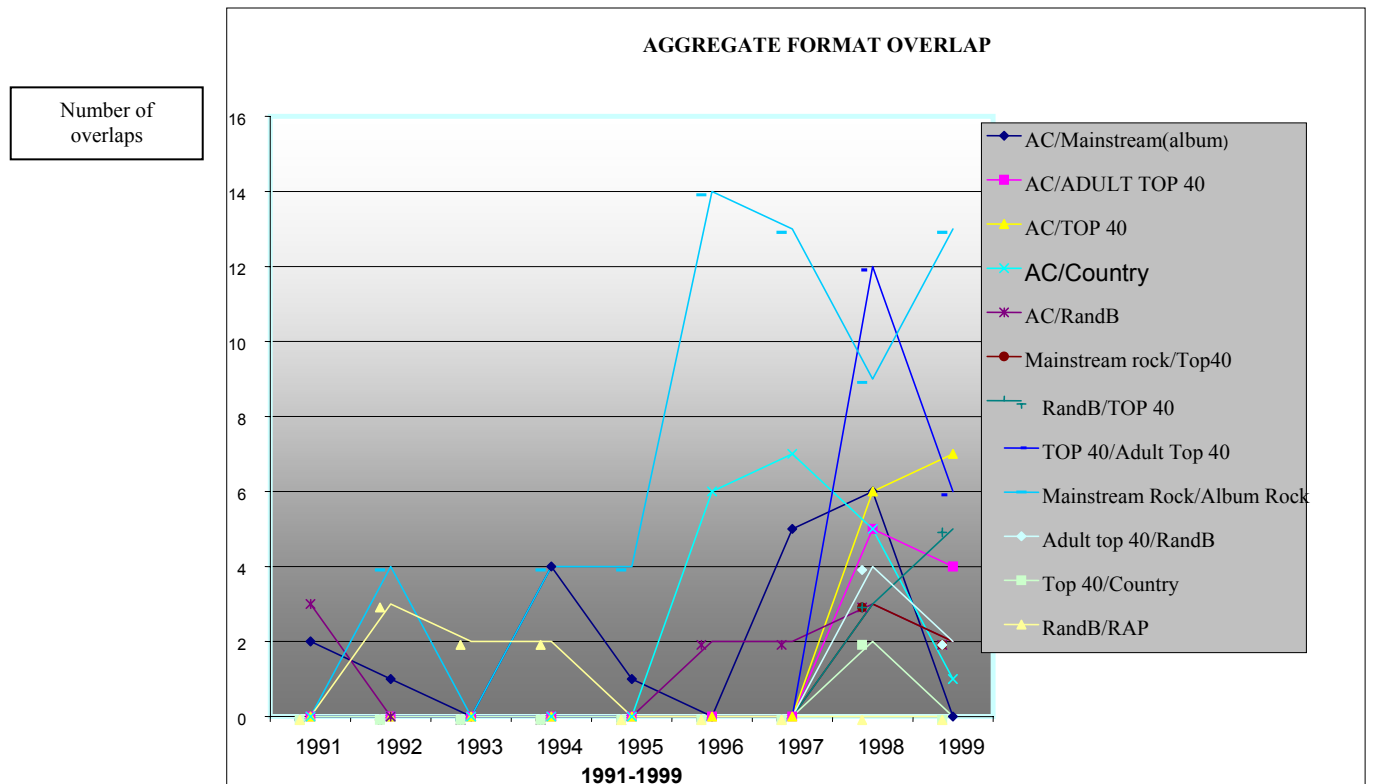
**Figure 2. A Conceptual Model of Music Consumption, Distribution, and Production Based on the Literature**

	<b>Environment</b>	<b>Music Production</b>	<b>Music Distribution</b>	<b>Music Consumption</b>
<b>Examples from the Literature</b>	<ul style="list-style-type: none"> <li>-Aufderheide, 1997; 1999</li> <li>-National Association of Broadcasters, 2002,</li> <li>-DiCola and Thompson, 2002</li> <li>-McChesney, 1993; 1999</li> <li>-Croteau and Hoynes, 2001</li> <li>-Horwitz, 1989</li> <li>-Rosigno and Danaher, 2000</li> <li>-Senate Committee on Communications Oversight, 1996</li> </ul>	<ul style="list-style-type: none"> <li>-Attali, 1992</li> <li>-Peterson, 1975</li> <li>-Doud and Littler, 2002</li> <li>-Doud and Blyler, 2004</li> <li>-Lopes, 1992</li> <li>-Powell, 1980</li> <li>-DiMaggio, 1977</li> <li>-Peterson and Berger, 1975</li> <li>-Davis and Willworth, 1975</li> </ul>	<ul style="list-style-type: none"> <li>-Douglas, 1987</li> <li>-Attali, 1992</li> <li>-Roy, 2003</li> <li>-Croteau and Hoynes, 2001</li> <li>-Lee, 2004</li> <li>-Alkvist, 2000</li> <li>-Peterson, 1975</li> <li>-Lopes, 1992</li> <li>-Powell, 1980</li> <li>-DiMaggio, 1977</li> <li>-Peterson and Berger, 1975; Barry and Waldfogel, 2001</li> <li>Alkvist and Fischer, 2000; Kennedy, 1994</li> </ul>	<ul style="list-style-type: none"> <li>-Lee, 2004</li> <li>-Alkvist, 2000</li> <li>-Powell, 1980</li> <li>-DiMaggio, 1977</li> <li>-Peterson and Berger, 1975</li> <li>-Barry and Waldfogel, 2001</li> <li>-Alkvist and Fischer, 2000</li> <li>-Davis and Willworth, 1975</li> <li>-Kennedy, 1994</li> </ul>
<b>Strengths</b>	<p>Defines regulatory environment; defines points of debate in pro vs. anti regulatory debate.</p>	<p>Addresses salience of the environment specific to music production, i.e. population ecology and new institutional organizational theories applied to cultural production</p>	<p>Acknowledges the importance of broadcast radio in getting music to listeners; acknowledges effect of advertisers on playlists and formats</p> <p>-provides account of the technical salience of station power, frequency, in broadcast music</p> <p>accounts for changes in local market size</p>	<p>-addresses salience of the environment in relation to music production.-</p> <p>-some research addresses importance of playlists and formats to advertisers</p> <p>-</p>
<b>Weaknesses</b>	<p>Tends to aggregate data and make assertions based on national level data without taking local markets into account</p>	<p>Does not take into account processes not directly connected to music production, e.g. the effect of advertising on what receives airtime. Does not take regulatory environment and its affect on radio airplay for recordings ( e.g. FCC programming diversity requirements) into account</p> <p>Does not acknowledge organizational power in shaping environment</p> <p>-does not take local market variability into account</p>	<p>-regulatory environment often ignored</p> <p>-does not take local market format variability into account ( but does acknowledge role of local market size)</p>	<p>- regulatory environment's affect on format variety treated as a 'black box' in analysis.; while acknowledged, it is not explained except in terms of before and after 1996.</p> <p>-does not take local market variability into account</p>
<b>Usefulness for this research</b>	<p>-Forms the basis for the analysis of organizational fields before and after 1996 and their affects on station acquisition characteristics</p>	<p>-Environmental approaches useful when organizational power is taken into account</p>	<p>-Technical information useful as characteristic for a station's attractiveness as a target for corporate ownership.-Accounts outline salience of station format. U.S. oligopoly considered.</p>	<p>-Accounts outline importance of station format and technical characteristics, and provide indication if not explanation of regulatory environment useful for this analysis.</p>

**Figure 2a. Strengths, Weaknesses and Potential Contributions of Surveyed Literature**

YEAR	DEMOCRATS	REPUBLICANS	TOTAL AMOUNT GIVEN, \$
1990	52%	48%	749,482
1992	59%	41%	1,541,828
1994	58%	42%	1,420,803
1996	38%	62%	2,353,332
1998	44%	56%	2,439,591
2000	36%	64%	6,917,824
2002	36%	64%	5,417,845
2004	58%	42%	4,530,419

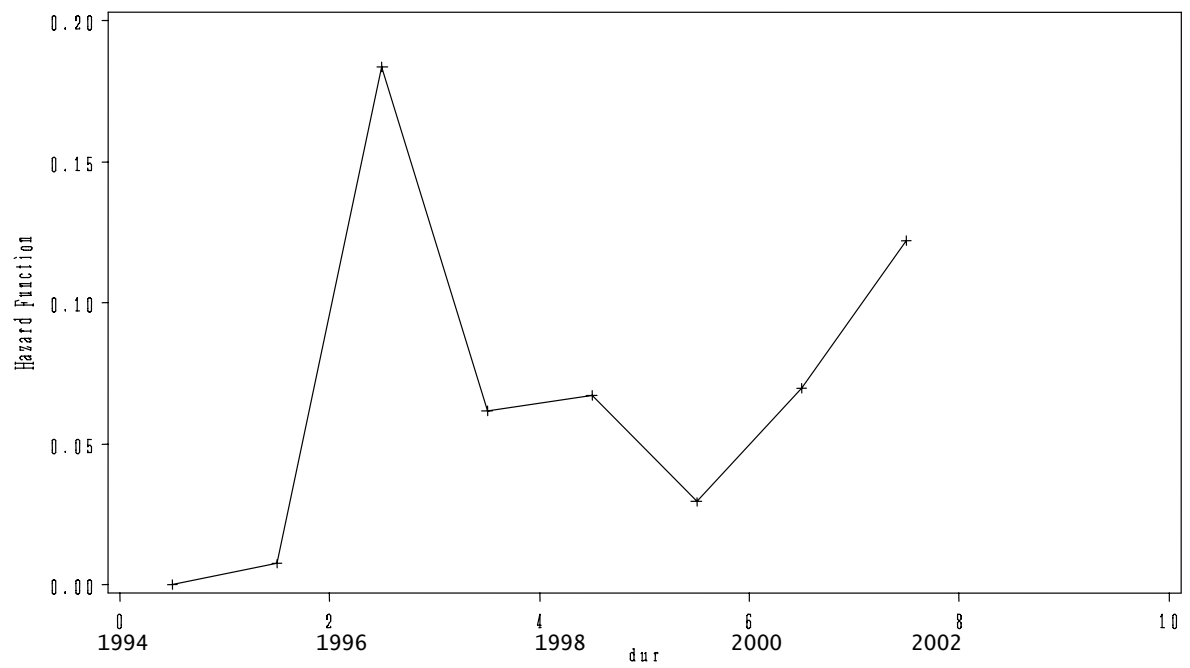
**Figure 3. Donations By Top Radio and Television Industry Donors By Party**



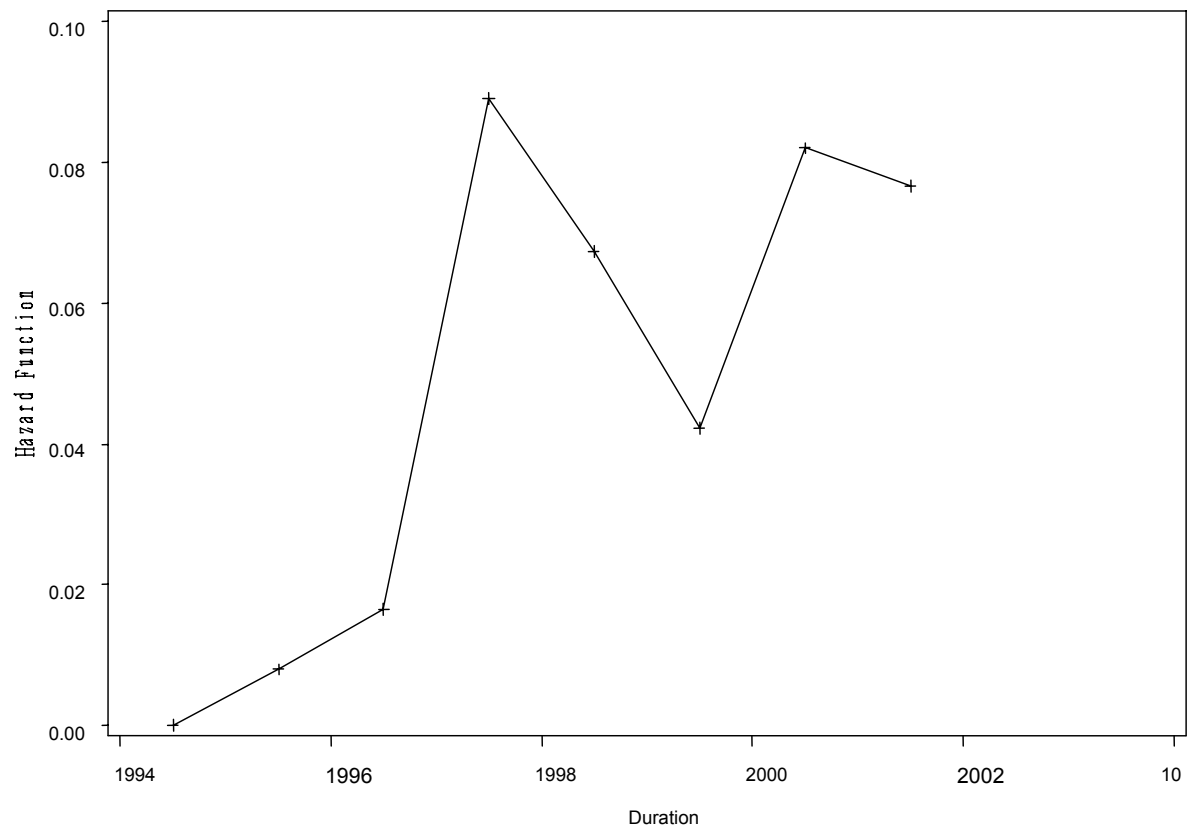
Source: compiled from data in *Billboard magazine* (1990-2000)

**Figure 4. Aggregate Format Playlist Overlap at the National Level**





**Figure 5. Hazard Function, Transition from Local to Non-Local Ownership**



**Figure 6, Hazard Function, Transition from non-Corporate to Corporate Ownership**

## Tables

**Table 1. Changes in Ownership Rules: Before and After Enactment of the Telecommunications Act of 1996**

	<u>Pre-Act</u>	<u>Post-Act</u>
<b>Local:</b>	No more than <b>2 stations</b> per owner regardless of market size	Ownership contingent on market size: If <b>market size is:</b> <b>&gt;45 stations:</b> <b>8 station maximum</b> AM and FM total, with no more than 5 each  <b>30-44 stations:</b> <b>7 station maximum</b> , no more than 5 AM or FM total  <b>15-29 stations,</b> <b>6 station maximum</b> , no more than 3 AM or FM total No more than 50% of local market  <b>14 or fewer stations:</b> 5 total, no more than 3 AM or FM total No more than 50% of local market
<b>National:</b>	No more than 20 AM and FM stations total per owner	Unlimited Number of AM and FM per owner

See Croteau and Hoynes, (2001); *Broadcast and Cable Yearbook* (1995, 1996, 1997)

**Table 2. Frequency Distribution for Local vs. Non Local Ownership by Year**

<u>Year</u>		<u>Frequency</u>	<u>Percent</u>
1994	Local	1084	74
	Non-Local	<u>368</u>	26
	Totals	1452	100%
1995	Local	875	59
	Non-local	<u>589</u>	41
	Totals	1464	100%
1996	Local	1625	92
	Non-local	<u>159</u>	8
	Totals	1784	100%
1997	Local	908	60
	Non-local	<u>632</u>	40
	Totals	1540	100%
1998	Local	881	57
	Non-local	<u>650</u>	43
	Totals	1531	100%
1999	Local	848	55
	Non-local	<u>707</u>	45
	Totals	1555	100%
2000	Local	884	58
	Non-local	<u>656</u>	42
	Totals	1540	100%
2001	Local	1294	65
	Non-local	<u>696</u>	34
	Totals	1993	100%

**Table 3 Frequency Distribution: Non-Corporate vs. Corporate Ownership By Year**

<b><u>Year</u></b>	<b><u>Corporate/Non-Corporate</u></b>	<b><u>Frequency</u></b>	<b><u>Percent</u></b>
1994	Non-corporate	843	60
	Corporate	<u>566</u>	40
	Totals	1409	100%
1995	Non-corporate	631	44
	Corporate	<u>840</u>	56
	Totals	1481	100%
1996	Non-corporate	1121	63
	Corporate	<u>663</u>	37
	Totals	1784	100%
1997	Non-corporate	746	48
	Corporate	<u>794</u>	52
	Totals	1540	100%
1998	Non-corporate	706	46
	Corporate	<u>825</u>	54
	Totals	1531	100%
1999	Non-corporate	614	40
	Corporate	<u>943</u>	60
	Totals	1558	100%
2000	Non-corporate	698	45
	Corporate	<u>842</u>	55
	Totals	1540	100%
2001	Non-corporate	1099	55
	Corporate	<u>891</u>	45
	Totals	1990	100%

**Table 4. Frequency Distribution of AM and FM Radio Frequencies by Year**

		<u>Frequency</u>	<u>Percent</u>
1994	AM	723	51
	FM	<u>685</u>	49
	Totals	1408	100
1995	AM	768	52
	FM	<u>710</u>	48
	Totals	1478	100
1996	AM	1082	61
	FM	<u>702</u>	39
	Totals	1784	100
1997	AM	856	56
	FM	<u>683</u>	44
	Totals	1542	100
1998	AM	841	54
	FM	<u>694</u>	45
	Totals	1535	100
1999	AM	848	54
	FM	<u>707</u>	45
	Totals	1555	100
2000	AM	833	54
	FM	<u>710</u>	46
	Totals	1543	100
2001	AM	1227	65
	FM	<u>764</u>	35
	Totals	1991	100

**Table 5. Descriptive Statistics for Radio Market Populations, Total Service Areas, by Year**

<u>Year</u>	<u>N</u>	<u>Mean</u>	<u>Median</u>	<u>Standard Deviation</u>	<u>Skewness</u>	<u>Kurtosis</u>	<u>Range</u>
1994	1,409	3,695,663	1,920,700	4,394,119	1.92	3.14	62,700- 14,124,200
1995	1,478	3,161,759	1,968,400	4,336,310	1.97	3.37	64,400- 17,222,900
1996	1,784	4,042,329	2,174,900	4,716,694	1.76	2.25	64,800- 17,234,300
1997	1,542	3,638,959	1,900,500	4,392,854	2.00	3.42	67,200- 17,522,300
1998	1,538	3,730,696	2,069,200	4,391,022	1.94	3.23	67,100- 17,522,300
1999	1,558	3,798,826	2,087,700	4,513,794	1.95	3.27	91,800- 17,751,000
2000	1,543	4,230,381	2,115,400	5,245,153	1.95	3.14	92,000- 22,212,100
2001	1,992	4,084,916	2,281,700	4,746,759	1.92	3.20	122,800- 18,383,800

**Table 6. Descriptive Statistics For Number of Stations by Market, by Year**

<u>Year</u>	<u>Number</u>	<u>Mean</u>	<u>Median</u>	<u>Standard Deviation</u>	<u>Skewness</u>	<u>Kurtosis</u>	<u># Of Stations per Market Range</u>
1994	1409	40	33	23.5	1.05	.27	6-93
1995	1478	39	33	23.6	1.09	.26	10-94
1996	1784	55	42	38.6	1.35	.83	10-152
1997	1542	42	36	24.0	1.21	.82	10-105
1998	1538	43	35	25.0	1.08	.23	10-103
1999	1558	43	37	25.5	1.02	.06	6-104
2000	1543	43	37	25.4	1.02	.06	6-104
2001	1992	57	44	37.0	1.11	.09	11-146



**Table 7. Market Rankings**

CITY	1994	1995	1996	1997	1998	1999	2000	2001
New York	1	1	1	1	1	1	1	1
Chicago	3	3	3	3	3	3	3	3
San Francisco	4	4	4	4	4	4	4	4
Detroit	6	6	6	7	7	7	6	10
Washington	8	8	8	8	8	9	9	8
Boston	10	10	10	10	10	8	8	9
Atlanta	12	12	12	12	12	11	12	11
Minneapolis	15	16	16	14	18	17	16	16
Baltimore	17	18	19	19	20	20	20	20
Phoenix	19	20	18	17	15	16	15	15
Denver-Boulder	22	23	23	22	23	23	23	23
Milwaukee-Racine	25	28	29	30	31	31	31	33
Sacramento	28	29	28	27	28	29	28	27
Columbus	31	32	32	32	33	34	33	35
Indianapolis	34	36	36	37	37	38	38	40
Orlando	37	39	38	38	39	39	39	39
Greensboro-Winston Salem-Highpoint	40	42	41	40	42	42	42	43
Dayton	44	52	54	54	55	56	55	58
Jacksonville	47	53	53	51	52	51	51	52
Birmingham AL	50	55	55	55	56	56	56	57
Albany- Schenectady-Troy	54	57	57	57	59	59	59	61
Greenville-Spartanburg SC	56	59	59	58	58	58	58	59
Tucson	59	62	60	61	61	61	61	63
McAllen-Brownsville-Arlington	63	63	63	62	62	63	62	64
Omaha- Council Bluffs	68	72	72	72	72	73	72	74
Toledo	71	75	75	76	78	79	78	81
Little Rock	77	82	82	82	83	83	83	85
Stockton	80	84	85	83	85	85	85	89
Des Moines	85	89	88	88	90	92	90	
Fort Wayne	90	99	99	101	100	101	100	100
Lafayette	94	97	98	98	97	100	97	98
Lexington-Fayette	99	105	105	108	107	106	107	103
Bridgeport	104	112	112	114	108	112	108	118
Portsmouth-Dover-Rochester RI	110	117	117	117	117	117	117	120
Fayetteville NC	117	128	123	125	125	126	125	126
Quad Cities- Davenport-Rock Island-Moline	123	131	132	132	132	132	132	137
Reno	128	133	131	130	127	128	127	128
Montgomery	134	142	140	143	141	142	141	147
Springfield MO	140	145	145	145	146	146	146	144
Salisbury-Ocean City MD	146	153	154	153	152	150	152	149
South Bend IN	151	158	157	158	159	163	159	168
Fayetteville AR	157	161	155	156	156	156	156	150
Lubbock	164	171	172	173	175	177	175	179
Topeka	169	176	177	180	180	181	180	187

**Table 7 Market Rankings (continued)**

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<b>CITY</b>	<b>1994</b>	<b>1995</b>	<b>1996</b>	<b>1997</b>	<b>1998</b>	<b>1999</b>	<b>2000</b>	<b>2001</b>
Yakima	176	186	187	185	193	194	183	193
Medford-Ashland	191	201	201	204	206	207	206	208
Dubuque	198	214	216	217	219	220	219	228
Charlottesville	206	220	221	223	222	222	222	223
Billings	223	236	238	242	243	245	243	251
Cheyenne	244	259	261	265	265	272	265	279

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**Table 8. Gibbs-Martin Index Values for Market Variability by Year and Market**

City	1994	1995	1996	1997	1998	1999	2000	2001
New York	0.930	0.9399	0.9576	0.940	0.945	0.959	0.949	0.969
Chicago	0.919	0.919	0.951	0.949	0.954	0.948	0.950	0.965
San Francisco	0.885	0.906	0.951	0.916	0.932	0.935	0.944	0.953
Detroit	0.927	0.927	0.957	0.946	0.940	0.936	0.945	0.959
Washington	0.927	0.950	0.951	0.942	0.949	0.949	0.944	0.940
Boston	0.929	0.929	0.956	0.947	0.950	0.944	0.941	0.962
Atlanta	0.916	0.911	0.934	0.937	0.926	0.943	0.940	0.945
Minneapolis	0.933	0.939	0.948	0.952	0.953	0.955	0.952	0.950
Baltimore	0.938	0.947	0.938	0.926	0.934	0.932	0.931	0.947
Phoenix	0.916	0.925	0.934	0.936	0.944	0.939	0.945	0.944
Denver-Boulder	0.923	0.929	0.936	0.933	0.943	0.942	0.945	0.941
Milwaukee-Racine	0.921	0.921	0.916	0.945	0.925	0.936	0.941	0.937
Sacramento	0.894	0.899	0.936	0.896	0.883	0.922	0.931	0.941
Columbus OH	0.900	0.901	0.919	0.921	0.934	0.918	0.934	0.940
Indianapolis	0.922	0.946	0.953	0.949	0.952	0.951	0.932	0.952
Orlando	0.920	0.935	0.925	0.929	0.910	0.907	0.937	0.944
Greensboro-Winston Salem-High Point NC	0.909	0.902	0.916	0.920	0.908	0.911	0.915	0.934
Dayton	0.918	0.930	0.934	0.932	0.932	0.931	0.935	0.952
Jacksonville FL	0.900	0.905	0.933	0.938	0.946	0.943	0.936	0.943
Birmingham AL	0.912	0.918	0.922	0.922	0.931	0.932	0.937	0.932
Albany NY	0.928	0.916	0.937	0.936	0.930	0.947	0.949	0.952
Greenville SC	0.920	0.911	0.924	0.918	0.916	0.921	0.941	0.930
Tucson McAllen- Brownsville- Arlington	0.880	0.869	0.926	0.908	0.918	0.912	0.908	0.919
Omaha-Council Bluffs	0.797	0.797	0.775	0.896	0.829	0.822	0.826	0.795
Toledo	0.903	0.916	0.946	0.911	0.913	0.907	0.938	0.944
Little Rock	0.899	0.905	0.898	0.934	0.925	0.929	0.929	0.920
Stockton	0.940	0.942	0.953	0.946	0.940	0.947	0.938	0.944
Ft Wayne	0.839	0.839	0.847	0.790	0.843	0.839	0.839	0.888
Lafayette Lexington-Fayette KY	0.930	0.944	0.925	0.937	0.934	0.928	0.915	0.933
Bridgeport Portsmouth-Dover- Rochester NH	0.926	0.920	0.926	0.926	0.941	0.943	0.934	0.942
Fayetteville NC	0.820	0.901	0.913	0.854	0.907	0.915	0.924	0.937
	0.777	0.809	0.809	0.666	0.666	0.666	0.722	0.809
	0.880	0.906	0.931	0.916	0.871	0.867	0.871	0.905
	0.915	0.902	0.914	0.921	0.911	0.911	0.920	0.907

**Table 8 (continued)**

	1994	1995	1996	1997	1998	1999	2000	2001
Reno	0.903	0.913	0.934	0.943	0.945	0.937	0.926	0.930
Montgomery	0.925	0.899	0.914	0.913	0.907	0.899	0.913	0.925
Springfield	0.915	0.921	0.930	0.879	0.885	0.880	0.891	0.915
Salisbury-Ocean City MD	0.880	0.893	0.893	0.920	0.895	0.892	0.923	0.930
South Bend	0.892	0.887	0.940	0.914	0.892	0.907	0.895	0.920
Fayetteville AR	0.871	0.880	0.890	0.919	0.925	0.919	0.885	0.922
Quad Cities								
Davenport-Rock Island-Moline	0.913	0.913	0.920	0.903	0.907	0.901	0.878	0.914
Topeka	0.888	0.908	0.887	0.899	0.888	0.899	0.863	0.897
Yakima	0.862	0.865	0.875	0.864	0.875	0.914	0.875	0.878
Medford-Ashland	0.852	0.863	0.906	0.878	0.892	0.882	0.885	0.909
Dubuque	0.826	0.828	0.888	0.875	0.887	0.863	0.877	0.890
Charlottesville	0.861	0.875	0.902	0.902	0.916	0.902	0.875	0.925
Billings	0.887	0.867	0.906	0.899	0.875	0.882	0.906	0.913
Grand Forks	0.916	0.899	0.887	0.888	0.887	0.911	0.876	0.915
Cheyenne	0.809	0.790	0.880	0.887	0.897	0.906	0.897	0.859

**Table 8a. Descriptive Statistics for Gibbs-Martin Indexes, By Year**

<u>Year</u>	<u>N</u>	<u>Mean</u>	<u>Median</u>	<u>Standard Deviation</u>	<u>Skewness</u>	<u>Kurtosis</u>	<u>Range</u>
1994	50	.895	.910	.038	-1.31	1.26	.77-.94
1995	50	.90	.91	.039	-1.26	1.29	.79-.95
1996	50	.91	.92	.035	-2.03	5.56	.78-.96
1997	50	.91	.92	.046	-3.51	16.37	.66-.95
1998	50	.91	.92	.050	-3.41	16.90	.66-.96
1999	50	.91	.91	.045	-3.40	16.33	.67-.96
2000	50	.91	.93	.041	-2.38	8.40	.72-.96
2001-02	50	.92	.93	.033	-2.11	5.77	.79-.97

**Table 9. Transition Hazard, Local to non-Local Ownership**

<b>Year</b>	<b>Number Failed</b>	<b>Number Censored</b>	<b>Effective Sample Size</b>	<b>Proportion Survived</b>	<b>Proportion Failed</b>	<b>Hazard Of Event</b>	<b>Hazard Standard Error</b>
<b>1994</b>	0	0	1,084.0	1.0000	0	0.007442	0.002631
<b>1995</b>	8	10	1,079.0	1.0000	0	0.007442	0.002631
<b>1996</b>	177	28	1,052.0	0.9926	0.00741	0.183705	0.013750
<b>1997</b>	51	18	852.0	0.8256	0.17440	0.061706	0.013750
<b>1998</b>	51	15	784.5	0.7762	0.22380	0.067194	0.009404
<b>1999</b>	21	8	722.0	0.7257	0.27430	0.029515	0.006440
<b>2000</b>	46	29	682.5	0.7046	0.29540	0.069750	0.010278
<b>2001</b>	38	584	330.0	0.6571	0.34290	0.122186	0.019784
<b>TOTAL</b>	<b>Total Failed</b>	<b>Total Censored</b>	<b>Percent Censored</b>				
<b>1084</b>	<b>392</b>	<b>692</b>	<b>63.84</b>				

**Table 10. Logistic Analysis: Odds of Transition to Non-Local Ownership  
1994-1996**

	Baseline (column 1)	time invariant variables (column 2)	time-varying variables (column 3)	controlling for % local (column 4)
Intercept	----- (.0204)	----- (.0322)	----- (.6850)	----- (.6858)
1994-1995 (67%)	.374* (.0505)	.350* (.0524)	.375* (.0539)	.231* (.0805)
1996	.894* (.0519)	.893* (.0545)	.888* (.0546)	.879* (.0593)
Kilowatts: Coded 1 if 50kw, 0 if less.	-	2.49* (.0447)	2.485* (.0450)	2.485* (.0451)
FM/AM: FM=1 AM=0	-	1.083 (.0395)	1.086 (.0379)	1.090* (.0396)
Total Service Area Population / 1,000,000	-	-	.985 (.0074)	.986 (.0070)
Gibbs-Martin Index*100	-	-	1.041 (.0007)	1.041 (.0070)
<i>-2log likelihood</i> 16860.49				
<i>Chi-square</i> <i>Likelihood Ratio</i>	431.50	435.62	440.10	
<i>d.f.</i>	2	4	6	
<i>Chi square</i> <i>Probability</i>	<.0001	<.0001	<.0001	

Standard error in parentheses

\* one-tailed test significant at p<.05

**Table 11. Logistic Analysis: Odds of Transition to Non-Local Ownership  
(D3 -1996) Omitted Dummy Variable**

	Baseline column 1	time invariant variables column 2	time varying variables column 3	controlling for % local column 4
Intercept	----- (0.0484)	----- (.0555)	----- (.7206)	--- (.7206)
D1 (1994) (74%)	<.0001 (153.1)	<.0010 (153.1)	<.0001 (149.5)	.0797 (2.01)
D2 (1995) (59%)	1.063 (.0718)	1.055 (.0718)	..921 (.0749)	1.002 (.0012)
D4 (1997) (60%)	1.117 (.0709)	1.113 (.0709)	1.141 (.0728)	1.002 (.0013)
D5 (1998) (57%)	1.179* (.0707)	1.163* (.0707)	1.190* (.0727)	1.003* (.0014)
D6 (1999) (55%)	1.416* (.0701)	1.422* (.0701)	1.423* (.0719)	1.007* (.0013)
D7 (2000) (58%)	1.193* (.0706)	1.182 * (.0706)	1.168* (.0752)	1.003* (.0001)
D8 (2001) (65%)	.864* (.0675)	.863* (.0675)	.884* (.0693)	.997* (.0001)
Kilowatts: Coded 1 if 50kw, 0 if less.	-	2.639* (.0466)	2.630* (.0460)	2.635* (.0469)
FM/AM: FM=1 AM=0	-	1.104 (.0405)	1.110 (.0460)	1.110* (.0470)
Total Service Area Population / 1,000,000	-	-	.990*1 (.0040)	.998* (.0078)
Gibbs-Martin Index*100	-	-	1.051*2 (.0070)	1.045 * (.0078)
<i>-2log likelihood</i>	16860.49	16846.28	16838.66	
<i>Chi-square</i>				
<i>Likelihood</i>				
<i>Ratio</i>	1470.0	1914.73	1946.48	
<i>d.f.</i>	7	9	11	
<i>Chi square</i>				
<i>Probability</i>	<.0001	<.0001	<.0001	

Standard error in parentheses

\* one-tailed test significant at p<.05



**Table 12. Survival and Hazard Estimates: Non-Corporate to Corporate Ownership**

<b>Year</b>	<b>Number Failed</b>	<b>Number Censored</b>	<b>Effective Sample Size</b>	<b>Prop. Survive</b>	<b>Prop. Failure</b>	<b>Hazard of Event</b>	<b>Hazard Standard Error</b>
<b>1994</b>	0	0	882.0	1.0000	0	0	-
<b>1995</b>	7	9	877.5	1.0000	0	0.008009	0.003027
<b>1996</b>	14	26	853.0	0.9920	0.00798	0.016548	0.004423
<b>1997</b>	70	12	820.0	0.9757	0.02430	0.089172	0.010647
<b>1998</b>	48	15	736.5	0.8924	0.1076	0.067368	0.009718
<b>1999</b>	28	8	677.0	0.8343	0.1657	0.042232	0.007979
<b>2000</b>	50	21	634.5	0.7998	0.2002	0.082034	0.011592
<b>2001</b>	22	552	298.0	0.7368	0.2632	0.076655	0.016331
<b>Total</b>	<b>Failed</b>	<b>Censored</b>	<b>Percent censored</b>				
<b>882</b>	<b>239</b>	<b>643</b>	<b>72.90</b>				

**Table 13. Logistic Analysis: Odds of Transition to Corporate Ownership  
1994-1996**

	Baseline (column 1)	Time-invariant ( column 2)	Time-varying (column 3)	Controlling for % non-corporate (column 4)
Intercept	----- (.0221)	----- (.0342)	----- (.7564)	----- (.7564)
1994-1995 (52%)	<.001 (197.6)	<.001 (195.5)	<.001* (195.3)	.701 (3.756)
1996 (63%)	.031* (.134)	.029* (.1349)	.029* (.1349)	.945* (.0021)
Kilowatts: Coded 1 if 50kw, 0 if less.	-	2.177* (.0549)	2.224* (.0552)	2.225* (.0553)
FM/AM: FM=1 AM=0	-	1.113* (.0455)	1.124* (.0456)	1.124* (.0456)
Total Service Area Population / 1,000,000	-	-	1.018*1 (.005)	1.018*1 (.005)
Gibbs-Martin Index*100	-	-	1.006*2 (.008)	1.006*2 (.008)
-2 log likelihood	16019.07	16001.70	15996.92	
Chi square Likelihood Ratio	4153.67	4387.86	4404.74	
Df	2	4	6	
Chi square Probability	<.0001	<.0001	<.0001	

Standard error in parentheses

\* one-tailed tests significant at p<.05

**Table 14. Logistic Analysis: Odds of Transition to Corporate Ownership  
(D3 -1996) Omitted Dummy Variable**

	Baseline (column 1)	Time invariant variables (column 2)	Time varying variables (column 3)	% non corporate yearly (column 4)
Intercept	----- (.1324)	----- (.1369)	----- (.8000)	----- (.7180)
D1 (1994) (60%)	<.0001 (327.9)	<.0001 (325.4)	<.0010 (325.1)	1.003 (2.49)
D2 (1995) (44%)	<.0001 (247.0)	<.0001 (245.7)	<.0001 (245.4)	1.003 (.0017)
D4 (1997) (63%)	31.26* (.1410)	33.20* (.1427)	34.02* (.1430)	1.004 (0015)
D5 (1998) (48%)	34.09* (.1419)	36.23* (.1428)	37.03* (.1430)	36.05* (.0170)
D6 (1999) (46%)	45.01* (.1421)	48.37* (.1431)	49.20* (.1433)	40.00* (.0017)
D7 (2000) (40%)	35.33* (.1419)	37.66 * (.1428)	37.98* (.1429)	37.99* (.0166)
D8 (2001) (45%)	23.84* (.1398)	25.30* (.1406)	24.99* (.1408)	22.99* (.0016)
Kilowatts: Coded 1 if 50kw, 0 if less.		2.136* (.0552)	2.186* (.0556)	2.186* (.0458)
FM/AM: FM=1 AM=0		1.146* (.0460)	1.017 (.0053)	1.017 (.0053)
Total Service Area Population / 1,000,000			1.162 *1 (.0461)	.985* (.0458)
Gibbs-Martin Index*100			1.019*2 (.0053)	1.019* (.0063)
-2log likelihood	15961.376	15944.00	15937.23	
Chi-square Likelihood Ratio	4244.64	4472.76	4496.95	
d.f.	7	9	11	
Chi square Probability	<.0001	<.0001	<.0001	

Standard error in parentheses

\* one-tailed tests significant at p<.05

**Table 15. Logistic Analysis: Odds of Transition to Corporate Ownership, Station Remaining in Local Market, 1994-1996**

	Baseline (column 1)	time invariant variables (column 2)	time varying variables (column 3)
Intercept	----- (.0221)	----- (.0342)	----- (.756)
1994-1995	<.001 (197.6)	<.001 (195.5)	<.001 (195.3)
1996	.031* (.134)	.029* (.135)	.029* (.1349)
Kilowatts: Coded 1 if 50kw, 0 if less.	-	2.49* (.054)	2.22* (.055)
FM/AM: FM=1 AM=0	-	1.11* (.0455)	1.124* (.0456)
Total Service Area Population / 1,000,000	-	-	1.018*1 (.005)
Gibbs-Martin Index*100	-	-	1.006*2 (.005)
-2 log likelihood	16019.07	16001.70	15994.92
Chi square Likelihood Ratio	4153.67	4387.86	4404.74
Df	2	4	6
Chi square Probability	<.0001	<.0001	<.0001

Standard error in parentheses

\* one-tailed tests significant at  $p < .05$

**Table 16. Logistic Analysis: Odds of Transition to Corporate Ownership, Stations Remaining Local, (D3 -1996) Omitted Dummy Variable**

	Baseline (column 1)	Time Invariant Variables (column 2)	Time Varying Variables (column 3)
Intercept	----- (.1324)	----- (.0406)	----- (.7768)
D1 (1994)	<.0001 (310.5)	<.0001 (310.6)	<.0001 (208.1)
D2 (1995)	<.0001 (302.3)	<.0001 (302.3)	<.0001 (202.5)
D4 (1997)	.189* (.1582)	.188* (.1587)	.188* (.0921)
D5 (1998)	.215* (.1570)	.214* (.1574)	.213* (.0898)
D6 (1999)	.304* (.1544)	.308* (.1548)	.304* (.0849)
D7 (2000)	.227* (.1560)	.229* (.1563)	.157* (.0877)
D8 (2001)	.152* (.1535)	.154* (.1536)	.155* (.0834)
Kilowatts: Coded 1 if 50kw, 0 if less.	-	2.136* (.0939)	2.137* (.0006)
FM/AM: FM=1 AM=0	-	.978 (.0728)	1.077 (.0475)
Total Service Area Population / 1,000,000	-		1.017*1 (.0084)
Table 16 continued			
Gibbs-Martin Index*100	-		.9932 (.0054)
-2log likelihood	14388.50	14380.59	14373.93
Chi-square Likelihood Ratio	27865.95	2790.59	2799.39
d.f.	7	9	11
Chi square Probability	<.0001	<.0001	<.0001

Standard error in parentheses

\* one tailed tests significant at p<.05

**Table 17. Logistic Analysis: Interaction Effects. Odds of Transition from Local to Non Local Ownership, 1994 to 1996.**

Period	1994-1995	1996
Intercept	----- (.0225)	
Frequency AM vs. FM*	1.123*	.677
Time Period	(.0989)	(.1055)
Kilowatts*year (1= 50 kW or greater, 0 less than 50 kW)	1.958* (.1062)	3.439* (.1232)
Gibbs-Martin index *Year	.986* (.0009)	1.000 (.0010)
Total Service Area Population*year	1.019 (.0106)	1.000 (.0010)

\* all variables significant at  $p < .05$ , one-tailed test. Standard error values in parentheses  
*-2log likelihood* 16838.67

*Chi-square  
Likelihood  
Ratio* 599.22

*d.f.* 8

*Chi square  
Probability* < .0001

**Table 18 Logistic Analysis: Odds of Transition from Local to Non-Local Ownership, Interactions between Year, Station and Market Characteristics, 1996 Omitted Variable**

Year	1994	1995	1997	1998	1999	2000	2001
Intercept	----- (.0484)						
Frequency (FM=1, AM=0) * Year	1.662 (129.6000)	1.221* (.0778)	1.694* (.0688)	1.835* (.0742)	2.196* (.0746)	1.932* (.0742)	1.151* (.0660)
Kilowatts*year (1= 50 kW or greater, 0 less than 50 kW)	1.000* (.0002)	3.073* (.1279)	3.470* (.1264)	2.740* (.1227)	3.060* (.1264)	1.786* (.1207)	2.257* (.1131)
Gibbs-Martin index * Year	1.000 (.0719)	>999 (.0001)	2.757* (13.040)	29.873 (.0202)	30.000* (2.540)	31.000* (2.559)	2.859 (10.060)
Total service area Population* Year	1.000 (4.420)	.953 (.0300)	.986 (.0377)	1.026 (.0398)	.948 (.0337)	.995 (.0163)	.993 (.0291)

\* all variables significant at  $p < .05$ , one-tailed test. Standard error values in parentheses.

-2log likelihood 16854.875

Chi-square  
Likelihood  
Ratio 1889.230

d.f. 28

Chi square  
Probability < .0001

**Table 19. Logistic Analysis: Interaction Effects. Odds of Transition from Non Corporate to Corporate Ownership, 1994 to 1996.**

Period	1994-1995	1996
Intercept	----- (.0325)	
Frequency AM vs. FM*	1.684*	.877
Time Period	(.0605)	(.0937)
Kilowatts*year (1= 50 kW or greater, 0 less than 50 kW)	2.105* (.1062)	5.496* (.1232)
Gibbs-Martin index *Year	.995* (.0106)	1.000 (.0013)
Total Service Area Population*year	1.001 (.0097)	1.000 (.0013)

\* all variables significant at  $p < .05$ , one-tailed test. Standard error values in parentheses  
*-2log likelihood* 17872.67

*Chi-square*  
*Likelihood* 687.22  
*Ratio*

*d.f.* 8

*Chi square*  
*Probability* < .0001



**Table 20. Logistic Analysis: Odds of Transition from Non-Corporate to Corporate Ownership, Interactions between Year, Station and Market Characteristics, 1996 Omitted Variable**

Year	1994	1995	1997	1998	1999	2000	2001
Intercept	----- (.0484)						
Frequency (FM=1, AM=0) * Year	.915 (317.7000)	1.144 (.1144)	1.223 (.1097)	1.276* (.1088)	1.276* (.1067)	1.460* (.1085)	.926 (.1002)
Kilowatts*year (1= 50 kW or greater, 0 less than 50 kW)	1.019* (372.7000)	2.827* (.1279)	3.367* (.1264)	2.622* (.1227)	2.906* (.1264)	1.578* (.1207)	2.263* (.1131)
Gibbs-Martin index * Year	1.000 (286.2000)	.0692 (.0001)	.716* (13.040)	.876 (.0202)	.955 (2.540)	.907* (2.559)	.718* (10.060)
Total service area Population* Year	1.059 (32.2200)	1.026 (.0126)	1.009 (.0124)	.982 (.0126)	1.008 (.0118)	.993 (.0102)	1.012 (.0102)

\* all variables significant at  $p < .05$ , one-tailed test. Standard error values in parentheses.

-2log likelihood 16840.667

Chi-square  
Likelihood  
Ratio

d.f. 28

Chi square  
Probability < .0001

**Table 21. Mean Gibbs-Martin Playlist Indexes by Format and Year**

<b>Format</b>	<b>Year</b>	<b>Mean GM Index</b>
<i>Country</i>		
COUNTRY	1993	0.94
COUNTRY	1995	0.963318
Country	1997	0.963184
Country	1999	0.96596
Country	2001	0.961792
<i>Top 40 Related Formats</i>		
TOP 40/Adult	1993	0.961
TOP 40/Mainstream	1993	0.969909
TOP 40/Rhythm- Crossover	1993	0.969624
Top 40/Adult	1995	0.961036
TOP 40/Mainstream	1995	0.967836
Top 40/Rhythm- Crossover	1995	0.967277
Top 40/Adult	1997	0.960183
Crossover	1997	0.961629
Top 40 Rhythmic	1997	0.967306
Top 40/Adult	1999	0.953577
Top 40/Rhythmic	1999	0.966294
Crossover	1999	0.961567
Top 40 Mainstream	2001	0.967945
Top 40/Rhythmic	2001	0.964491
Crossover	2001	0.961023
Adult Contemporary	2001	0.951865
<i>Rock Related Formats</i>		
ALBUM ROCK	1994	0.960951
Modern Rock	1995	0.963444
Mainstream Rock	1996	0.960074
Modern Rock	1996	0.963209
AAA	1996	0.961596
Mainstream Rock	1997	0.968614
Mainstream Rock	1998	0.959147
Modern Rock	1998	0.962123
Active Rock	2000	0.960819
Heritage Rock	2000	0.941
Modern Rock	2000	0.96204
Triple-A	2000	0.960683

(Table 21 continued)

<b>R and B Adult</b>	1994	<b>0.959905</b>
<b>R and B/Mainstream</b>	1994	<b>0.969783</b>
<b>R and B/Adult</b>	1995	<b>0.956352</b>
<b>R and B/Mainstream</b>	1995	<b>0.97075</b>
<b>R and B Adult</b>	1999	<b>0.943173</b>

**Table 22. Lexus Nexus References to “Telecommunications Act” by year in Broadcast Industry Targeted Articles**

<b>Year</b>	<b>Number of References</b>
1993	4
1994	8
1995	293
1996	445
1997	316
1998	210
1999	133
2000	180
2001	168

**Table 23. Consolidation in the Recording and Broadcast Industries**

<b>Year</b>	<b>Labels with Direct Control Over Artists</b>	<b>Number of Corporate Owners</b>	<b>Maximum # stations owned by one owner*</b>
1992	16		
1993	18		
1994	28		25
1995	8	586	
1996	13		92
1997	16	446	
1998	8		
1999	12		
2000	10		261
2001	8	413	

\* does not include cross ownerships where corporate owners have controlling interest in stock

Sources: Broadcast and Cable Yearbook, Future of Music Coalition report