

# Policy Making and Policy Tradeoffs: Broadcast Media Regulation in the United States

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## 1. Introduction

The Federal Communications Commission (FCC) has a statutory obligation to pursue the “public interest” through its regulation of broadcast media. The FCC’s interpretation of the public interest has led it to pursue three policy objectives: competition, localism, and diversity. This policy triad reflects both efficiency and anti-trust considerations and concerns about the social, political and cultural effects of media. Therefore, in addition to pursuing competition in broadcast markets through (quasi)-antitrust analysis, the FCC considers the additional elements of diversity and localism - elements that can add considerable nuance and complexity for policy makers.<sup>2</sup>

The FCC employs two broad classes of regulatory tools, structural (ownership) rules and behavioral (content) regulation. The FCC’s structural rules often take the form of ownership limits on the number of broadcast stations a single entity may own within and across local markets. The FCC has changed these caps periodically over the last 50 years, but the last 15 years have seen the most substantial change in broadcast ownership policies.

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<sup>2</sup>One important thread throughout this work, often implicit in the analysis of media industries, is whether diversity in civic discourse is fundamentally distinct from entertainment diversity in commercial media markets.

The FCC first permitted the ownership of multiple radio stations within the same market in 1992, allowing entities to own up to two FM and two AM stations within a market with at least 15 stations, provided that the combined audience share of the stations did not exceed 25%. For stations in markets with fewer than 15 radio stations, a single licensee was permitted to own up to three stations, of which no more than two could be AM or FM stations, provided that the owned stations represented less than 50% of the total number of radio stations in the market. The 1996 Telecommunications Act directed the FCC to change ownership limits once again: in radio markets with 45 or more radio stations, a company could own up to eight stations, only five of which could be in one class, AM or FM. In markets with 30-44 radio stations, a company could own seven stations, only four of which could be in one class. In markets with 15-29 radio stations, a company could own six stations, only four of which may be in one class. In markets with 14 or fewer radio stations, a company could own five stations, only three of which could be in one class, and an owner could not control more than 50 percent of the stations within these markets.<sup>3</sup>

The FCC also limits the number of national viewers that a single television broadcaster can reach via station ownership.<sup>4</sup> From 1954 to 1984, the FCC limited national ownership to seven stations, where each station was in a separate geographic market. In 1984, the FCC expanded ownership limits to 12 stations, provided that the total number of stations owned did not reach over 25% of the national market. The 1996 Telecommunications Act raised the broadcast television ownership limit to 35% of the national market and eliminated the station ownership limit. Subsequently, the FCC's decision in 2000 to retain a national broadcast television ownership limit was challenged by Fox Television Stations in the U.S. Court of Appeals, D.C. Circuit, and the Court reversed the FCC's decision, sending the rule back to the FCC for further consideration. In

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<sup>3</sup> In its June, 2003 media ownership rulemaking, the FCC changed the methodology by which it calculated relevant local radio markets, replacing its signal contour methodology with a geographic market methodology. The FCC permitted those owners that had been within the ownership limits under the old signal contour methodology but who now exceeded the limits under the new geographic market methodology to retain ownership of their stations.

2003, the FCC increased the ownership limit to 45% of the national market. This decision proved controversial, and the United States Congress set a statutory limit of 39% in 2004.

As a result of these various regulatory decisions, ownership concentration in broadcast media has increased, most markedly since the Telecommunications Act of 1996. For example, the ratio of unique owners to full-power commercial broadcast television stations has gone from approximately 2/5 in 1996 to approximately 1/4 in 2004.<sup>5</sup> While broadcast networks have generally argued that ownership consolidation generates efficiencies that rationalize increased ownership concentration from a purely economic standpoint, the Federal Appeals Court for the District of Columbia noted, *inter alia*, in 2002 that:

Congress may, in the regulation of broadcasting, constitutionally pursue values other than efficiency – including in particular diversity in programming, for which diversity of ownership is perhaps an aspirational but surely not irrational proxy. Simply put, it is not unreasonable – and therefore not unconstitutional – for the Congress to prefer having in the aggregate more voices heard.

Thus, the Court concluded that Congress (and by proxy the FCC), might reasonably prefer and pursue ownership goals other than those presumed to promote simple economic efficiency, in this case diversity.<sup>6</sup>

Others aver that media substitutability and digital convergence diminish the importance of broadcast media ownership concentration. These observers argue that substitutability and convergence diminish the effects of concentration within any given medium by increasing the overall size of the relevant market. By this argument, if radio substitutes for television which substitutes for newspapers which substitutes for internet content, then concentration within radio,

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<sup>4</sup> Affiliate agreements with independent stations provide networks with national reach.

<sup>5</sup> In 1996 (2004) there were approximately 1132 (1275) full-power commercial broadcast television stations and 450 (331) unique owners.

<sup>6</sup> As we explore later in this paper, the argument for diversity in ownership has been linked to the robustness of broader democratic processes, and some recent research suggests that ownership diversity in broadcast media may be a necessary (although not sufficient) condition for a healthy democratic process.

television, newspapers, or internet content does not necessarily confer any market power or diminish the diversity of viewpoints. In short, any potential welfare losses due to intra-modal concentration will be off-set by gains from inter-modal competition. Clearly, the extent of the market and degree of substitutability are important issues, which may render moot many of the arguments against broadcast media ownership concentration.

Perhaps surprisingly, empirical evidence regarding substitutability between various media (e.g., television, radio, internet, newspaper) for media consumers is scant. Waldfogel (2002) undertakes a comprehensive public study of media substitutability, and despite Waldfogel's energetic search for evidence of substitutability, his study only finds very modest evidence of substitutability between just a few different media.

The significant (5% level) coefficients from Waldfogel's (2002) six regressions of media substitutability yield the following results: (1) one hour of internet use subtracts, on average, approximately four minutes of broadcast television viewing; (2) for each instance of internet news use, broadcast television news use is reduced by approximately two and one-half minutes; (3) for every 1% increase in the cable penetration rate, the rate of increase in daily newspaper circulation per capita decreased by 18%; and (4) if daily newspapers increase in number by 1, weekly newspapers decrease in number by 8.

The clearest results of Waldfogel's (2002) effort suggest that consumers may substitute between broadcast television and internet use, although the magnitudes of substitution appear to be modest. Importantly, there appears to be little other significant substitutability among other media.<sup>7</sup> Instead of various media readily substituting for one another and forming a single large media marketplace, (a large and growing pond, to paraphrase some observers) each

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<sup>7</sup> The state contingent nature of media consumption (e.g., one cannot watch television or read the newspaper while driving, but can listen to the radio), may be an important element regarding substitutability not accounted for in current research. Moreover, changes in the number of commuters and overall commuting time is an important as yet unexplored factor in determining consumption patterns. In addition, one way substitution patterns may drive many of the important results (e.g., one cannot watch television while driving, but can listen to the radio while cooking).

medium's small pond may be completely unconnected to other media ponds or connected only by very narrow tributaries. Ownership concentration within any individual media may therefore warrant careful regulatory attention.

In what follows, we detail the evolution of FCC policy-making on competition, diversity, and localism, summarize some extant economic literature relating to these objectives, highlight possible policy conflicts, and make suggestions for future research. Defining competition, diversity, and localism is difficult and inherently subjective; we can, however, bring some precision that should help policy makers address these issues, in particular by constructing more precise definitions of competition, diversity, and localism.

## **2. The Public Interest: Competition, Diversity, and Localism**

Competition, diversity, and localism are deeply entangled and not readily harmonized – as we suggest later in the paper, the early history of broadcast license allocation suggests implicit trade-offs among these three policy goals. In short, enhancing one element of the competition-diversity-localism policy triad may diminish another. The initial allocation of broadcast television and radio licenses by the FCC, for example, had some intent of promoting "localism" by allocating channels to local communities. This assignment of broadcast frequency to local communities precluded six national VHF channels in favor of (for most communities) fewer VHF channels. These fewer channels, however, were locally-based. In effect, this allocation traded-off competition and diversity in favor of localism. Regulators and researchers therefore may benefit from a deeper understanding of each policy objective and its interactions with the other objectives.

The nature of media has changed significantly since the FCC began licensing broadcasters: the emergence of cable and satellite television has given consumers a myriad set of viewing choices; national satellite radio has begun to

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penetrate radio markets; high-speed internet, via cable and telephony, offers consumers a broad array of information choices; moreover, the transition from analog to digital broadcasting, already underway in the United States, will provide additional capacity and options. This broad and growing array of potential substitutes may ultimately blunt some of the possible tradeoffs in media policy. However, while the increase in media options expands the total capacity of existing services it does not necessarily change the fundamental policy trade-offs. Surprisingly, convergence and attendant expansion of the spectrum of media may imply stricter, and not looser, limits on broadcast media concentration. As we illustrate later, as channel capacity increases, the gains to consumers from concentration-induced diversity may decrease.

We divide the broadcast media economics literature into three broad yet often inter-related strands. The first strand focuses on market structure and differentiated products, and is historically the best developed. The second strand explores what we call the “strategic” approach, and examines the strategic interaction between broadcast media firms, and its effect on broadcasters’ choice of programming content and advertising levels, for example. The third strand focuses on the political-economy aspects of broadcast media, e.g., their relationship to voting outcomes. The political-economic elements of broadcast media have recently received greater attention from economists, and this literature helps us understand localism and diversity. We view the first and third strands as particularly relevant to the competition, diversity, and localism objectives of any thoughtful media policymaker.

## **Competition**

Competition can be defined as a setting in which intense rivalry forces prices to the level of production costs. As a policy matter, competition is relatively easy to benchmark (e.g., the Justice Department’s use of an 1800 HHI to indicate

potential structural concerns<sup>8</sup>), and this provides a useful foundation for policy-makers. Of course, the use of structural metrics such as the HHI is not foolproof, but they can yield useful initial guidance.<sup>9</sup>

Broadcasters typically compete for advertising revenue by bundling programming with advertising and selling the advertising time. In this sense, the broadcaster mediates between advertisers and consumers in a two-sided market. Two-sided markets are markets where a platform facilitates the market interaction of two different groups or end-users (Rochet and Tirole, 2004). Two-sided markets have attracted increasing attention from economists.<sup>10</sup>

Early literature relating to broadcast media competition (and product diversity) includes Steiner (1952), Beebe (1977), and Spence and Owen (1977). This literature, however, provides only modest guidance to regulators. As Anderson and Coate (2003) rightly note, this early literature's treatment of advertising is unsatisfactory:

First, advertising levels and prices are assumed fixed...and each program is assumed to carry an exogenously fixed number of advertisements. Second, the social benefits and costs created by advertisers' consumption of broadcasts are not considered. These features preclude analysis of the basic issue of whether market-provided broadcasts will carry too few or too many advertisements. More fundamentally, since advertising revenues determine the profitability of broadcasts, one cannot understand the nature of programming the market will provide without understanding the source of advertising revenues. Since these revenues depend on both the prices and levels of advertising, [this] literature offers an incomplete explanation of advertising revenues and hence its conclusions concerning programming choices are suspect.

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<sup>8</sup> The HHI (Hirshman-Herfindahl Index) is the sum of the squared market shares of the firms within a market.

<sup>9</sup> Although arbitrary, an HHI of 1800 has become focal for policy makers. This metric however, is only half the issue. As we note, there may be a trade-off between competition and diversity, such that increasing concentration within broadcast media may actually promote greater diversity of output.

<sup>10</sup> Armstrong (2002) offers a summary of recent work. Cunningham and Alexander (2004), Gabszewicz, Laussel, and Sonnac (2000), Gal-Or and Dukes (2003) and Nilssen and Sorgard (2000), and Anderson and Coate (2003), model advertiser-supported media markets in explicit two-sided frameworks.

Competition in two-sided markets does not necessarily carry straightforward welfare implications (Cunningham and Alexander, 2004; Anderson and Coate, 2003). First, there are two relevant groups of consumers; viewers<sup>11</sup> and advertisers. Should advertisers' welfare be counted in the social welfare calculation? In their most recent media ownership rule-making, the FCC eschewed consideration of advertisers' welfare. This approach may significantly understate welfare losses by failing to also consider the effects of advertising on consumer welfare in goods markets (Cunningham and Alexander, 2004; Gal-Or and Dukes, 2003). Moreover, even if the regulatory authority counts only viewers in its consumer welfare calculations, there is still the question of whether the regulatory authority computes and counts the informative value of advertising to viewers in their welfare calculation, or just the viewer's welfare from non-advertising media content (Anderson and Coate, 2003; Gal-Or and Dukes, 2003). Once the regulatory authority addresses these questions, then it needs models of two-sided media markets and, ideally, empirical estimation of these models' parameters to assess relevant competition issues.

A thoughtful regulator might also examine the implications of competition (or, more broadly, market structure) on media quality, as media quality may form an important part of consumers' preferences. Theoretically, this would require a (possibly stochastic) relationship between investment by media producers and media quality in a vertical product differentiation model. Empirical examination of competition's effect on program quality would likely require a metric of broadcast quality or data on media producers' programming costs.

Finally, a thoughtful regulator might examine the effects of competition on news accuracy. Does increased competition imply greater accuracy, or is accuracy unaffected by structure? This question is important as news accuracy may affect voter behavior and the quality of political decision making. Coase (1974), Besley and Burgess (2002), and Besley and Pratt (2002) suggest that a competitive market structure induces greater accuracy in the reporting of news. Alternatively, Mullainathan and Schleifer (2002) suggest that media competition does not by

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<sup>11</sup> These would be listeners in the context of radio markets.

itself produce greater accuracy in reporting – rather, competition only produces accuracy if consumers prefer content heterogeneity and consume news from multiple sources. This environment produces a convergence to some “average accuracy.”

## **Diversity: Product, Source, and Viewpoint**

Diversity can refer to one of three somewhat elastic concepts: product, source, and viewpoint. Product diversity refers to the number of different program types; source diversity refers to the number of firms, ownership structure, and the availability of substitutes; while viewpoint diversity refers to the variety of perspectives on important issues.

How then should a thoughtful regulator approach the diversity issue? First, the regulator needs to examine product diversity using product differentiation models and evaluate consumers’ preferences for different types of programming. Because the economic approach to product diversity is rooted in the actual preferences of media consumers, the regulator might weight this type of product diversity heavily when evaluating diversity under the public interest standard. In short, empirical estimation of a two-sided media market model with product differentiation would inform the regulator about concentration’s effect on product diversity. The regulator could then construct structural rules that reflect the social welfare-maximizing or the consumer welfare-maximizing market structure.

Generic product differentiation models demonstrate a tradeoff between price competition (e.g., advertising levels for media consumers) and product diversity (e.g., greater product diversity implies softer price competition). Therefore, the regulator might trade-off possible consumer benefits from lower advertising (i.e., price) levels and the consumer benefits from media product diversity. Because product differentiation models examine welfare effects of both price competition and product diversity, empirical estimation of these models

would enable the regulator to approximate the market structure that maximizes welfare while accounting for both price competition and product diversity.

The thoughtful regulator could therefore use these two-sided market models to combine its economic analysis of competition and diversity. This analysis could be used to maximize the welfare of consumers or the combined welfare of consumers, media producers, and advertisers within media markets. Wilbur (2004) outlines an empirical strategy for estimating such models. While Berry and Waldfogel (2001) present evidence that mergers in the radio industry increased music diversity and listenership, Wilbur's analysis might allow the regulatory authority to examine the actual effect of different media market structures on product diversity, advertising levels, and consumer and advertiser welfare. Even within this framework, the regulator would have to make some important choices, since different types of product differentiation models generate different welfare effects from product diversity. The representative consumer model, for instance, generates much greater welfare increases from increases in product variety than the Salop (1979) model.<sup>12</sup>

The regulator would still face yet more work on diversity. In addition to program diversity, the regulator also considers other "types" of diversity, which include source (i.e., the number of firms, ownership structure, availability of substitutes) and viewpoint (i.e., a variety of perspectives on important issues) diversity. Source and viewpoint diversity have their roots in political-economic concerns about limiting the power of any single media owner to influence voters' beliefs, and consideration of source and viewpoint diversity could substantially affect the regulator's evaluation of overall diversity in media markets.<sup>13</sup> For

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<sup>12</sup> The Salop model, for example, finds parameters where introducing a tax increases economic welfare within the market because the scale effects from having fewer firms outweigh the lost welfare from decreased product variety.

<sup>13</sup> In 2003, the FCC completed a review of media ownership rules and proposed new media ownership guidelines (which were subsequently remanded by the United States Third Circuit Court in 2004). As part of the proposed guidelines, the Commission developed a structural measure, designed to mimic the HHI, for source diversity (i.e., the number of firms, ownership structure, availability of substitutes). In essence, the FCC proposed that one could add up the various "voices" in a market, and then sum them into one discrete metric that would serve much the same function as the HHI does for the Justice Department. However, the Third Circuit court concluded that the Diversity Index, as presented, was 'arbitrary and capricious' stating that a

example, the debates between different political factions about talk radio and media bias clearly illustrate the importance of viewpoint diversity to political discourse.

One might initially assume that the regulator can completely observe the welfare effects of the availability of substitutes within the framework of two-sided markets with product differentiation. However, if the availability of substitutes also affect citizens' abilities to make informed votes within the political marketplace, then consideration of these effects should also factor into the regulator's calculation of the optimal media market structure.<sup>14</sup> The additional consideration of viewpoint diversity could mitigate either for or against concentration. If, for example, firms treat viewpoint as a product characteristic, and concentration increases product differentiation, then the extra political-economic benefits of increased viewpoint diversity actually favor greater concentration.

Note that, by definition, increasing concentration reduces source diversity. Thus, viewpoint diversity and source diversity might be complements or substitutes, depending on the relationship between concentration and viewpoint diversity: if concentration increases viewpoint diversity, then viewpoint diversity and source diversity are substitutes; however, if concentration decreases viewpoint diversity, then viewpoint diversity and source diversity are complements.

Moreover, if "viewpoint" is an important product characteristic in a broadcaster's product differentiation decision, then product diversity *is* viewpoint diversity. The thoughtful regulator then might consider a product differentiation model that heavily weights product diversity, because increased viewpoint diversity may generate more voter-relevant information. For example, the

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"diversity index that requires us to accept that a community college television station makes a greater contribution to viewpoint diversity than a conglomerate that includes the third-largest newspaper in America (the New York Times) requires us to abandon both logic and reality." It appears therefore that a simple counting measure will not suffice as a metric for viewpoint diversity.

<sup>14</sup> One may want to consider the relative size of this effect if voters choose some degree of rational ignorance.

regulator could employ a Hotelling model of viewpoint differentiation and assume a strongly convex consumer "transportation cost" to reflect the public good of viewpoint diversity.<sup>15</sup>

Along these lines, Djankov, et. al. (2003) suggest that government ownership of media sources correlates with less political and economic freedom for citizens, a finding that does not contradict the idea that viewpoint diversity allows the citizenry to more effectively exert control over their government. Moreover, Mullainathan and Schleifer (2002) contend that competition generates a distribution of viewpoints that roughly mirrors the viewpoint distribution among media consumers.

Because source diversity does not necessarily imply more product or viewpoint diversity, the concept of source diversity suffers serious problems. If one defines source diversity as simply the number of media firms, then one confronts the following tautology: More owners increase source diversity because source diversity is defined as the number of owners. This line of reasoning does not prove particularly helpful. However, we may be able to rescue the idea of source diversity with a more nuanced definition. Source diversity could refer to media owners with additional political-economic interests that lead them to cover (or not cover) news events in a particular way. For example, a media owner with extra-media business interests bidding for a contract with a municipality may face incentives to avoid negative coverage of that municipality's officials. If media owners have extra-media interests that may affect their news coverage, then regulatory authorities may have an interest in guaranteeing sufficient competition from other sources. This would be an instance where viewpoint and source diversity would have a complementary relationship. This possibility may loom larger at the local level than the national level, as consumers may tend to access fewer sources for their local news coverage.

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<sup>15</sup> In the Hotelling and other location-type models, the consumer transportation cost reflects the disutility that consumers suffer from moving away from their preferred product type. A high transportation cost therefore creates a strong social benefit from product diversity.

## Localism

Localism may be the feature of the FCC's media regulation that most differentiates the FCC from a conventional antitrust authority. Localism is not well-defined, but appears to be political in origin. The policy goal of localism likely flows from three unique institutional features of the United States' version of democracy. First, the locally representative United States Congress is separate from the Executive branch. Unlike most European parliamentary democracies where the representative branch and executive branch are the same, the locally elected US Congressional representatives serve in a different body than the nationally elected US executive. Second, the United States is large and extremely diverse, and the locally elected representatives therefore serve far more divergent interests than locally elected representatives in many other representative democracies. These interests can also diverge heavily from those of the nationally elected executive, even if the representative and executive belong to the same political party. Finally, the United States Congress is bicameral, with two equally-powerful legislative bodies, the House of Representatives and the Senate. One of those legislative bodies, the Senate, gives equal representation to each of the fifty states, regardless of their size. California, with a population of 35.5 million, has two Senators, as does Wyoming, with a population of 0.5 million.

When radio, the first mass medium, began achieving significant penetration in the late 1920s and early 1930s, the United States Congress and the newly-created FCC created a regulatory framework that gave each representative and senator the capacity to reach their constituents through radio. This new regulatory framework also tried to (1) meet the representatives' and senators' goal that their constituents receive radio services that reflected their unique (and undefined) local needs, and (2) meet representatives' and senators' desire that virtually all of their constituents receive at least one relatively clear radio signal. Given the locally-based radio requirement, this framework eliminated a BBC-type model, where one dominant government-subsidized firm provided mass media services to the entire population. In addition, this framework eliminated the competition-maximizing model of additional competing national networks,

because radio had to be locally licensed. By allowing only a small number of nationally available radio networks, this framework also insulated the National Broadcasting Company from strong competition by other potential national radio broadcasters.

We have suggested that the pursuit of localism has flowed from specific institutional features in the United States political structure, and this pursuit led to specific regulatory features. Still, no one has clearly defined localism itself. We therefore face the following two options. First, localism receives the tautological status of being whatever the FCC (with Congressional approval) decides it is because the FCC, by definition, makes decisions that promote localism. Second, the FCC and/or Congress define localism in a way that makes it measurable, which then creates benchmarks for evaluating the efficacy of regulatory decisions.<sup>16</sup>

Recently, the FCC announced the launch of a 'Localism Task Force' to evaluate the performance of broadcasters in local markets. As FCC Chairperson Michael Powell stated:

Broadcasters must serve the public interest, and the Commission has consistently interpreted this to require broadcast licensees to air programming that is responsive to the interests and needs of their communities.<sup>17</sup>

Thus, the definition of localism employed by the FCC appears rooted in the idea of communities.<sup>18</sup> The concept of a community is particularly useful when the objectives of policy-makers are political-economic, since measures of state and county level localism have the benefit of clear, well-defined boundaries. One could therefore construct a definition of localism based on political coverage that is specifically relevant to voters in a locality. This political coverage could include coverage of a state's US Senatorial delegation, coverage of a US representative

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<sup>16</sup> We leave the question open as to which option Congressional representatives and the FCC prefer.

<sup>17</sup> <http://www.fcc.gov/localism/>. Last accessed October 27, 2004.

<sup>18</sup> We recognize but abstract from the notion of communities that are connected via cyber-space. Instead, we opt for definitions that have a purely physical proximity component. Without this

within the representative's district, coverage of the state legislature, coverage of a state representative within their district, and coverage of local politics.

One reason why political boundaries might matter is that the information consumed within these boundaries may affect voters' ability to attract government funds. Stromberg (2004), through a study of disbursements under a "New Deal" program during the 1930s, demonstrates that the availability of media can have a very strong effect on political outcomes and income transfers. Under the particular program Stromberg explores, the Federal government made cash grants to state governments, which then disbursed the money to various counties. According to Stromberg, radio penetration within a county increased that county's aid disbursement – the funds allocated to a county increased by approximately 5% for every 10% increase in radio penetration. Stromberg also finds that radio penetration increased voter turnout by 1.2% for every 10% increase in radio penetration.

Moreover, George and Waldfogel (2002) find evidence that locally-based media increase turnout in local elections. George and Waldfogel suggest that an increase in local penetration by the New York Times decreases local penetration by the local newspaper, reducing local news content, and participation in local elections. They contend that consumption of local media may therefore confer a consumption externality.<sup>19</sup> This contention may, perhaps heroically, assume that somebody's choice to vote somehow confers benefits on others. On the other hand, voter participation may proxy for other forms of socially valuable civic engagement (e.g., attending school board meetings). This difference raises an important issue: if voting itself confers positive externalities, then political boundaries are the relevant boundaries for analyzing the public goods flowing from local content. However, if voting simply proxies for civic engagement, then the relevant local boundaries may not be political but rather reflective of the social, demographic, and geographic characteristics that define a community.

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component, we suggest that the definition of localism as related to communities becomes far too elastic to be useful to policy makers.

<sup>19</sup> This, perhaps heroically, assumes that somebody's choice to vote somehow confers benefits on others.

Practically speaking, one can construct necessary and sufficient conditions for defining localism using market-generated systems that define local communities. For example, one might define communities in the United States using the delineation of designated market areas (DMA) as determined by Nielsen Media Research (an independent audience measurement system). According to Nielsen, "In designing the DMA regions, Nielsen Media Research uses proprietary criteria, testing methodologies and data to partition regions of the United States into geographically distinct television viewing areas, and then expresses them in unique, carefully defined regions that are meaningful to the specific business we conduct."<sup>20</sup> The "specific business" referred to is the sale of advertising time and space to advertisers. According to the California Newspaper Publishers Association:

DMA is a term used by advertising agencies to define specific geographical areas where groups of people tend to live, work and conduct their normal day-to-day activities similar to others in the same general region. DMA boundaries are often defined by significant geographical changes in a region's landscape such as mountain ranges, deserts, or sparsely populated areas. These "natural barriers" often tend to create different and unique lifestyles among entire populations of people, creating unique and identifiable designated market areas. Each DMA generally has its own unique market characteristics and measurable consumer media usage patterns used by media buyers to help identify the newspapers, TV and radio stations most likely to reach the audience targeted by the client.<sup>21</sup>

Thus, the "necessary" part of the necessary and sufficient conditions for market-based localism is that media coverage takes place within the DMA.

A second element of localism, the "sufficient" condition, concerns the broadcast output, i.e., when is output reported by a station within the DMA "local" output? One decision rule might be that the output is local if it is of at least marginally greater importance to the mean individual residing within the DMA

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<sup>20</sup> Federal Communications Commission document, letter from Nielsen Media Research to the Commission, April 3, 2003, 98-206. Geographic continuity is a standard feature of all 210 DMAs except three.

<sup>21</sup> California Newspaper Publishers Association, [http://www.cnpa.com/snap/dma\\_map.htm](http://www.cnpa.com/snap/dma_map.htm)

than to the mean individual not residing within the DMA, and, if one believes the mean individual within the DMA would identify the output as local.<sup>22</sup> Thus, it is the value of the output to the individual within a DMA, and that individual's perception of the output as local relative to individuals in other DMAs, that gives the output its "sufficient" local context.<sup>23</sup>

Using this definition of localism, researchers would then need to observe a sample of media output across a variety of locales and assess which output is local under the necessary and sufficient conditions. This output would then have the product characteristic called "local". Researchers could then study various measures of consumer appeal (such as ratings) in these locales to assess which market structures in different locales deliver the level of localism that viewers most prefer. This method would ideally be part of a structural analysis of two-sided media markets. In addition, researchers could use this definition of localism to examine whether localism has an effect on outcomes such as election turnouts or government disbursements like George and Waldfogel (2002) and Stromberg (forthcoming). One might also want to focus on coverage of local politics or coverage of an area's representative and their ability to bring state or federal government largesse to their locality.

Finally, unlike the policy goal of diversity, where the FCC adopted a purely structural index, the FCC appears to vacillate between embracing and eschewing structural mechanisms for achieving the policy goal of localism. Consider, for example, the comments of Commission Chairperson Michael Powell:

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<sup>22</sup> For example, news about a bake sale in Phoenix is likely more important to a resident of Phoenix than to a resident of Boston. In addition, the resident of Phoenix would likely identify news about a bake sale in Phoenix as local. On the other hand, news regarding federal budget issues would likely be non-local even to residents of Washington D.C. even though the negotiations take place in Washington, since the average resident of Washington would likely not classify the story as local.

<sup>23</sup> DMA is specific to the medium of television as Nielsen developed this measure for the purpose of measuring television audiences in different locales. In order to perform a similar analysis with radio, one could use Arbitron Metro Survey Areas, which classify radio stations by community, and correspond to the United States Census Bureau's Metropolitan Statistical Areas. In fact, in its most recent Media Ownership Rulemaking, the FCC proposed using Arbitron Metro Survey Areas to define local radio markets.

We again affirm the goal of promoting localism through limits on ownership of broadcast outlets. We sought to promote localism to the greatest extent possible through broadcast ownership limits.<sup>24</sup>

Despite this comment, one month later, Chairman Powell stated that:

It is important to understand that ownership rules have always been, at best, imprecise tools for achieving policy goals like localism. That is why the FCC has historically sought more direct ways of promoting localism in broadcasting. These include things such as public interest obligations, license renewals, and protecting the rights of local stations to make programming decisions for their communities.<sup>25</sup>

Thus, it may be unclear whether the FCC wishes to employ structural measures, behavioral mechanisms, or perhaps both. Importantly, besides the obvious conceptual reasons for employing structural measures, there are practical motivations that might warrant employing a structural approach. For example, if content regulation is found to impinge on a broadcaster's First Amendment rights, then the FCC, absent structural regulation, would have no means of addressing an important policy variable. Importantly, if researchers could measure localism using political and/or market-based metrics, they could test Powell's proposition and evaluate the efficacy of both structural and behavioral mechanisms in promoting localism.

### **3. Policy Trade-Offs: An Illustration**

We have articulated the policy rubrics of competition, diversity, and localism that the FCC pursues under its statutory obligation to serve the public interest, and we have shown that economic analysis illuminates each of these policy goals, even those that appear difficult to define. In addition, we have discussed some of the trade-offs and tensions between competition, diversity,

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<sup>24</sup> Statement of Chairman Michael K. Powell, Re: 2002 Biennial Regulatory Review – Review of the Commission's Ownership Rules and Other Rules Adopted Pursuant to Section 202 of the Telecommunications Act of 1996; July, 2003.  
[http://hraunfoss.fcc.gov/edocs\\_public/attachmatch/FCC-03-127A3.doc](http://hraunfoss.fcc.gov/edocs_public/attachmatch/FCC-03-127A3.doc)

and localism. Before exploring the potential effects of a generalized transition to digital delivery platforms, a brief historical discussion regarding broadcast license allocation helps illuminate these tradeoffs in the context of a concrete FCC policy.

The FCC's initial allocation of broadcast licenses reflects some of the policy tensions and contradictions that we have just explored. The initial allocation of broadcast television and radio licenses by the FCC had some intent of promoting localism. This localism objective, and the assignment of broadcast frequency to local communities, had at least one important opportunity cost: a greater number of national networks, and hence a greater number of VHF channels for residents of most locales. Given the constraints imposed by available spectrum and power, most residents in the US could have accessed six national VHF channels; instead the available frequencies were assigned to local channels, precluding additional national networks and limiting residents of many localities to far less than six VHF channels.<sup>26</sup>

Adopted on April 11, 1952, the FCC's Sixth Report and Order, in Docket 8736 and 8975, assigned television spectrum using "five priorities."<sup>27</sup> The five priorities were:

1. Provide at least one television station to all parts of the United States.
2. Provide each community with at least one television broadcast station.
3. Provide a choice of at least two television services to all parts of the United States.
4. Provide each community with at least two television broadcast stations.

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<sup>25</sup> FCC press release, "FCC Chairman Powell Launches Localism in Broadcasting Initiative," August 20, 2003.

<sup>26</sup>Some may contend that the modern MVPD universe (i.e., cable and satellite) makes irrelevant the concern over an additional one-to-six VHF channels. However, because a single VHF channel can be subdivided into several digital channels, the upcoming transition to digital signals multiplies the opportunity cost of each lost VHF channel.

<sup>27</sup> Paragraph 63.

5. Assign any channels which remained under the foregoing priorities to the various communities depending on the size of the population of each community, the geographical location of such community, and the number of television services available to such community from television stations located in other communities.

The five priorities were originally expounded in the March 22, 1951, Third Notice of Proposed Rule Making. Interestingly, these principles may be based on a facially innocuous misquoting of the 1934 Act. Section 307(b) of the 1934 Federal Communications Act states that “the Commission shall make such distribution of licenses, frequencies, hours of operation, and of power among the several States and communities as to provide a fair, efficient, and equitable distribution of radio **service** to each of the same” (emphasis added). However, the Third Notice said that it had “endeavored to meet the twofold objective set forth in Sections 1 and 307(b) of the Communications Act of 1934, to provide television service, as far as possible to all people of the United States and to provide a fair, efficient, and equitable distribution of television broadcast **stations** to the several states and communities” (emphasis added).

This apparently small distinction between *stations* and *service* may have important implications. For example, had the FCC licensed the television spectrum nationally, then all viewers in all localities could have received six VHF channels, which could have carried six national television networks. By licensing *stations* locally, the FCC may have created a less equitable distribution of *service* for viewers: due to spectrum scarcities, viewers in smaller localities received fewer VHF channels. Aside from legal issues, in pursuing priority two to guarantee at least one channel to each locality and priority four to guarantee at least two channels to each locality (in combination with rules capping ownership at five VHF stations), the FCC traded channel space, which would have provided more competition and diversity, for locally-licensed and locally-owned channels. In fact, due to the increasing returns nature of media distribution, the FCC's decision may have promoted localism at the expense of diversity as well as competition.

## 4. Digital Transition and Convergence

Spence and Owen (1977) first noted that media firms faced large up-front fixed costs and constant (and often low) marginal costs. Any given program or content therefore required an audience large enough to cover these up-front fixed costs. George and Waldfogel (2002) introduced the notion of preference externalities, which stem from media's distinctive cost structure. Because any content requires a large enough audience to cover its up-front fixed costs, each consumer's utility depends on the preferences of other consumers. If, for example, only one radio listener in Smallville likes jazz, then no radio station will air jazz because no radio station could cover their fixed costs with only one listener. Stromberg (2004) points out the political-economic implications of these preference externalities resulting from scale effects, observing that "minority" groups might be politically under-represented, which could then bias public policy.<sup>28</sup> However, at least some of these policy concerns may be offset by media "convergence."

Generalized digital platforms (e.g., cable, satellite, digital television) are expanding the set of delivery systems and content for consumers and potentially diminishing the separation between radio, television, cable, telephony, and newspapers. As we noted in the introduction, this increase in overall capacity may have surprising and counter-intuitive implications for media policy. In particular, the increase in capacity may lessen both the diversity gains from concentration and the diversity loss from localism. There are two related facets to this argument.

Steiner (1952) suggests that concentration increases product diversity.<sup>29</sup> Expanding channel capacity, however, diminishes the marginal gain in diversity from any marginal increase in concentration. Following Steiner, we can illustrate this point with the following example.

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<sup>28</sup> This possible bias may be more likely in a European-style parliamentary system than that of a Federal system as found in the United States.

<sup>29</sup> Steiner's model has been roundly and rightly criticized for its restrictive assumptions. Anderson and Coate (2003) demonstrate, however, that Steiner's "monopoly increases welfare" result can occur in a much richer, more flexible model.

Assume there are three available programs – a baseball game, an opera, and a play, and three types of viewers. Further assume that 1,000 viewers like the baseball game, 200 viewers like the opera, and 100 viewers like the play. Finally, assume there are three channels.

As Steiner (1952) points out, three competitors would all duplicate the baseball game, because the baseball game would attract 333 viewers for each of the three channels, which is more than the 200 viewers that would watch an opera or the 100 viewers that would watch a play. If a monopolist owned all three channels, however, they would choose to air the baseball game on one channel, the opera on another channel, and the play on the final channel, thereby capturing all of the viewers. Quite simply, because the monopolist internalizes the business-stealing externality, they have no incentive to duplicate programming. Therefore, in our three-channel world, the monopolist delivers programming that appeals to 1300 viewers, while a competitive market structure would only deliver programming that appeals to 1000 viewers (after rounding). In the three-channel world, the monopolist would serve 300 more viewers than the competitive market structure.

Now imagine that a technological change expands the capacity to 6 available channels. A monopolist would still air a baseball game, an opera, and a play. Under a competitive market structure with six independently-owned channels, however, 5 competitors would air the baseball game, each attracting 200 viewers, and one competitor would air the opera, also attracting 200 viewers. Thus, a monopolist delivers programming that appeals to 1300 viewers, while a competitive market structure would deliver programming that appeals to 1200 viewers. In the six-channel world, the monopolist now would only serve 100 more viewers than the competitive market structure.

Finally, if technological change expanded the number of channels to 13, then a competitive market structure would serve as many viewers as the monopolist. Baseball would air on 10 channels, opera would air on 2 channels,

and 1 channel would air the play. As we suggested above, as capacity expands, the relative gains to consumers from concentration-induced product diversity falls.<sup>30</sup>

In addition, nationally-distributed media may solve another challenge to diversity. Many media products incur up-front fixed costs and constant (and often low) marginal costs. Consequently, media firms will only produce content that appeals to enough people to cover their fixed costs. Locally-based media may not produce adequate diversity because not enough consumers with a particular preference live in the same locality. Nationally available media like satellite radio helps resolve this problem because they can aggregate the preferences of consumers across the nation, which means that they can cover the fixed costs of producing content that appeals to small (locally vanishing) groups of consumers.

For example, assume that a radio station requires 150 listeners to be viable. In city A 100 listeners like jazz and 100 listeners in city B like jazz. Local radio stations in cities A and B will therefore not air jazz, because no station in A or B could attract enough listeners to be viable. A national radio service that reaches listeners in both cities, however, will produce jazz, because the national radio service reaches 200 jazz listeners, which more than covers the fixed costs of its jazz service.

Increased capacity can thus increase diversity without increasing concentration. In addition, changes in platform technology promote new national media platforms that produce more diverse content by aggregating preferences across localities. Therefore, local over-the-air broadcasting could focus on localism without trading off as much competition or diversity, and a regulator could promote localism without incurring as large a social cost.

#### **4. Conclusions and Future Research**

What are the main things we have learned about this topic? The policy goals of competition, diversity, and localism are sometimes at odds, and economists may find it difficult to represent all of these policy goals in a single

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<sup>30</sup> Monopoly may still dominate from a social welfare perspective if the monopolist serves as

framework. For example, a model of two-sided markets with product differentiation may be able to address competition, product diversity, and perhaps one aspect of localism in a single framework; however, this framework would not address the political-economic issues in viewpoint diversity, source diversity, and localism (i.e., localism that embodies externalities).<sup>15</sup> As we have noted, the FCC has interpreted its public interest obligation through the lens of competition, diversity, and localism. While competition policy may be tractable, the additional elements of diversity and localism lend considerable complexity and nuance for policy makers – in fact, as we have suggested, accounting for diversity and localism changes the nature of the competition analysis. We clarified diversity and offered definitions of localism that might help researchers and policy makers to more precisely measure both diversity and localism - this might enable policy makers to clearly observe trade-offs between competition, diversity, and localism.

What are the priorities for policy in this area? Obviously, policy weights of the three objectives are vital to any analysis. Thus, for example, political-economic considerations may imply policies that diminish the competition-diversity objective e.g., mandated content might crowd-out programming or other higher private-value advertising. Policy makers should trade away privately valued content for public interest content *only* when the public interest content confers sufficient external public benefits.

How can the FCC or any other regulator calculate this seemingly incalculable trade-off? Moreover, even if the FCC could calculate this trade-off, the FCC depends on congressional appropriations and is sensitive to interest group activism. Do these political incentives lead to FCC policies that enhance the social welfare or do they lead to FCC policies that diminish social welfare? The answer to this question may determine whether the FCC should regulate media content at all.

What do we still need to know? This paper raises some possibly useful questions about media policy that researchers can likely help answer.

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many viewers while incurring fewer costs.

Researchers, like Wilbur (2004), are currently estimating empirical models of two-sided media markets with product differentiation in broadcast television, which should help media policymakers address the issues of competition and product diversity in media markets.

Further extensions in this area could prove helpful, e.g., empirically estimating two-sided models with both direct-pay and advertiser-supported television. Researchers could examine two-sided product differentiation models in national television news (both broadcast and cable) to determine how much news channels differentiate on content and viewpoint, and the implications of different policies on that differentiation. It is possible that researchers could tie these product differentiation models in two-sided markets with work on news accuracy and competition to analyze the effects of media policies on news accuracy. With respect to localism, researchers might analyze the effects of different market structures on the diversity and content of local television news.

Finally, researchers might consider the effects of changing technology and convergence of technology on media content. For example, new technologies may enable consumers to choose their preferred programming and preferred advertising - advertisers may even compensate media consumers for watching their advertising. Researchers could then model two-sided media markets where consumers also choose the advertising they watch.

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Diversity 1,3,4,5,6,7,8,9,10,11,12,13,18,19,20,21,22,24,25,26

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