Television Station Ownership Structure and the Quantity and Quality of TV Programming*

Federal Communications Commission

Media Ownership Study #3

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1 Executive Summary

In this study we analyze the relationship between the ownership structure of television stations and the quantity and quality of television programming in the United States between 2003 and 2006. Television programming comes in many kinds and even defining programming of different kinds can be difficult. We report patterns of overall television availability and viewing as well as focus on several types of programming of particular interest to the FCC that were included in the mandate for this report.[1]

Regarding the quantity and quality of television programming, our focus is decidedly economic. For each type of programming, we have three concentric quantity measures. First we consider the programming available on each major and most minor broadcast and cable television program networks offered (roughly) anywhere in the United States.[2] This represents either an idealized view of what someone might have available to them if they were able to costlessly access any programming offered through any distribution channel anywhere in the U.S. or (perhaps more realistically) a statement about the scope of programming being produced for consumption somewhere in the country. Second, we weight our programming measures by network availability (i.e. is a particular network or program "on the shelf"). This gives a sense of what share of U.S. households could choose to view programming of a given type if they wished to do so. Finally, we examine what households actually watch. We feel these three measures – what is *produced*, what is *available*, and what is *watched* – provide a robust picture of the quantity of television programming in the United States. Interesting patterns arise from considering each of these different measures.

We similarly focus on economic measures of programming quality. We have two measures. First, we measure quality by the number of households who choose to watch a program (as measured by the Nielsen television rating) as a share of households that have access to that programming. This captures the idea that for programming that is free to households (i.e. broadcast television programming or cable television programming after purchasing access to a bundle of networks), higher quality programs will garner higher ratings. Second, we measure program quality by the number and length (in minutes and seconds) of advertisements included on that program. This captures the idea that the more advertisements included in a program, the less enjoyable it is to viewers to watch that program.[3]

[1] In particular, (1) Local News and Public Affairs Programming, (2) Minority Programming, (3) Children's Programming, (4) Family Programming, (5) Indecent Programming, (6) Violent Programming, and (7) Religious Programming. See Section 4 below for the alternative definitions used for each of these programming types.

[2] In our final analysis, we analyze programming on 1,583 broadcast stations and 192 cable networks.

[3] As discussed further below, there are many other ways to interpret "quantity" and (especially) "quality" in television markets. We chose these definitions for two reasons. The first was data complementarity and availability: economic measures of program quality fit best with economic measures of program quantity and aesthetic measures of program quality are both subjective and difficult to obtain on a broad scale. The second were idiosyncratic preferences and training: a non-economist, or an economist with a less empirical perspective, might well have selected alternative

While we examine what we feel is a broad range of outcomes in television markets, we limit our ownership analysis to the relationship between the ownership structure of *television stations* and the quantity and quality of television programming. While we had hopes for studying a much wider range of ownership issues, data limitations prevented them from being realized. In particular, the ownership variables in our study come to us from the Federal Communication Commission's (FCC's) Study 2 (Diwadi, Roberts, and Wise (2007)). The focus in that study is on ownership structure at the distribution level. For television markets, that means the ownership structure of television stations and cable television and satellite systems. We use the data provided on television station ownership in our study. We were unable, however, to use the data provided on ownership of cable television and satellite systems due to limitations in our cable television data.[4]

Conducting the study proved to be a challenging organizational task. As noted above, we obtained television station ownership information for every full-power broadcast television station between 2002 and 2005 from Diwadi, Roberts, and Wise (2007). We then matched this with information about the quantity and quality of television programming from four major industry data providers. From each provider, we obtained information on various aspects of television programming for each of two weeks per year (in May and November) for 4 years (from 2003-2006). We obtained program schedule data, including detailed information about individual programs, for each broadcast television station and almost 200 cable networks from Tribune Media Services (hereafter TMS). We obtained partial-day program ratings for each of the programs shown on broadcast television stations from Nielsen Media Research (hereafter Nielsen). We obtained average national prime-time cable network television ratings by year from Kagan Media Research (hereafter, Kagan). Finally, we obtained information about the quantity of and revenue from advertising on each of the programs on broadcast television stations in most of the top 108 DMAs from TNS.[5] We then merged them together and conducted the study.

With respect to our measures of the quantity of television programming, we find there are important differences between the programming provided on broadcast versus cable networks for News, Religious, and Violent programming (more on broadcast), and Public Affairs, Children's, and Adult programming (more on cable). We find that "niche", or special-interest, programming

measures. Our hope is that the measures we chose, and in particular the links between them, will contribute something new to the ongoing discussion of the impact of changes in media ownership on television markets.

[4]In particular, while Diwadi, Roberts, and Wise (2007) provides information on cable and satellite television penetration by DMA, it does not provide information about the *networks* carried by those cable and satellite providers. We explored building this information ourselves using both TMS data and data from various editions of Warren Publishing's Cable and Television Factbook (e.g. Warren (2005)), but were unable to link information about ownership from the FCC's cable system database to the either of these datasets in time for this report. Further complicating matters was an unrelated inability to get most of our quantity and quality measures for cable programming. We discuss the differences in our broadcast and cable television data in Section 3 below.

[5]The exact time frames addressed differed across data providers. In the final analysis, we used information about the quantity and quality of television programming across 4 years, 2003-2006, and correlated that with changes in ownership across 3 years, 2003-2005.

(Minority Adult, and Religious programming) is less widely available than general-interest programming (News, Children's, and Family programming). Examining patterns across time, we find that program production and/or availability is falling across time for Network News (though not Local News), Public Affairs, Family, and Religious programming and rising across time for Latino, Children's, Adult, and the more violent of Violent programming. Also rising across time is the average Television Content rating across all rated programs.

With respect to our measures of the quality of television programming, we find that in general, programming is more highly rated on broadcast than cable networks. Of the programming types, News and Violent programming are the most highly rated (i.e. highest quality), with Latino/Spanish-language, Children's and Family programming substantially lower, and non-Latino Minority and Religious programming lower still. Examining patterns over time, we find that the relative quality of News programming is declining with some measures of Children's programming and the more violent Violent programming gaining ground. With respect to advertising market outcomes, we find that affiliates of the Big-4 broadcast networks (ABC, CBS, NBC, and Fox) provide more advertising minutes at higher prices than do other broadcast television stations and that this advantage appears to be increasing over time. From the perspective of a viewer (households), rising advertising minutes suggest the quality of television programming is falling over time.

We relate these measures to the ownership structure of broadcast television stations. Our strongest findings are for Local News: television stations owned by a parent that also owns a newspaper in the area offer more local news programming. By some methods, television stations owned by corporate parents with larger annual revenue also offer more Local News, but by other methods they offer less. This is an important area for further inquiry. We find that local ownership is correlated with more Public Affairs and Family programming. While we find important and interesting differences in the amount of Violent programming across network affiliates, it does not appear to be correlated in an economically and statistically significant way with ownership structure. Effects of ownership structure on other programming types or on outcomes in the advertising market are either economically insignificant, statistically insignificant, or differ in their predicted effects according to the method of analysis.

The rest of this report proceeds as follows. In Section 2 we briefly describe the economic organization of television markets. In Section 3 we describe our sources of data and in Section 4 describe the definition of the programming types that form the basis of the study and the aggregation we do to analyze the data. Section 5 describes patterns of the quantity and quality of programming in the television industry and Section 6 relates these to the ownership structure of local television markets. Section 7 concludes.

2 The Television Industry: A Study of Two-Sided Markets

Measuring the relationship between ownership structure and the quantity and quality of television programming first requires an understanding of the economic environment in which that programming is provided. I briefly describe the economic organization of the television industry in this section.

The television market is an example of what economists call *two-sided markets*. Like any product, consumers of television programming value it and (in some way) are willing to pay for it.[6] Call the market in which this happens the **Content Market**. Unlike most products, however, their consumption creates another product, *audiences*, which the television provider can then sell to advertisers. Call the market in which this happens the **Advertising Market**.

There has been considerable research in the last several years on the unusual economics of two-sided markets like that in the television industry (e.g. Anderson and Gabszewicz (2005)).[7] For example, if one side of the market (e.g. advertisers) values highly the number of consumers on the other side of the market (e.g. viewers), prices to the second (viewer) side can be decreased below cost.[8] Furthermore, a merger on one side of a two-sided market can increases competition on the other side, increasing total welfare (Rochet and Tirole (2006)). While I will not address such issues in this report, they highlight a common theme in the analysis of two-sided markets: firms that want to maximize profits or policy-makers that want to maximize social welfare must analyze the outcomes in and the links between *both* markets. And so in this study I will examine the relationship between ownership structure and features of both the Content and Advertising markets.

But which content market(s)? Which advertising market(s)? For each of these markets, there is a vertical "supply chain", i.e. a sequence of markets through which content (audiences) must pass before it is made available to viewers (advertisers). This is most clearly seen in the Content Market, so I focus the subsequent discussion there.

Before a typical consumer can watch a typical program, it must make it to the screen of the television that she turns on. Figure 1 provides a graphical representation of this process in the television programming industry. Downward arrows represent the flow of programming from *Content Providers* to *Consumers*. The distribution rights to most content (e.g. a television program like "Crocodile Hunter") is purchased by a *Television Network* (e.g. CBS or The Discovery Channel) and placed in its programming lineup (see, e.g., Owen and Wildman (1992)). These networks are

[6] This payment may be in terms of actual money paid to a television provider or in terms of attention given to the advertisements on a freely-available program.

[7] Much of this research was sparked by prominent antitrust cases involving firms in two-sided markets (e.g. *United States v. VISA U.S.A, United States v. Microsoft*). See Rochet and Tirole (2006) for a recent survey with an economic focus and Evans (2003) for a recent survey with an antitrust focus.

[8] Such is free (to consumers, not to advertisers) broadcast television born.

then distributed to consumers in one of two ways. *Broadcast Networks* like ABC, CBS, and NBC distribute their programming over the air via local broadcast television stations at no cost to households. *Cable Television Networks* like The Discovery Channel, MTV, and ESPN instead distribute their programming via cable or satellite television systems that charge fees to consumers.[9]

Upward arrows represent the creation and sale of audiences to advertisers as a consequence of television viewing by consumers. Some audiences, represented by the dashed line at the right of the figure, are sold directly to advertisers by distributors of television networks, particularly those created by local or regional programming. Most audiences, however, are aggregated across distribution channels (e.g. the total viewers to ESPN across all cable and satellite systems) and sold to advertisers by program networks.[10]

The various sub-markets that characterize the purchase and sale of content or audiences are indicated at each step in the chain. For example, Content Providers sell their content to television networks in what I call the Program (Production) Market, Networks sell access to all their content to broadcast and cable television systems in the Program (Network) Market, and Consumers purchase access to programming in the (Program) Distribution Market.

Ownership structure *at any point in the chain* of *either* market can influence outcomes like the quantity and quality of television programming provided to households.[11] As noted above, for reasons of data availability we focus in this study on the relationship between the ownership structure of broadcast television stations and the quantity and quality of television programming. This will necessarily give only part of the picture about the full relationship between media ownership structure and television programming. We raise this issue not to belittle the insights we provide here, but to highlight the value of extending what we have done here not only to other distribution channels (e.g. cable and satellite systems, eventually to Internet distribution), but also to the Program Network, Program Production, and Audience (Advertising) markets and to the ownership links between them.

3 Data

In this section, we describe the sources of data used in the study.

[9]The dashed arrow between content providers and consumers represents the small but growing trend to distribute some content directly to consumer via the Internet (e.g. the television programs "Lost" and "Desperate Housewives").

[10]Even this is an incomplete picture. For example, some programming, particularly syndicated programming, is sold directly from content providers to broadcast television stations.

[11]For example, Wilbur (2005) finds that more programming is provided that matches advertiser preferences (e.g. targeting adult males) than that matches viewer preferences.

3.1 Television Station Ownership Data

Our ownership data on broadcast television stations comes from Diwadi, Roberts, and Wise (2007). The interested reader is referred there for more details. We describe the key variables we use in our study in Section 6 below.

3.2 Programming Data

Overview The FCC agreed to purchase data on our behalf in order to address the issues in this study. We would ideally have obtained information on every program on every channel (or network) on every broadcast television and cable system in the U.S. over a fairly long time horizon. Of course, this proved both too expensive and too much data to tractably analyze. As a compromise, we obtained information on every program on every major broadcast television station and cable network *for two weeks of every year* between 2003 and 2006. The weeks chosen were selected during two of the Nielsen "sweeps Months" to facilitate obtaining Nielsen's DMA-level television ratings data for each program. The Nielsen TV year runs roughly September through May,[12] so we selected weeks near the beginning and end of the Nielsen year. We tried to consistently select the same week each year to control for seasonal factors that might otherwise bias our year-to-year comparisons. In the end, we chose the second "Nielsen week" in each of the November and May sweeps periods. The specific weeks chosen are presented below in table 1.

Table 1: Data Dates

Year	Week 1	Week 2
2003	May 8-14	Nov 6-12
2004	May 13-19	Nov 11-17
2005	May 12-18	Nov 10-16
2006	May 11-17	Nov 9-15

Television Schedule Data (TMS) Our basic unit of observation is a television program (e.g "Friends") shown on a particular "station" (broadcast station or cable television network, e.g. WNBC in New York City or the USA cable network) at a particular time (e.g. Monday, May 8th, 2003, at 8:00 EST). While in principle this information is publicly available (e.g. published daily in local newspapers or provided by programming distributors), there are so many broadcast networks and cable systems that firms have arisen to organize it, ensure its accuracy, add additional

[12] With "sweeps" in November, February, May, and July.

information, and sell it to interested parties. Tribune Media Services (TMS) is one such firm, primarily selling access to their data to a variety of industry participants (e.g. print programming guides, cable systems, websites, etc.).

TMS measures the universe of television programming provided on *any* broadcast television station or cable system in the U.S., Canada, and Mexico, over 20,000 unique "channels".[13] Many of these aren't practically relevant (e.g. an audio channel on the local cable system in Kansas), so we limited the analysis to every full-power broadcast television station and cable and premium television network in the United States. We obtained a list of the former from the ownership data described above. We obtained a list of the latter from TMS, Kagan World Media (2006), and NCTA (2007).[14] There are 1,583 full-power broadcast television stations and 192 cable and premium programming networks included in our final dataset.

Table 2 describes the fields we used from the TMS Program Schedule data. Following the structure of a relational database, the top panel of Table 2 describes the information provided for each channel-date-starting time-program (our unit of observation).[15] Information common to a channel and program are then presented in the second and third panels of the table. The Channel ID and Program ID link the data in each of the panels for each date and starting time.

Of particular relevance for our analysis are the "Program Type" and "Category" fields as these are the primary source data we use by which we allocate programming into categories for later, separate analysis. TMS identifies a Program Type and Category for every program offered on television.[16] There are 33 Program Types and over 300 Categories in the TMS data. As there was significant overlap in some of the Program Types, we combined a number of them. The 33 TMS Program Types and our smaller set of 23 "Estimation" Program Types are presented in Table 3. We performed a similar exercise reducing the number of Categories from 309 to 37; the specific allocation we used is provided in Tables 29-31. The proportions of programming in each Program Type and Category in our final dataset is given in Table 4.

Television Ratings Data (Nielsen, Kagan) While the TMS data tell us each of the programs offered on every major broadcast television station and cable network in the United States, they do not tell us how many people were exposed to that programming nor how many watched them. For that, the FCC purchased data from Nielsen Media Research (Nielsen) and Kagan Media Services (Kagan) for the same weeks and years for which we obtained the TMS data.

[13]TMS organizes their data first according to "channels". These range from full- and low-power broadcast television stations to cable, premium, and pay-per-view networks to local origination, split broadcast, and split cable channels.

[14]The NCTA website cited above was the most comprehensive resource. Obtaining programming information for some of the smaller cable networks in particular required an extensive iterative process with TMS.

[15]As noted in the table, we normalized starting times to the quarter-hour.

[16]For convenience, when I refer to Program Type and Category fields in the TMS data, I will capitalize each word. This will identify when I refer to the specific TMS data versus the general issue of program types or categories.

There were several idiosyncracies to the Nielsen data. First, we were only able to obtain ratings data for certain parts of the day: from 7:00-11:00 a.m. and from 6:00 p.m.-12:00 a.m. We focus exclusively on the latter period in our results. Second, the broadcast and cable network ratings came from different sources within the company. Broadcast ratings data are available for each of the 210 DMAs and are used in the study. Due to difficulties in the delivery and formatting of the cable ratings data, we were not able to use them in this study. Instead, we obtained annual average prime-time ratings data from Kagan World Media (2006). While not ideal – the broadcast ratings data are for the specific programs shown on the specific days of our study while the cable ratings data are annual averages - they are useful for permitting us to conduct an integrated analysis of programming on both broadcast and cable networks.

Advertising Minutes Data (TNS) As noted in Section 2, it is important to understand the impact of ownership structure on both the content and advertising markets. To do so, the FCC purchased data from TNS, Inc. (TNS) for the same weeks for which we obtained the TMS and Nielsen data.

There were also several idiosyncracies to the TNS data. First, the FCC contracted with TNS for only broadcast advertising minutes. These were available in most of the top 108 DMAs.[17] Second, TNS provided us with information about the number and length of *advertisements* in each program, but only information about the number of *promotions* in each program.[18] This impacted slightly our estimates of the total non-programming time on a given program.[19]

4 Data Aggregation and Program Types

As described earlier, we have three measures of the quantity of television: the amount of television programming *produced* (and available somewhere) in the United States, the amount of television programming *available* to the typical U.S. household, and the amount of television actually *watched* by U.S. households. We will discuss programming of different types in what follows; for now assume

[17] Missing were DMAs 10-11, 66-68, and 76-78.

[18] Promotions are advertisements for other television programs. Typically these are for other programs on the same channel or other programs on affiliated channels.

[19] The data were given to us at the level of the network-program-timeperiod-advertisement. Each ad (or promotion) was associated with a "pod", a collection of ads and/or promotions associated with each commercial break within a program. To aggregate the data to the level of the program, we first aggregated the information within each pod and then aggregated information across pods within a program. We only ran into trouble when a promotion was either first or last within a pod. In that case, we didn't know exactly how long the pod was (and therefore how long the promotion was). To estimate total non-programming (i.e. ad plus promotion) time, we substituted the average promotion length (which we can calculate by comparing pod length to total advertising length for pods that begin and end with ads) for those promotions at the beginning and end of the pod. This is unlikely to dramatically impact our results.

we are discussing a "generic television program".

How do we measure what is produced? As described above, the TMS data provides an exhaustive inventory of the television "channels" (broadcast television stations and cable television networks) on offer across the United States. Indeed, they provide too much - almost 8,000 such "channels". We trim this down in two ways. First, for broadcast networks, we focus on the set of full-power broadcast television stations that are the focus of the FCC Media Ownership study #2. We further reduce this number by removing from our study (where feasible) the second (weaker) broadcast television station affiliated with a broadcast network within each Nielsen DMA.[20] Second, for cable networks, we had to decide how many cable networks to include in the analysis. NCTA (2007) lists over 500 cable networks (planned or active). This very large number no doubt reflects the growth in available capacity across cable and satellite systems brought on by the digital distribution of programming. But how many of these are truly available? An early version of our results using the TMS data included 362 cable networks. In the results we present here, however, we focus on the set of basic cable networks for which we had information about their nationwide availability from Kagan World Media (2006) as well as any premium and pay-per-view networks.[21] This left 192 cable networks. While not exhaustive - and perhaps not representative of the future of program availability - it does reflect the population of at-least-reasonably-available cable networks as of late 2006.

What do we miss by limiting ourselves in this way? In the broadcast area, these rules mean we will not analyze the rise of low-power broadcast television stations.[22] In the cable area, it means we do not analyze two types of networks: new and/or very narrowly distributed basic cable networks and various types of local origination (public access, etc.).[23]

4.1 Aggregating Broadcast Programming

Before we describe the patterns in the data under these assumptions, we must address a fundamental difference in the reporting of broadcast and cable television programming in the data.

[20] For example, there are two ABC affiliates in the 7th-largest DMA: WCVB (Boston, MA) and WMUR (Manchester, NH). Of these, WCVB has the (much) higher average rating across the programs in our data: 4.82 versus 0.96. We therefore dropped from the analysis WMUR, along with all 234 other network affiliates for which there was a second affiliate with the same network within the same DMA that had higher ratings. There were 7 instances of multiple network affiliates for which neither had any ratings information in the data. In these cases, we assumed they could each reach 50% of the households in the DMA.

[21] The least widely distributed basic cable network (HTV Musica) was available in just 2.0 million households.

[22] A brief look at the full TMS data shows that they are on the rise: from 776 in May 2003 to 1,235 in November 2006.

[23] This may seem an important omission given the FCC's current and historic focus on localism (cf. FCC (2003)), but we concluded a detailed analysis of the many varieties of local origination was beyond the scope of this study. The data exist, however, for a detailed analysis of locally available cable programming. As for LPTV stations, we can say that their number has grown in the sample, from 484 in May 2003 to 697 in November 2006.

In our estimation dataset, there are 1,583 broadcast affiliates and 192 cable networks. Much of the programming on the broadcast networks, however, is similar, particularly during prime time (8:00-11:00 EST).[24] Even if not, it is provided within a DMA while each of the cable networks can (at least in principle) be distributed nationally. In order to compare programming, at least on a national basis, we had to somehow aggregate the information about the programming provided on broadcast affiliates into something like a "national" broadcast network.

This problem was conceptually easy for television stations affiliated with a broadcast network: simply "add up" (with appropriate weights) the programming provided on each affiliate. We describe in detail how we did this in the next paragraph. But how should one "add up" the many independent and public television stations? While many assumptions are possible, we chose to make several "virtual networks" of these stations.[25] Take independent stations for clarity (public stations were treated similarly). We examined all the independent television stations within each DMA in the U.S. and ranked them according to their channel number (with low channel numbers at the top of the list).[26] We then made a "network" of all of the "first" independent stations. Call this "network" "Independent 1". We made similar "networks" out of each of the second, third, etc. stations until we ran out of stations. This yielded 9 independent television "networks" and 6 public television "networks". Table 5 reports the number of affiliates for each of our networks in the estimation data. Tables 27 and 28 report the identities of the cable networks in the data.[27]

Having identified each broadcast network (real or virtual), we next faced the task of aggregating these across the various DMAs into a single national network. But what does it mean to "add up" "Wheel of Fortune" in San Diego with "Entertainment Tonight" in Tampa?[28] While we can't aggregate program names, we can aggregate the characteristics of those programs. Consider the TV Content Rating for clarity.[29] "Wheel of Fortune" in San Diego has a TV Content Rating of TV-G (give it a value of 3) while "Entertainment Tonight" isn't rated (give it a value of 0). Adding up the tv ratings of these two programs (and across all the programs on a given network for a given day and time period) gives both an "average" TV rating as well as the share of affiliates that have each rating.[30] We do this not only for TV Content Ratings, but for all the characteristics of the

[24] After standardizing for differences in time zones, it was typical for *every* affiliate of the four big broadcast networks (ABC, CBS, NBC, and FOX) in the United States to carry the same program.

[25] This had the advantage of capturing the fact that households in some (larger) DMAs have access to more independent and public television stations than households in other DMAs.

[26] Channel number is historically important as signal quality via over-the-air broadcast was generally higher the lower the channel number.

[27] There appear to be a few idiosyncracies in the networks reported to us by the data providers. For example, we received a number of the premium "multiplexes" (e.g. Showtime, Starz) but not others (e.g. HBO, Cinemax). This is unlikely to dramatically affect our conclusions.

[28] Note this isn't nearly as much a problem for the major broadcast networks in prime time. There, the uniformity of programming across affiliates means we can simply report the program being shown on all the affiliates.

[29] The television content rating is a method of describing the suitability of particular content for particular audiences. They are similar to MPAA ratings for movies. We describe them in further detail below.

[30] For example, the average TV content rating of programs on NBC affiliates at 7:00 p.m. (more generally, one

programming provided to us by TMS (or defined by us using TMS data). This yields a picture of what the "average" television station affiliated with each network is broadcasting for a given quarter-hour of a given day.

4.2 Programming Types

We are now prepared to describe patterns of television programming in the United States, both in general and with respect to the programming types articulated by the FCC when commissioning this study. They asked after 7 programming types: (1) Local News and Public Affairs Programming, (2) Minority Programming, (3) Children's Programming, (4) Family Programming, (5) Indecent Programming, (6) Violent Programming, and (7) Religious Programming. This section describe how we defined each of these types of programming.

We used two primary pieces of information in defining programming types. The most useful and accurate was to exploit information in the Program Type and Category fields in the data provided to us by TMS.[31] For example, we defined a program to be a "News" program if either the Program Type or Category was "News". While very useful for some program types, however, the TMS data proved less useful for others (e.g. Minority Programming). Our second way of defining program types was therefore to identify the target audience (if one existed) for broadcast and cable television networks and assume that *all* programming provided on that network was that type of programming. For example, we defined all the programming shown on Black Entertainment Television to be minority-targeted programming. The specific rules for each type of programming are described below.

1. News and Public Affairs Programming.
   As noted above, we defined programming to be news programming if either the Program Type or Category was "News". Similarly, we defined programming to be Public Affairs Programming if the Program Type was "Public Affairs". We further distinguished between Network News and Local News on broadcast television networks by examining how often a particular program title appeared across all television stations. If it had over 1,000 quarter-hours in the data, we defined that to be a network news program.[32] All other news programs were defined as local news programs.

hour before prime time) on November 15, 2006 among programs that give ratings is 3.4 (about halfway between TV-G and TV-PG). Or if more detail is wanted, of the 187 NBC affiliates in our estimation dataset, 65.2% didn't rate their program, 21.4% showed programming rated TV-G, 12.8% showed programming rated TV-PG, and 0.5% showed programming rated TV-14.

[31] Table 4 lists our (shortened) versions of these fields. Appendix 7 describes the rules TMS uses to allocate programming to their 33 program types. According to discussions with senior TMS personnel, programming is allocated to "Categories" first according to any information provided by the program provider in press kits, program schedules, etc. If the Category is still unclear, the Editorial Department staff queries them for this information.

[32] A one-hour local news program shown once per day for every day in our data would show up for 224 quarter-

2. Minority Programming.
   We distinguished between programming targeting three types of audiences: Black audiences, Latino/Spanish-speaking audiences, and other minority audiences (e.g. International, East Asian, South Asian, Gay & Lesbian, etc.) We offer two kinds of definitions. First, we went through the list of 192 cable networks and decided if any of these networks targeted any of these minority groups. The networks we chose for each of our three audiences is detailed in Appendix B. This is unfortunately crude, however, as some programming offered on other (including broadcast) networks clearly targets minority audiences. While TMS didn't provide information about the other minority audiences, we defined any programming with a "Spanish" or "Pelicula" Program Type or Category to target Latino/Spanish-speaking audiences.

3. Children's Programming.
   We had two definitions for children's programming. First, we defined a program as a children's program if it's Program Type or Category was "Children". Second, we defined a program as a children's program if it was a movie with an MPAA rating of "G" or a television program with a Television Content rating of TV-Y or TV-Y7.[33]

4. Family Programming.
   We have three definitions of family programming. First, we articulated the set of cable networks that provide family programming.[34] Second, we defined a program as a family program if it had a Television Content rating of TV-G. Third, we defined a program as a family program if it had an Arts, Educational, or Documentary theme.[35]

5. Indecent Programming.
   We defined indecent programming as Adult Programming.[36] We have two measures. First, we defined all programming on a network showing programming with strong sexual content as adult programming. Second, we defined as adult programming any movie with an MPAA rating of NC-17 or any television program with a Television Content rating of TV-MA-S ("explicit sexual situations") or TV-MA-L ("strong coarse language").

hours. Programs with more than 1,000 quarter-hours were obvious network news programs like "The CBS Evening News".

[33]MPAA ratings are ratings provided by the Motion Picture Association of America to rate a movie's suitability for certain audiences (see, e.g., Wikipedia (2007a)). The Television Content rating system is a similar mechanism for television programming (see, e.g., Wikipedia (2007b)).

[34]This is not without controversy as reasonable people can come to very different conclusions about what constitutes a network providing family programming. In part, we defined family networks subjectively, although we did incorporate information provided from news reports of the networks included on recently-introduced family-friendly tiers by major cable television providers.

[35]In particular, if it had a Program Type or Category of "ArtsSci", a Program Type of "Instructional" (but not "Business"), a Category of "Educational" or a Category of "Documentary".

[36]As above, others may have other definitions.

6. Violent Programming.
   We had many possible definitions of violent programming. First we allocated several of TMS's Categories into a "Violent" Category.[37] Second through fourth, we defined violent programming as any program with a television content rating of TV-PG-V ("Moderate violence"), TV-14-V ("Intense violence"), and TV-MV-V ("Extreme graphic violence").

7. Religions Programming
   We had two definitions of religious programming. First, we defined all programming on a network showing primarily religious programming as religious. Second, we defined programming to be religious programming if it had a Program Type or Category of "Religious".

8. Overall targeting.
   Finally, we simply calculated the average rating of all movies and television programs that were rated.[38]

5 The Quantity and Quality of Television Programming

5.1 The Quantity of Television Programming

We are now ready to describe patterns in our three measures of the quantity of television programming in the United States. Table 6 examines (a measure of) the quantity of programming that is *produced* for distribution anywhere in the United States. Reported is the average amount of programming of various types offered on any of the 27 Broadcast networks listed in Table 5[39] or on any of the 192 Cable networks listed in Table 27 and Table 28 over the 8 weeks in 4 years listed in Table 1. For reasons of comparability with the data we later report, all the tables in this section report patterns of programming between 6:00 p.m. and 12:00 a.m. (or the equivalent).[40] We restrict attention to this period as (a) it includes prime time (8:00-11:00 EST), the period that most people watch the most television and (b) it includes the early and late evening news, one of the programming types of particular interest in this study.

[37] These were "Horror", "Extreme", "Pro Wrestling", and "Terror". Note again our caveat that reasonable people could define things differently.

[38] For the MPAA ratings, we assigned a value of 1 for "G" to 5 for "TV-MA". For the Television Content ratings, we assigned a value of 1 for "TV-Y" to 6 for "TV-MA".

[39] Where note we have created 9 "Independent" and 6 "Public" broadcast networks for the purposes of these tables.

[40] Prime time programming is generally held to be between 8:00 p.m. and 11:00 p.m. Eastern Standard Time (EST) and Pacific Standard Time (PST), and between 7:00 p.m. and 10:00 p.m. Central Standard Time (CST) and Mountain Standard Time (MST). We verified that these patterns held in the data and then time shifted all of the CST and MST programming to synchronize prime time across time zones.

Program Production An entry in Table 6 is read as follows. For the 27 broadcast and 192 cable networks between 6:00 p.m. and 12:00 a.m. EST (or the equivalent) for the 8 weeks over 4 years between 2003 and 2006, 4.14 % of the quarter-hours are devoted to some kind of News programming, 1.98% is devoted to Public Affairs programming, etc. The second and third columns in Table 6 break out the average percentage of quarter-hours for each program type across broadcast and cable networks.

Before describing the data, we must note a few caveats. First, note that programming *within* the broadcast networks are weighted equally for every affiliate in the U.S., regardless of the number of households in the DMA. Second, programming is also equally weighted across networks both within and across types (i.e. programming on MNT counts equally with programming on ABC and programming on Hallmark TV counts equally with programming on TNT). We correct for both of these features in the next table.

That being said, there are interesting patterns both across programming types and across distribution channel within type. The most popular programming type (as defined here) is Family programming, with up to 19.2% of quarter hours, while the other programming types are relatively equal in size with viewing shares between 1 and 8%, depending on the measure used. There are important differences between the programming provided on broadcast versus cable networks for News, Religious, and Violent programming (more on broadcast), and Public Affairs, Children's, and Adult programming (more on cable). The average MPAA rating for movies (for movies that provide ratings) is similar across the two distribution platforms, while the average television content rating (for television program that provide ratings) is higher on cable.

Program Availability Table 7 reports our second measure of television programming quantity, that related to *availability*. We calculate the availability of programming in different ways for broadcast and cable networks. For broadcast networks, we calculate availability by weighting the programming within each DMA by the number of households within that DMA. For the purposes of this calculation, we assume that every household within a DMA can view the programming broadcast by any station within that DMA. As a consequence, programming that is provided more widely (across more DMAs) or is provided more frequently in large versus small DMAs, will be more widely available.[41] The sample statistics in Table 7 reflect these differences. For cable networks, we calculate availability by the *national* average number of households that can access the network via cable or satellite according to Kagan World Media (2006). This varies across years by network, with the Discovery Network, CNN, and ESPN the three most widely available networks across the

[41] For example, programming provided on ABC will have greater weight than programming provided on CW as ABC has more affiliates in more and larger DMAs than does CW (cf. Table 5).

sample period.[42] For the purposes of this table, we assume that premium and pay-per-view cable networks have *zero* availability.[43]

An entry in Table 7 is read as follows. The typical quarter-hour of news programming is available to almost half (48.0%) of U.S. television households. Broadcast news programming is more widely available (to 66.4% of U.S. TV households) than is cable news programming (36.7%). Several patterns emerge when comparing the patterns of availability to the patterns of program production from Table 6. First, as might be expected, "niche", or special-interest, programming (Minority Adult, and Religious programming) is much less widely available than more general-interest programming (News, Children's, and Family programming). Second, there are only moderate differences in availability of programming between broadcast and cable, with News, Latino/Spanish-language Minority, Violent, and Religious programming more widely available on broadcast stations[44] and Black and Other Minority programming more widely available on cable.

Programs Watched Table 8 reports our third and final measure of television programming quantity, that related to what is actually *watched*. As for availability, these are calculated differently for broadcast and cable programming networks. Broadcast ratings are the more accurate: they come from Nielsen and report the rating for the specific program collected in the TMS database. As for availability, we then aggregated these weighted by the households in each DMA. For cable networks, we did not have ratings matched to the program. Instead we have average yearly (through 2005) prime-time ratings by cable network, also from Kagan World Media (2006). These are non-zero for 62 cable networks in 2005.

An entry in Table 8 is read as follows. The average rating for an quarter-hour of news programming carried between 6:00 p.m. and 12:00 a.m. on a broadcast television network is 2.01, or roughly 2.22 million 2005 U.S. television households.[45] There are substantial differences in ratings across program types and between broadcast and cable offerings. First, News and Violent programming are the most highly rated, with Children's and Family programming substantially lower, and Minority and Religious programming lower still. In general, programming is more highly rated on broadcast than cable networks, although cable does relatively well on Children's and Public Affairs

[42] For example, Discovery was available to 90.3 million of the estimated 110.2 million U.S. television households in 2005.

[43] This is obviously strong. We do this as we weren't able to conveniently find premium and pay-per-view availability information. This assumption will impact most our calculations for adult programming, underestimating its overall availability.

[44] Note that all of the "other" broadcast television stations not affiliated with one of the major broadcast networks provide either Spanish-language or religious programming. Note also the more widely available adult programming on broadcast is a sure consequence of our assumptions on adult-oriented cable networks.

[45] For convenience, we use an entry for a broadcast network as our example as we have more confidence in those values.

programming.[46]

Of course, ratings can be low either because people have access to a program and don't choose to watch or because they don't have access to it in the first place. To get a sense of the importance of the latter effect, Table 9 reports the ratings as a *share of households with access*. An entry in this table reads as follows. On average across the prime-time quarter-hours in our data, 0.45% of the people with access to Spanish-language programming choose to watch it. That the entries in this table moderate the stark differences in ratings from Table 8 suggests (as might be expected) that the low numbers of people that watch particular (esp. niche) programming do so both because of limited availability and a limited wish to do so.

Patterns in Production, Availability, and Viewing Over Time Tables 10-12 duplicate the all-network averages in tables 6-8, but report it for each of the years in our data. Several interesting patterns emerge.

First, regarding program production and availability in Tables 10 and 11, it is clear that programming of different types are becoming more or less popular over time. Program types whose production and/or availability is falling across time include Network News (though not Local News), Public Affairs, Family, and Religious programming.[47] Program types whose production and/or availability is rising across time include Latino, Children's, Adult, and the higher categories of Violent programming. Note also the average Television Content rating across all rated programs is rising over time. Glancing at Table 12 suggests a reason. While only a 3-year horizon due to our lack of cable ratings for 2006, aggregate ratings across time are falling for News and Religious programming, but rising (sharply) for Children's and Violent programming.

5.2 The Quality of Television Programming

Ratings as Program Quality We now turn to our two (economic) measures of television program quality. One we have seen already: television ratings. In particular, we first measure quality by the Nielsen television rating obtained for the program (where available). This captures the idea that for programming that is free to households (i.e. broadcast television programming or cable television programming after purchasing access to a bundle of networks), higher quality programs will garner higher ratings.

[46] Note while *total* ratings for cable television viewing recently passed total ratings for broadcast television viewing, cable viewing is shared over a much larger number of networks, depressing their average.

[47] Note that what is reported is the *share* of quarter hours that are devoted to programming of a given type. The total number of quarter-hours of programming is increasing over time due to the introduction of new cable networks. Thus it is possible that while the share of programming of a given type is falling, it's total quantity (in quarter-hours) is rising.

Table 9, introduced above in our discussion of viewing pattern, describes patterns in viewing choices among households with access to broadcast and cable programming. If one accepts the premise that more households watch what they perceive to be higher quality programming, then News and Violent programming is perceived to be, on average across quarter hours, the highest quality television programming, followed (depending on the measure) by Latino/Spanish-language, Children's, and Family programming. These patterns come predominantly from viewership patterns in broadcast television.[48]

Table 13 duplicates this table for all networks across time. The data here suggest the relative quality of News programming is declining with a mixture of (relative) winners.[49] The strongest results appear to be for some measures of Children's programming and the more violent Violent programming.

Advertising Minutes as Program Quality Our other measure of program quality is the number and length (in minutes and seconds) of advertisements included on that program. This captures the idea that the more advertisements included in a program, the less enjoyable it is to viewers to watch that program.

Table 14 reports patterns in the *broadcast* television advertising market by affiliate type and year.[50] Here we split outcomes in the advertising market for the affiliates of the "Big 4" broadcast television networks (ABC, CBS, NBC, and Fox) and for other affiliates (MNT, CW, Independents, PBS, and others).

There are strong differences in all features of advertising outcomes between the Big 4 and the rest. Big 4 affiliates have, on average, more ads per program, more ad minutes, and a higher share of time devoted to advertising. Similar conclusions apply to promotions. With prices per 30-second ad more than twice as high, revenue per ad is almost triple that of independents and the other network affiliates.

Patterns across time suggest this dominance is if anything only growing stronger. Despite a general upward trend in program length for Big 4 affiliates over time, ad minutes that grow even faster show that the share of total time devoted to ads has increased, from 22.1% (about 13.25 minutes in a 60 minute program) to 22.9% (about 13.75 minutes), or an additional 30-second ad.[51] From this perspective, the quality of broadcast television programming is falling over time.

[48] Despite the fact that there are over 6 times as many minutes of cable programming, higher average ratings for broadcast programming give them relatively more weight in determining overall viewership patterns.

[49] Note that overall ratings for television are also declining in this period.

[50] Recall from section 3 that we only have access to advertising market data for the broadcast television market.

[51] Note this is just ad time. The additional time for promotions shows that total non-programming time for a 60 minute program shown on a Big-4 affiliate is 19.75 minutes by the end our sample .

6 Ownership Structure and Program Quantity and Quality

Section 5 described the overall patterns of television programming quantity and quality that form the background for an analysis of the impact of television station ownership structure on those outcomes. I briefly describe the data used in this part of the paper and then present our results.

6.1 Data Preliminaries

As described in Section 3 above, our data on television station ownership comes from Diwadi, Roberts, and Wise (2007). The ownership information for television systems in that study comes from the BIA Financial Network. It provided year-end snapshots of ownership of each of the over 1,800 full-power broadcast television stations operating in the United States. We will use information on the following features of television station ownership in this study:

1. Local ownership. A television network was defined to be locally owned if the zip-code of the physical location of the parent corporation matched any of the zip codes within the DMA served by the television station.
2. Parent corporation ownership. Various features of parent corporation ownership are provided in the data. We describe these in more detail when we present our results.
3. Cross-ownership information. Noted in the data are whether the parent corporation of the television station also owns a radio station or newspaper within the same DMA.
4. Minority and female ownership. Noted in the data are whether the owner is a minority or a woman.

Linking the Data As our ownership information pertains only to television stations, all of our subsequent analysis will look at programming and advertising outcomes in broadcast television markets.

An observation in the ownership data is a television station-year, i.e. WCVB-Boston in 2005. By contrast an observation (on a broadcast television station) in our quantity and quality data is a station-day-quarterhour-program. To link the data, we therefore aggregated our quantity and quality data across all the quarter-hours between 6:00 p.m. and 12:00 a.m.[52] and across all the days within a year[53] to get a matching dataset on station-years. The link between the two datasets was not perfect - we lost some observations on the match and some more by choosing to balance

[52] We continue to focus on this "prime time extended" period.
[53] For us, 14, as we have two weeks of data per year.

the ownership data such that we had an observation in the data for each station for all three years in the sample.[54] The results was a sample of 4,437 station years, or 1,479 stations for each of 3 years.

Tables 15 and 16 present sample statistics for this composite database. Table 15 presents information about the market in which the station operates (DMA rank, DMA households), whether it is a commercial or non-commercial station, and the ownership variables described above. It also includes information about advertising market outcomes (ad minutes, ad revenue, and ad prices) and splits the data between the same Big 4 network affiliates (ABC, NBC, CBS, and Fox) and others as was done above.

As for ad markets, Big 4 network affiliates differ substantially from other affiliates in their market and ownership characteristics. Big-4 affiliates are more likely to be in *smaller* markets (one needs a big market to support and independent television station) and are exclusively commercial. They are less likely to be locally owned, with similar (tiny) patterns of minority and female ownership.[55] Parent corporations (owners) of big-4 affiliates have roughly double the revenue of other affiliate owners, although similar patterns in the number of stations owned and percent of households reached. As might be expected given the revenue figures, big-4 affiliate owners are more likely to have holdings in print and radio.

Table 16 provides programming information for the same data. Note first that the quantity measure we use here (and in the subsequent analysis) is the *production* of television programming. While analyzing also availability and ratings would have been interesting, time and space constraints prevented it. Second, note that the across-network averages for broadcast stations here look slightly different from those in Table 6. In part, this reflects the slightly different samples (here 1,479 broadcast stations; there 1,583) and in part the different number of stations that are being averaged over.[56]

While the patterns across program types are familiar from our earlier analysis, there are substantial differences in the programming of the Big-4 and other affiliates. Big-4 affiliates offer much more News and Violent programming and less Children's, Family, and Religious programming. Relatedly, the average TV Content rating is substantially higher for Big-4 stations.

[54] While not strictly necessary, we didn't want to bias our results by comparing outcomes of existing stations with outcomes of stations that were newly entering or exiting the industry. In practice, it is likely inconsequential as the stations dropped due on these criteria were only 1.5% of all stations.

[55] Note the figures for minority and female ownership read as, e.g, 0.85% of Big-4 network affiliates being owned by a minority.

[56] In particular, as we are not aggregating stations to national averages, we've elected to pool the Independent and Public television stations instead of splitting them out into "virtual" networks. As such, we have are averaging across all programming equally rather than (as there) averaging up to the level of the network and then averaging across networks.

6.2 Empirical Framework

The framework we will use to analyze the relationship between television ownership structure and the quantity is that of simple linear regression (Ordinary Least Squares). We have a number of outcome variables of interest (the quantity produced of various types of programming, advertising minutes and prices), a number of ownership variables of interest (local ownership, cross-ownership, etc.), a number of control variables (DMA size, commercial status, and broadcast network affiliation), and a number of econometric approaches (cross-section regression, various fixed-effects regressions).

Tables 17-26 present the results from regressions combining each of the elements described above. Before we describe them, however, we would like to describe the common structure of the tables and discuss some of the underlying econometric issues that motivates that structure. We can then safely refer to these issues when analyzing each of the individual specifications.

Table 17 is representative of the results that we will momentarily present. It presents different specifications of a regression of the share of quarter hours of programming that is local news on a variety of measures of television station ownership structure and other controls. There are 9 specifications that we briefly describe here:

1. Specification (1): Regression of the Local News Share on market controls:
    - DMA households and it's square
    - Commercial station dummy, and
    - Affiliation dummies
        - ABC, CBS, NBC, Fox,
        - CW, Independents, PBS,
        - Spanish-Language, Others,
        - Excluded category is MNT
2. Specification (2): (1) + DMA and Year fixed effects. Those parameters not reported.
3. Specification (3): (2) + Locally Owned Dummy
4. Specification (4): (2) + Minority Owned Dummy
5. Specification (5): (2) + Female Owned Dummy
6. Specification (6): (2) + Newspaper-TV Cross-Ownership Dummy
7. Specification (7): (2) + Radio-TV Cross-Ownership Dummy

8. Specification (8): (2) + Parent Company revenue (in $billions)

9. Specification (9): (2) + All ownership controls

We run these 9 specifications for each of 9 dependent variables: (1) Local News programming, (2) Public Affairs programming, (3) Spanish-language programming, (4) Children's programming[57], (5) Family programming[58], (6) Violent programming[59], (7) Religious programming, (8) Advertising time (in minutes), and (9) Advertising prices (for a 30-second ad).

In addition, Table 26 runs Specification (9) for each of these dependent variables including all the ownership controls and DMA, year, and *channel* fixed effects. Those parameters are not reported.

Econometric Caveats [60]

It is well known that Ordinary Least Squares provides the best linear unbiased estimation of the relationship between one (dependent) variable and other (explanatory) variables. In this role, it merely reports the (conditional) correlation between the dependent variable (e.g. share of minutes that are local news) and any one explanatory variable (e.g. local ownership) controlling for the other explanatory variables.

In particular, it does *not* guarantee any kind of causal relationship between the explanatory variable and the dependent variable, i.e. a statistically significant (positive) relationship between local ownership and local news minutes does not mean local ownership is the *cause* of higher local news minutes. Why not? Among other reasons, because there could be other factors that are correlated with both local ownership and local news provision (e.g. a strong local community).

In general, we try to use econometric strategies that will control for all unobserved factors such that it is difficult to think of anything *not* in the regression that could cause bias a causal interpretation. It is notoriously difficult to claim causation in cross-section regressions like specification (1) because of a host of factors across markets that might influence outcomes but not be observed to the econometrician. One such factor is the strength of the local television markets. This motivates the use of DMA fixed effects in the balance of the specifications. It is still possible, however, that there are unobserved factors across television stations *within* a market that can influence both ownership variables and programming quantity or quality.

This motivates the use of *channel* fixed effects in Table 26. In this case, no cross-sectional variation is used at all to identify the effects of interest. Instead, all the variation in the data identifying

[57] Either of "Children's Programming" and G Movies or TV-Y / TV-Y7 TV.
[58] Either of TV-G programming or Arts, Educational, or Documentary programming.
[59] Any of TV-PG-V, TV-14-V, or TV-MA-V programming.
[60] The reader uninterested in details of econometric analysis can skip this section.

the results is from changes across time in the ownership of a *given* station. In our case, however, this means a regression with almost 1,700 parameters.[61] It is likely the case that including channel fixed effects eliminates much of the variation in the data. This often has econometric consequences - imprecise statistical effects - but even in the presence of statistically significant effects suggests caution to understand how much variation in the data is driving a particular result (and the likely generality of that variation). This is a common tradeoff in empirical economic analysis. We will further address these issues as the need arises when discussing our results.

6.3 Ownership Structure and Program Quantity

We briefly summarize the findings of the results from the regressions of various ownership variables on each of our programming quantity variables described above. The table and the column in the table providing the support for each conclusion is included in parenthesis after each conclusion.

1. Local News programming (Table 17). Larger markets tend to devote a greater share of minutes to local news (1). Affiliates of ABC, CBS, and NBC provide substantially more and affiliates of Fox and PBS provide slightly more local news than other broadcast stations (1-9).[62] Locally owned stations offer less local news (3), although this result disappears when controlling for other features of the ownership structure (9). Television stations owned by a parent that also owns a newspaper in the area offer ($\tilde{3}$.0 percentage points) more local news programming (6, 9). The results in Table 17 with DMA dummies suggest television stations owned by corporate parents with larger annual revenue offer more local news (8, 9).[63] By contrast, using channel fixed effects, an increase in the size of a corporate parent's annual revenue is correlated with a decrease in the amount of local news (Table 26, (1)).[64]

2. Public Affairs programming (Table 18). Smaller markets have more public affairs programming (1). PBS and Independent stations have more (1-9). Locally owned and female owned stations have more public affairs programming (3, 5, 9).

3. Spanish-Language programming (Table 19). Spanish-language stations have a very large effect on the amount of Spanish-language programming.[65] Using channel fixed effects, becoming

[61] 1,479 channel fixed effects plus 200+ DMA fixed effects.

[62] The coefficient on ABC, for example, says that controlling for all the other explanatory variables in the regression, a television station affiliated with ABC provides an estimated 16 percentage points more news programming than a television station affiliated with the MNT network.

[63] A $500 million (1 standard deviation) increase in the corporate parent's annual revenue is correlated with an estimated 0.033*0.5 = 1.65 percentage point increase in the amount of local news programming.

[64] With the same $500 million increase now correlated with an estimated 0.5 percentage point decrease in the amount of local news programming.

[65] Becoming a Spanish-language station is associated with an estimated 32-percentage point increase in the amount of Spanish-language programming.

owned by a parent with newspaper ownership is correlated with an increase in the amount of Spanish-language programming (Table 26, (3)).[66]

4. Children's programming (Table 20). PBS stations offer more children's programming than other stations (1-9). Locally owned stations offer more children's programming (3, 9) and stations that also own a radio station in the DMA offer less. Using channel fixed effects, becoming owned by a parent with newspaper ownership and minority ownership are both correlated with a decrease in the amount of children's programming (Table 26, (3)).[67]

5. Family programming (Table 21). Larger market provide less family programming (1). PBS, Independent TV stations, and other TV stations (mostly religious) provide more family programming (1-9). Interestingly, CBS provides slightly more (1-9). Locally owned stations provide slightly more as well (3, 9). Television stations owned by corporate parents with larger annual revenue offer less family programming (8, 9).[68]

6. Violent programming (Table 22). Larger markets provide less violent programming (1). There are important differences across broadcast affiliates in the amount of violent programming they provide: relative to MNT, Fox and CBS provide slightly more and all other affiliates (save CW) provides quite a bit less (1-9). None of the other statistically significant effects are economically significant.

7. Religious programming (Table 23). Smaller markets provide more religious programming (1). PBS stations provide substantially less and Independent and Other (mostly religious) stations provide substantially more religious programming (1-9). Female owned stations provide more religious programming (5, 9).

8. Advertising time (Table 24). Recall advertising time is one of our measures of the quality of television programming. Independent and other stations provide slightly more advertising time (1-9).[69] Using channel fixed effects, there are a number of statistically significants effects of changes in ownership: Becoming minority-owned, co-owned with a radio station, or becoming owned by a larger parent are all associated with increased advertising time, while becoming co-owned with a newspaper is associated with decreased advertising time.[70]

[66] One should be careful extrapolating this result as it is likely based on a very small number of observations.

[67] One should be careful over-interpreting our results on children's programming. This is children's programming *in prime time*. As seen in Table 16, this is quite rare, accounting for only 1.7% of programming minutes across the sample.

[68] A \$500 million (1 standard deviation) increase in the corporate parent's annual revenue is correlated with an estimated 0.010*.5 = 0.5 percentage point decrease in the amount of family programming. While statistically significant, this is economically small (relative to a mean 19.75% share of minutes for family programming).

[69] A 0.30 increase on a mean of 11.95 is less than 3 %.

[70] The economic effects here are large, so care must be taken before extrapolating these findings to investigate the number of changes in ownership on which they are based.

9. Advertising prices (Table 25).[71] Larger markets have statistically and economically significantly higher advertising prices (1).[72] Affiliates of the Big-4 broadcast networks charge substantially higher prices than other broadcast stations with affiliates of ABC, CBS, and NBC charging slightly more than Fox (1-9). Locally owned stations charge higher prices (3, 9). Television stations owned by a parent that also owns a radio station in the area charge slightly higher prices.

7 Conclusion

In this study we analyze the impact of the ownership structure in local television markets on the quantity and quality of television programming. We have obtained information from a variety of major data providers in the television industry and linked them together to form a unique dataset to address these questions. This dataset includes information on almost 1,600 broadcast television stations and almost 200 cable television networks across every DMA in the country over 4 years. Our results are based on over 9,000,000 quarter-hours of programming.

We measure the quantity of television programming not only by about the amount and type of programming provided (anywhere) on television, but also by it's availability to households, and by what people actually watch. We measure the quality of programming (again) by what people watch (among the programming that is available to them) and also by the number of advertising minutes on that programming.

The commission for this study mandated we examine the quantity and quality of seven types of programming: (1) Local News and Public Affairs Programming, (2) Minority Programming, (3) Children's Programming, (4) Family Programming, (5) Indecent Programming, (6) Violent Programming, and (7) Religious Programming. We found it difficult to find a single satisfactory definition for each of these. What we suspect we will lack in unanimity, we hope to compensate with clarity - we describe in great detail our various measures and note here that our conclusions are based on those particular choices. Assessing the robustness of these conclusions to alternative choices would be welcome.

What do we find? With regard to general patterns of quantity and quality, we find there are important differences between the programming provided on broadcast versus cable networks for News, Religious, and Violent programming (more on broadcast), and Public Affairs, Children's,

[71] While not the mandate of this study, economists often worry about the impact of ownership changes on prices. As such, I include this paragraph as well.

[72] The linear term in the pair dominates, so the effect is particularly strong at low DMA households. For example a 1 million increase in DMA household size at very low household size is associated with a $1.04 increase in the average advertising price.

and Adult programming (more on cable). We find that "niche", or special-interest, programming (Minority Adult, and Religious programming) is much less widely available than general-interest programming (News, Children's, and Family programming). Examining patterns across time, we find that program production and/or availability is falling across time for Network News (though not Local News), Public Affairs, Family, and Religious programming and rising across time for Latino, Children's, Adult, and the more violent of Violent programming. Also rising across time is the average Television Content rating across all rated programs.

We find that in general, programming is more highly rated on broadcast than cable networks. Of the programming types, News and Violent programming are the most highly rated (i.e. highest quality), with Latino/Spanish-language, Children's and Family programming substantially lower, and non-Latino Minority and Religious programming lower still. Examining patterns over time, we find that the relative quality of News programming is declining with some measures of Children's programming and the more violent Violent programming gaining ground. With respect to advertising minutes and prices, we find affiliates of the Big-4 broadcast networks (ABC, CBS, NBC, and Fox) are strong and growing stronger. From the perspective of advertising minutes in particular, the quality of television programming is falling over time.

We relate these measures to the ownership structure of broadcast television stations. Our strongest findings are for Local News: television stations owned by a parent that also owns a newspaper in the area offer more local news programming. By some methods, television stations owned by corporate parents with larger annual revenue also offer more Local News, but by other methods they offer less. This is an important area for further inquiry. We find that local ownership is correlated with more Public Affairs and Family programming. While we find important and interesting differences in the amount of Violent programming across network affiliates, it does not appear to be correlated in an economically and statistically significant way with ownership structure. Effects of ownership structure on other programming types or on outcomes in the advertising market are either economically insignificant, statistically insignificant, or differ in their predicted effects according to the method of analysis.

Our hope was that the data we created here might be used to address some of the wide-ranging issues regarding media ownership structure and outcomes in television markets. While we are content with the insights we have gained regarding ownership structure among broadcast television stations, we feel it important to point out this is just one link in the chain of markets that govern the production and sale of television programming. Extending the analysis here to consider other distribution channels (cable, satellite, and Internet) and other parts of the vertical chain (notably the market for programming at the production and network levels) would do more to fill out the picture of the impacts of media ownership on the quantity and quality of television programming.

A TMS Program Types

The following describes the rules used by TMS to allocate programming to program types.[73]

ARTS	Fine arts series such as ballet, opera, theatrical productions, museum exhibits.
CARTOON	An animated program such as Flintstones, Smurfs. Note: animated specials such as Garfield and Peanuts would go under Childrens Special and adult-oriented animated shows should be aggressively pursued in an attempt for a more appropriate program type like Network Series.
CHILDREN'S SHOW	Includes series designed specifically for children 12 years and under. Note: childrens specials and cartoons are not included here. Examples: Sesame Street, Captain Kangaroo, Fraggle Rock.
CHILDREN'S SPECIAL	Specials specifically designed for children 12 years and under.
CINEMA	Includes movies in French on French services and stations. Movies dubbed in French or with French subtitles should carry Cinema as the program type.
DAYTIME SOAP	Continuing daily drama.
FILLER	Programs aired to fill time between featured programs. Use when titles are not available.
FINANCE	All money related, investment oriented or business series. Examples: Wall Street Week, Wall Street Journal Report, Smart Money, Nations Business Today.
FIRST-RUN SYNDICATED	Never-seen-before series or episodes, distributed via syndication. These are new programs that arent aired exclusively on any network or cable.
GAME SHOW	Includes all game shows and lotteries. Examples: Wheel of Fortune, Jeopardy, Price is Right. Also, high-school or college quiz shows (with teams in the subtitle).
HEALTH	Includes health and fitness-type series like Weight Watcher Magazine, Medicine Today, Your Baby and You, aerobics and exercise shows.
HOBBIES & CRAFTS	How-to series. Examples: Car Owners Maintenance Guide, Sewing With Nancy, Home Again, Wok With Yan.
INSTRUCTIONAL	Any program seeking to teach academic or theoretical lessons.
MINISERIES	A miniseries is defined as a program longer than 4 hours/2 parts; any limited series (fictional or non-fictional) with fewer than 13 parts or episodes.

[73] Obtained in an email from Robin Perkins, Senior Electronic Accounts Representative, Tribune Media Services, July 13, 2007.

MOVIE	This includes all films with a theatrical release or intended for a theatrical release or made for video. Spanish (Pelicula), French (Cinema) and made-for-TV movies (TV Movie) have their own types. An animated movie is still a movie, not a cartoon.
MUSIC	Includes all music-related series except music specials. Examples: Lawrence Welk, Soul Train, Evening at Pops.
MUSIC SPECIAL	Generally, one-time-only musical programs. Examples: concerts, recitals, performances.
NETWORK SERIES	These are any open-ended series running on the networks (NBC, ABC, CBS, PBS, CTV, CBC, FOX) or major cables, such as USA, HBO, LIFETIME, etc., that can be continued due to audience demand.
NEWS	Includes local and network news.
OTHER	For any program that doesnt fit into any of the other types.
PELICULA	This includes movies in Spanish on Spanish services and stations. Movies dubbed in Spanish or with Spanish subtitles should carry Pelicula as the program type.
PLAYOFF SPORT	This includes the Super Bowl, World Series, NCAA Playoffs, Stanley Cup Playoffs, NBA Playoffs.
PSEUDO SPORT	Any sporting type program where the outcome is predetermined. Example: professional wrestling.
PUBLIC AFFAIRS	Includes current events programs like Meet the Press, Firing Line, Washington Week in Review, Nightline. Also, if any local news program has public affairs aspects, its typed Public Affairs.
RELIGIOUS	Includes religious shows like 700 Club.
SPECIAL	Generally a one-time-only program that deviates from the normal lineup. A special is a program truly out of the ordinary and NOT a single episode of a past or present series being shown in a different time slot. When creating a special with seasonal content, place a Y in the SEASONAL field of the program record.
SPORTS ANTHOLOGY	This is for sports programs that feature more than one sport. Examples: Wide World of Sports, Eye on Sports, Sportsworld, etc.
SPORTING EVENT	This is a sporting event that is not a team vs. team contest. Examples: a golf tournament, a horse race, bowling tournaments, a boxing match.
SPORTS RELATED	This is for shows dealing with sports including interviews, highlights, results and analysis. Examples: NFL Today, Super Bowl Highlights, SportsCenter, coaches shows, fishing shows, skiing tips, etc.
SYNDICATED SERIES	All series airing on a channel except programming produced exclusively for them or obtained through a network relationship. Older episodes of a current network series can be in syndication. Examples: Cheers, Star Trek: The Next Generation, A Different World, The Brady Bunch.

TALK SHOW	Includes shows in which a host or hostess introduces and chats with show business personalities, national or international celebrities, and other persons currently in the news, sometimes before a studio audience. Examples: Oprah, Jerry Springer, etc.
TEAM VS. TEAM	This is a sporting event with two teams. Examples: NFL Football, Major League Baseball, all-star games, bowl games.
TV MOVIE	Includes movies that premiere on TV, not in theaters. This includes made for pay movies on premium channels such as HBO, SHOWTIME, etc.

B Cable Network Program Types

The following describes the rules we used to allocate programming from entire cable networks to program types. These decisions were based on information provided at NCTA (2007) unless otherwise noted.

Networks targeting Black audiences	Black Entertainment Television (BET), BET Gospel, BET Jazz, Black Family Channel, Starz in Black, TV One, and VH1 Soul.
Networks targeting Latino or Spanish-speaking audiences	Azteca, Dicovery en Espanol, Dicovery Kids en Espanol, EcuaTV, ESPN Deportes, Galavision, GolTV, History Channel en Espanol, HITN, HTV 10, La Familia, Mun2, SITV, Telefutura, Telemundo, Travel and Living en Espanol, and Univision.
Networks targeting other minority audiences	AZN TV, CNBC World, CNN International, History Channel International, Logo
Children's networks	ABC Family Channel, Discovery Kids, Discovery Kids en Espanol, The Disney Channel, Nickelodeon, Nicktoons, Noggin, Toon Disney
Family networks	ABC Family Channel, Animal Planet, Biography Channel, Boomerang, Discovery, Discovery en Espanol, Discovery Kids, Discovery Kids en Espanol, Disney, The DIY Network, Fit TV, The Food Network, The History Channel, Home & Garden, La Familia, The Learning Channel, National Geographic, Nickelodeon, Nicktoons, Noggin, The Science Channel, Toon Disney, and The Weather Channel.
Adult networks	Club Jenna, Hustler TV, Playboy, Playboy HD, Playboy en Espanol, Spice, Spice2, Ten, Tenbox, Tenblue, Ten Clips, Ten Max, Ten Xtsy
Religious networks	Inspirational Net, ION, Trinity Broadcasting Network

Table 2: TMS Data

Full Data

		Full Dataset	Estimation Dataset
Variable	Description	Unique Values	Unique Values
Channel ID	TMS channel reference number	7,966	1,775
Program ID	TMS program reference number	248,384	148,724
Start Date	Date (day)	56	56
Start Time	Program Start Time[a]	96	96
Duration	Scheduled Program Duration (in minutes)	242	230
Total Observations[b]		11,567,399	9,296,389

Channel Data

		Full Dataset	Estimation Dataset
Variable	Description	Unique Values	Unique Values
Channel ID	TMS channel reference number	8,634	1,775
Affiliation	Channel Affiliation	26	27
Chan. Descrip.	Full-Power B/C, Cable, etc.	8	4
Number	Channel Number (B/C)	74	67
Time Zone	Channel Time Zone	19	5
City	City Name	1,077	511
State	State Name	62	49
DMA	DMA Name	211	208
DMA Rank	DMA Rank	211	208

Program Data

		Full Dataset	Estimation Dataset
Variable	Description	Unique Values	Unique Values
Program ID	TMS program reference number	379,552	148,724
Program Type	Program Type (like Genre)	33	23
Category	Program Category	374	36
MPAA Rating	MPAA Rating	9	9
Parental Rating	Parental TV Rating	6	6
Expanded Rating	Expanded Parental TV Rating	16	16

Source: TMS.

[a] Rounded to the quarter hour.

[b] Total observations in the full dataset are for start times only. For the estimation dataset, total observations are for all quarter-hours a program is running.

Table 3: TMS and Estimation Program Types

TMS Type ID	TMS Program Type	Estimation Type ID	Estimation Program Type
1	Arts	1	ArtsSci
2	Cartoon	3	Cartoon
3	Children's Show	4	Children
4	Children's Special	4	Children
5	Cinema	11	Movie
6	Daytime Soap	5	DaytimeSoap
7	Filler	15	Other
8	Finance	2	Business
9	First-run syndicated	21	Syndicated
10	Game Show	6	GameShow
11	Health	7	Health
12	Hobbies & Craft	8	Hobbies
13	Instructional	9	Instructional
14	Miniseries	10	Miniseries
15	Movie	11	Movie
16	Music	12	Music
17	Music Special	12	Music
18	Network Series	13	NetworkSeries
19	News	14	News
20	Other	15	Other
21	Pelicula	16	Pelicula
22	Playoff Sports	20	Sports
23	Pseudo-sports	20	Sports
24	Public Affairs	17	PublicAffairs
25	Religious	18	Religious
26	Special	19	Special
27	Sporting Event	20	Sports
28	Sports Anthology	20	Sports
29	Sports-related	20	Sports
30	Syndicated	21	Syndicated
31	Talk Show	22	TalkShow
32	Team vs. Team	20	Sports
33	TV Movie	23	TVMovie

Source: TMS and author decisions. See Appendix A for definitions of TMS Program Types.

Table 4: Distribution of Program Types and Categories in the Estimation Dataset

Program Type	Number	Share	Category	Number	Share
ArtsSci	273	0.18	ActionAdv	5,397	3.63
Business	786	0.53	Adult	3,898	2.62
Cartoon	5,091	3.42	Animated	6,498	4.37
Children	6,356	4.27	Anthol	534	0.36
DaytimeSoap	961	0.65	ArtsSci	2,857	1.92
GameShow	1,441	0.97	Business	1,453	0.98
Health	2,370	1.59	Children	920	0.62
Hobbies	10,237	6.88	Comedy	4,764	3.20
Infomercial	6,042	4.06	Community	1,231	0.83
Instructional	3,811	2.56	Documentary	2,235	1.50
Miniseries	352	0.24	Drama	13,622	9.16
Movie	11,078	7.45	Educational	13,090	8.80
Music	2,999	2.02	Entertainment	2,800	1.88
NetworkSeries	20,919	14.07	Fantasy	952	0.64
News	1,610	1.08	French	159	0.11
Other	8,333	5.60	GameShow	501	0.34
Pelicula	941	0.63	Health	2,181	1.47
PublicAffairs	3,240	2.18	History	170	0.11
Religious	5,704	3.84	Hobbies	1,011	0.68
Special	7,308	4.91	HomeGarden	12,994	8.74
Sports	11,701	7.87	Infomercial	6,042	4.06
Syndicated	31,942	21.48	Missing	18,586	12.50
TVMovie	1,456	0.98	Movie	158	0.11
TalkShow	3,773	2.54	Music	2,960	1.99
			News	1,218	0.82
			Other	629	0.42
			Outdoor	5,877	3.95
			PublicAffairs	2,230	1.50
			Reality	5,236	3.52
			Religious	1,750	1.18
			Shopping	1,388	0.93
			Sitcom	13,668	9.19
			Spanish	1,817	1.22
			Sports	8,468	5.69
			Violent	1,298	0.87
			Weather	132	0.09
Total	148,724	100.00	Total	148,724	100.00

Source: TMS and author calculations. See Table 3 for allocation of TMS Program Types to Estimation Program Types (i.e. the Program Types used in this study). See Tables 29-31 for allocation of TMS Categories to Estimation Categories (i.e. the Categories used in this study).

Table 5: Broadcast Networks in the Estimation Dataset

Program Type	Number	Share
Major Broadcast Networks		
ABC	183	11.56
CBS	185	11.69
NBC	187	11.81
FOX	168	10.61
CW	93	5.87
MNT	74	4.67
Independent and Public "Networks"		
IND1	86	5.43
IND2	40	2.53
IND3	20	1.26
IND4	12	0.76
IND5	9	0.57
IND6	5	0.32
IND7	3	0.19
IND8	1	0.06
IND9	1	0.06
PBS1	181	11.43
PBS2	91	5.75
PBS3	40	2.53
PBS4	22	1.39
PBS5	6	0.38
PBS6	4	0.25
Other Broadcast Networks		
AZA	5	0.32
ION	52	3.28
TBN	37	2.34
TEL	22	1.39
TLF	19	1.20
UNI	37	2.34
Total	1,583	100.00

Source: Author calculations. Note: IND1-IND9 (PBS1-PBS6) are "virtual networks" consisting of the first, second, etc. Independent (Public) television station offered in each Nielsen DMA. See Section 4.1 for more details. AZA = Azteca America, ION = The "i" network, TBN = Trinity Broadcasting Network, TEL = Telemundo, TLF = Telefutura, and UNI = Univision

Table 6: Program Production by Programming Type
6:00 p.m. - 12:00 a.m. EST (or equivalent), 2 weeks/year, 2003-2006

Variable	All Networks	Broadcast Networks	Cable Networks
News Programming			
Any News	4.14	11.79	2.96
Network News	0.51	2.63	0.18
Local News	3.63	9.16	2.78
Public Affairs Programming	1.98	3.40	1.76
Minority Programming			
Networks Targeting Black Audiences	3.39	0.00	3.91
Targeting Latino Audiences			
On Networks Targeting Latino Audiences	8.13	15.17	7.05
Spanish-Language Programming	3.39	5.54	3.05
Networks Targeting Other Diverse Audiences	2.65	0.00	3.06
Children's Programming			
"Children's Programming"	1.93	0.84	2.10
G Movies or TV-Y / TV-Y7 TV	3.11	1.06	3.42
Either of the above	5.03	1.90	5.52
Family Programming			
Networks Targeting Families	10.93	0.00	12.61
TY-G Programming	11.59	17.05	10.75
Arts, Educational, or Documentary Programming	7.60	6.46	7.77
Either of the two above	19.18	23.50	18.52
Adult Programming			
Networks Showing Adult Programming	4.98	0.00	5.75
NC-17 Movies or TV-MA-S / TV-MA-L TV	0.67	0.39	0.72
Violent Programming			
"Violent Programming"	1.70	0.53	1.88
TV-PG-V Television	1.46	2.31	1.33
TV-14-V Television	1.47	2.07	1.37
TV-MA-V Television	0.19	0.12	0.20
Any of the three above	3.11	4.50	2.90
Any of the last two above	1.65	2.18	1.57
Religious Programming			
Networks Showing Primarily Religious Programming	1.52	7.58	0.58
"Religious Programming"	3.03	11.76	1.69
Overall Targeting			
Average TV Content Rating (where noted for TV)	3.81	3.66	3.86
Average MPAA Rating (where noted for movies)	3.96	4.00	3.95
Observations	265,388	35,448	229,940

Notes: Reported in the table is the percentage of quarter-hours of programming on one of 27 broadcast television networks (cf. Table 5) or 192 cable television networks (cf. Table 27-28) between 6:00 p.m. and 12:00 a.m. EST (or the equivalent) during each of the two weeks per year for 4 years (cf. Table 1) devoted to programming of the listed types. See Section 4.2 for further detail about the definition of program types. Source: Author calculations.

Table 7: Program Availability by Program Type
6:00 p.m. - 12:00 a.m. EST (or equivalent), 2 weeks/year, 2003-2006

Variable	All Networks	Broadcast Networks	Cable Networks
News Programming			
Any News	48.00	66.38	36.74
Network News	52.81	76.26	1.23
Local News	47.33	63.54	39.09
Public Affairs Programming	56.64	40.49	61.47
Minority Programming			
Networks Targeting Black Audiences	20.99	—	20.99
Targeting Latino Audiences			
On Networks Targeting Latino Audiences	13.47	31.39	7.53
Spanish-Language Programming	12.52	31.93	7.09
Networks Targeting Other Diverse Audiences	16.23	—	16.23
Children's Programming			
"Children's Programming"	38.59	37.36	38.66
G Movies or TV-Y / TV-Y7 TV	41.39	39.47	41.48
Either of the above	40.31	38.54	40.41
Family Programming			
Networks Targeting Families	53.38	—	53.38
TY-G Programming	40.44	37.89	41.07
Arts, Educational, or Documentary Programming	40.98	43.54	40.66
Either of the two above	40.66	39.44	40.89
Adult Programming			
Networks Showing Adult Programming	—	—	—
NC-17 Movies or TV-MA-S / TV-MA-L TV	10.31	34.97	8.26
Violent Programming			
"Violent Programming"	19.85	54.20	18.37
TV-PG-V Television	50.13	70.63	44.62
TV-14-V Television	47.35	73.62	41.25
TV-MA-V Television	10.52	35.63	8.30
Any of the three above	46.41	71.11	40.51
Any of the last two above	43.13	71.61	37.04
Religious Programming			
Networks Showing Primarily Religious Programming	40.94	51.92	18.99
"Religious Programming"	21.99	26.50	17.14
Overall Targeting			
Average TV Content Rating (where noted for TV)			
Average MPAA Rating (where noted for movies)			
Observations	265,388	35,448	229,940

Notes: Reported in the table is the average estimated share of U.S. households with access to programming of each type. Average is over the same networks and time periods described in the notes to Table 6. It is calculated by weighting programming of each type by availability and dividing by the average amount of programming of that type (from Table 6). See Section 5.1 for more details. Source: Author calculations.

Table 8: Program Ratings by Program Type
6:00 p.m. - 12:00 a.m. EST (or equivalent), 2 weeks/year, 2003-2005

Variable	All Networks	Broadcast Networks	Cable Networks
News Programming			
Any News	0.83	2.01	0.11
Network News	1.88	2.73	0.00
Local News	0.68	1.81	0.11
Public Affairs Programming	0.27	0.07	0.33
Minority Programming			
Networks Targeting Black Audiences	0.05	—	0.05
Targeting Latino Audiences			
On Networks Targeting Latino Audiences	0.09	0.34	0.00
Spanish-Language Programming	0.06	0.25	0.00
Networks Targeting Other Diverse Audiences	0.00	—	0.00
Children's Programming			
"Children's Programming"	0.16	0.01	0.17
G Movies or TV-Y / TV-Y7 TV	0.25	0.12	0.26
Either of the above	0.22	0.07	0.22
Family Programming			
Networks Targeting Families	0.28	—	0.28
TY-G Programming	0.20	0.31	0.17
Arts, Educational, or Documentary Programming	0.13	0.02	0.14
Either of the two above	0.17	0.23	0.16
Adult Programming			
Networks Showing Adult Programming	0.00	—	0.00
NC-17 Movies or TV-MA-S / TV-MA-L TV	0.04	0.02	0.04
Violent Programming			
"Violent Programming"	0.14	0.97	0.11
TV-PG-V Television	0.75	2.29	0.34
TV-14-V Television	0.91	3.70	0.26
TV-MA-V Television	0.04	0.00	0.04
Any of the three above	0.78	2.88	0.28
Any of the last two above	0.81	3.51	0.23
Religious Programming			
Networks Showing Primarily Religious Programming	0.09	0.14	0.00
"Religious Programming"	0.02	0.01	0.04
Overall Targeting			
Average TV Content Rating (where noted for TV)			
Average MPAA Rating (where noted for movies)			
Observations	265,388	35,448	229,940

Notes: Reported in the table is the average rating (i.e. share of U.S. households that watch a program) across program types. Average is over the same networks and time periods described in the notes to Table 6. It is calculated by weighting programming of each type by the number of households that viewed the program. See Section 5.1 for more details. Source: Author calculations.

Table 9: Program Ratings as a Share of Households with Access (Program Quality)
6:00 p.m. - 12:00 a.m. EST (or equivalent), 2 weeks/year, 2003-2005

Variable	All Networks	Broadcast Networks	Cable Networks
News Programming			
Any News	1.73	3.03	0.29
Network News	3.56	3.59	0.00
Local News	1.44	2.84	0.29
Public Affairs Programming	0.48	0.17	0.54
Minority Programming			
Networks Targeting Black Audiences	0.23	—	0.23
Targeting Latino Audiences			
On Networks Targeting Latino Audiences	0.64	1.08	0.02
Spanish-Language Programming	0.45	0.79	0.03
Networks Targeting Other Diverse Audiences	0.01	—	0.01
Children's Programming			
"Children's Programming"	0.41	0.04	0.43
G Movies or TV-Y / TV-Y7 TV	0.61	0.31	0.63
Either of the above	0.54	0.19	0.55
Family Programming			
Networks Targeting Families	0.52	—	0.52
TY-G Programming	0.50	0.81	0.42
Arts, Educational, or Documentary Programming	0.31	0.04	0.35
Either of the two above	0.42	0.58	0.39
Adult Programming			
Networks Showing Adult Programming	—	—	—
NC-17 Movies or TV-MA-S / TV-MA-L TV	0.38	0.05	0.50
Violent Programming			
"Violent Programming"	0.72	1.78	0.58
TV-PG-V Television	1.50	3.24	0.77
TV-14-V Television	1.92	5.03	0.63
TV-MA-V Television	0.38	0.00	0.52
Any of the three above	1.69	4.05	0.70
Any of the last two above	1.87	4.89	0.63
Religious Programming			
Networks Showing Primarily Religious Programming	0.22	0.26	0.00
"Religious Programming"	0.11	0.05	0.22
Overall Targeting			
Average TV Content Rating (where noted for TV)			
Average MPAA Rating (where noted for movies)			
Observations	265,388	35,448	229,940

Notes: Reported in the table is the average rating among households with access to a program. This is also used as one of our measures of Program Quality. Average is over the same networks and time periods described in the notes to Table 6. It is calculated by taking the average rating in Table 8 and dividing by the average availability in Table 7. See Section 5.1 for more details. Source: Author calculations.

Table 10: Program Production by Programming Type and Time
6:00 p.m. - 12:00 a.m. EST (or equivalent), 2 weeks/year, 2003-2006

Variable	2003	2004	2005	2006
News Programming				
Any News	4.29	3.99	4.07	4.22
Network News	0.60	0.51	0.49	0.46
Local News	3.69	3.47	3.58	3.76
Public Affairs Programming	2.37	2.13	1.88	1.59
Minority Programming				
Networks Targeting Black Audiences	3.26	3.61	3.45	3.23
Targeting Latino Audiences				
On Networks Targeting Latino Audiences	7.11	8.07	8.35	8.87
Spanish-Language Programming	2.94	3.01	3.41	4.09
Networks Targeting Other Diverse Audiences	2.65	2.55	2.67	2.72
Children's Programming				
"Children's Programming"	1.70	1.91	2.15	1.94
G Movies or TV-Y / TV-Y7 TV	3.18	3.28	3.04	2.94
Either of the above	4.88	5.19	5.19	4.88
Family Programming				
Networks Targeting Families	11.46	10.89	10.69	10.74
TY-G Programming	11.35	12.18	11.93	10.94
Arts, Educational, or Documentary Programming	8.32	7.46	7.05	7.62
Either of the two above	19.67	19.64	18.98	18.56
Adult Programming				
Networks Showing Adult Programming	4.84	4.60	4.89	5.52
NC-17 Movies or TV-MA-S / TV-MA-L TV	0.75	0.48	0.63	0.83
Violent Programming				
"Violent Programming"	1.52	1.71	1.94	1.63
TV-PG-V Television	1.43	1.45	1.54	1.41
TV-14-V Television	1.37	1.40	1.56	1.51
TV-MA-V Television	0.15	0.16	0.23	0.22
Any of the three above	2.95	3.01	3.33	3.14
Any of the last two above	1.52	1.56	1.79	1.73
Religious Programming				
Networks Showing Primarily Religious Programming	1.64	1.56	1.49	1.40
"Religious Programming"	3.31	3.15	2.92	2.79
Overall Targeting				
Average TV Content Rating (where noted for TV)	3.71	3.75	3.84	3.93
Average MPAA Rating (where noted for movies)	3.99	3.93	3.98	3.95
Observations	61,314	64,560	67,530	71,984

Notes: Reported in the table is the percentage of quarter-hours of programming by program type and year. It is the analog of Table 6 split out by year. Average is over the same networks and time periods described in the notes to Table 6. Source: Author calculations.

Table 11: Program Availability by Program Type and Time
6:00 p.m. - 12:00 a.m. EST (or equivalent), 2 weeks/year, 2003-2006

Variable	2003	2004	2005	2006
News Programming				
Any News	47.79	46.11	48.59	51.07
Network News	55.60	52.73	52.15	47.71
Local News	46.52	45.14	48.11	51.53
Public Affairs Programming	57.48	57.79	54.52	48.05
Minority Programming				
Networks Targeting Black Audiences	17.91	19.00	21.41	23.61
Targeting Latino Audiences				
On Networks Targeting Latino Audiences	14.14	13.43	13.50	13.81
Spanish-Language Programming	13.57	12.97	12.24	14.14
Networks Targeting Other Diverse Audiences	13.29	14.97	16.92	19.47
Children's Programming				
"Children's Programming"	28.78	34.62	41.07	42.20
G Movies or TV-Y / TV-Y7 TV	35.89	39.80	44.39	43.65
Either of the above	33.42	37.89	43.02	43.05
Family Programming				
Networks Targeting Families	51.40	53.93	54.73	53.65
TY-G Programming	41.66	39.66	40.46	36.79
Arts, Educational, or Documentary Programming	42.24	42.40	40.80	41.86
Either of the two above	41.91	40.70	40.59	38.67
Adult Programming				
Networks Showing Adult Programming	—	—	—	—
NC-17 Movies or TV-MA-S / TV-MA-L TV	12.53	15.53	7.10	10.82
Violent Programming				
"Violent Programming"	26.29	16.48	15.81	18.87
TV-PG-V Television	44.85	52.90	50.60	47.33
TV-14-V Television	48.35	37.62	44.57	55.39
TV-MA-V Television	0.64	23.71	12.06	5.96
Any of the three above	44.23	44.27	45.14	48.29
Any of the last two above	43.66	36.22	40.45	49.12
Religious Programming				
Networks Showing Primarily Religious Programming	40.98	41.09	40.72	38.44
"Religious Programming"	20.43	22.09	22.66	21.79
Overall Targeting				
Average TV Content Rating (where noted for TV)				
Average MPAA Rating (where noted for movies)				
Observations	61,314	64,560	67,530	71,984

Notes: Reported in the table is the average estimated share of U.S. households with access to programming of each type, by year. It is the analog of Table 7 split out by year. Average is over the same networks and time periods described in the notes to Table 6. Source: Author calculations.

Table 12: Program Ratings by Program Type and Time
6:00 p.m. - 12:00 a.m. EST (or equivalent), 2 weeks/year, 2003-2006

Variable	2003	2004	2005
News Programming			
Any News	1.03	0.89	0.85
Network News	2.34	1.76	1.82
Local News	0.81	0.77	0.71
Public Affairs Programming	0.34	0.32	0.34
Minority Programming			
Networks Targeting Black Audiences	0.07	0.06	0.07
Targeting Latino Audiences			
On Networks Targeting Latino Audiences	0.11	0.09	0.08
Spanish-Language Programming	0.06	0.06	0.06
Networks Targeting Other Diverse Audiences	0.00	0.00	0.01
Children's Programming			
"Children's Programming"	0.16	0.20	0.27
G Movies or TV-Y / TV-Y7 TV	0.31	0.34	0.36
Either of the above	0.26	0.29	0.33
Family Programming			
Networks Targeting Families	0.37	0.37	0.38
TY-G Programming	0.27	0.23	0.25
Arts, Educational, or Documentary Programming	0.19	0.17	0.17
Either of the two above	0.23	0.21	0.22
Adult Programming			
Networks Showing Adult Programming	0.00	0.00	0.00
NC-17 Movies or TV-MA-S / TV-MA-L TV	0.05	0.09	0.04
Violent Programming			
"Violent Programming"	0.28	0.15	0.15
TV-PG-V Television	0.85	0.90	0.75
TV-14-V Television	0.93	0.79	1.22
TV-MA-V Television	0.00	0.09	0.07
Any of the three above	0.85	0.81	0.93
Any of the last two above	0.84	0.72	1.08
Religious Programming			
Networks Showing Primarily Religious Programming	0.13	0.11	0.08
"Religious Programming"	0.03	0.03	0.04
Overall Targeting			
Average TV Content Rating (where noted for TV)			
Average MPAA Rating (where noted for movies)			
Observations	61,314	64,560	67,530

Notes: Reported in the table is the average rating across program types and years. This table covers 2003-2005 as we did not have cable ratings data for 2006. It is the analog of Table 8 split out by year. Average is over the same networks and time periods described in the notes to Table 6. Source: Author calculations.

Table 13: Program Ratings as a Share of Households with Access (Program Quality)
6:00 p.m. - 12:00 a.m. EST (or equivalent), 2 weeks/year, 2003-2006

Variable	2003	2004	2005
News Programming			
Any News	2.15	1.94	1.74
Network News	4.21	3.33	3.49
Local News	1.75	1.70	1.49
Public Affairs Programming	0.60	0.56	0.62
Minority Programming			
Networks Targeting Black Audiences	0.41	0.11	0.31
Targeting Latino Audiences			
On Networks Targeting Latino Audiences	0.75	0.69	0.62
Spanish-Language Programming	0.47	0.47	0.49
Networks Targeting Other Diverse Audiences	0.00	0.00	0.03
Children's Programming			
"Children's Programming"	0.55	0.59	0.66
G Movies or TV-Y / TV-Y7 TV	0.87	0.85	0.82
Either of the above	0.78	0.76	0.76
Family Programming			
Networks Targeting Families	0.73	0.98	0.69
TY-G Programming	0.64	0.59	0.62
Arts, Educational, or Documentary Programming	0.44	0.39	0.41
Either of the two above	0.56	0.51	0.54
Adult Programming			
Networks Showing Adult Programming	—	—	—
NC-17 Movies or TV-MA-S / TV-MA-L TV	0.42	0.57	0.53
Violent Programming			
"Violent Programming"	1.06	0.89	0.92
TV-PG-V Television	1.90	1.71	1.48
TV-14-V Television	1.93	2.11	2.74
TV-MA-V Television	0.00	0.38	0.59
Any of the three above	1.91	1.83	2.05
Any of the last two above	1.93	2.00	2.66
Religious Programming			
Networks Showing Primarily Religious Programming	0.31	0.27	0.19
"Religious Programming"	0.13	0.14	0.16
Overall Targeting			
Average TV Content Rating (where noted for TV)			
Average MPAA Rating (where noted for movies)			
Observations	61,314	64,560	67,530

Notes: Reported in the table is the average rating among households with access to a program across program types and years. This is also used as one of our measures of Program Quality. This table covers 2003-2005 as we did not have cable ratings data for 2006. It is the analog of Table 9 split out by year. Average is over the same networks and time periods described in the notes to Table 6. Source: Author calculations.

Table 14: Outcomes in the Broadcast Advertising Market, By Affiliate Type and Year
6:00 - 12:00 p.m. (or equivalent), Top 100 DMAs

Big 4 Network Affiliates

Variable	All Years	2003	2004	2005	2006
Scheduled Duration (minutes)	57.98	55.47	60.10	58.08	58.29
Ads					
Number of Ads	27.90	26.72	27.95	28.22	28.77
Total Ad Time (minutes)	12.4	11.7	12.5	12.5	12.8
Ad Share (percent)	22.5	22.1	22.3	22.6	22.9
Promotions					
Number of Promotions	6.91	6.99	7.22	6.75	6.68
Total Promo Time (minutes)	5.8	5.9	6.1	5.7	5.6
Promo Share (percent)	10.0	10.5	9.9	9.8	10.0
Ads + Promos					
Number of Ads + Promos	34.82	33.71	35.17	34.97	35.45
Total Ad + Promo Time (minutes)	18.2	17.6	18.6	18.2	18.4
Total Ad + Promo Share (percent)	32.5	32.6	32.2	32.4	32.9
Revenue and Price					
Total Revenue from All Ads (000s)	$28.59	$24.91	$27.28	$30.03	$32.44
Average Price per 30-second spot (000s)	$1.12	$1.06	$1.09	$1.14	$1.19
Observations	5,280	1,344	1,344	1,344	1,248

Other Broadcast Station Affiliates

Variable	All Years	2003	2004	2005	2006
Scheduled Duration (minutes)	66.39	68.87	67.41	64.84	64.24
Ads					
Number of Ads	22.48	22.73	22.93	22.59	21.61
Total Ad Time (minutes)	11.1	11.5	11.2	10.9	10.6
Ad Share (percent)	17.6	17.6	17.7	17.7	17.4
Promotions					
Number of Promotions	7.23	7.78	7.60	6.91	6.57
Total Promo Time (minutes)	6.1	6.6	6.4	5.8	5.5
Promo Share (percent)	9.2	9.6	9.5	8.9	8.7
Ads + Promos					
Number of Ads + Promos	29.70	30.51	30.53	29.50	28.18
Total Ad + Promo Time (minutes)	17.2	18.1	17.6	16.7	16.1
Total Ad + Promo Share (percent)	26.8	27.1	27.3	26.6	26.1
Revenue and Price					
Total Revenue from All Ads	$10.99	$11.57	$11.20	$10.17	$10.98
Average Price per 30-second spot (000s)	$0.53	$0.55	$0.54	$0.50	$0.54
Observations	15,400	4,025	3,842	3,813	3,720

Notes: Reported in the table is average outcomes from the advertising market, by affiliate type and year. The average is over commercial (i.e. non-PBS) broadcast television stations in most of the top 108 DMAs for the same hours (6:00-12:00) and weeks of data described in the notes to Table 6. Big-4 affiliates are television stations affiliated with ABC, CBS, NBC, or FOX. Other affiliates are the other affiliate types listed in Table 5, except that Independent television stations are pooled together and not split out into a "virtual network" as reported in that table. Source: TMS, TNS, and author calculations.

Table 15: Sample Statistics for Ownership Analysis, Page 1
Market, Ownership, and Advertising Variables

Variable	All Stations	"Big-4" Stations	Other Stations
DMA Information			
DMA Rank	76.22	93.35	60.45
DMA Households (000s)	905.9	607.9	1,180.3
Commercial Station	0.76	1.00	0.53
Ownership Information			
Local Ownership Information			
Locally Owned (percent)	25.17	11.80	37.49
Minority Owned (percent)	0.74	0.85	0.65
Female Owned (percent)	1.42	1.27	1.56
Parent Ownership Information			
Number of stations owned by parent	21.34	22.94	19.87
Parent revenue (millions)	$302.13	$405.27	$207.16
Percent of U.S. households covered by parent	7.61	8.08	7.17
Cross-Ownership Information			
Newspaper-TV cross-ownership (percent)	1.89	3.39	0.52
Radio-TV cross-ownership (percent)	18.35	9.83	26.19
Ad Market Information			
Scheduled Duration (minutes)	58.06	58.12	57.95
Ads			
Total Ad Time (minutes)	11.95	12.28	11.24
Ad Share (percent)	0.21	0.21	0.20
Promotions			
Total Promo Time (minutes)	5.79	5.91	5.53
Promo Share (percent)	0.10	0.10	0.09
Ads + Promos			
Total Ad + Promo Time (minutes)	17.75	18.19	16.77
Total Ad + Promo Share (percent)	0.31	0.31	0.29
Revenue and Price			
Total Revenue from All Ads (000s)	$22.83	$27.80	$11.99
Average Price per 30-second spot (000s)	$31.31	$37.34	$18.17
Observations	4,437	2,127	2,310

Notes: Reported in the table are sample statistics for the data used in our analysis of television station ownership structure on the quantity and quality of television programming. An observation is a broadcast-television-station-year, thus the (e.g.) news programming is the percentage of quarter hours offering news programming across all the programs offered by that station between 6:00 p.m. and 12:00 a.m. EST (or the equivalent) during each of the two weeks per year for 4 years (cf. Table 1) for which we have data. See Section **??** for more details. Source: Diwadi, Roberts, and Wise (2007), TMS, and author calculations.

Table 16: Sample Statistics for Ownership Analysis, Page 2
Programming Variables

Variable	All Stations	"Big-4" Stations	Other Stations
News Programming			
Any News	18.95	28.43	10.22
Network News	6.00	11.47	0.96
Local News	12.95	16.96	9.26
Public Affairs Programming	2.82	0.14	5.28
Minority Programming			
Spanish-Language Programming	1.69	0.00	3.24
Children's Programming			
"Children's Programming"	0.79	0.00	1.52
G Movies or TV-Y / TV-Y7 TV	1.01	0.21	1.74
Either of the above	1.80	0.21	3.26
Family Programming			
TY-G Programming	13.11	4.55	20.98
Arts, Educational, or Documentary Programming	6.64	1.06	11.79
Either of the two above	19.75	5.61	32.77
Adult Programming			
NC-17 Movies or TV-MA-S / TV-MA-L TV	0.47	0.00	0.90
Violent Programming			
"Violent Programming"	0.50	0.12	0.85
TV-PG-V Television	3.94	5.06	2.91
TV-14-V Television	4.08	6.13	2.20
TV-MA-V Television	0.16	0.00	0.30
Any of the three above	8.18	11.18	5.41
Any of the last two above	4.24	6.13	2.50
Religious Programming			
"Religious Programming"	5.69	0.03	10.91
Overall Targeting			
Average TV Content Rating (where noted for TV)	3.94	4.28	3.61
Average MPAA Rating (where noted for movies)	3.73	3.62	3.88
Observations	4,437	2,127	2,310

Notes: Reported in the table are sample statistics for the data used in our analysis of television station ownership structure on the quantity and quality of television programming. An observation is a broadcast-television-station-year, thus the (e.g.) advertising time is the average advertising time for all the programs offered by that station between 6:00 p.m. and 12:00 a.m. EST (or the equivalent) during each of the two weeks per year for 4 years (cf. Table 1) for which we have data. See Section **??** for more details. Source: TMS, Nielsen, and author calculations.

Table 17: The Impact of Ownership Structure on Local News Programming

Specification	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
Variable	Estimate Std. Err.	Estimate Std. Err.	Estimate Std. Err.	Estimate Std. Err.	Estimate Std. Err.	Estimate Std. Err.	Estimate Std. Err.	Estimate Std. Err.	Estimate Std. Err.
DMA Information									
DMA Households	**0.026**	—	—	—	—	—	—	—	—
	(0.00)								
DMA HH Squared	**-0.003**	—	—	—	—	—	—	—	—
	(0.00)								
Commercial Station	-0.01	0.00	0.00	0.00	0.00	0.00	0.00	-0.01	-0.01
	-(0.01)	-(0.01)	-(0.01)	-(0.01)	-(0.01)	-(0.01)	-(0.01)	-(0.01)	-(0.01)
Affiliate Information									
ABC	**0.16**	**0.16**	**0.16**	**0.16**	**0.16**	**0.16**	**0.16**	**0.18**	**0.17**
	-(0.01)	-(0.01)	-(0.01)	-(0.01)	-(0.01)	-(0.01)	-(0.01)	-(0.01)	-(0.01)
CBS	**0.16**	**0.17**	**0.17**	**0.17**	**0.17**	**0.16**	**0.16**	**0.17**	**0.17**
	-(0.01)	-(0.01)	-(0.01)	-(0.01)	-(0.01)	-(0.01)	-(0.01)	-(0.01)	-(0.01)
NBC	**0.17**	**0.18**	**0.18**	**0.18**	**0.18**	**0.17**	**0.18**	**0.18**	**0.18**
	-(0.01)	-(0.01)	-(0.01)	-(0.01)	-(0.01)	-(0.01)	-(0.01)	-(0.01)	-(0.01)
FOX	**0.09**	**0.10**	**0.10**	**0.10**	**0.10**	**0.10**	**0.10**	**0.10**	**0.10**
	-(0.01)	-(0.01)	-(0.01)	-(0.01)	-(0.01)	-(0.01)	-(0.01)	-(0.01)	-(0.01)
CW	0.01	0.01	0.01	0.01	0.01	0.01	0.01	**0.02**	**0.01**
	-(0.01)	-(0.01)	-(0.01)	-(0.01)	-(0.01)	-(0.01)	-(0.01)	-(0.01)	-(0.01)
PBS	**0.11**	**0.12**	**0.13**	**0.12**	**0.12**	**0.12**	**0.12**	**0.14**	**0.14**
	-(0.01)	-(0.01)	-(0.01)	-(0.01)	-(0.01)	-(0.01)	-(0.01)	-(0.01)	-(0.01)
Independent	**0.02**	**0.02**	**0.02**	**0.02**	**0.02**	**0.02**	**0.02**	**0.05**	**0.05**
	-(0.01)	-(0.01)	-(0.01)	-(0.01)	-(0.01)	-(0.01)	-(0.01)	-(0.01)	-(0.01)
Spanish Language	**0.04**	**0.04**	**0.04**	**0.04**	**0.04**	**0.04**	**0.04**	**0.05**	**0.05**
	-(0.01)	-(0.01)	-(0.01)	-(0.01)	-(0.01)	-(0.01)	-(0.01)	-(0.01)	-(0.01)
Other Affiliation	0.00	0.00	0.00	0.00	0.00	0.00	0.00	**0.02**	**0.02**
	-(0.01)	-(0.01)	-(0.01)	-(0.01)	-(0.01)	-(0.01)	-(0.01)	-(0.01)	-(0.01)
Ownership Information									
Locally Owned	—	—	**-0.006**	—	—	—	—	—	0.000
			-(0.003)						-(0.003)
Minority Owned	—	—	—	-0.005	—	—	—	—	-0.002
				-(0.012)					-(0.012)
Female Owned	—	—	—	—	0.012	—	—	—	0.016
					-(0.009)				-(0.008)
Newspaper-TV	—	—	—	—	—	**0.029**	—	—	**0.030**
						-(0.007)			-(0.007)
Radio-TV	—	—	—	—	—	—	0.004	—	0.001
							-(0.003)		-(0.003)
Parent revenue	—	—	—	—	—	—	—	**0.033**	**0.033**
								-(0.002)	-(0.002)
Constant	0.02	0.00	0.00	0.00	0.00	0.00	0.00	-0.01	-0.01
	-(0.01)	-(0.02)	-(0.02)	-(0.02)	-(0.02)	-(0.02)	-(0.02)	-(0.02)	-(0.02)
Year Dummies	No	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
DMA Fixed Effects	No	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Observations	4,437	4,437	4,437	4,437	4,437	4,437	4,437	4,437	4,437
R-squared	0.44	0.51	0.51	0.51	0.51	0.51	0.51	0.53	0.53

Notes: Reported are the results of 9 regressions of the percentage of minutes of local news coverage on various measures of television station ownership structure and control variables. Section 4.2 describes the definition of the dependent variable. Section 6.2 describes the various specifications in more detail. Standard errors in parentheses. Bold face indicates statistical significance at the 5% level.

Table 18: The Impact of Ownership Structure on Public Affairs Programming

Specification	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
Variable	Estimate Std. Err.	Estimate Std. Err.	Estimate Std. Err.	Estimate Std. Err.	Estimate Std. Err.	Estimate Std. Err.	Estimate Std. Err.	Estimate Std. Err.	Estimate Std. Err.
DMA Information									
DMA Households	**-0.002**	—	—	—	—	—	—	—	—
	(0.00)								
DMA HH Squared	**0.001**	—	—	—	—	—	—	—	—
	(0.00)								
Commercial Station	**-0.05**	**-0.05**	**-0.05**	**-0.05**	**-0.05**	**-0.05**	**-0.05**	**-0.05**	**-0.05**
	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)
Affiliate Information									
ABC	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)
CBS	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)
NBC	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)
FOX	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)
CW	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)
PBS	**0.05**	**0.05**	**0.05**	**0.05**	**0.05**	**0.05**	**0.05**	**0.05**	**0.05**
	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)
Independent	**0.02**	**0.02**	**0.02**	**0.02**	**0.02**	**0.02**	**0.02**	**0.02**	**0.02**
	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)
Spanish Language	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)
Other Affiliation	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)
Ownership Information									
Locally Owned	—	—	**0.004**	—	—	—	—	—	**0.004**
			-(0.001)						-(0.001)
Minority Owned	—	—	—	0.002	—	—	—	—	-0.002
				-(0.006)					-(0.006)
Female Owned	—	—	—	—	**0.017**	—	—	—	**0.016**
					-(0.004)				-(0.004)
Newspaper-TV	—	—	—	—	—	-0.005	—	—	-0.007
						-(0.004)			-(0.004)
Radio-TV	—	—	—	—	—	—	0.001	—	0.001
							-(0.001)		-(0.001)
Parent revenue	—	—	—	—	—	—	—	0.000	0.001
								-(0.001)	-(0.001)
Constant	**0.05**	**0.05**	**0.05**	**0.05**	**0.05**	**0.05**	**0.05**	**0.05**	**0.05**
	(0.00)	-(0.01)	-(0.01)	-(0.01)	-(0.01)	-(0.01)	-(0.01)	-(0.01)	-(0.01)
Year Dummies	No	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
DMA Fixed Effects	No	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Observations	4,437	4,437	4,437	4,437	4,437	4,437	4,437	4,437	4,437
R-squared	0.66	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7

Notes: Reported are the results of 9 regressions of the percentage of minutes of public affairs programming on various measures of television station ownership structure and control variables. Section 4.2 describes the definition of the dependent variable. Section 6.2 describes the various specifications in more detail. Standard errors in parentheses. Bold face indicates statistical significance at the 5% level.

Table 19: The Impact of Ownership Structure on Spanish-Language Programming

Specification	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
Variable	Estimate Std. Err.	Estimate Std. Err.	Estimate Std. Err.	Estimate Std. Err.	Estimate Std. Err.	Estimate Std. Err.	Estimate Std. Err.	Estimate Std. Err.	Estimate Std. Err.
DMA Information									
DMA Households	0.001	—	—	—	—	—	—	—	—
	(0.00)								
DMA HH Squared	0.000	—	—	—	—	—	—	—	—
	(0.00)								
Commercial Station	**0.01**	**0.01**	**0.01**	**0.01**	**0.01**	**0.01**	**0.01**	**0.01**	**0.01**
	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)
Affiliate Information									
ABC	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)
CBS	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)
NBC	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)
FOX	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)
CW	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)
PBS	**0.01**	**0.01**	**0.01**	**0.01**	**0.01**	**0.01**	**0.01**	**0.01**	**0.01**
	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)
Independent	**0.01**	**0.01**	**0.02**	**0.01**	**0.01**	**0.01**	**0.01**	**0.01**	**0.01**
	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)
Spanish Language	**0.32**	**0.32**	**0.32**	**0.32**	**0.32**	**0.32**	**0.32**	**0.32**	**0.32**
	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)
Other Affiliation	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)
Ownership Information									
Locally Owned	—	—	**-0.007**	—	—	—	—	—	**-0.008**
			-(0.001)						-(0.001)
Minority Owned	—	—	—	0.005	—	—	—	—	0.005
				-(0.006)					-(0.006)
Female Owned	—	—	—	—	-0.003	—	—	—	-0.001
					-(0.004)				-(0.004)
Newspaper-TV	—	—	—	—	—	-0.001	—	—	0.002
						-(0.004)			-(0.004)
Radio-TV	—	—	—	—	—	—	**0.004**	—	**0.005**
							-(0.001)		-(0.001)
Parent revenue	—	—	—	—	—	—	—	-0.001	**-0.003**
								-(0.001)	-(0.001)
Constant	**-0.01**	-0.01	-0.01	-0.01	-0.01	-0.01	-0.01	-0.01	-0.01
	(0.00)	-(0.01)	-(0.01)	-(0.01)	-(0.01)	-(0.01)	-(0.01)	-(0.01)	-(0.01)
Year Dummies	No	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
DMA Fixed Effects	No	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Observations	4,437	4,437	4,437	4,437	4,437	4,437	4,437	4,437	4,437
R-squared	0.82	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83

Notes: Reported are the results of 9 regressions of the percentage of minutes of spanish-language programming on various measures of television station ownership structure and control variables. Section 4.2 describes the definition of the dependent variable. Section 6.2 describes the various specifications in more detail. Standard errors in parentheses. Bold face indicates statistical significance at the 5% level.

Table 20: The Impact of Ownership Structure on Children's Programming

Specification	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
Variable	Estimate Std. Err.	Estimate Std. Err.	Estimate Std. Err.	Estimate Std. Err.	Estimate Std. Err.	Estimate Std. Err.	Estimate Std. Err.	Estimate Std. Err.	Estimate Std. Err.
DMA Information									
DMA Households	0.001	—	—	—	—	—	—	—	—
	(0.00)								
DMA HH Squared	0.000	—	—	—	—	—	—	—	—
	(0.00)								
Commercial Station	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	-(0.01)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)
Affiliate Information									
ABC	0.01	**0.01**	**0.01**	**0.01**	**0.01**	**0.01**	**0.01**	**0.01**	**0.01**
	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)
CBS	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)
NBC	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)
FOX	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)
CW	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)
PBS	**0.07**	**0.07**	**0.07**	**0.07**	**0.07**	**0.07**	**0.07**	**0.07**	**0.07**
	-(0.01)	-(0.01)	-(0.01)	-(0.01)	-(0.01)	-(0.01)	-(0.01)	-(0.01)	-(0.01)
Independent	0.01	**0.01**	0.01	**0.01**	**0.01**	**0.01**	**0.01**	**0.01**	**0.01**
	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)
Spanish Language	**0.01**	**0.01**	**0.01**	**0.01**	**0.01**	**0.01**	**0.01**	**0.01**	**0.02**
	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)
Other Affiliation	**0.01**	**0.01**	**0.01**	**0.01**	**0.01**	**0.01**	**0.01**	**0.01**	**0.01**
	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)
Ownership Information									
Locally Owned	—	—	**0.007**	—	—	—	—	—	**0.007**
			-(0.002)						-(0.002)
Minority Owned	—	—	—	-0.006	—	—	—	—	-0.007
				-(0.008)					-(0.008)
Female Owned	—	—	—	—	0.005	—	—	—	0.004
					-(0.006)				-(0.006)
Newspaper-TV	—	—	—	—	—	0.001	—	—	-0.002
						-(0.005)			-(0.005)
Radio-TV	—	—	—	—	—	—	**-0.004**	—	**-0.005**
							-(0.002)		-(0.002)
Parent revenue	—	—	—	—	—	—	—	-0.001	0.000
								-(0.002)	-(0.002)
Constant	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	-(0.01)	-(0.01)	-(0.01)	-(0.01)	-(0.01)	-(0.01)	-(0.01)	-(0.01)	-(0.01)
Year Dummies	No	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
DMA Fixed Effects	No	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Observations	4,437	4,437	4,437	4,437	4,437	4,437	4,437	4,437	4,437
R-squared	0.26	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4

Notes: Reported are the results of 9 regressions of the percentage of minutes of children's programming on various measures of television station ownership structure and control variables. The specific children's programming variable chosen is 'Either "Children's Programming", G Movies, or TV-Y or TV-Y7 Programming". Section 4.2 describes the definition of the dependent variable in more detail. Section 6.2 describes the various specifications in more detail. Standard errors in parentheses. Bold face indicates statistical significance at the 5% level.

Table 21: The Impact of Ownership Structure on Family Programming

Specification	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
	Estimate	Estimate	Estimate	Estimate	Estimate	Estimate	Estimate	Estimate	Estimate
Variable	Std. Err.	Std. Err.	Std. Err.	Std. Err.	Std. Err.	Std. Err.	Std. Err.	Std. Err.	Std. Err.
DMA Information									
DMA Households	**-0.006**	—	—	—	—	—	—	—	—
	(0.00)								
DMA HH Squared	0.000	—	—	—	—	—	—	—	—
	(0.00)								
Commercial Station	**-0.17**	**-0.17**	**-0.16**	**-0.17**	**-0.17**	**-0.17**	**-0.17**	**-0.16**	**-0.16**
	-(0.01)	-(0.01)	-(0.01)	-(0.01)	-(0.01)	-(0.01)	-(0.01)	-(0.01)	-(0.01)
Affiliate Information									
ABC	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	-(0.01)	-(0.01)	-(0.01)	-(0.01)	-(0.01)	-(0.01)	-(0.01)	-(0.01)	-(0.01)
CBS	**0.02**	**0.03**	**0.03**	**0.03**	**0.03**	**0.03**	**0.03**	**0.02**	**0.03**
	-(0.01)	-(0.01)	-(0.01)	-(0.01)	-(0.01)	-(0.01)	-(0.01)	-(0.01)	-(0.01)
NBC	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	-(0.01)	-(0.01)	-(0.01)	-(0.01)	-(0.01)	-(0.01)	-(0.01)	-(0.01)	-(0.01)
FOX	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	-(0.01)	-(0.01)	-(0.01)	-(0.01)	-(0.01)	-(0.01)	-(0.01)	-(0.01)	-(0.01)
CW	0.01	0.00	0.00	0.01	0.01	0.00	0.01	0.00	0.01
	-(0.01)	-(0.01)	-(0.01)	-(0.01)	-(0.01)	-(0.01)	-(0.01)	-(0.01)	-(0.01)
PBS	**0.34**	**0.34**	**0.34**	**0.34**	**0.34**	**0.34**	**0.34**	**0.34**	**0.34**
	-(0.01)	-(0.01)	-(0.01)	-(0.01)	-(0.01)	-(0.01)	-(0.01)	-(0.01)	-(0.01)
Independent	**0.16**	**0.16**	**0.15**	**0.16**	**0.16**	**0.16**	**0.16**	**0.15**	**0.15**
	-(0.01)	-(0.01)	-(0.01)	-(0.01)	-(0.01)	-(0.01)	-(0.01)	-(0.01)	-(0.01)
Spanish Language	**-0.04**	**-0.03**	**-0.03**	**-0.03**	**-0.03**	**-0.03**	**-0.03**	**-0.04**	**-0.03**
	-(0.01)	-(0.01)	-(0.01)	-(0.01)	-(0.01)	-(0.01)	-(0.01)	-(0.01)	-(0.01)
Other Affiliation	**0.23**	**0.23**	**0.23**	**0.23**	**0.23**	**0.23**	**0.23**	**0.22**	**0.23**
	-(0.01)	-(0.01)	-(0.01)	-(0.01)	-(0.01)	-(0.01)	-(0.01)	-(0.01)	-(0.01)
Ownership Information									
Locally Owned	—	—	**0.013**	—	—	—	—	—	**0.011**
			-(0.004)						-(0.004)
Minority Owned	—	—	—	-0.017	—	—	—	—	-0.015
				-(0.017)					-(0.017)
Female Owned	—	—	—	—	-0.019	—	—	—	-0.022
					-(0.012)				-(0.012)
Newspaper-TV	—	—	—	—	—	0.011	—	—	0.006
						-(0.011)			-(0.011)
Radio-TV	—	—	—	—	—	—	-0.006	—	-0.006
							-(0.004)		-(0.004)
Parent revenue	—	—	—	—	—	—	—	**-0.010**	**-0.008**
								-(0.003)	-(0.003)
Constant	**0.22**	**0.21**	**0.21**	**0.21**	**0.21**	**0.21**	**0.21**	**0.21**	**0.21**
	-(0.01)	-(0.03)	-(0.03)	-(0.03)	-(0.03)	-(0.03)	-(0.03)	-(0.03)	-(0.03)
Year Dummies	No	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
DMA Fixed Effects	No	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Observations	4,437	4,437	4,437	4,437	4,437	4,437	4,437	4,437	4,437
R-squared	0.84	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85

Notes: Reported are the results of 9 regressions of the percentage of minutes of family programming on various measures of television station ownership structure and control variables. The specific family programming variable chosen is 'Either TV-G television programming or Arts, Educational or Documentary programming'. Section 4.2 describes the definition of the dependent variable in more detail. Section 6.2 describes the various specifications in more detail. Standard errors in parentheses. Bold face indicates statistical significance at the 5% level.

Table 22: The Impact of Ownership Structure on Violent Programming

Specification	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
Variable	Estimate Std. Err.	Estimate Std. Err.	Estimate Std. Err.	Estimate Std. Err.	Estimate Std. Err.	Estimate Std. Err.	Estimate Std. Err.	Estimate Std. Err.	Estimate Std. Err.
DMA Information									
DMA Households	**-0.004**	—	—	—	—	—	—	—	—
	(0.00)								
DMA HH Squared	**0.000**	—	—	—	—	—	—	—	—
	(0.00)								
Commercial Station	**0.02**	**0.02**	**0.02**	**0.02**	**0.02**	**0.02**	**0.02**	**0.02**	**0.02**
	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)
Affiliate Information									
ABC	**-0.08**	**-0.08**	**-0.08**	**-0.08**	**-0.08**	**-0.08**	**-0.08**	**-0.08**	**-0.08**
	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)
CBS	**0.02**	**0.02**	**0.02**	**0.02**	**0.02**	**0.02**	**0.02**	**0.02**	**0.02**
	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)
NBC	**-0.14**	**-0.14**	**-0.14**	**-0.14**	**-0.14**	**-0.14**	**-0.14**	**-0.14**	**-0.14**
	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)
FOX	**0.04**	**0.04**	**0.04**	**0.04**	**0.04**	**0.04**	**0.04**	**0.04**	**0.04**
	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)
CW	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)
PBS	**-0.08**	**-0.08**	**-0.07**	**-0.08**	**-0.08**	**-0.08**	**-0.08**	**-0.07**	**-0.07**
	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)
Independent	**-0.13**	**-0.13**	**-0.13**	**-0.13**	**-0.13**	**-0.13**	**-0.13**	**-0.13**	**-0.13**
	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)
Spanish Language	**-0.15**	**-0.15**	**-0.15**	**-0.15**	**-0.15**	**-0.15**	**-0.15**	**-0.15**	**-0.15**
	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)
Other Affiliation	**-0.14**	**-0.14**	**-0.14**	**-0.14**	**-0.14**	**-0.14**	**-0.14**	**-0.14**	**-0.14**
	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)
Ownership Information									
Locally Owned	—	—	**-0.004**	—	—	—	—	—	**-0.003**
			-(0.001)						-(0.001)
Minority Owned	—	—	—	-0.003	—	—	—	—	-0.002
				-(0.006)					-(0.006)
Female Owned	—	—	—	—	0.001	—	—	—	0.003
					-(0.004)				-(0.004)
Newspaper-TV	—	—	—	—	—	-0.006	—	—	-0.005
						-(0.004)			-(0.004)
Radio-TV	—	—	—	—	—	—	0.003	—	**0.003**
							-(0.001)		-(0.001)
Parent revenue	—	—	—	—	—	—	—	**0.003**	**0.003**
								-(0.001)	-(0.001)
Constant	**0.14**	**0.12**	**0.12**	**0.12**	**0.12**	**0.12**	**0.12**	**0.12**	**0.12**
	(0.00)	-(0.01)	-(0.01)	-(0.01)	-(0.01)	-(0.01)	-(0.01)	-(0.01)	-(0.01)
Year Dummies	No	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
DMA Fixed Effects	No	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Observations	4,437	4,437	4,437	4,437	4,437	4,437	4,437	4,437	4,437
R-squared	0.81	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85

Notes: Reported are the results of 9 regressions of the percentage of minutes of violent programming on various measures of television station ownership structure and control variables. The specific violent programming variable chosen is 'Either TV-PG-V, TV-14-V, or TV-MA-V television programming. Section 4.2 describes the definition of the dependent variable in more detail. Section 6.2 describes the various specifications in more detail. Standard errors in parentheses. Bold face indicates statistical significance at the 5% level.

Table 23: The Impact of Ownership Structure on Religious Programming

Specification	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
Variable	Estimate Std. Err.	Estimate Std. Err.	Estimate Std. Err.	Estimate Std. Err.	Estimate Std. Err.	Estimate Std. Err.	Estimate Std. Err.	Estimate Std. Err.	Estimate Std. Err.
DMA Information									
DMA Households	**-0.034**	—	—	—	—	—	—	—	—
	-(0.01)								
DMA HH Squared	**0.003**	—	—	—	—	—	—	—	—
	(0.00)								
Commercial Station	**-0.21**	**-0.22**	**-0.22**	**-0.22**	**-0.22**	**-0.22**	**-0.22**	**-0.22**	**-0.22**
	-(0.02)	-(0.02)	-(0.02)	-(0.02)	-(0.02)	-(0.02)	-(0.02)	-(0.02)	-(0.02)
Affiliate Information									
ABC	-0.02	-0.02	-0.02	-0.02	-0.02	-0.02	-0.02	-0.02	-0.02
	-(0.01)	-(0.01)	-(0.01)	-(0.01)	-(0.01)	-(0.01)	-(0.01)	-(0.01)	-(0.01)
CBS	-0.02	-0.01	-0.02	-0.01	-0.01	-0.01	-0.01	-0.02	-0.01
	-(0.01)	-(0.01)	-(0.01)	-(0.01)	-(0.01)	-(0.01)	-(0.01)	-(0.01)	-(0.01)
NBC	-0.02	-0.01	-0.01	-0.01	-0.02	-0.01	-0.01	-0.02	-0.02
	-(0.01)	-(0.01)	-(0.01)	-(0.01)	-(0.01)	-(0.01)	-(0.01)	-(0.01)	-(0.01)
FOX	-0.01	-0.01	-0.01	-0.01	-0.01	-0.01	-0.01	-0.01	-0.01
	-(0.01)	-(0.01)	-(0.01)	-(0.01)	-(0.01)	-(0.01)	-(0.01)	-(0.01)	-(0.01)
CW	0.01	0.00	0.00	0.00	0.00	0.00	0.01	0.00	0.00
	-(0.02)	-(0.02)	-(0.02)	-(0.02)	-(0.02)	-(0.02)	-(0.02)	-(0.02)	-(0.02)
PBS	**-0.22**	**-0.23**	**-0.23**	**-0.23**	**-0.23**	**-0.23**	**-0.22**	**-0.23**	**-0.23**
	-(0.02)	-(0.02)	-(0.02)	-(0.02)	-(0.02)	-(0.02)	-(0.02)	-(0.02)	-(0.02)
Independent	**0.30**	**0.29**	**0.29**	**0.29**	**0.29**	**0.29**	**0.30**	**0.29**	**0.29**
	-(0.01)	-(0.01)	-(0.01)	-(0.01)	-(0.01)	-(0.01)	-(0.01)	-(0.01)	-(0.01)
Spanish Language	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01
	-(0.02)	-(0.02)	-(0.02)	-(0.02)	-(0.02)	-(0.02)	-(0.02)	-(0.02)	-(0.02)
Other Affiliation	**0.34**	**0.33**	**0.33**	**0.33**	**0.33**	**0.33**	**0.33**	**0.32**	**0.32**
	-(0.01)	-(0.02)	-(0.02)	-(0.02)	-(0.02)	-(0.02)	-(0.02)	-(0.02)	-(0.02)
Ownership Information									
Locally Owned	—	—	0.011	—	—	—	—	—	0.008
			-(0.006)						-(0.007)
Minority Owned	—	—	—	-0.012	—	—	—	—	-0.029
				-(0.028)					-(0.028)
Female Owned	—	—	—	—	**0.081**	—	—	—	**0.081**
					-(0.020)				-(0.020)
Newspaper-TV	—	—	—	—	—	0.016	—	—	0.011
						-(0.018)			-(0.018)
Radio-TV	—	—	—	—	—	—	-0.007	—	-0.007
							-(0.007)		-(0.007)
Parent revenue	—	—	—	—	—	—	—	-0.006	-0.003
								-(0.006)	-(0.006)
Constant	**0.24**	**0.37**	**0.37**	**0.37**	**0.37**	**0.37**	**0.37**	**0.37**	**0.37**
	-(0.02)	-(0.04)	-(0.04)	-(0.04)	-(0.04)	-(0.04)	-(0.04)	-(0.04)	-(0.04)
Year Dummies	No	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
DMA Fixed Effects	No	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Observations	4,437	4,437	4,437	4,437	4,437	4,437	4,437	4,437	4,437
R-squared	0.42	0.47	0.47	0.47	0.47	0.47	0.47	0.47	0.47

Notes: Reported are the results of 9 regressions of the percentage of minutes of religious programming on various measures of television station ownership structure and control variables. Section 4.2 describes the definition of the dependent variable in more detail. Section 6.2 describes the various specifications in more detail. Standard errors in parentheses. Bold face indicates statistical significance at the 5% level.

Table 24: The Impact of Ownership Structure on Advertising Time

Specification	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
Variable	Estimate Std. Err.	Estimate Std. Err.	Estimate Std. Err.	Estimate Std. Err.	Estimate Std. Err.	Estimate Std. Err.	Estimate Std. Err.	Estimate Std. Err.	Estimate Std. Err.
DMA Information									
DMA Households	**-0.034**	—	—	—	—	—	—	—	—
	-(0.01)								
DMA HH Squared	**0.003**	—	—	—	—	—	—	—	—
	(0.00)								
Commercial Station	—	—	—	—	—	—	—	—	—
Affiliate Information									
ABC	-0.02	-0.02	-0.02	-0.02	-0.02	-0.02	-0.02	-0.02	-0.02
	-(0.01)	-(0.01)	-(0.01)	-(0.01)	-(0.01)	-(0.01)	-(0.01)	-(0.01)	-(0.01)
CBS	-0.02	-0.01	-0.02	-0.01	-0.01	-0.01	-0.01	-0.02	-0.01
	-(0.01)	-(0.01)	-(0.01)	-(0.01)	-(0.01)	-(0.01)	-(0.01)	-(0.01)	-(0.01)
NBC	-0.02	-0.01	-0.01	-0.01	-0.02	-0.01	-0.01	-0.02	-0.02
	-(0.01)	-(0.01)	-(0.01)	-(0.01)	-(0.01)	-(0.01)	-(0.01)	-(0.01)	-(0.01)
FOX	-0.01	-0.01	-0.01	-0.01	-0.01	-0.01	-0.01	-0.01	-0.01
	-(0.01)	-(0.01)	-(0.01)	-(0.01)	-(0.01)	-(0.01)	-(0.01)	-(0.01)	-(0.01)
CW	0.01	0.00	0.00	0.00	0.00	0.00	0.01	0.00	0.00
	-(0.02)	-(0.02)	-(0.02)	-(0.02)	-(0.02)	-(0.02)	-(0.02)	-(0.02)	-(0.02)
PBS	—	—	—	—	—	—	—	—	—
Independent	**0.30**	**0.29**	**0.29**	**0.29**	**0.29**	**0.29**	**0.30**	**0.29**	**0.29**
	-(0.01)	-(0.01)	-(0.01)	-(0.01)	-(0.01)	-(0.01)	-(0.01)	-(0.01)	-(0.01)
Spanish Language	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01
	-(0.02)	-(0.02)	-(0.02)	-(0.02)	-(0.02)	-(0.02)	-(0.02)	-(0.02)	-(0.02)
Other Affiliation	**0.34**	**0.33**	**0.33**	**0.33**	**0.33**	**0.33**	**0.33**	**0.32**	**0.32**
	-(0.01)	-(0.02)	-(0.02)	-(0.02)	-(0.02)	-(0.02)	-(0.02)	-(0.02)	-(0.02)
Ownership Information									
Locally Owned	—	—	0.011	—	—	—	—	—	0.008
			-(0.006)						-(0.007)
Minority Owned	—	—	—	-0.012	—	—	—	—	-0.029
				-(0.028)					-(0.028)
Female Owned	—	—	—	—	**0.081**	—	—	—	**0.081**
					-(0.020)				-(0.020)
Newspaper-TV	—	—	—	—	—	0.016	—	—	0.011
						-(0.018)			-(0.018)
Radio-TV	—	—	—	—	—	—	-0.007	—	-0.007
							-(0.007)		-(0.007)
Parent revenue	—	—	—	—	—	—	—	-0.006	-0.003
								-(0.006)	-(0.006)
Constant	**0.24**	**0.37**	**0.37**	**0.37**	**0.37**	**0.37**	**0.37**	**0.37**	**0.37**
	-(0.02)	-(0.04)	-(0.04)	-(0.04)	-(0.04)	-(0.04)	-(0.04)	-(0.04)	-(0.04)
Year Dummies	No	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
DMA Fixed Effects	No	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Observations	4,437	4,437	4,437	4,437	4,437	4,437	4,437	4,437	4,437
R-squared	0.42	0.47	0.47	0.47	0.47	0.47	0.47	0.47	0.47

Notes: Reported are the results of 9 regressions of the average minutes of television advertising on various measures of television station ownership structure and control variables. Section 6.2 describes the various specifications in more detail. Standard errors in parentheses. Bold face indicates statistical significance at the 5% level.

Table 25: The Impact of Ownership Structure on Advertising Prices

Price is for 30-second advertisement.

Specification	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
Variable	Estimate Std. Err.	Estimate Std. Err.	Estimate Std. Err.	Estimate Std. Err.	Estimate Std. Err.	Estimate Std. Err.	Estimate Std. Err.	Estimate Std. Err.	Estimate Std. Err.
DMA Information									
DMA Households	**1.040** -(0.04)	—	—	—	—	—	—	—	—
DMA HH Squared	**-0.039** -(0.01)	—	—	—	—	—	—	—	—
Commercial Station	—	—	—	—	—	—	—	—	—
Affiliate Information									
ABC	**1.19** -(0.07)	**1.27** -(0.07)	**1.26** -(0.07)	**1.28** -(0.07)	**1.27** -(0.07)	**1.28** -(0.07)	**1.20** -(0.07)	**1.28** -(0.07)	**1.22** -(0.07)
CBS	**1.18** -(0.07)	**1.27** -(0.07)	**1.26** -(0.07)	**1.27** -(0.07)	**1.27** -(0.07)	**1.27** -(0.07)	**1.16** -(0.07)	**1.27** -(0.07)	**1.18** -(0.07)
NBC	**1.14** -(0.07)	**1.22** -(0.07)	**1.21** -(0.07)	**1.22** -(0.07)	**1.22** -(0.07)	**1.23** -(0.07)	**1.19** -(0.07)	**1.22** -(0.07)	**1.22** -(0.07)
FOX	**0.82** -(0.07)	**0.88** -(0.07)	**0.88** -(0.07)	**0.88** -(0.07)	**0.88** -(0.07)	**0.88** -(0.07)	**0.84** -(0.07)	**0.88** -(0.07)	**0.85** -(0.07)
CW	**0.25** -(0.08)	**0.29** -(0.08)	**0.29** -(0.08)	**0.29** -(0.08)	**0.30** -(0.08)	**0.30** -(0.08)	**0.20** -(0.08)	**0.29** -(0.08)	**0.24** -(0.08)
PBS	—	—	—	—	—	—	—	—	—
Independent	**-0.41** -(0.09)	**-0.35** -(0.09)	**-0.39** -(0.09)	**-0.35** -(0.09)	**-0.35** -(0.09)	**-0.36** -(0.09)	**-0.43** -(0.09)	**-0.34** -(0.10)	**-0.44** -(0.09)
Spanish Language	**-0.44** -(0.08)	**-0.45** -(0.09)	**-0.44** -(0.09)	**-0.45** -(0.09)	**-0.45** -(0.09)	**-0.46** -(0.09)	**-0.63** -(0.09)	**-0.44** -(0.09)	**-0.61** -(0.09)
Other Affiliation	**-0.34** -(0.09)	**-0.35** -(0.10)	**-0.34** -(0.09)	**-0.34** -(0.10)	**-0.35** -(0.10)	**-0.35** -(0.10)	**-0.34** -(0.09)	**-0.34** -(0.10)	**-0.30** -(0.10)
Ownership Information									
Locally Owned	—	—	**0.196** -(0.053)	—	—	—	—	—	**0.241** -(0.058)
Minority Owned	—	—	—	-0.397 -(0.219)	—	—	—	—	-0.353 -(0.214)
Female Owned	—	—	—	—	-0.162 -(0.157)	—	—	—	-0.123 -(0.155)
Newspaper-TV	—	—	—	—	—	-0.145 -(0.084)	—	—	**-0.307** -(0.087)
Radio-TV	—	—	—	—	—	—	**0.370** -(0.046)	—	**0.354** -(0.047)
Parent revenue	—	—	—	—	—	—	—	0.015 -(0.030)	0.044 -(0.031)
Constant	**-0.91** -(0.06)	**-0.87** -(0.26)	**-0.87** -(0.26)	**-0.88** -(0.26)	**-0.87** -(0.26)	**-0.88** -(0.26)	**-0.80** -(0.25)	**-0.88** -(0.26)	**-0.83** -(0.25)
Year Dummies	No	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
DMA Fixed Effects	No	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Observations	1,676	1,676	1,676	1,676	1,676	1,676	1,676	1,676	1,676
R-squared	0.73	0.75	0.75	0.75	0.75	0.75	0.76	0.75	0.76

Notes: Reported are the results of 9 regressions of the average price of television advertising on various measures of television station ownership structure and control variables. Price is the average price for a 30-second advertisement. Section 6.2 describes the various specifications in more detail. Standard errors in parentheses. Bold face indicates statistical significance at the 5% level.

Table 26: The Impact of Ownership Structure on Each Outcome Variable

Channel Fixed Effects

Dependent Variable	Local News	Public Affairs	Spanish Language Prog.	Children's Prog.	Family Prog.	Violent Prog.	Religious Prog.	Ad Time	Ad Prices
Variable	Estimate Std. Err.	Estimate Std. Err.	Estimate Std. Err.	Estimate Std. Err.	Estimate Std. Err.	Estimate Std. Err.	Estimate Std. Err.	Estimate Std. Err.	Estimate Std. Err.
Commercial Station	0.00	0.00	**0.10**	0.00	**-0.84**	**-0.11**	0.01	—	—
	-(0.01)	-(0.01)	-(0.01)	-(0.01)	-(0.02)	-(0.03)	-(0.01)		
Affiliate Information									
ABC	**0.26**	**0.35**	**0.06**	**-0.09**	**-0.91**	0.11	-0.05	-1.89	**1.40**
	-(0.03)	-(0.03)	-(0.02)	-(0.03)	-(0.06)	-(0.08)	-(0.04)	-(1.69)	-(0.39)
CBS	**0.28**	**0.35**	**0.10**	**-0.14**	**-1.02**	0.02	0.05	-3.38	0.60
	-(0.04)	-(0.03)	-(0.03)	-(0.03)	-(0.08)	-(0.10)	-(0.05)	-(2.16)	-(0.50)
NBC	**0.22**	**0.36**	0.03	**-0.07**	**-0.73**	**0.20**	**-0.13**	-1.53	0.23
	-(0.03)	-(0.02)	-(0.02)	-(0.02)	-(0.06)	-(0.07)	-(0.04)	-(1.62)	-(0.37)
FOX	**0.17**	**0.37**	0.00	-0.03	**-0.62**	**0.30**	0.06	-3.70	0.41
	-(0.03)	-(0.02)	-(0.02)	-(0.02)	-(0.06)	-(0.07)	-(0.04)	-(2.36)	-(0.54)
CW	0.01	**0.35**	**0.10**	**-0.07**	**-0.89**	**0.17**	0.04	0.26	**0.64**
	-(0.03)	-(0.02)	-(0.02)	-(0.02)	-(0.05)	-(0.07)	-(0.04)	-(1.31)	-(0.30)
PBS	**0.26**	**0.44**	**0.24**	**-0.17**	**-1.97**	**0.30**	-0.02	—	—
	-(0.06)	-(0.04)	-(0.04)	-(0.04)	-(0.11)	-(0.14)	-(0.07)		
Independent	**-0.15**	**0.35**	**0.14**	-0.03	**-0.68**	**0.28**	**-0.10**	-2.68	**0.79**
	-(0.03)	-(0.02)	-(0.02)	-(0.02)	-(0.05)	-(0.06)	-(0.03)	-(1.58)	-(0.36)
Spanish Language	**-0.07**	**0.35**	**0.22**	-0.02	**-0.63**	**0.27**	**-0.10**	**-3.74**	-0.27
	-(0.03)	-(0.02)	-(0.02)	-(0.02)	-(0.05)	-(0.06)	-(0.03)	-(1.57)	-(0.36)
Other Affiliation	**-0.15**	**0.35**	**0.05**	-0.02	**-0.70**	**0.40**	**-0.09**	**2.47**	-0.05
	-(0.03)	-(0.02)	-(0.02)	-(0.02)	-(0.05)	-(0.06)	-(0.03)	-(0.99)	-(0.23)
Ownership Information									
Locally Owned	-0.002	-0.002	-0.003	0.001	-0.010	0.003	0.000	0.215	**0.139**
	-(0.004)	-(0.003)	-(0.003)	-(0.003)	-(0.007)	-(0.009)	-(0.005)	-(0.275)	-(0.063)
Minority Owned	**0.034**	-0.001	-0.003	**-0.073**	**-0.079**	-0.049	**0.032**	**2.950**	-0.360
	-(0.012)	-(0.009)	-(0.009)	-(0.009)	-(0.023)	-(0.029)	-(0.015)	-(1.380)	-(0.318)
Female Owned	0.005	-0.002	0.001	0.005	**-0.054**	-0.006	0.012	-0.799	0.206
	-(0.007)	-(0.006)	-(0.005)	-(0.006)	-(0.014)	-(0.017)	-(0.009)	-(0.608)	-(0.140)
Newspaper-TV	0.023	-0.007	**0.035**	**-0.037**	**-0.109**	-0.039	0.004	**-2.620**	**0.799**
	-(0.013)	-(0.010)	-(0.009)	-(0.010)	-(0.023)	-(0.029)	-(0.015)	-(0.563)	-(0.130)
Radio-TV	-0.003	-0.004	0.001	-0.001	**-0.015**	**-0.015**	-0.001	**0.789**	0.028
	-(0.003)	-(0.002)	-(0.002)	-(0.002)	-(0.005)	-(0.007)	-(0.003)	-(0.318)	-(0.073)
Parent revenue	**-0.010**	0.000	0.005	0.003	-0.001	0.008	0.008	**0.970**	0.091
	-(0.004)	-(0.003)	-(0.003)	-(0.003)	-(0.007)	-(0.009)	-(0.004)	-(0.213)	-(0.049)
Constant	**-0.07**	**-0.35**	**-0.13**	**0.08**	**1.60**	-0.01	**0.12**	**15.90**	-0.20
	-(0.04)	-(0.03)	-(0.03)	-(0.03)	-(0.07)	-(0.09)	-(0.04)	-(2.21)	-(0.51)
Year Dummies	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
DMA Fixed Effects	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Channel Fixed Effects	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Observations	4,437	4,437	4,437	4,437	4,437	4,437	4,437	1,676	1,676
R-squared	0.42	0.47	0.47	0.47	0.47	0.47	0.47	0.47	0.47

Notes: Reported are the results of 9 regressions of each of the dependent variables considered in the 9 previous tables on the full set of television station ownership structure and control variables. See the notes to those tables for the specific definitions of the dependent variables. Section 6.2 describes the various specifications in more detail. Standard errors in parentheses. Bold face indicates statistical significance at the 5% level.

Table 27: Cable Networks in the Estimation Dataset, Page 1

Basic Cable Networks		
A&E	DISNEY EAST	KWBM CABLE
ABCFAMILY CHAN	DIY NETWORK	KWWT CABLE
AMC	E! ENTERTAINMENT	LA FAMILIA COSMOVISION
AMERICANLIFE TV	ESPN	LEARNING CHANNEL
ANIMAL PLANET	ESPN CLASSIC	LIFETIME
ANIME NETWORK	ESPN DEPORTES	LIFETIME MOVIE NET
AZNTV	ESPN UNIVERSITY	LIFETIME REAL WOMEN
B MOVIE CHANNEL	ESPN2	LIME
BBC AMERICA	ESPNEWS	LOGO
BEAUTY & FASHION	FINE LIVING	MENS CHANNEL
BET GOSPEL	FIT TV	MILITARY CHANNEL
BET J	FOOD NETWORK	MILITARY HISTORY CHANNEL
BIOGRAPHY CHANNEL	FOX COLLEGE SPORTS - ATL	MSNBC
BLACK ENTERTAIN	FOX MOVIE CHANNEL	MTV
BLACK FAMILY CHANNEL	FOX NEWS CHANNEL	MTV HITS
BLACKBELT TV	FOX REALITY CHANNEL	MTV JAMS
BLOOMBERG TV	FOX SOCCER CHANNEL	MTV2
BOOMERANG	FOX SPORTS EN ESPANOL	MUN2
BRAVO	FUEL TV	NATIONAL GEOGRAPHIC USA
CARTOON NET	FUSE	NBA TV
CMT PURE COUNTRY	FX EASTERN	NFL NETWORK
CNBC	G4 VIDEO GAME TELEVISION	NICK EAST
CNBC WORLD	GALAVISION PACIFIC	NICKTOONS NETWOR
CNN	GAMES & SPORTS	NOGGIN & THE N
CNN INTL DOMESTIC	GOLF CHANNEL	OUTDOOR CHNL
COLLEGE SPORTS TV	GOLTV INTERNATIONAL	OVATION ARTS NET
COMEDY CENTRAL	GREAT AM COUNTRY	OXYGEN CHANNEL
COUNTRY MUSICTV US	GSN	SCI FI
COURT TV	HALLMARK MOVIE CHANNEL	SCIENCE CHANNEL
CRIME & INVESTIGATION	HALLMARK USA	SITV
CSPAN	HISTORY CHANNEL	SLEUTH
CURRENT TV	HISTORY CHANNEL EN ESP	SOAP NET
DISCOVERY	HISTORY CHANNEL INTL	SPEED CHANNEL
DISCOVERY EN ESPANOL	HITN	SPIKE TV
DISCOVERY HEALTH	HOME & GARDEN	SPORTSMAN CHANNEL
DISCOVERY HOME	IDRIVETV	STYLE
DISCOVERY KIDS	IFC	TEMPO
DISCOVERY KIDS EN ESP	INSPIRATIONAL NET	TENNIS CHANNEL
DISCOVERY TIMES	KBCA CABLE	TNT

Source: TMS, Author decisions.

Table 28: Cable Networks in the Estimation Dataset, Page 2

Basic Cable Networks, cont.		
TOON DISNEY	TV ONE	WBMM CABLE
TRAVEL	USA EASTERN	WE WOMENS ENTMNT
TRAVEL AND LIVING EN ESP	VERSUS	WEALTH TV
TURNER CLASSIC MOVIES	VH1	WEATHER CHANNEL
TV GUIDE CHANNEL	VH1 CLASSIC	WTBS SATELLITE
TV LAND	VH1 SOUL	
Master Television Networks		
NBC WEATHER PLUS	TELEMUNDO MASTER	UNIVISION MASTER
TELEFUTURA EAST		
Premium Cable Networks		
CINEMAX	MOVIE PLEX	STARZ COMEDY
ENCORE	RETROPLEX	STARZ EDGE
ENCORE ACTION	SHOWTIME BEYOND	STARZ
ENCORE DRAMA	SHOWTIME EAST	STARZ 5 CINEMA
ENCORE LOVE	SHOWTIME EXTREME	STARZ HD
ENCORE MYSTERY	SHOWTIME FAMILYZONE	STARZ IN BLACK
ENCORE WAM	SHOWTIME HDTV EAST	STARZ KIDS & FAMILY
ENCORE WESTERNS	SHOWTIME NEXT EAST	SUNDANCE FILM
FLIX	SHOWTIME SHOWCASE	TMC EAST
HBO EAST	SHOWTIME TOO	TMC HD EAST
INDIEPLEX	SHOWTIME WOMEN EAST	TMC XTRA EAST
Pay-Per-View Networks		
CLUB JENNA	PLAYBOY TV	TENBLOX
FRESH	PLZ	TENBLUE
HUSTLER TV US	SHORTEEZ	TENCLIPS
IN DEMAND 01	SPICE XCESS	TENMAX
PLAYBOY EN ESPANOL	SPICE2	TENXTSY
PLAYBOY HD	TEN THE EROTIC NET	

Source: TMS, Author decisions.

Table 29: TMS and Estimation Categories, Page 1

TMS Category	Estimation Category	TMS Category	Estimation Category	TMS Category	Estimation Category
AHL Hockey	Sports	Baile	Spanish	Coll Wrestle	Sports
ATP Tennis	Sports	Ballet	ArtsSci	Collectibles	Hobbies
Accin	Spanish	Base	Sports	Com. dramatique	French
Action	ActionAdv	Basket	Sports	Comedia	Spanish
Actividades	Spanish	Beach Volleyball	Sports	Comedia Musical	Spanish
Activits	French	Beaux-arts	French	Comedia Romntica	Spanish
Adult	Adult	Bicycle	Sports	Comedia-Drama	Spanish
Adulto	Adult	Bicycle Racing	Sports	Comedy	Comedy
Adventure	ActionAdv	Billiards	GameShow	Comedy-Drama	Comedy
Affaires	French	Biografa	Spanish	Community	Community
Affaires publiques	French	Biographie	French	Compras	Spanish
Agricultura	Spanish	Biography	Educational	Computadoras	Spanish
Agriculture	Outdoor	Blackjack	GameShow	Computers	Hobbies
Amat Box	Other	Boat	Outdoor	Comunidad	Spanish
Animales	French	Boat Racing	Sports	Comdie	French
Animals	Educational	Bodybuild	Sports	Concursos	Spanish
Animated	Cartoon	Bowl	Sports	Consumer	Shopping
Animaux	French	Box	Sports	Consumidor	Spanish
Anime	Cartoon	Bullfighting	Sports	Cooking	HomeGarden
Anthol	Anthol	Business	Business	Cricket	Sports
Antologa	Spanish	CFL Foot	Sports	Crime	ActionAdv
Archery	Sports	Card games	GameShow	Crime Drama	ActionAdv
Arena Foot	Sports	Casa&Jardinera	Spanish	Crimen	Spanish
Art	ArtsSci	Cheer	Other	Cuisine	HomeGarden
Arte	French	Children's	Children	Culinria	Spanish
Artes Escnicas	Spanish	Christmas	Other	Dance	ArtsSci
Arts & Crafts	HomeGarden	Ciencia	Spanish	Darts	Sports
Assunto Pblico	Spanish	Ciencia Ficcin	Spanish	Debate	French
Asuntos Pblicos	Spanish	Clima	Spanish	Deportes Acuticos	Spanish
Auction	Shopping	Cocina	Spanish	Dibujos Animados	Spanish
Aussie Foot	Sports	Coleccin	Spanish	Dive	Other
Auto	Sports	Coll Base	Sports	Divertissement	French
Auto Ayuda	Spanish	Coll Basket	Sports	Docudrama	Educational
Auto Racing	Sports	Coll Foot	Sports	Documentaire	French
Aventura	French	Coll Golf	Sports	Documental	Spanish
Aviation	Hobbies	Coll Hockey	Sports	Documentary	Documentary
Award	GameShow	Coll Soccer	Sports	Documentrio	Spanish
Badminton	Sports	Coll Volley	Sports	Dog Racing	Sports

Source: TMS, Author decisions.

Table 30: TMS and Estimation Categories, Page 2

TMS Category	Estimation Category	TMS Category	Estimation Category	TMS Category	Estimation Category
Drag	Other	Gym	Sports	Motorsports	Sports
Drama	Drama	HS Base	Sports	Mountain Biking	Sports
Drama Documental	Spanish	HS Basket	Sports	Music	Music
Drama Histrico	Spanish	HS Foot	Sports	Musical	Movie
Drama de Crimen	Spanish	HS Hockey	Sports	Musical Comedy	Comedy
Drame	French	Halloween	Other	Musique	French
Drame Historique	French	Health	Health	Mystery	Drama
Drame policier	French	Histoire	French	Mdico	Spanish
Drame sentimental	French	Historia	Spanish	Msica	Spanish
ECHL Hockey	Sports	Historical Drama	Educational	NBA Basket	Sports
Educacional	Spanish	History	Educational	NFL Euro	Sports
Educational	Educational	Hockey	Sports	NFL Foot	Sports
Ejercicio	Spanish	Home Improvement	HomeGarden	NHL Hockey	Sports
Entertainment	Entertainment	Horror	Violent	NLL Lacrosse	Sports
Entretien	French	Horse	Sports	Naturaleza	Spanish
Entrevista	Spanish	House&Garden	HomeGarden	Nature	Educational
Environment	Educational	How-to	HomeGarden	Negocios	Spanish
Equestrian	Sports	Hunt	Outdoor	New Year's	Other
Espectculo	Spanish	Infantil	French	News	News
Espetculo	Spanish	Information	PublicAffairs	Newsmagazine	News
Event	Other	Int Soccer	Sports	Noticias	Spanish
Evento	Spanish	Interview	News	Nouvelles	French
Exercise	Sports	Juridique	French	OHL Hockey	Sports
Extreme	Violent	LPGA Golf	Sports	Olympic	Sports
Fantastique	French	Lacrosse	Sports	Opera	ArtsSci
Fantasy	Fantasy	Latina	Spanish	Outdoor	Outdoor
Fantasa	Spanish	Law	PublicAffairs	PBA Bowl	Sports
Fashion	Entertainment	Ley	Other	PGA Golf	Sports
Field Hockey	Sports	MLS Soccer	Sports	Parade	Other
Fig Skate	Sports	Major Base	Sports	Paranormal	Drama
Film musical	Entertainment	Martial	Sports	Parenting	Educational
Fish	Outdoor	Medical	Health	Paternidad	Spanish
Foot	Sports	Medicina	Spanish	Performing Arts	ArtsSci
Fundraiser	Other	Medio Ambiente	Spanish	Poker	GameShow
Game Show	GameShow	Minor Base	Music	Policier	French
Gay&Lesbian	Other	Misterio	Spanish	Politics	PublicAffairs
Golf	Sports	Moda	Spanish	Politique	French
Gospel	Religious	Motorcycle	Sports	Polo	Sports
Guerra	Spanish	Motorcycle Racing	Sports	Poltica	Spanish

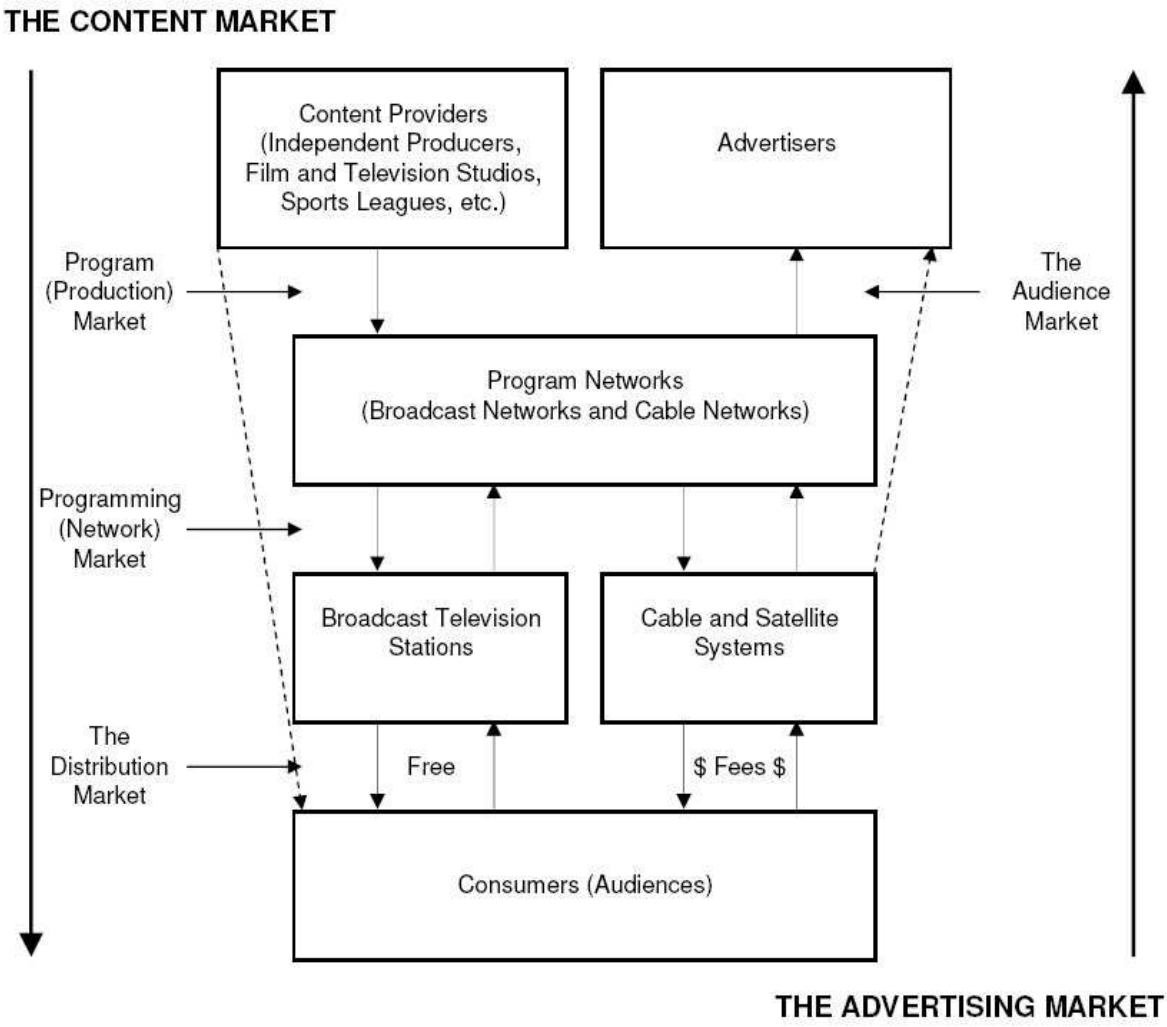
Source: TMS, Author decisions.

Table 31: TMS and Estimation Categories, Page 3

TMS Category	Estimation Category	TMS Category	Estimation Category
Premio	Spanish	Sports Related	Sports
Prix	French	Sports Talk	Sports
Pro Wrestle	Violent	Squash	Sports
Public Affair	PublicAffairs	Standup	Comedy
Pquer	Spanish	Sumo Wrestle	Sports
Racquet	Sports	Surf	Sports
Real Estate	Business	Suspense	Drama
Realidad	Spanish	Suspenso	Spanish
Reality	Reality	Swim	Sports
Religioso	Spanish	Table Tennis	Sports
Religious	Religious	Teatro	Spanish
Remodelacin	Spanish	Tennis	Sports
Revista Noticiosa	Spanish	Terror	Violent
Rodeo	Sports	Thanksgiving	Other
Romance	Drama	Theater	ArtsSci
Romance-Comedy	Comedy	Track	Sports
Rowing	Sports	Travel	Outdoor
Rugby	Sports	Triathlon	Sports
Running	Sports	Valentine's Day	Other
Rnovation&Jardin	Spanish	Variedad	Spanish
Sailing	Sports	Variedades	Spanish
Salud	French	Variety	Drama
Science	ArtsSci	Varits	Spanish
Science Fiction	Drama	Viaje	Spanish
Science-fiction	Drama	Volley	Sports
Self-Improvement	Other	Voyage	French
Shooting	Sports	WTA Tennis	Sports
Shopping	Shopping	War	History
Sit. Cmica	Spanish	Water Polo	Sports
Sitcom	Sitcom	Water Ski	Sports
Skateboarding	Sports	Watersports	Sports
Ski	Sports	Weather	Weather
Snowboard	Sports	Weight	Sports
Snowmobile	Sports	Western	Drama
Sobrenatural	Spanish	Wm. Coll. Basket	Sports
Soccer	Sports	Wrestle	Sports
Softball	Sports	Yacht	Sports
Speed	Sports	ducatif	Spanish
Sport	Sports		
hline			

Source: TMS, Author decisions.

Figure 1: Television Programming Industry



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