

Who Benefits Whom in Local Television Markets?

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When production carries substantial fixed costs, it is well known that larger markets can offer more, and more varied, products. Ensuing broader product options increase consumer welfare by offering more types of consumers options they prefer; and product variety draws a higher fraction of residents to consumption. In this sense people can benefit each other in their capacity as fellow product consumers. But who benefits whom? You will benefit me only to the extent that you bring forth products that appeal to me which, in turn, will occur only if we share similar preferences.

Blacks and whites (and Hispanics and non-Hispanics) have substantially different preference in media products. The radio formats attracting two thirds of black listeners collectively attract less than 5 percent of white listening (Waldfogel, 1999; Siegelman and Waldfogel, 2001). In markets with multiple daily papers, blacks' readership tends to be heavily concentrated in only one paper (George and Waldfogel, 2000). Local markets with larger black populations have more black-targeted radio stations and daily papers that cater more to black consumers' tastes. Moreover, blacks are more likely to consume local radio and daily newspaper products in markets with more heavily black populations. As a consequence, blacks and whites are better off, in their capacity as local media consumers, as their markets have larger black and white populations, respectively. The scope for tyrannies of the majority to operate in markets is larger, the higher are fixed costs relative to market size. This is why black and white consumers affect each other more in daily newspaper markets, with only a handful of products per market, than in local radio markets, averaging 25 stations per market.

Unlike daily papers and radio, which are predominantly local media, television is a mixed local/national medium. Most programming, including network prime time and almost all cable channels, is uniform across place. However, outside of prime time, local broadcast stations, including both independent stations and affiliates of networks (such as ABC, CBS, or Fox) determine much of their programming locally. The latter set of programming decisions allow a mechanism for television consumers to affect their fellow local residents. Yet, given widespread availability of a large number of specialized national cable (and satellite) channels, it is not clear whether local viewers' welfare depends on local programming decisions. Rather, specialized national channels may satisfy diverse tastes, leaving little scope for local programming decisions to incrementally affect welfare. Distributional effects in television, which is perhaps the most influential news, information, and entertainment medium in the US, remain to be studied. Americans spend on average more time with television than with other media, and a much higher fraction of households watch television than read local newspapers.

This paper examines the effects of the size and racial composition of local populations on the types of local programming offered, as well as on the welfare of various types of television viewers. We proceed in three sections. First, we provide some theoretical background, along with a description of the relevant literature. Second, we describe the data used in the study. We then turn to results. We find that, as in other media, television programming preferences differ sharply between blacks and non-blacks, and between Hispanics and non-Hispanics. We show that the targeting of local programming to minority viewers is much greater in markets with larger minority populations, whereas prime time and national cable programming are, by definition,

insensitive to local preference distributions. We document that the quantity of locally controlled minority-targeted television draws minority viewers to viewing. Together, these relationships imply that blacks and Hispanics are better off, in their capacity as television viewers, in markets with larger black and Hispanic populations.

In local media markets, the welfare of consumers in each preference group depends on the distribution of product-preferring types in the market. This is interesting both by itself and also because it casts doubt on the prevailing belief in a clear distinction between market and collective choice allocation schemes. Friedman (1962) has eloquently argued that markets avoid the tyrannies of the majority endemic to allocation through collective choice. Mounting evidence that minority consumer welfare depends on local minority population in local media markets indicates that, for this industry at least, the difference between market and collective choice allocation is a matter of degree, not kind. It is important to understand the relationship between market demographic composition and the targeting of programming content because related research documents a relationship between the presence of black-targeted media and the tendency for blacks to vote (see Oberholzer-Gee and Waldfogel, 2001).

I. Background: Population Composition and Groups' Welfare from Television

Which products do markets bring forth in contexts where products are imperfect substitutes and each product carries some fixed costs? This is a difficult question to answer in general. Dixit and Stiglitz (1977) present a model in which products are symmetrically substitutable, reducing the problem to “how many products.” Their model allows them to examine whether markets bring forth adequate or excessive variety; but their treatment of substitution abstracts away most important features of firms' decisions

(as well as the preference landscape of a heterogeneous society). Spence (1976a,b) lays out the “product selection” problem, pointing out the distinction between market and optimal mixes of products are made available. As a positive matter, it is not clear what determines the mix of products available in differentiated product contexts with fixed costs, and this line of research, documenting the determinants of product mixes, is an attempt to fill that void.

The product selection problem in this context has two parts. First, the market must determine how much programming to air, i.e. how many local broadcast stations will operate in a market, and how many channels of cable programming local cable operators will carry. Because local broadcast facilities have fixed costs, larger markets will support more of them. This is the familiar relationship between market size and firms/products from the entry literature. See Bresnahan and Reiss (1990, 1991) for general studies of entry and Berry and Waldfogel (1999) for a (radio) broadcasting example.

The second part of the problem is the mix of programming to air. The general economic problem facing a station is, what program to air in each of the time slots it controls. At least three features of the firm’s environment affect its decision-making. First, the program preferences of the station’s potential audience affect the desirability of airing particular programs. Second, the audience appeal of a program in a time slot depends on the programs simultaneously aired by competing outlets. Third, program choice might be influenced by a “carryover effect,” or tendency for viewers to continue watching a station during consecutive time slots. One can imagine a formal problem in which each firm’s profits depend on its programming choices, as well as its competitors’

choices. Finding an equilibrium for such a context is a dauntingly complex prospect. Goettler and Shachar (2001) have made strides in this direction. While we recognize the richness of firm decision-making determining the mix of programming aired, ours is the more modest goal of describing how the available mix relates to the distribution of persons, by preference type, in the population.

Even in our descriptive characterization, the mechanism by which “product selection” affects welfare is different in television, radio, and newspapers, and the way we view the product affects how we view its determinants. In radio, each station typically chooses which one of roughly 50 formats to broadcast, then broadcasts it all the time.¹ Markets of different size have different numbers of radio stations on the dial. Hence, the quantity of programming targeting any particular group depends on the absolute size of the targeted group locally. For example, the *absolute size* of the local black population is a useful variable for explaining the quantity of black-targeted radio programming available. Unlike in the case of radio, larger markets do not have many more newspapers. Rather, they have larger newspapers. Further, newspapers contain scores of articles each day and arguably a more complicated product than radio stations. It is helpful simplification to imagine that newspapers choose a point along a one-dimensional white-to-black-targeted spectrum. In the case of daily newspapers, it is more fruitful to examine the relationship between the *fraction* black in the market and the appeal of the one or few products to black consumers. See George and Waldfogel (2000) for evidence on this point.

The television problem is something of a hybrid between the radio (“*how many stations?*”) and newspaper (“*what mix of content?*”) examples. Larger markets have

more local television stations, and this is true even across the 66 large US markets in our sample. Although all of the markets have ABC, CBS, NBC, Fox, and PBS affiliates, only 60 have WB, and 56 have UPN, affiliates. Affiliates of Hispanic-targeted Telemundo and Univision are even rarer, with 15 and 23 of 66 sample markets covered. Thus, some variation in the amount of content targeting various groups is driven by factors determining the total amount of programming available in the market. Beyond that, there is also substantial variation in the *fraction* targeted to each group. In the empirical descriptions of program targeting that follow we allow the local quantity of minority-targeted programming to depend on both the local fraction black (or Hispanic), as well as the absolute population sizes.

Programming decisions can affect viewer welfare by allowing them access to more preferred programming options. For example, if black and white content preferences are different, then black viewers will derive more satisfaction in markets with more black-targeted programming. Although we cannot observe satisfaction, we can draw inferences about satisfaction from the tendency to watch television. This is the path we pursue below.

II. Data

Data for this study are drawn from two sources, Scarborough Research and the Census. The Scarborough Prime Next dataset has information on the media and product consumption patterns for each of roughly 180,000 individuals surveyed in the latter half of 1999 and the first half of 2000 in 66 large US markets (see <http://www.scarborough.com/primenext/>). Of particular interest to us are the following

¹ See Waldfogel (1999) for lists of radio broadcast formats.

variables: race, Hispanic status, and detailed television viewing data, particularly for broadcast television. Respondents are asked to report all of the television half hours (between 6AM and 1AM) they watch during a 7-day period on affiliates of each of the following 10 networks: ABC, CBS, FOX, NBC, PAX, PBS, TEL, UNI, UPN, and WB, as well as on independent stations (IND). We refer to this viewing as the “network affiliate viewing.” Cable information is more rudimentary in this version of the Scarborough data. Survey respondents indicate dichotomously whether they regularly watch each of about 70 cable channels.

With 38 half hours in a day, seven days in a week, and eleven channel choices, there are 2926 individual program viewing variables, each of which represents a particular product choice. Our ultimate interest is in the relationship between viewers’ satisfaction and the local population distribution, as determined by the availability of suitable programs. Because there is no scope, by construction, for prime time viewer satisfaction to depend on the local distribution of types, it is important for us to disaggregate our viewing measure into separate prime time and locally controlled measures.² Our basic measure of television viewing is the number of program half hours that a person reports having watched. The average sample person watches 11.0 evening prime time half hours per week and 24.5 other (largely locally controlled) half hours, for a total of 35.5 half hours per week. Table 1 shows how total viewing (of the networks for which detailed viewing data are available) is distributed across networks for each group.

² In Eastern and Pacific time zones, prime time runs from 8PM -11PM Monday-Saturday and 7PM-11PM on Sunday. Prime time begins and ends one hour earlier in Central and Mountain time zones. We treat this as prime time for all networks, even though not all networks air national programming during the same hours.

ABC, CBS, and NBC attract the largest viewership for all groups, except Hispanics, for whom Univision is the largest draw.

Using the network viewing data we can create measures of channel availability, as well as measures of the quantity of black- or Hispanic-targeted programming on the air in each market. We calculate the number of broadcast stations in each market as the number of the eleven local channel types (ten network plus independent) receiving viewers in each market. Our markets range between 6 and 11 local broadcast stations by this measure and the markets average 8.8.³ We calculate the number of cable channels similarly. Our markets average 48.8 cable stations, and range between 45 and 57 across sample markets.

We calculate the numbers of black- and Hispanic-targeted shows as follows. We deem a show black targeted, for example, if more than 90 (or 75, etc.) percent of its local audience is black. The quantity of black-targeted programming in a locale is simply the number of shows that we so deem black-targeted. This measure is affected by the composition of local population. For example, if a locale were 100 percent black, then all shows attracting viewers would appear to be black-targeted. Because prime time is targeted the same way everywhere, we can use differences in this measure's quantity of black-targeted programming in prime time across locales to normalize our measure of the quantity of black-targeted local programming. We return to the ensuing measures below.

III. Results

1. Do Program Preferences Differ by Group?

Research on other media indicates that programming preferences in radio and newspapers differ sharply by race and Hispanic status (Waldfoegel, 1999; George and Waldfoegel, 2000). Journalistic evidence suggests that these differences extend to television (Sterngold, 1998). The Scarborough data allow direct testing of how television preferences differ by race.

Our strategy for investigating whether television program preferences differ by group is to examine whether blacks, whites, and Hispanics, when faced with multiple options, choose differently. The wider the range of options facing viewers, the more we can learn about the extent of preference differences. That is, if there were only three similar viewing options at a point in time (such as prime time network television in the 1960s), we might not see much difference in the tendency to view different types of programming. On the other hand, if groups with different preferences face a large number of options, including some apparently targeted at black or Hispanic viewers, we can see the extent of preference differences.

Our data give us essentially three separate “experiments” for testing how much preferences differ across viewers. First, viewers in all markets face the same prime time national programming options. Second, viewers in all markets face similar sets of national cable options. Finally, *within* each market, viewers face the range of locally controlled programs. We make use of each of these in turn.

Table 2 shows the percent of blacks and Hispanics (and non-blacks and non-Hispanics) watching television between 8 and 11PM (eastern time) on Thursday evenings during the 1999-2000 television season on six major national networks. For example,

³ This measure of local broadcast stations slightly understates the true number because it allows for only one independent station. However, calculations using more comprehensive BIA data confirm that the

2.5 percent of black persons watched ABC from 8-8:30PM, compared with 4.2 percent of non-blacks. During the same time slot, 4.7 percent of black households watched UPN, while only 1.6 percent of non-blacks watched UPN. That is, blacks have roughly three times the tendency to watch that (and other UPN shows), compared to non-blacks. Similarly, Hispanics have roughly double the tendency to watch UPN shows relative to non-Hispanics.

Table 3 displays the data differently, to show the percent of Thursday prime time audiences that are black and Hispanic. Given that blacks and Hispanics each make up small fractions of the US population, their greater tendencies to watch particular programs are not high enough to make them large shares of national shows' audiences. For example, the audience for the UPN 8-8:30 PM time slot, which blacks are three times as likely as whites to watch, was only 26.7 black. The audience for the ABC 8-8:30 PM time slot was only 6.8 percent black, by contrast.

On Thursdays, NBC had the whitest audiences (roughly 94 percent non-black), followed closely by ABC (roughly 93 percent), CBS (about 90 percent non-black), and FOX (85 percent non-black). The UPN and WB network shows have the least white audiences, at 75-80 percent non-black. The patterns for Hispanics are similar, with FOX, WB, and UPN attracting the most Hispanic audiences, although those audiences are less Hispanic than they are black.

While the network prime time data indicate that different groups tend to choose different programming, the range of choices on the national networks may not be broad enough to reveal the extent of differences in preferences. The data contain information about whether sample persons regularly watch each of 70 cable networks, presumably

positive relationship between market size and local broadcast stations.

including a broader range of variation than on prime time in the broadcast networks.

Table 4 display the tendencies to watch (the percent of the sample regularly watching the cable channel) and distributions of audiences, by race and Hispanic status.

Blacks make up 11.1 percent of the sample but 60.8 percent of the persons regularly watching BET (Black Entertainment Television). The networks with the next-highest black audience shares are premium movie channels: Showtime (22.0), Cinemax (19.7), HBO (18.4), and The Movie Channel (18.1). That is, BET is the only black-targeted cable network, and as table 4 shows, 41.8 percent of black persons regularly watch it, compared with 3.2 percent of whites.

The cable data are somewhat misleading for Hispanics because two Spanish-language networks (Univision and Telemundo) appear in the network data. Both have overwhelmingly Hispanic audiences. The Hispanic tendencies to watch TEL and UNI are 15.1 and 31.4 percent, respectively. TEL and UNI audiences are 90.1 and 91.5 percent Hispanic, respectively. At least two additional cable networks are Hispanic targeted. For example, Fox Sports Español and Galavision have substantial audiences that are over half Hispanic.

Locally controlled television programming provides a third avenue of insight into how preferences differ across consumers. The 66 locales in our data vary between 0.9 and 40.5 percent black and between 0.4 and 47.4 percent Hispanic. We can calculate the fraction of the audience of each affiliate's half hour time slot that is black. Table 5 describes these data. The top row indicates that ABC affiliates air an average of 10.27 (1.97) non-prime-time half hours with audiences at least 50 (90) percent black. By all of our metrics, UPN, WB, and Fox air the largest numbers of black-targeted half hours

among the 10 covered networks. For example WB affiliates average 15.43 half hours with audiences over 90 percent black. One market has 88 WB half hours outside evening prime time with such overwhelmingly black audiences.

The second half of the table does the same exercise for prime time shows. These shows are, by construction, not locally controlled nor are they extremely black-targeted. That prime time shows appear black-targeted in some markets and not others is an artifact of different fractions black in the various markets' populations. Indeed, this is a potential shortcoming of our measure. However, the absolute size of the problem is small: on UPN and WB affiliates, we deem roughly 10-15 percent as many evening prime time shows black as we deem locally controlled slots black-targeted. That is, the vast majority of the variation in the number of black-targeted local shows in our measure is real, not an artifact of the way we create the measure.

Table 6 does the same exercise for Hispanic-targeted shows. With the important exception of Univision and Telemundo affiliates, network affiliates carry relatively few Hispanic-targeted shows

The estimates in tables 5 and 6 indicate that local markets have substantial numbers of shows with overwhelmingly minority audiences. Whereas prime time programming attracts, at most, national audiences that are about a third black, much local programming is clearly aimed at blacks. The eleven networks air 2926 sample half hours per week. An average sample member lives in a market with 57 shows that have over 90 percent black local audiences and 197 shows with majority-black local audiences.

The local data indicate, to a greater extent than the national prime time or cable data, both the distance between black and white preferences and the fact that local programming, far more than national programming, caters to those preferences.⁴

2. Does the Mix of Programming Vary with Local Audience Composition?

It is clear from the results above on group preferences that locally controlled programming varies more than nationally controlled programming in the extent of its black targeting. Hence the wider dispersion in the minority content of audiences. In this section we ask whether the amount of black-targeted local programming varies across place with the demographic composition.

The quantity of black- and Hispanic-targeted programming available in each locale depends on both the total amount of programming and the fraction that is group-targeted. We begin by characterizing the relationship between the total quantity of available programming and market size. Table 7 reports results of regressions of the numbers of broadcast, cable, and total (broadcast + cable) on market population, in levels and logs. The results confirm what intuition would suggest: larger markets have more programming options.

The relationships themselves bear some discussion. Across these large markets (ranging in size from 243,000 to 18 million) there is proportionally more variation in local broadcast facilities than in cable stations. This presumably reflects the real fixed costs of adding another broadcast facility. Almost exclusively, the cable stations are national, while the broadcast affiliates have some locally originating and/or locally

⁴ It remains to be seen whether particular half hours on national cable networks appeal particularly to black audiences.

controlled programming. Thus the amount of “local” programming is fairly sensitive to the size of the local market, while the amount of nonlocal programming is less sensitive, especially proportionally.

We can also use the station-level data to ask whether targeted presence varies with group population. While there are no wholly black-targeted networks, WB and UPN carry substantial amounts of black-targeted programming. Univision and Telemundo are Hispanic targeted. Table 8 reports probit estimates of the presence of these group-targeted affiliates on group sizes. The Spanish-language stations are much more likely to be present as markets have larger Hispanic populations. WB and UPN are driven more by overall market size. Particularly for Hispanics, then, there will be more group-targeted programming because there are more Spanish-language stations.

We now turn to the analysis at the level of the program, rather than the station. We have documented above that the total quantity of programming depends on market size, so we allow the quantity of black-targeted programming, for example, to depend both on the absolute size of local black population and the share of local population that is black. Because four commercial networks are ubiquitous in our sample, we can perform scale-independent analyses of the quantities of group-targeted programming aired on these affiliates. For these analyses, we expect only the shares to matter.

Figures 1 (and 2) show the relationships between the percent of local population that is black (or Hispanic) and the number of half-hours with local audiences in excess of 90 percent black (Hispanic). Each figure shows prime time shows as well as non-prime time. Because the amount of prime time programming targeting minorities cannot vary across place by construction, we include this to show that the local programming-local

population composition relationship is not an artifact of the way we calculate the measure.

The figures both show striking positive relationships: locales with higher fractions black or Hispanic have substantially more black or Hispanic-targeted programming outside of prime time (on the 11 networks). Memphis and New Orleans, for example, with black populations over a third of their totals, each air over 200 local half hours with audiences at least 90 percent black. Similarly, San Antonio, nearly half Hispanic, has about 400 local half hour shows with audiences at least 90 percent black. Both of these relationships run through the origin; that is, markets with no blacks or Hispanics have no black or Hispanic-targeted programming.

Table 9 documents the responsiveness of local program targeting to black and Hispanic population share, respectively, overall and for the four ubiquitous networks. The top panel shows results for blacks. The quantity of non-prime-time black-targeted programming on network affiliates is larger in markets with higher black concentration. Column (2) shows that the relationship, though smaller in magnitude, holds for the four ubiquitous networks, as well as overall. That is, at least part of the effect is pure positioning. Columns (3) and (4) show the quantity of black-targeted programming is not sensitive to the absolute size of black population (after controlling for the black share of population). Hence, the quantity of black-targeted programming appears to be determined primarily through positioning rather than entry, at least across these large markets.

Results for Hispanics are somewhat different than results for blacks. Here, as column (3) shows, the absolute size of the Hispanic population matters, confirming the

table 8 finding that the number of Hispanic targeted broadcast affiliates depends on Hispanic market size. Differences in the quantity of Hispanic-targeted programming across markets are driven by entry as well as positioning.

3. Do Viewers Value Group-Targeted Programming?

There is more minority-targeted programming in places with larger minority shares (and populations for Hispanics), but the question for welfare is whether the greater quantity of programming brings additional benefits to the target audiences. In one sense, this is obvious. We have already documented that, when confronted by variation in programming, different groups choose different options. Still, if broader options benefit people, we should see a greater tendency for people to view options targeted at them.

Table 10 examines the relationship between the black and Hispanic tendencies to watch network and network affiliate television the numbers of group-targeted local half hours. Columns (1)-(3) examine blacks and columns (4)-(6) examine Hispanics. The first (fourth) column employs an OLS specification. In the second (fifth) column, the local programming variable is instrumented with the share of local population that is black (Hispanic). The third (sixth) column employs market fixed effects. Thus, the effect of black programming on the black viewing tendency is identified as the relationship between the extent of black local programming and the gap between the black and white viewing tendencies. In all of the specifications, blacks view more television in places with more black-targeted programming. The pattern for Hispanics is similar, although the IV estimate (column 5) is not significant.

4. The Bottom Line: Preference Externalities in Local Television Programming

Blacks and whites, and Hispanics and non-Hispanics, prefer different television programming. Markets with higher minority shares have larger amounts of minority-targeted programming. Minorities derive more satisfaction from television – inferred from their greater tendency to watch – in markets with more minority-targeted programming. Hence, one can infer that raising the black or Hispanic share of local population will raise the welfare of local blacks, in their capacity as local television consumers. In this section we examine this relationship directly.

Broadly, there are two ways of examining the relationship between population composition and welfare (as implied by viewing). First, we can examine the relationships between each group’s viewing and population composition. We term this the “simple cross section approach.” Thus, for example, we can examine the cross-market relationship between black viewing and the share of local population that is black. A possible shortcoming of that approach is that some unobserved characteristic of the market may be correlated with both the population composition and the tendency for persons to watch television.⁵ Because we have data on both black and non-black tendencies to watch television, we can circumvent this problem by pooling black and non-black observations together and including market fixed effects in the regressions. In this “MSA fixed effects” approach, the effect of, say, the percent black on the tendency for blacks to watch television is identified from the relationship between the percent black and the gap between black and nonblack television viewing.

⁵ An illustrative, although not necessarily plausible, example is weather. If blacks are concentrated in some regions with different weather, and if the nature of the weather affects the appeal of being indoors (and therefore watching television), then the fraction black and the tendency for blacks to watch television will be related for reasons unrelated to the mechanism outlined in the paper.

First we examine the simple cross section approach. Table 11 reports regressions of black and non-black viewing on a) black and non-black population, and b) the black population share. We separately estimate these models on prime time and local viewing hours. For example, columns (1) and (2) show that black viewing outside of prime time increases in the local black population and decreases in the local non-black population. Non-black viewing does not vary with black and non-black populations. Columns (3) and (4) re-examine these relationships during prime time hours. Black prime time viewing increases in local black population, but the size of the effect is less than a quarter of the size of the local effect.

The latter half of the table is estimated with the black population share. Black viewing increases with the share black. Isolated blacks watch roughly 20 half hours outside of prime time per week. Blacks in markets that are, say, 50 percent black watch roughly 28 half hours. White viewing is invariant with respect to the local fraction black.⁶

Table 12 revisits the question using the simple cross section approach for Hispanics. Here the relationships are insignificant. That is, there is no evidence that Hispanics are better off, as television viewers, in markets with absolutely or proportionately more Hispanic residents.

Table 13 examines both blacks (relative to nonblacks) and Hispanics (relative to non-Hispanics) using the MSA fixed effects approach. Each of the regressions includes group-specific age and gender dummies, as well as MSA fixed effects. These results confirm that blacks benefit blacks (relative to their effect on whites). Moreover,

Hispanics benefit Hispanics (relative to their effects on non-Hispanics) in these specifications. Effects are larger for blacks than for Hispanics.

As in other media, the welfare of minority television viewers with distinct preferences depends on their neighbors. The presence of a substantial variety of cable channels makes this dependence of local residents welfare on their neighbors surprising. If cable did not exist, one might expect stronger dependence on minority viewers' welfare on their neighbors' preferences. While we cannot examine a world without cable, we can ask whether this dependence is stronger for viewers without cable. We explored this possibility and found no stronger dependence of group viewing on population composition among those without cable connections. Of course, given the endogeneity of cable connection, it is not entirely clear what one might make of such regressions in any event.

Conclusion

A growing body of evidence shows that, when preferences differ across audience groups, the satisfaction of local media consumers depends on the size their groups' local populations. This relationship has been documented in prior research for local radio and daily newspaper markets. The present study documents that this relationship holds, particularly for blacks, in local television markets as well. In particular, we document:

1) that television programming preferences differ sharply between blacks and non-blacks, and between Hispanics and non-Hispanics;

⁶ Recall from figure 1 that the market with the most black-targeted local programming (New Orleans) had about 235 half hours per week, out of a total of nearly 3000. Although whites face fewer white-targeted

2) the quantity of group-targeted programming is larger in markets with more minorities (proportionately more for blacks, absolutely and proportionately more for Hispanics);

3) minority viewing of network affiliates increases in their quantity of minority-targeted programming; and

4) minority viewing (and, one can infer, viewer welfare) depends on the distribution of one's neighbors' tastes.

These results have both practical and theoretical interest. First, the theoretical: in this context, with large fixed costs and preferences that differ sharply across groups of consumers, consumer satisfaction depends on the distribution of program-preferring types in the local market. Here, as in other local broadcasting contexts, the dichotomy between market and collective choice allocation suggested by Friedman (1962) does not hold. Second, the practical: despite the large number of national cable channels widely available in the 66 large markets examined in this study, local television exerts an effect on local viewers' welfare. Policymakers might bear this in mind as they consider rules that advantage national broadcast programming at the expense of local programming.

segments in heavily black markets, they nonetheless face a large amount of white-targeted programming.

References

- Berry, Steven T. and Joel Waldfogel. "Free Entry and Social Inefficiency in Radio Broadcasting." *RAND Journal of Economics*. 1999.
- Bresnahan, Timothy F; Reiss, Peter C. "Entry and Competition in Concentrated Markets." *Journal of Political Economy*. Vol. 99 (5). p 977-1009. October 1991.
- Bresnahan, Timothy F; Reiss, Peter C. "Entry in Monopoly Markets." *The Review of Economic Studies*. Vol. 57 (4). p 531-53. October 1990.
- Dixit, Avinash K; Stiglitz, Joseph E. "Monopolistic Competition and Optimum Product Diversity." *American Economic Review*. Vol. 67 (3). p 297-308. June 1977.
- Friedman, Milton. *Capitalism and Freedom*. Chicago: University of Chicago Press, 1962
- George, Lisa and Joel Waldfogel. 2000. "Who Benefits Whom in Daily Newspaper Markets?" NBER Working Paper 7944.
- Goettler, Ronald and Ron Shachar, "Spatial Competition in the Network Television Industry." Working Paper, April 17, 2001, accessed at http://papers.ssrn.com/sol3/papers.cfm?abstract_id=275025
- Mill, John Stuart. *On Liberty*. Indianapolis: Hacket Publishing Company, 1978.
- Oberholzer-Gee, Felix and Joel Waldfogel. 2001. "Electoral Acceleration: The Effect of Minority Population on Minority Voter Turnout." NBER Working Paper W8252.
- Siegelman Peter and Joel Waldfogel. "Race and Radio: Preference Externalities, Minority Ownership, and the Provision of Programming to Minorities." Mimeo. University of Pennsylvania. 1998.
- Spence, Michael. "Product Selection, Fixed Costs, and Monopolistic Competition." *The Review of Economic Studies*. Vol. 43 (2). p 217-35. June 1976.
- Spence, Michael. "Product Differentiation and Welfare." *American Economic Review*. Vol. 66 (2). p 407-14. May 1976.
- Sterngold, James. "A Racial Divide Widens on Network TV." *New York Times*. December 29, 1998. P. A1.
- Waldfogel, Joel. "Preference Externalities: An Empirical Study of Who Benefits Whom in Differentiated Product Markets" NBER Working Paper 7391, October 1999

**Table 1:
Weekly Half-Hours Viewed by Race and Hispanic Status**

Network	Markets				
	With Affiliate	Non-Black	Black	Non-Hispanic	Hispanic
ABC	66	8.40	8.71	8.70	6.57
CBS	66	8.97	10.43	9.43	7.52
FOX	66	3.58	4.88	3.82	3.62
IND	41	0.74	1.20	0.79	0.75
NBC	66	8.51	8.41	8.72	6.89
PAX	56	0.51	0.66	0.54	0.51
PBS	66	1.42	1.13	1.42	1.17
TELEMUNDO	15	0.59	0.53	0.06	2.39
UNIVISION	23	2.12	2.37	0.15	10.11
UPN	56	1.18	2.89	1.43	1.50
WB	60	1.22	2.56	1.40	1.49

**Table 2:
Tendency to View Thursday Prime Time Shows, by Group
1999-2000 Season**

	Blacks					
	abc	cbs	fox	nbc	upn	wbx
8-8:30PM	2.5%	5.8%	2.5%	5.1%	4.7%	2.0%
8:30-9PM	2.8%	5.4%	2.7%	3.1%	4.7%	2.0%
9-9:30PM	4.7%	4.3%	2.8%	4.6%	4.7%	3.2%
9:30-10PM	4.8%	4.2%	2.8%	3.1%	4.6%	3.2%
10-10:30PM	3.3%	3.6%	4.6%	7.8%	2.8%	2.3%
10:30-11PM	3.3%	3.5%	4.1%	7.6%	2.2%	2.1%

	Non-Blacks					
	abc	cbs	fox	nbc	upn	wbx
8-8:30PM	4.2%	6.3%	1.8%	10.4%	1.6%	0.7%
8:30-9PM	5.1%	6.1%	1.9%	6.3%	1.7%	0.8%
9-9:30PM	8.9%	4.6%	1.8%	9.0%	1.7%	1.7%
9:30-10PM	9.2%	4.6%	1.8%	5.5%	1.7%	1.7%
10-10:30PM	4.5%	4.1%	3.5%	11.5%	1.1%	1.2%
10:30-11PM	4.3%	4.0%	2.9%	11.2%	0.9%	1.0%

	Hispanics					
	abc	cbs	fox	nbc	upn	wbx
8-8:30PM	2.2%	2.9%	1.5%	8.0%	3.2%	1.2%
8:30-9PM	2.8%	2.6%	1.7%	4.8%	3.2%	1.2%
9-9:30PM	4.5%	2.1%	1.6%	5.5%	3.2%	2.7%
9:30-10PM	4.5%	2.0%	1.6%	3.6%	3.3%	2.8%
10-10:30PM	2.4%	2.2%	3.0%	7.1%	1.6%	1.6%
10:30-11PM	2.3%	2.2%	2.7%	6.8%	1.2%	1.2%

	Non-Hispanics					
	abc	cbs	fox	nbc	upn	wbx
8-8:30PM	4.2%	6.6%	1.9%	10.0%	1.8%	0.8%
8:30-9PM	5.1%	6.4%	2.1%	6.1%	1.9%	0.9%
9-9:30PM	8.9%	4.8%	1.9%	8.9%	1.9%	1.7%
9:30-10PM	9.2%	4.8%	1.9%	5.4%	1.9%	1.8%
10-10:30PM	4.6%	4.2%	3.6%	11.5%	1.3%	1.3%
10:30-11PM	4.4%	4.1%	3.0%	11.2%	1.1%	1.1%

Notes: Percent of each group watching the time slot on that network.

The 8-8:30PM time slot contains shows aired at 8PM in the eastern and Pacific time zones and at 7PM in other time zones.

**Table 3:
Black and Hispanic Shares of Thursday Prime Time Audience
1999-2000 Season**

	Black Percentage					
	abc	cbs	fox	nbc	upn	wbx
8-8:30PM	6.8%	10.3%	14.4%	5.7%	26.7%	25.3%
8:30-9PM	6.3%	10.0%	14.6%	5.8%	26.0%	23.6%
9-9:30PM	6.2%	10.3%	16.7%	6.0%	25.3%	19.1%
9:30-10PM	6.1%	10.2%	16.2%	6.5%	24.8%	18.7%
10-10:30PM	8.2%	9.9%	14.3%	7.8%	23.4%	20.1%
10:30-11PM	8.6%	10.0%	15.0%	7.8%	22.1%	21.3%

	Hispanic Percentage					
	abc	cbs	fox	nbc	upn	Wbx
8-8:30PM	5.3%	4.5%	7.9%	7.9%	16.1%	13.0%
8:30-9PM	5.5%	4.1%	8.3%	7.8%	15.7%	13.1%
9-9:30PM	5.1%	4.4%	8.2%	6.3%	15.4%	14.3%
9:30-10PM	5.0%	4.3%	8.0%	6.6%	15.3%	14.1%
10-10:30PM	5.2%	5.3%	8.2%	6.2%	11.8%	11.7%
10:30-11PM	5.3%	5.3%	8.7%	6.1%	10.8%	10.7%

Notes: The 8-8:30PM time slot contains shows aired at 8PM in the eastern and Pacific time zones and at 7PM in other time zones.

Table 4: Cable Channel Viewing Tendencies by Race and Hispanic Status

	Tendency to Watch				Overall	Audience Share	
	Hispanic	Non-Hispanic	black	nonblack		Hisp	Black
A & E	24.8%	40.8%	33.2%	40.0%	78.4%	6.1%	9.4%
American Movie Classics	3.2%	3.6%	2.5%	3.7%	7.1%	8.9%	7.7%
Animal Planet	17.7%	17.6%	15.9%	17.8%	35.2%	9.8%	10.0%
BET	8.9%	7.5%	41.8%	3.4%	15.2%	11.3%	60.8%
BRAVO	1.2%	1.1%	0.8%	1.2%	2.2%	10.2%	7.5%
Cartoon Network	21.2%	14.6%	23.9%	14.2%	30.5%	13.5%	17.4%
Cinemax	15.1%	11.2%	20.5%	10.4%	23.1%	12.7%	19.7%
CMT (Country Music Television)	6.1%	10.6%	3.9%	10.9%	20.3%	5.9%	4.3%
CNBC	12.7%	20.6%	15.0%	20.4%	39.7%	6.2%	8.4%
CNN	23.8%	36.5%	29.4%	36.0%	70.6%	6.5%	9.2%
Comedy Central	17.2%	18.5%	18.6%	18.4%	36.8%	9.1%	11.2%
Court TV	9.4%	10.9%	20.7%	9.5%	21.5%	8.5%	21.4%
C-SPAN	0.4%	0.9%	1.4%	0.8%	1.8%	4.3%	17.2%
E!	15.3%	15.8%	14.9%	15.9%	31.6%	9.4%	10.4%
Encore	1.3%	0.7%	1.1%	0.7%	1.5%	17.4%	16.2%
ESPN	21.5%	30.7%	26.9%	30.2%	59.7%	7.0%	10.0%
ESPN Classic Sports Network	0.3%	0.4%	0.6%	0.3%	0.7%	9.3%	17.2%
ESPN2	14.2%	19.8%	16.2%	19.7%	38.5%	7.2%	9.3%
Florida News Channel	0.4%	0.4%	0.6%	0.4%	0.9%	9.8%	15.6%
Food Network	9.3%	11.1%	12.1%	10.8%	21.9%	8.3%	12.2%
FOX Family Channel	23.9%	28.7%	31.7%	27.8%	56.4%	8.2%	12.4%
FOX News Channel	11.8%	16.4%	19.2%	15.6%	32.0%	7.1%	13.3%
FOX Sports Espanol	3.2%	0.2%	0.8%	0.5%	1.0%	60.1%	16.9%
FOX Sports Net	9.7%	11.4%	10.4%	11.3%	22.4%	8.4%	10.3%
FOX Sports Ohio	3.2%	0.2%	0.8%	0.5%	1.0%	60.1%	16.9%
FOX Sports World	3.0%	2.6%	3.6%	2.5%	5.2%	11.3%	15.4%
FOX Sports World Espanol	1.8%	0.1%	0.3%	0.2%	0.5%	72.2%	13.8%
FX	7.9%	9.5%	8.9%	9.4%	18.7%	8.1%	10.5%
FXM	0.3%	0.4%	0.5%	0.3%	0.7%	8.1%	16.7%
Galavision	9.9%	0.2%	1.2%	1.1%	2.3%	84.7%	11.7%
GEMS	1.6%	0.1%	0.4%	0.2%	0.5%	64.3%	17.2%
HBO	27.9%	23.6%	39.9%	22.0%	48.0%	11.3%	18.4%
Headline News	11.7%	18.3%	17.3%	17.7%	35.3%	6.4%	10.8%
HGTV	6.8%	12.4%	7.9%	12.4%	23.8%	5.6%	7.4%
Home Shopping Network	5.3%	6.4%	9.1%	5.9%	12.5%	8.2%	16.1%
Home Team Sports (HTS)	0.3%	1.0%	1.7%	0.9%	1.9%	3.2%	18.9%
Lifetime Television	19.7%	25.5%	34.7%	23.7%	49.9%	7.7%	15.4%
MSG (Madison Square Garden Network)	1.4%	1.4%	1.7%	1.4%	2.9%	9.2%	12.8%
MSNBC	7.2%	12.0%	8.2%	11.9%	23.1%	6.1%	7.9%
MTV	21.3%	15.5%	20.7%	15.5%	32.1%	12.9%	14.3%
NECN (New England Cable News)	0.3%	0.6%	0.3%	0.6%	1.1%	5.7%	6.9%
NESN (New England Sports	0.2%	0.5%	0.2%	0.5%	1.0%	5.0%	3.7%

Network)							
Nick at Nite	11.0%	12.5%	16.4%	11.8%	24.7%	8.7%	14.7%
Nickelodeon	17.1%	13.5%	19.8%	13.1%	27.6%	12.0%	15.8%
None	23.6%	18.4%	18.3%	19.0%	37.9%	12.1%	10.7%
Other cable network/service	14.8%	13.1%	14.3%	13.2%	26.6%	10.8%	11.9%
Outdoor Life	0.3%	0.3%	0.2%	0.3%	0.6%	8.3%	8.0%
QVC	3.4%	5.8%	5.8%	5.5%	11.1%	6.0%	11.5%
Sci-Fi	12.5%	13.7%	18.0%	13.1%	27.2%	8.9%	14.6%
Showtime	13.1%	10.3%	21.0%	9.3%	21.2%	12.0%	22.0%
Speedvision	0.1%	0.1%	0.1%	0.1%	0.2%	10.8%	14.8%
SportsChannel Florida	0.8%	0.6%	0.6%	0.6%	1.2%	13.0%	12.4%
STARZ!	1.5%	1.4%	2.2%	1.3%	2.7%	10.5%	17.8%
Sunshine Network	0.8%	0.8%	0.8%	0.8%	1.5%	10.5%	11.7%
TBS	20.1%	27.9%	30.3%	26.8%	54.4%	7.2%	12.3%
The Discovery Channel	36.9%	40.8%	33.6%	41.2%	80.8%	8.9%	9.2%
The Disney Channel	21.4%	18.3%	19.9%	18.4%	37.2%	11.2%	11.9%
The Golf Channel	1.9%	4.1%	2.8%	4.0%	7.7%	4.7%	8.0%
The History Channel	17.9%	26.2%	20.9%	26.0%	50.9%	6.8%	9.1%
The Learning Channel (TLC)	16.6%	19.8%	17.7%	19.7%	39.0%	8.3%	10.1%
The Movie Channel	11.7%	11.0%	18.0%	10.2%	22.1%	10.3%	18.1%
The Weather Channel	24.1%	40.1%	32.6%	39.3%	77.0%	6.1%	9.4%
TNN	10.6%	18.8%	12.6%	18.6%	35.9%	5.7%	7.7%
TNT	24.7%	30.5%	34.9%	29.3%	59.8%	8.0%	12.9%
Travel Channel	6.2%	7.5%	5.8%	7.6%	14.8%	8.2%	8.7%
TV Guide Channel	5.1%	3.4%	4.5%	3.4%	7.0%	14.1%	14.1%
TVLand	4.5%	7.5%	9.5%	7.0%	14.5%	6.1%	14.5%
USA Network	22.8%	28.6%	30.5%	27.8%	56.2%	7.9%	12.0%
VH1	17.1%	14.6%	15.1%	14.9%	29.8%	11.1%	11.2%
WGN	0.8%	0.6%	0.7%	0.6%	1.3%	12.8%	12.8%

Table 5: Black-Targeted Half-Hours on Local and Network Television

	Local Shows with Audience Black % over				Prime Time Shows with Loc. Aud. Black % over			
	50	66	75	90	50	66	75	90
ABC Mean	10.27	5.48	3.55	1.97	0.11	0.02	0.02	0.00
66Max	137	102	64	19	3	1	1	0
CBS Mean	10.44	3.70	2.52	1.29	0.02	0.00	0.00	0.00
66Max	73	25	21	11	1	0	0	0
FOX Mean	27.20	16.41	12.26	7.68	0.62	0.18	0.08	0.00
66Max	200	159	123	64	18	5	4	0
NBC Mean	9.02	4.11	2.79	1.36	0.00	0.00	0.00	0.00
66Max	64	33	23	13	0	0	0	0
PAX Mean	11.34	7.16	5.96	4.04	1.68	0.55	0.38	0.13
56Max	59	47	45	38	17	9	7	2
PBS Mean	14.52	9.36	7.95	6.11	0.18	0.00	0.00	0.00
66Max	82	66	66	45	3	0	0	0
TEL Mean	1.80	1.00	0.80	0.80	0.13	0.13	0.13	0.13
15Max	6	5	4	4	1	1	1	1
UNI Mean	1.78	0.39	0.22	0.22	0.43	0.17	0.00	0.00
23Max	20	5	3	3	6	4	0	0
UPN Mean	43.23	30.91	25.18	16.93	7.38	4.95	3.80	2.13
56Max	149	121	107	80	40	28	18	14
WB Mean	37.88	26.60	22.55	15.43	5.80	3.73	2.78	1.48
60Max	149	138	130	88	24	21	13	9
IND Mean	16.83	10.61	8.39	6.44	1.85	0.8	0.44	0.34
41Max	91	47	34	31	22	7	4	4

Table 6: Hispanic-Targeted Half-Hours on Local and Network Television

	Local Shows with Audience Hisp % over				Prime Time Shows with Loc. Aud. Hisp % over			
	50	66	75	90	50	66	75	90
ABC Mean	1.98	0.67	0.56	0.39	0.03	0.00	0.00	0.00
66Max	36	14	13	10	2	0	0	0
CBS Mean	2.08	0.95	0.71	0.36	0.00	0.00	0.00	0.00
66Max	25	14	10	5	0	0	0	0
FOX Mean	7.92	4.47	3.61	2.26	0.39	0.03	0.00	0.00
66Max	100	60	45	22	17	1	0	0
NBC Mean	2.15	0.86	0.64	0.30	0.03	0.00	0.00	0.00
66Max	37	12	10	4	1	0	0	0
PAX Mean	4.46	2.95	2.38	1.57	0.75	0.34	0.27	0.14
56Max	52	36	32	14	7	5	5	4
PBS Mean	8.21	5.17	4.15	3.20	0.35	0.05	0.03	0.02
66Max	53	41	34	28	8	1	1	1
TEL Mean	111.13	108.67	105.80	91.53	32.60	32.20	31.33	27.20
15Max	214	214	209	174	44	44	44	43
UNI Mean	175.87	172.13	168.91	147.00	41.65	41.26	39.96	32.13
23Max	235	234	234	228	44	44	44	44
UPN Mean	9.86	5.41	4.45	3.07	1.34	0.61	0.43	0.27
56Max	55	38	33	26	13	7	7	7
WB Mean	11.25	7.08	5.92	3.55	1.37	0.50	0.32	0.10
60Max	105	79	65	45	20	9	8	4
IND Mean	9.15	4.68	3.17	2.00	1.12	0.44	0.34	0.22
41Max	67	33	17	16	9	5	5	5

Table 7: Market Size and Channel Availability

	(1)	(2)	(3)	(4)	(5)	(6)
	# Bdcst Channels	# Cable Channels	Total Channels	Log # Total Chnls	Log # Cable Chnls	Log # Total Chnls
Pop '90 (mil)	0.230 (0.053)**	0.379 (0.081)**	0.609 (0.116)**			
Log Pop '90				0.114 (0.019)**	0.024 (0.006)**	0.037 (0.007)**
Constant	8.305 (0.193)**	47.984 (0.296)**	56.288 (0.425)**	0.555 (0.273)*	3.543 (0.080)**	3.522 (0.093)**
Observations	66	66	66	66	66	66
R-squared	0.23	0.25	0.30	0.35	0.23	0.34

Standard errors in parentheses. * significant at 5%; ** significant at 1%

Table 8: Affiliate Presence and Group Size

	(1)	(2)	(3)	(4)
	WB Present	UPN Present	Telemundo Present	Univision Present
Black Pop. (mil.)	-1.312 (2.791)	1.397 (1.961)		
Non-black Pop. (mil)	4.417 (1.780)*	0.571 (0.436)		
Hispanic Pop. (mil)			11.755 (3.214)**	87.033 (32.063)**
Non-Hispanic Pop (mil)			-0.920 (0.515)	-3.248 (1.308)*
Constant	-1.509 (0.991)	0.188 (0.403)	-1.251 (0.479)**	-1.658 (0.759)*
Observations	66	66	66	66

Notes: Probits on whether network's affiliate is present in the market. Standard errors in parentheses.
* significant at 5%; ** significant at 1%.

Table 9: Group-Targeted Programming and Local Group Population

A. Blacks				
	(1)	(2)	(3)	(4)
	Local Black-Targ. Prog.	Local Black- Targ. Prog. on Ubiq. 4	Local Black-Targ. Prog.	Local Black-Targ. Prog. on Ubiq. 4
% Black	464.354 (49.190)**	112.740 (16.137)**	457.015 (52.271)**	118.443 (17.027)**
Black Pop. (mil)			4.480 (10.244)	-3.481 (3.337)
Constant	-7.130 (7.884)	-2.656 (2.586)	-7.489 (7.977)	-2.377 (2.599)
Observations	66	66	66	66
R-squared	0.58	0.43	0.58	0.44
B. Hispanics				
	(1)	(2)	(3)	(4)
	Local Hisp.-Targ. Prog.	Local Hisp.-Targ. Prog. on Ubiq. 4	Local Hisp.-Targ. Prog.	Local Hisp.-Targ. Prog. on Ubiq. 4
% Hisp.	1,148.043 (84.663)**	34.734 (5.222)**	982.285 (91.670)**	45.404 (5.605)**
Hisp. Pop. (mil)			4.709 (1.359)**	-0.303 (0.083)**
Constant	4.590 (10.459)	0.826 (0.645)	5.036 (9.662)	0.797 (0.591)
Observations	66	66	66	66
R-squared	0.74	0.41	0.78	0.51

Notes: Dependent variable is number of non-evening prime time half hours with audiences 90+ percent Hispanic.

“Ubiquitous 4” networks (ABC, NBC, CBS, and Fox) are present in all 66 sample markets. Standard errors in parentheses.

* significant at 5%; ** significant at 1%

Table 10: Do Minority Viewers Value Minority-Targeted Programming?

	(1)	(2)	(3)	(4)	(5)	(6)
	Black OLS	Black IV	Black MSA FE	Hispanic OLS	Hispanic IV	Hispanic MSA FE
Black-Targeted Local Segs	0.016 (0.009)	0.026 (0.009)**				
Hisp.-Targeted Local Segs				0.013 (0.003)**	0.007 (0.004)	
Black Dummy			7.860 (0.305)**			
Hisp. Dummy						1.044 (0.374)**
Black*90% Black Segs			0.023 (0.003)**			
Hisp.*90% Hisp Segs						0.014 (0.001)**
Constant	21.735 (1.192)**	20.909 (1.270)**	15.147 (0.270)**	16.026 (1.351)**	17.347 (1.612)**	15.837 (0.273)**
Observations	19793	19793	178784	17348	17348	178784
R-squared	0.06	0.05	0.10	0.04	0.04	0.09

Notes: Robust standard errors in parentheses (clustered on CMSA in cols 1, 2, 4, and 5). * significant at 5%; ** significant at 1%. Black and Hispanic targeted local segments are those with audiences that are at least 90 percent black or Hispanic, respectively.

Table 11: Direct Evidence of Preference Externalities in Local Television (Blacks)

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
	Local Half Hours Viewed	Local Half Hours Viewed	Prime Time Half Hours Views	Prime Time Half Hours Views	Local Half Hours Viewed	Local Half Hours Viewed	Prime Time Half Hours Views	Prime Time Half Hours Views
	Non-black	Black	Non-black	Black	Non-black	Black	Non-black	Black
Black Pop (mil.)	-0.451 (0.822)	4.548 (1.049)**	0.367 (0.247)	0.948 (0.445)*				
Non-Black Pop (mil.)	0.026 (0.159)	-0.640 (0.178)**	0.064 (0.032)	-0.054 (0.069)				
% Black in CMSA					-1.667 (3.004)	15.599 (5.319)**	-0.147 (1.352)	0.275 (2.006)
R-squared	0.10	0.06	0.05	0.01	0.10	0.06	0.05	0.01
Observations	158991	19793	158991	19793	158991	19793	158991	19793

Notes: Robust standard errors in parentheses (cluster on CMSA). * significant at 5%; ** significant at 1%. All specifications include age and sex dummies.

Table 12: Direct Evidence of Preference Externalities in Local Television (Hispanics & Non-Hispanics)

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
	Local Half Hours Viewed Non-Hisp.	Local Half Hours Viewed Hisp.	Prime Time Half Hours Views Non-Hisp.	Prime Time Half Hours Views Hisp.	Local Half Hours Viewed Non-Hisp.	Local Half Hours Viewed Hisp.	Prime Time Half Hours Views Non-Hisp.	Prime Time Half Hours Views Hisp.
Hispanic Pop (mil)	-0.238 (0.193)	0.021 (0.271)	-0.044 (0.102)	-0.075 (0.076)				
Non-Hispanic Pop (mil.)	-0.040 (0.072)	0.265 (0.119)*	0.134 (0.044)**	0.151 (0.031)**				
% Hispanic in CMSA					-3.337 (3.035)	6.719 (4.256)	4.005 (1.091)**	1.829 (0.989)
Constant	16.192 (0.477)**	18.092 (1.245)**	7.460 (0.200)**	8.043 (0.469)**	16.226 (0.455)**	18.056 (1.388)**	7.509 (0.214)**	8.285 (0.516)**
Observations	161436	17348	161436	17348	161436	17348	161436	17348
R-squared	0.10	0.04	0.05	0.02	0.10	0.03	0.05	0.02

Notes: Robust standard errors in parentheses (cluster on CMSA). * significant at 5%; ** significant at 1%. All specifications include age and sex dummies.

Table 13: Direct Evidence of Preference Externalities, MSA Fixed Effects Estimates

	(1)	(2)	(3)	(4)
	Half Hours Viewed Outside Prime Time	Half Hours Viewed Outside Prime Time	Half Hours Viewed Outside Prime Time	Half Hours Viewed Outside Prime Time
Black Dummy	3.817 (0.805)**	6.429 (0.000)		
Black Dummy* Black Percent	21.936 (2.131)**			
Black Dummy* Black Pop		5.758 (0.538)**		
Black Dummy* Non-Black Pop		-0.787 (0.097)**		
Hispanic Dummy			2.462 (0.742)**	1.902 (0.718)**
Hisp. Dummy * Hisp Pop				0.099 (0.208)
Hisp Dummy * % Hisp			7.018 (1.569)**	
Hisp. Dummy * Non-Hisp Pop				0.372 (0.072)**
Observations	178784	178784	178784	178784
Number of cmsa	66	66	66	66
R-squared	0.10	0.10	0.09	0.09

Notes: All equations include MSA fixed effects, as well as group-specific age and gender dummies. Standard errors in parentheses. * significant at 5%; ** significant at 1%. Population is measure in millions.