# Television Station Ownership Diversity 

Kim Makuch

## OEA Working Paper 54

Office of Economics and Analytics
Federal Communications Commission
Washington, DC 20554
January 2023

These working papers are intended to stimulate discussion and critical comment within the FCC, as well as outside the agency, on issues that may affect communications policy. The analyses and conclusions set forth are those of the authors and do not necessarily reflect the view of the FCC, other Commission staff members, or any Commissioner. Given the preliminary character of some titles, it is advisable to check with the authors before quoting or referencing these working papers in other publications. All titles are available on the FCC website at https://www.fcc.gov/reports-research/working-papers/.


#### Abstract

This study examines the ownership of commercial full-power television stations. It finds that since 2013, there has been a decrease in the number of female-, Asian-, and American Indian/Alaska Native-owned stations and an increase in Black/African-American- and Hispanic/Latino-owned stations. Further, as of 2019, most TV households did not have access to stations identified as majority-owned by women or people of color. Less than $20 \%$ of TV households resided in a market with a female-owned station, just over 5\% of TV households resided in a market with a Black/African-American-owned station, about 7\% of TV households resided in a market with an Asian-owned station, and about $25 \%$ of TV households resided in a market with a Hispanic/Latinoowned station.

The paper also finds that stations owned by women were more likely to be affiliated with the major broadcast networks than stations owned by men. Stations owned by racial minorities and Hispanic/Latino individuals, however, were less likely to be affiliated with the major broadcast networks than stations owned by white individuals and not Hispanic/Latino individuals, respectively. Further, women, racial minorities, and Hispanic/Latino individuals owned major network-affiliated stations in smaller markets compared to men, white individuals, and not Hispanic/Latino individuals, respectively. In addition, stations owned by women, racial minorities, and Hispanic/Latino individuals earned less advertising revenue, on average, compared to stations owned by men, white individuals, and not Hispanic/Latino individuals. However, once network affiliation, market size, and other station characteristics are taken into account, there is no effect of gender, race, or ethnicity on advertising revenue.

Women, racial minorities, and Hispanic/Latino individuals owned smaller station groups, on average, than men, white individuals, and not Hispanic/Latino individuals, respectively. Entities with no majority interest in gender, race, or ethnicity owned by far the largest station groups, on average. Most stations classified as having no majority interest in gender, race, or ethnicity had very little attributable voting share at all, making it impossible to ascribe majority ownership to an individual or group of individuals in any single gender, racial, or ethnic group.


Table of Contents

1. Introduction ..... 1
2. Station Ownership Over Time ..... 3
2.1 Station Ownership in 2019 ..... 3
2.2 Station Ownership Over Time: 2009-2019 ..... 4
3. Station Ownership by Market ..... 6
4. Station Characteristics ..... 7
4.1 Ownership by Network Affiliation ..... 8
4.2 Market Size ..... 13
4.3 Advertising Revenue ..... 15
4.4 Advertising Revenue Regression Analysis ..... 16
5. Station Group Size ..... 22
6. No Majority Interest Stations ..... 24
7. Conclusion ..... 26
Appendix ..... 27

# TV Station Ownership Diversity 

Kim Makuch ${ }^{1}$

## 1. Introduction

This study builds on the Fifth Report on Ownership of Broadcast Stations ${ }^{2}$ by more closely examining the ownership of commercial full-power television stations (hereafter TV stations or stations) in 2019. The Fifth Report found that women and people of color ${ }^{3}$ owned disproportionately fewer TV stations, relative to their shares in the population. In this study, I more closely analyze the ownership data to explore changes in station ownership over time, viewer access to TV stations owned by women and people of color, the characteristics of stations owned by women and people of color, the size of station groups owned by women and people of color, and the ownership of stations that are classified as having no majority ownership interest in gender, race, or ethnicity.

This study relies on ownership information collected by the Federal Communications Commission through its Form 323. Ownership information is collected every two years, in oddnumbered years, as of October 1 of the collection year. Each station reports the gender, race, and ethnicity ${ }^{4}$ of all individuals who hold an attributable ownership interest in it, as defined by the Commission's rules, ${ }^{5}$ and the share of voting interests held by each attributable ownership interest holder. Because not all voting interests are attributable under the Commission's rules, not all voting interests are reported on Form 323. ${ }^{6}$

[^0]The analysis in this paper describes ownership by gender, race, and ethnicity according to voting interests using the concept of majority ownership interest (or majority interest). ${ }^{7}$ A station's majority interest in gender would be female if a woman (or a group of women) held a majority of voting interests. Majority interest in race and ethnicity are determined analogously. For some stations, there is no majority interest in one or more demographic categories. A station may be classified as having no majority interest in gender, race, or ethnicity because it has diverse ownership and, after accounting for all voting interests, no group holds a majority of voting interests. Alternatively, it may be classified this way because only a small share of voting interests are attributable and therefore reported on Form 323. In this case, the station may have a majority interest but it cannot be determined from the information provided on Form $323 .{ }^{8}$ Further, a station may have a majority interest in some demographic categories but not in others. For example, a station in which $60 \%$ of voting shares are attributable and white, not Hispanic/Latino women hold $30 \%$ of voting shares and white, not Hispanic/Latino men hold $30 \%$ of voting share would be classified as having no majority interest in gender but as having majority interests of white and not Hispanic/Latino in race and ethnicity, respectively.

The analysis indicates that since 2013, there has been a decrease in the number of female- , Asian-, and American Indian/Alaska Native-owned stations and an increase in Black/African-American- and Hispanic/Latino-owned stations. Further, as of 2019, most TV households did not have access to stations identified as majority-owned by women or people of color. I find that less than $20 \%$ of TV households resided in a market with a female-owned station, just over 5\% of TV households resided in a market with a Black/African-Americanowned station, about $7 \%$ of TV households resided in a market with an Asian-owned station, and about $25 \%$ of TV households resided in a market with a Hispanic/Latino-owned station. When looking only at TV households that belong to racial and ethnic minority groups, only about $7 \%$ of Black/African-American TV households resided in a market with a Black/African-Americanowned station, and about $16 \%$ of Asian TV households resided in a market with an Asian-owned station. Just under half of all Hispanic/Latino TV households resided in a market with a Hispanic/Latino-owned station.

Examining station characteristics, I find that, although women owned high revenue Big 4 stations ${ }^{9}$ at a higher rate than men, racial minorities and Hispanic/Latino individuals owned Big 4 stations at a lower rate than white individuals and not Hispanic/Latino individuals, respectively. Further, women, racial minorities, and Hispanic/Latino individuals owned Big 4 stations in smaller markets compared to men, white individuals, and not Hispanic/Latino individuals, respectively. Finally, I find that stations owned by women, racial minorities, and Hispanic/Latino individuals earned less advertising revenue, on average, compared to stations owned by men, white individuals, and not Hispanic/Latino individuals. However, once network affiliation, market size, and other station characteristics are taken into account, there is no effect of gender, race, or ethnicity on advertising revenue.

[^1]Turning to station group size, I find that women, racial minorities, and Hispanic/Latino individuals owned smaller station groups, on average, than men, white individuals, and not Hispanic/Latino individuals, respectively. Entities with no majority interest in gender, race, or ethnicity owned by far the largest station groups, on average.

Finally, I look more closely into stations owned by entities with no majority interest in gender, race, or ethnicity. I find that most stations classified in this way had very little attributable voting share at all, making it impossible to ascribe majority ownership to an individual or group of individuals in any single gender, racial, or ethnic group. Many of these stations are owned by widely held, public companies.

The rest of the paper is organized as follows. Section 2 describes station ownership over time. Section 3 reports station ownership at the market-level. Section 4 examines the characteristics of stations owned by different demographic groups. Section 5 studies station group size and Section 6 analyzes ownership of stations classified as having no majority interest in gender, race, or ethnicity. Section 7 concludes.

## 2. Station Ownership Over Time

### 2.1 Station Ownership in 2019

Table 1 reports TV station ownership in 2019 by gender, race, and ethnicity. Relative to their shares of the population, women and people of color owned disproportionately fewer TV stations. Women made up $50 \%$ of the population but owned only about $9 \%$ of stations that had a majority interest in gender. ${ }^{10}$ About $13 \%$ of the population identified as Black/AfricanAmerican but about $2 \%$ of stations with a majority interest in race were Black/African-American-owned. About $6 \%$ of the population identified as Asian but less than $0.5 \%$ of stations with a majority interest in race were Asian-owned. Further, nearly $20 \%$ of the population identified as Hispanic/Latino but only $6 \%$ of stations with a majority interest in ethnicity were Hispanic/Latino-owned. In total, people of color made up $40 \%$ of the population but owned only about $9 \%$ of stations with a majority interest in either race or ethnicity.

[^2]| Table 1: Stations by Majority Interest | \# Stations | Share of <br> All <br> Stations | Share of <br> Stations with <br> a Majority <br> Interest | Share of <br> Population |
| :--- | :---: | :---: | :---: | :---: |
| Gender | 77 | $5.6 \%$ | $9.2 \%$ | $50.8 \%$ |
| Female | 760 | $55.4 \%$ | $90.7 \%$ | $49.2 \%$ |
| Male | 1 | $0.1 \%$ | $0.1 \%$ | - |
| Joint Female/Male | 531 | $38.7 \%$ | - | - |
| No Majority Interest | 4 | $0.3 \%$ | $0.4 \%$ | $5.6 \%$ |
| Race | 18 | $1.3 \%$ | $1.9 \%$ | $12.6 \%$ |
| Asian | 1 | $0.1 \%$ | $0.1 \%$ | $0.2 \%$ |
| Black/African American | 4 | $0.3 \%$ | $0.4 \%$ | $0.8 \%$ |
| Native Hawaiian/Pacific Islander | 1 | $0.1 \%$ | $0.1 \%$ | $5.2 \%$ |
| American Indian/Alaska Native | 924 | $67.4 \%$ | $97.1 \%$ | $70.3 \%$ |
| Two or More Races | 417 | $30.4 \%$ | - | - |
| White | 55 | $4.0 \%$ | $6.0 \%$ | $19.0 \%$ |
| No Majority Interest | 864 | $63.0 \%$ | $94.0 \%$ | $81.0 \%$ |
| Ethnicity | 450 | $32.8 \%$ | - | - |
| Hispanic/Latino | 83 | $6.1 \%$ | $8.6 \%$ | $40.5 \%$ |
| Not Hispanic/Latino |  |  |  | - |
| No Majority Interest |  |  |  |  |
| Racial or Ethnic Minority |  |  |  |  |
| (Person of Color) |  |  |  |  |

Note: Joint female/male is defined as a situation in which the aggregate votes of the female attributable owners and the aggregate votes of the male attributable owners both separately exceed $50 \%$ (e.g., a station where a woman and a man each own $100 \%$ of the station as joint tenants). Sources: 2019 FCC Form 323 Filings, U.S. Census Bureau, 2019 American Community Survey 1-Year Estimates, ACS Demographic and Housing Estimates for United States and Puerto Rico,
https://data.census.gov/cedsci/table?g=0100000US_0400000US72\&tid=ACSDP5Y2020.DP05 (last visited May 24,2022 ). Population shares do not include populations of U.S. Virgin Islands, Guam, American Samoa, or the Northern Mariana Islands. U.S. states, the District of Columbia, and Puerto Rico are included.

### 2.2 Station Ownership Over Time: 2009-2019

Figures 1, 2, and 3 below show the majority interest of TV stations in gender, race, and ethnicity for each filing year from 2009 to 2019. ${ }^{11,12}$ The figures show that the number of stations owned by women and people of color has been very low throughout the period. Excluding 2009 and 2011 due to higher rates of missing data, ownership by women decreased from 87 to 77 stations from 2013 to 2019. Station ownership by racial minorities fell from 41 to 28 stations, and ownership of stations by Hispanic/Latino individuals increased from 42 to 55 stations over this time period. The decrease in station ownership by racial minorities is a

[^3]combination of decreases in Asian- and American Indian/Alaska Native-owned stations and an increase in Black/African-American-owned stations.

Figure 1: Number of Stations by Majority Interest in Gender (2009-2019)


Source: FCC Form 323 Filings. Note: ID/NF stands for insufficient data/not filed.

Figure 2: Number of Stations by Majority Interest in Race (2009-2019)


Source: FCC Form 323 Filings. Note: ID/NF stands for insufficient data/not filed.
Figure 3: Number of Stations by Majority Interest in Ethnicity (2009-2019)


Source: FCC Form 323 Filings. Note: ID/NF stands for insufficient data/not filed.

## 3. Station Ownership by Market

Table 1 reported the number of TV stations nationally by majority interest. An individual viewer, however, only has access to stations in the local market. Table 2 reports the share of TV households that lived in a market with a TV station owned by members of each demographic group. Less than $20 \%$ of TV households resided in a market with a female-owned station while just over 15\% of TV households resided in a market with a station owned by a racial minority. About $25 \%$ of TV households resided in a market with a Hispanic/Latino-owned station. By contrast, male-owned stations, white-owned stations, and not Hispanic/Latino-owned stations were present in nearly every market.

| Table 2: TV Households and Markets by Majority Interest of | Share of TV <br> Households | \# Markets |
| :--- | :---: | :---: |
| Stations in Market |  |  |
| Gender | $18.2 \%$ | 54 |
| Female | $98.3 \%$ | 194 |
| Male | $0.2 \%$ | 1 |
| Joint Female/Male | $95.9 \%$ | 193 |
| No Majority Interest |  |  |
| Race | $7.0 \%$ | 4 |
| Asian | $5.3 \%$ | 15 |
| Black/African American | $0.0 \%$ | 1 |
| Native Hawaiian/Pacific Islander | $1.1 \%$ | 2 |
| American Indian/Alaska Native | $3.0 \%$ | 1 |
| Two or More Races | $16.4 \%$ | 22 |
| Any Racial Minority ${ }^{13}$ | $99.5 \%$ | 203 |
| White | $90.7 \%$ | 175 |
| No Majority Interest |  |  |
| Ethnicity | $26.3 \%$ | 30 |
| Hispanic/Latino | $99.5 \%$ | 204 |
| Not Hispanic/Latino | $92.1 \%$ | 175 |
| No Majority Interest | $41.8 \%$ | 50 |
| Racial or Ethnic Minority (Person of Color) |  | 20 |

Notes: Joint female/male is defined as a situation in which the aggregate votes of the female attributable owners and the aggregate votes of the male attributable owners both separately exceed $50 \%$ (e.g., a station where a woman and a man each own $100 \%$ of the station as joint tenants). Information on TV households for markets in U.S. territories (Puerto Rico, Guam, and U.S. Virgin Islands) is not available. Therefore, markets in U.S. territories are not included in the share of TV households (column 2) but are included in the market count (column 3). Source: 2019 FCC Form 323 Filings and Nielsen Universe Estimates, by DMA, TV Households by Market Section, January 1, 2020.

Further, Table 3 below reports the share of TV households belonging to each group that lived in a market with a station owned by a member of the same racial or ethnic group. Only

[^4]about 7\% of Black/African-American TV households resided in a market with a Black/African-American-owned station. Similarly, about 7\% of Native American TV households resided in a market with an American Indian/Alaska Native-owned station. About $16 \%$ of Asian TV households resided in a market with an Asian-owned station and just under half of all Hispanic/Latino TV households resided in a market with a Hispanic/Latino-owned station. By contrast, nearly all white TV households resided in a market with a white-owned station and nearly all not Hispanic/Latino TV households resided in a market with a not Hispanic/Latinoowned station.

Table 3: Share of Group TV Households with an InMarket Station Owned by a Member of Same Group

| Asian | $16.3 \%$ |
| :--- | ---: |
| Black/African-American | $6.7 \%$ |
| American Indian/Alaska Native | $7.2 \%$ |
| Hispanic/Latino | $49.6 \%$ |
| White | $99.4 \%$ |
| Not Hispanic/Latino | $99.5 \%$ |

Source: 2019 FCC Form 323 Filings and Nielsen Universe
Estimates, by DMA, TV Households by Market Section, January
1, 2020.
The largest market, by Black/African-American population, that had a Black/African-American-owned TV station was Birmingham, Alabama (ranked $21^{\text {st }}$ in Black/African-American population). American Indians/Alaska Natives owned stations in Oklahoma City and Tulsa, ranked $2^{\text {nd }}$ and $6^{\text {th }}$ in Native American population, respectively. Asian individuals owned stations in New York and Honolulu, two of the top four markets by Asian population. Hispanic/Latino individuals owned TV stations in 23 of the top 50 markets by Hispanic/Latino population.

## 4. Station Characteristics

Table 1 above established that women and people of color own disproportionately fewer stations. In this section, I examine the characteristics of stations owned by members of each demographic group. I examine station ownership by network affiliation and market size because these characteristics play a large role in determining the advertising revenue earned by a station. Then, using station-level ad revenue estimates, I estimate the share of advertising revenue earned by stations owned by members of each demographic group. Finally, I conduct a regression analysis to study the factors that influence advertising revenue.

TV households in markets with racial minority ownership is the sum of the categories Asian, Black/AfricanAmerican, Native Hawaiian/Pacific Islander, American Indian/Alaska Native, and two or more races but number of markets with racial minority ownership is not the sum of these categories. This difference occurs because Guam has a station with Asian ownership and a station with Native Hawaiian/Pacific Islander ownership but, because it is a U.S. territory, there is no information about TV households in Guam. Therefore, TV households in Guam are not included in any category but the market counts for Asian and Native Hawaiian/Pacific Islander ownership each include Guam while the total market count for racial minority ownership includes Guam only once.

For the analysis moving forward, I group satellite stations, which simulcast the same programming as a primary station in the same market, with their primary stations. If advertising revenue is estimated separately for a satellite station, that revenue is added to the primary station's revenue. After grouping satellite stations with their primary stations, there are 1,257 stations. This data transformation does not have a significant effect on the demographic composition of station ownership. Table A1 in the Appendix shows station ownership by majority interest using both station definitions.

### 4.1 Ownership by Network Affiliation

Table 4 below divides broadcast stations into seven groups based on programming type and each group's average annual advertising revenue per TV household. The table also shows the share of stations in each group. Each station's network affiliation is the network affiliation aired as its primary stream, ${ }^{14}$ but advertising revenue is calculated as the sum of advertising revenue across all streams. I separate Big 4 stations into stations that air a single Big 4 affiliation and stations that air multiple Big 4 affiliations. ${ }^{15}$ Stations in U.S. territories are not included in average annual advertising revenue per TV household, because I do not have estimates of TV households in these markets, and advertising revenue is often missing for these stations. ${ }^{16}$

[^5]| Table 4: Advertising Revenue and Share of Stations by Network Group |  |  |  |
| :--- | :---: | :---: | :---: |
| Average Annual |  |  |  |
| Group | Networks | Ad Revenue per |  |
|  | Share of |  |  |
|  |  | Television |  |
|  | Household (2019) |  |  |

Stations with multiple
Big 4 network affiliations $\quad$ ABC, CBS, FOX, NBC $\quad \$ 73.44 \quad 4.8 \%$

| Stations with one Big 4 <br> network affiliation | ABC, CBS, FOX, NBC | $\$ 34.40$ | $51.0 \%$ |
| :--- | :--- | :--- | :--- |
|  | Azteca America, Enlace, Estrella <br> TV, LATV, Mega TV, |  |  |
| Spanish language stations <br> Telemundo, UniMas, Univision, <br> and Independent Spanish <br> Language Stations | $\$ 6.74$ | $8.9 \%$ |  |
| Second tier English <br> language general <br> entertainment stations | CW, MyNetworkTV | $\$ 6.59$ | $11.7 \%$ |
| Independent English <br> language stations | No network affiliation | $\$ 5.61$ | $4.8 \%$ |
| Other general <br> entertainment stations | ION Television, MeTV, Heroes <br> and Icons, and other networks | $\$ 3.64$ | $11.8 \%$ |
| Trinity Broadcasting Network, <br> Christian Television Network, | $\$ 0.91$ | $7.1 \%$ |  |
| Daystar Television, other <br> religious networks, and <br> independent religious stations |  |  |  |

Source: BIA Kelsey Media Access Pro, FCC Form 323 Filings, Nielsen Universe Estimates, by DMA, TV Households by Market Section, January 1, 2020.

Stations affiliated with the Big 4 networks made up more than half of stations and earned by far the most advertising revenue. On average, stations with multiple Big 4 network affiliations earned $\$ 73.44$ per TV household annually. Stations with one Big 4 network affiliation earned about half that amount, or $\$ 34.40$ per TV household on average annually. Spanish language stations and second-tier English language general entertainment stations earned similar amounts of advertising revenue ( $\$ 6.74$ and $\$ 6.59$ per TV household annually on average) and each group made up about $10 \%$ of stations. Independent English language stations earned on average $\$ 5.61$ annually in advertising revenue per TV household and made up about

[^6]$5 \%$ of stations. Other general entertainment stations earned $\$ 3.64$ on average annually per TV household and made up about $10 \%$ of stations. Finally, religious stations earned about 90 cents annually per TV household in advertising revenue on average. These stations accounted for about $7 \%$ of stations. ${ }^{18}$

Next, I compare the network affiliations of stations owned by members of different demographic groups. I divide the network groups into four tiers based on advertising revenue: stations with multiple Big 4 affiliations, stations with a single Big 4 affiliation, mid-range revenue stations (Spanish language stations, second tier English language general entertainment stations, and independent English language stations), and low revenue stations (other general entertainment stations and religious stations).

Figure 4 compares the network affiliations of stations owned by women, men, and entities with no majority interest in gender. Nearly $60 \%$ of stations owned by women were Big 4 stations (about $6 \%$ were stations with multiple Big 4 affiliations and about $54 \%$ were stations with a single Big 4 affiliation). The remaining stations owned by women were split fairly evenly between mid-range and low revenue stations. The share of stations owned by men that were Big 4 stations was about $43 \%$ (about $4 \%$ were stations with multiple Big 4 affiliations and about $39 \%$ were stations with a single Big 4 affiliation) and the remaining stations owned by men were nearly evenly split between mid-range and low revenue stations. Entities with no majority interest in gender owned Big 4 stations at the highest rate. Nearly 75\% of stations with no majority interest in gender were Big 4 stations (about $6 \%$ were stations with multiple Big 4 affiliations and about $68 \%$ were stations with a single Big 4 affiliation). Another $21 \%$ of stations owned by entities with no majority interest in gender were mid-range revenue stations and only $6 \%$ of stations owned by this group were low revenue stations.

[^7]Figure 4: Share of Stations by Network Affiliation and Gender


Sources: 2019 FCC Form 323 Filings, BIA Kelsey Media Access Pro.
Next, Figure 5 compares stations owned by racial minorities, white individuals, and entities with no majority interest in race. The share of racial minority-owned stations that were Big 4 stations was less than $40 \%$ ( $4 \%$ were stations with multiple Big 4 affiliations while $33 \%$ were stations with a single Big 4 affiliation). The remaining stations owned by racial minorities were split evenly between mid-range and low revenue stations. The share of white-owned stations that were Big 4 stations was about $50 \%$ ( $4 \%$ were stations with multiple Big 4 affiliations and $44 \%$ were stations with a single Big 4 affiliation). The remaining white-owned stations were split reasonably evenly between mid-range and low revenue stations. The share of stations with no majority interest in race that were Big 4 stations was about $75 \%$ (about $6 \%$ were stations with multiple Big 4 affiliations and about $69 \%$ were stations with a single Big 4 affiliation). About $20 \%$ of stations owned by entities with no majority interest in race were midrange revenue stations and about $5 \%$ of stations owned by this group were low revenue stations.

## Figure 5: Share of Stations by Network Affiliation and Race



Sources: 2019 FCC Form 323 Filings, BIA Kelsey Media Access Pro.
Figure 6 compares stations owned by Hispanic/Latino individuals, not Hispanic/Latino individuals, and entities with no majority interest in ethnicity. About $8 \%$ of Hispanic/Latinoowned stations were Big 4 stations and all Hispanic/Latino-owned Big 4 stations had a single Big 4 affiliation. More than $80 \%$ of Hispanic/Latino-owned stations were mid-range revenue stations and nearly all of those stations were Spanish language stations. About $10 \%$ of Hispanic/Latino-owned stations were low revenue stations. About 50\% of not Hispanic/Latinoowned stations were Big 4 stations (about $5 \%$ were stations with multiple Big 4 affiliations and about $47 \%$ were stations with a single Big 4 affiliation). About $20 \%$ of not Hispanic/Latinoowned stations were mid-range revenue stations and about $30 \%$ were low revenue stations. About $70 \%$ of stations owned by entities with no majority interest in ethnicity were Big 4 stations (about 5\% were stations with multiple Big 4 affiliations and about $64 \%$ were stations with a single Big 4 affiliation). Almost all of the remaining stations owned by this group were mid-range revenue stations and only a small share (less than $3 \%$ ) were low revenue stations.

## Figure 6: Share of Stations by Network Affiliation and Ethnicity



Stations Owned by NMI Entities


Stations Owned by Not Hispanic/ Latino Persons 4.8\%


Stations Owned by Hispanic/Latino Persons


■ Multi Big 4

■ Big 4

- Mid-Range Revenue
- Low Revenue

Sources: 2019 FCC Form 323 Filings, BIA Kelsey Media Access Pro.

### 4.2 Market Size

Stations earn more advertising revenue by reaching a larger audience. Figures 7, 8, and 9 below show the average market size for stations by majority interest and Big 4 affiliation status. ${ }^{19}$ Women, racial minorities, and Hispanic/Latino individuals owned Big 4 stations in smaller markets, on average, than men, white individuals, and not Hispanic/Latino individuals respectively. Non-Big 4 stations owned by women and racial minorities were also in smaller markets, on average, than non-Big 4 stations owned by men and white individuals. Hispanic/Latino individuals owned non-Big 4 stations in larger markets, on average, than nonHispanic/Latino individuals.

[^8]Figure 7: Average Market Size by Gender and Network Affiliation


Sources: 2019 Form 323 Filings, BIA Kelsey Media Access Pro, Nielsen Universe Estimates.

Figure 8: Average Market Size by Race and Network Affiliation


Sources: 2019 Form 323 Filings, BIA Kelsey Media Access Pro, Nielsen Universe Estimates.
Figure 9: Average Market Size by Ethnicity and Network Affiliation


Sources: 2019 Form 323 Filings, BIA Kelsey Media Access Pro, Nielsen Universe Estimates.

### 4.3 Advertising Revenue

Next, I analyze station advertising revenue by majority interest in gender, race, and ethnicity. Figure 10 below shows the share of stations owned by majority interest and the share of advertising revenue earned by majority interest.

## Figure 10:



Share of Ad Revenue by Gender


Share of Ad Revenue by Race


Share of Stations Owned by Ethnicity
Share of Ad Revenue by Ethnicity


Sources: 2019 FCC Form 323 Filings, BIA Kelsey Media Access Pro.
Figure 10 shows that women, racial minorities, and Hispanic/Latino individuals earned a much smaller share of advertising revenue than the share of stations owned by each group. By taking the ratio of share of ad revenue earned and share of stations owned for each group, I conclude that stations owned by women, racial minorities, and Hispanic/Latino individuals, on average, earned less advertising revenue than stations owned by men, white individuals, and nonHispanic/Latino individuals respectively. Stations owned by women, racial minorities, and

Hispanic/Latino individuals also earned less revenue, on average, than stations owned by entities with no majority interest in gender, race, and ethnicity, respectively. ${ }^{20}$

### 4.4 Advertising Revenue Regression Analysis

Next, using regression analysis, I investigate whether differences in advertising revenue between demographic groups can be accounted for by station characteristics. In the analysis, I estimate the following equations:

Gender Equation
$\ln$ (ad revenue)

$$
\begin{aligned}
& =\alpha+\beta_{1} \text { Female }+\beta_{2} \text { NMI-Gender }+\beta_{3} \ln (T V \text { Households }) \\
& +\sum_{j=1}^{6} \gamma_{j} \text { Network Group } j+\beta_{4} \text { Station Age }+\beta_{5} 2019 \text { Election }+\varepsilon
\end{aligned}
$$

Race Equation
$\ln$ (ad revenue)

$$
\begin{aligned}
& =\alpha+\beta_{1} \text { Racial Minority }+\beta_{2} \text { NMI-Race }+\beta_{3} \ln (T V \text { Households }) \\
& +\sum_{j=1}^{6} \gamma_{j} \text { Network Group }{ }_{j}+\beta_{4} \text { Station Age }+\beta_{5} 2019 \text { Election }+\varepsilon
\end{aligned}
$$

Ethnicity Equation

$$
\begin{aligned}
& \ln (\text { ad revenue }) \\
&=\alpha+\beta_{1} \text { Hispanic } / \text { Latino }+\beta_{2} \text { NMI-Ethnicity }+\beta_{3} \ln (\text { TV Households }) \\
&+\sum_{j=1}^{6} \gamma_{j} \text { Network Group }
\end{aligned}+\beta_{4} \text { Station Age }+\beta_{5} 2019 \text { Election }+\varepsilon .
$$

The key variables in the analysis are dummy variables that indicate majority ownership in gender, race, or ethnicity. For example, in the gender regressions, Female equals 1 for stations owned by women and zero otherwise. NMI-Gender equals 1 for stations owned by entities with no majority interest in gender and zero otherwise. Therefore, male-owned stations are the reference group. ${ }^{21}$ If the Female coefficient is positive, advertising revenue is higher for female-

[^9]owned stations compared to male-owned stations holding all other variables constant; a negative Female coefficient means that advertising revenue is lower for female-owned stations compared to male-owned stations, holding all other variables constant. The NMI-Gender coefficient is interpreted in the same way as the Female coefficient.

I include controls for market size (TV households) and network affiliation group ${ }^{22}$ because stations and advertisers negotiate advertising rates based on the expected viewership of the ad. Stations in larger markets and stations with popular network affiliations have higher viewership and therefore are expected to negotiate higher rates. ${ }^{23}$ I also include station age in the regression because a station's history in the market may be related to its popularity. Viewers are likely to be familiar with stations that have been on-air longer and, therefore, these stations may attract more viewers and advertising dollars. Finally, I include a dummy variable to indicate markets with a 2019 election ${ }^{24}$ because political advertising before elections is likely to increase station advertising revenue. ${ }^{25}$

I report three specifications of each regression equation to observe how the estimated effects of the variables of interest change as control variables are added. In the first specification, no control variables are included. In the second specification, controls for market size and network affiliation group are added. In the third specification, controls for market size, network affiliation group, station age, and 2019 elections are included. In the second and third specifications, the network affiliation group controls account for differences in advertising revenue between network groups. Therefore, the effects of interest (effects of gender, race, and ethnicity) are identified by within-network group variation. Further, standard errors are clustered at the owner-level because the variable of interest (gender, race, or ethnicity) takes the same value for all commonly owned stations. ${ }^{26}$

Gender Regression Results. Table 5 shows the gender regression results. The Female coefficient is not statistically significant in any specification and it shrinks in magnitude once I control for market size and network affiliation. This indicates that there is no statistical difference between advertising revenue of stations owned by women and advertising revenue of

[^10]stations owned by men. The NMI-Gender coefficient, which gives the difference in advertising revenue earned by male-owned stations and stations with no majority interest in gender, is positive and statistically significant in the first specification but then shrinks in magnitude while retaining statistical significance when I control for market size and network affiliation. It becomes statistically insignificant when station age and 2019 election are added to the regression. I also compare advertising revenue earned by female-owned stations and stations with no majority interest in gender. ${ }^{27}$ Without any controls, the difference is positive and statistically significant. This means that stations with no majority interest in gender earn more revenue than female-owned stations. When I control for market size and network affiliation, however, the size of the difference shrinks. In the final specification, with all controls added, the difference shrinks further and is not statistically significant. Taking the results together, I cannot conclude that an owner's gender has an effect on advertising revenue independent of the control variables. Once controls are added, I find no statistical difference in advertising revenue between female- and male-owned stations, between male-owned and NMI-Gender stations, or between female-owned and NMI-Gender stations.

The other variables have the expected effect on advertising revenue. In the final specification, a $1 \%$ increase in market size is expected to increase revenue by $0.78 \%$. Further, a one year increase in station age is correlated with a $2.4 \%$ increase in revenue. Finally, stations in markets with elections in 2019 had about $26 \%$ higher advertising revenue than stations in markets with no election in 2019.

[^11]Table 5: Gender Regressions
Dependent Variable: $\ln ($ ad revenue $)$

|  | (1) | (2) | (3) |
| :---: | :---: | :---: | :---: |
| Female | -0.484 | -0.051 | -0.051 |
|  | (0.360) | (0.096) | (0.087) |
| NMI-Gender | 0.749*** | 0.187** | 0.08 |
|  | (0.261) | (0.087) | (0.073) |
| $\ln$ (TVHHs) |  | 0.866*** | $0.778 * * *$ |
|  |  | (0.043) | (0.036) |
| Station Age (Years) |  |  | 0.024*** |
|  |  |  | (0.002) |
| 2019 Election |  |  | 0.233*** |
|  |  |  | (0.077) |
| Constant | 15.205*** | 1.126* | 1.544*** |
|  | (0.225) | (0.577) | (0.477) |
| Controls for Network | No | Yes | Yes |
| Difference | $1.233 * * *$ | 0.238** | 0.131 |
| (NMI-Gender - Female) | $(0.310)$ | (0.115) | (0.102) |
| F-Stat | 10.02*** | 256.06*** | 363.18*** |
| R -squared | 0.067 | 0.751 | 0.795 |
| Observations | 1,189 | 1,184 | 1,184 |

Notes: ${ }^{*},{ }^{* *}$, and ${ }^{* * *}$ indicate statistical significance at the $10 \%, 5 \%$, and $1 \%$ levels. Standard errors clustered by owner group in parentheses.

Race Regression Results. Table 6 shows the race regression results. The Racial Minority coefficient is not statistically significant in any specification. This indicates that there is no statistical difference between advertising revenue of stations owned by racial minorities and advertising revenue of stations owned by white individuals. Further, the NMI-Race coefficient, which gives the difference in advertising revenue earned by white-owned stations and stations with no majority interest in race, is positive and statistically significant in the first specification but then shrinks in magnitude and loses statistical significance when I control for market size and network affiliation. I also compare advertising revenue earned by racial minority-owned stations and stations with no majority interest in race. ${ }^{28}$ Without any controls, the difference is positive and statistically significant. This means that stations with no majority interest in race earn more advertising revenue than racial minority-owned stations. When controls for market size and network affiliation are added, however, the size of the difference shrinks and the difference is no longer statistically significant. Taking the results together, I cannot conclude that an owner's race has an effect on station advertising revenue independent of the control variables. Once controls are added, I find no statistical difference in advertising revenue between racial minorityand white-owned stations, between white-owned and NMI-Race stations, or between racial

[^12]minority-owned and NMI-Race stations. The other variables have the expected effect on advertising revenue and the results are very similar to the results in the gender regressions.

Table 6: Race Regressions
Dependent Variable: $\ln ($ ad revenue $)$

|  | $(1)$ | $(2)$ | $(3)$ |
| :--- | :---: | :---: | :---: |
| Racial Minority | -0.39 | -0.255 | -0.32 |
|  | $(0.353)$ | $(0.224)$ | $(0.211)$ |
| NMI - Race | $0.663^{* * *}$ | 0.117 | 0.025 |
|  | $(0.250)$ | $(0.095)$ | $(0.075)$ |
| ln(TVHHs) |  | $0.868^{* * *}$ | $0.778^{* * *}$ |
|  |  | $(0.041)$ | $(0.035)$ |
| Station Age (Years) |  |  | $0.024^{* * *}$ |
|  |  | $(0.002)$ |  |
| 2019 Election |  |  | $0.232^{* * *}$ |
|  |  |  | $(0.077)$ |
| Constant | $15.279^{* * *}$ | $1.103^{* *}$ | $1.531^{* * *}$ |
| Controls for Network | $(0.198)$ | $(0.554)$ | $(0.457)$ |
| Affiliation | No | Yes | Yes |
| Difference | $1.052^{* * *}$ | 0.372 | 0.345 |
| (NMI-Race - Minority) | $(0.329)$ | $(0.232)$ | $(0.217)$ |
| F-Stat | $6.78^{* * *}$ | $258.19^{* * *}$ | $365.63^{* * *}$ |
| R-squared | 0.042 | 0.749 | 0.795 |
| Observations | 1,189 | 1,184 | 1,184 |

Notes: *, **, and *** indicate statistical significance at the $10 \%, 5 \%$, and $1 \%$ levels. Standard errors clustered by owner group in parentheses.

Ethnicity Regression Results. Table 7 shows the ethnicity regression results. The Hispanic/Latino coefficient is negative and statistically significant in the first specification but shrinks in magnitude and loses statistical significance once controls for market size and network affiliation are added. This finding suggests that there is no statistical difference between advertising revenue of Hispanic/Latino-owned stations and advertising revenue of not Hispanic/Latino-owned stations. ${ }^{29}$ Further, the NMI-Ethnicity coefficient, which gives the difference in ad revenue earned by not Hispanic/Latino-owned stations and stations with no majority interest in ethnicity, is positive and statistically significant in the first specification but then shrinks in magnitude and loses statistical significance when controls for market size and network affiliation are added. I also compare the advertising revenue of Hispanic/Latino-owned

[^13]stations and stations with no majority interest in ethnicity. ${ }^{30}$ Without any controls, the difference is positive and statistically significant. This means that stations with no majority interest in ethnicity earn more revenue than Hispanic/Latino-owned stations. When controls for market size and network affiliation are added, however, the size of the difference shrinks and the difference is no longer statistically significant. Taking the results together, I cannot conclude that an owner's ethnicity has an effect on station advertising revenue independent of the control variables. Once controls are added, I find no statistical difference in ad revenue between Hispanic/Latino- and not Hispanic/Latino-owned stations, between not Hispanic/Latino-owned and NMI-Ethnicity stations, or between Hispanic/Latino-owned and NMI-Ethnicity stations. The other variables have the expected effect on advertising revenue and the results are very similar to the results in the gender and race regressions.

Table 7: Ethnicity Regressions
Dependent Variable: $\ln ($ ad revenue $)$

|  | (1) | (2) | (3) |
| :---: | :---: | :---: | :---: |
| Hispanic/Latino | -0.575** | -0.093 | -0.064 |
|  | (0.284) | (0.287) | (0.235) |
| NMI - Ethnicity | 0.725*** | 0.135 | 0.038 |
|  | (0.251) | (0.090) | (0.066) |
| $\ln$ (TVHHs) |  | 0.865*** | 0.778*** |
|  |  | (0.042) | (0.035) |
| Station Age (Years) |  |  | 0.024*** |
|  |  |  | (0.002) |
| 2019 Election |  |  | 0.227*** |
|  |  |  | (0.076) |
| Constant | 15.252*** | 1.153** | 1.546*** |
|  | (0.213) | (0.558) | (0.460) |
| Controls for Network | No | Yes | Yes |
| Affiliation |  |  | Yes |
| Difference | 1.3*** | 0.228 | 0.102 |
| (NMI-Ethnicity - Hispanic) | (0.229) | (0.302) | (0.251) |
| F-Stat | 16.82*** | 267.86*** | 371.54*** |
| R-squared | 0.058 | 0.749 | 0.795 |
| Observations | 1,189 | 1,184 | 1,184 |

Notes: *, **, and $* * *$ indicate statistical significance at the $10 \%, 5 \%$, and $1 \%$ levels. Standard errors clustered by owner group in parentheses.

The regression results show that differences in advertising revenue between demographic groups are accounted for by the characteristics of the stations owned by each group. For race and ethnicity, once controls for market size and network affiliation are added, there is no evidence of differences in advertising revenue between groups. For gender, once controls for

[^14]market size, network affiliation, station age, and elections are added, there is no evidence of differences in advertising revenue between groups.

## 5. Station Group Size

Often a person or a group of people holds ownership interests in multiple stations. In my analysis, I identify groups of stations with the same ownership, and examine the size of each group and its majority interests in gender, race, and ethnicity. I group stations together if the same attributable interest holders hold the same voting interest in all stations in the group. Ownership structure may differ somewhat between stations in the same station group (e.g., holding companies may be present in the ownership structure of some stations in the group but not others) but, ultimately, the same individuals hold the same percentage of voting shares in all stations in each group. ${ }^{31}$ Further, as in the previous section, I group satellite stations, which simulcast the same programming as a primary station in the same market, with their primary stations.

Figure 13 below shows the distribution of stations by station group size. Stations are concentrated in the largest station groups. About $40 \%$ of stations were part of large station groups ( $51+$ stations). Just over $25 \%$ of stations were part of midsize station groups (11-50 stations). A slightly smaller share of stations was part of small station groups (2-10 stations). Finally, $10.6 \%$ of stations were owned by single station owners.

Figure 13: Distribution of Stations by Station Group Size


Sources: 2019 FCC Form 323 Filings, BIA Kelsey Media Access Pro.
Table 8 below gives the average number of stations per station group for each majority interest category. In addition, the table shows the number of station groups in each group size category by majority interest. It shows that, on average, women owned smaller station groups than men and entities with no majority interest in gender. The largest station group with a female majority interest was Mission Broadcasting with 19 stations. ${ }^{32}$ Racial minorities, on average, owned smaller station groups than white individuals and entities with no majority interest in race. The largest station group with a racial minority majority interest in race was

[^15]Black/African-American-owned Howard Stirk Holdings with five stations. ${ }^{33}$ Hispanic/Latino individuals, on average, owned smaller station groups than not Hispanic/Latino individuals and entities with no majority interest in ethnicity. The largest Hispanic/Latino-owned station group was Entravision Communications Corporation with 22 stations. ${ }^{34}$

The largest station groups were TEGNA with 61 stations, ION Television with 64 stations, Sinclair Broadcast Group with 107 stations, Gray Television with 109 stations, and Nexstar Broadcasting with 144 stations. TEGNA, Gray Television, and Nexstar Broadcasting each had no majority interest in gender, race, and ethnicity. The majority interests of ION Television and Sinclair Broadcast Group were male, white, and not Hispanic/Latino.

[^16]Table 8: Station group size and majority interest

| Majority Interest of Station Group | Average Station Group Size | Number of Station Groups |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  | 1 Station Owned | Small Groups (2-10 stations) | Midsize Groups (11-50 stations) | Large Groups (51+ stations) | Total <br> Station <br> Groups |
| Gender |  |  |  |  |  |  |
| Female | 2.23 | 20 | 10 | 1 | 0 | 31 |
| Male | 4.30 | 91 | 61 | 9 | 2 | 163 |
| Joint Female/Male | 1.00 | 1 | 0 | 0 | 0 | 1 |
| No Majority Interest | 13.14 | 21 | 9 | 4 | 3 | 37 |
| Race |  |  |  |  |  |  |
| Asian | 1.00 | 4 | 0 | 0 | 0 | 4 |
| Black/African American | 2.13 | 3 | 5 | 0 | 0 | 8 |
| Native Hawaiian/Pacific Islander | 1.00 | 1 | 0 | 0 | 0 | 1 |
| American Indian/Alaska Native | 4.00 | 0 | 1 | 0 | 0 | 1 |
| Two or More Races | 1.00 | 1 | 0 | 0 | 0 | 1 |
| White | 4.26 | 116 | 69 | 13 | 2 | 200 |
| No Majority Interest | 22.29 | 8 | 5 | 1 | 3 | 17 |
| Racial Minority | 1.80 | 9 | 6 | 0 | 0 | 15 |
| Ethnicity |  |  |  |  |  |  |
| Hispanic/Latino | 2.72 | 11 | 6 | 1 | 0 | 18 |
| Not Hispanic/Latino | 4.02 | 115 | 71 | 11 | 2 | 199 |
| No Majority Interest | 27.27 | 7 | 3 | 2 | 3 | 15 |
| Racial or Ethnic Minority | 2.30 | 20 | 12 | 1 | 0 | 33 |
| All Station Groups | 5.42 | 133 | 80 | 14 | 5 | 232 |

Source: 2019 FCC Form 323 Filings.

## 6. No Majority Interest Stations

A significant share of stations was classified as having no majority interest in either gender, race, or ethnicity. As Table 1 shows, about $40 \%$ of stations were classified as no majority interest in gender, about $30 \%$ of stations were classified as no majority interest in race, and about $30 \%$ of stations were classified as no majority interest in ethnicity. About $30 \%$ of stations were classified as no majority interest in all three demographic categories.

A station is classified as having no majority interest in gender, race, or ethnicity if, based on voting interests reported on Form 323, there is no gender, racial, or ethnic group whose members hold a majority of voting interests in the station. A station could be classified as having no majority interest if the station has a diverse set of voting interest holders and, after accounting for all voting interests, no group holds a majority of voting interests. Alternatively,
however, it could be classified this way if not all of its voting interests were reported on its Form 323 and no majority interest could be determined from the information provided on Form $323 .{ }^{35}$

If a station's attributable voting interests total less than $50 \%$, the station will automatically be classified as no majority interest in gender, race, and ethnicity as no group could possibly hold more than $50 \%$ of voting interests. Table 9 below shows that stations with less than $50 \%$ of voting interests reported account for the majority of stations classified as having no majority interest in one or more demographic categories. About 75\% of stations classified as having no majority interest in gender had less than $50 \%$ of voting interests reported, about $97 \%$ of stations classified as having no majority interest in race had less than $50 \%$ of voting shares reported, and $90 \%$ of stations classified as having no majority interest in ethnicity had less than $50 \%$ of voting shares reported. Most of these stations are owned by widely held, public companies. These stations may have a majority interest in gender, race, or ethnicity but it cannot be determined using information from Form 323.

Table 9: No Majority Interest Stations

|  |  | Less than 50\% of <br> Voting Interests <br> Reported |  | More than 50\% and <br> Less than 100\% of <br> Voting Interests <br> Reported |  | 100\% of Voting <br> Interests Reported |  |
| :--- | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | NMI <br> Stations | Count <br> NMI <br> Stations |  | Share <br> NMI <br> Stations | Count <br> NMI <br> Stations | Share <br> NMI <br> Stations | Count <br> NMI <br> Stations |
| Gender | 486 | 368 | $75.7 \%$ | 95 | $19.5 \%$ | Share <br> NMI <br> Stations |  |
| Race | 379 | 368 | $97.1 \%$ | 0 | $0.0 \%$ | $4.7 \%$ |  |
| Ethnicity | 409 | 368 | $90.0 \%$ | 41 | $10.0 \%$ | 0 | $0.0 \%$ |

Source: 2019 FCC Form 323 Filings.
Similarly, stations with more than $50 \%$ but less than $100 \%$ of voting shares reported are stations for which no majority interest could be determined based on voting interests reported on Form 323. If a greater share of voting interests were reported, it might be possible to determine a majority interest for these stations.

Table 9 also shows the share of no majority interest stations with $100 \%$ of voting interests reported. After accounting for all voting interests, no group holds a majority interest in these stations. The table shows that very few no majority interest stations fall into this category. About 5\% of stations with no majority interest in gender reported $100 \%$ of voting interests and about $3 \%$ of stations with no majority interest in race reported $100 \%$ of voting interests. No station classified as no majority interest in ethnicity had $100 \%$ of voting interests reported.

In summary, nearly all no majority interest stations reported less than $100 \%$ of voting interests and most reported less than $50 \%$ of voting interests. These stations may have a majority interest in gender, race, or ethnicity but it cannot be determined from the Form 323 filings. Only a small share of stations, about $5 \%$ of stations with no majority interest in gender and about $3 \%$

[^17]of stations with no majority interest in race, did not have a majority interest after accounting for all voting interests.

## 7. Conclusion

The results of this study further illuminate TV station ownership in the United States. From the TV viewer's perspective, stations owned by women and people of color are not widely available. Less than $20 \%$ of TV households resided in a market with a female-owned station, just over 15\% of TV households resided in a market with a station owned by a racial minority, and about $25 \%$ of TV households resided in a market with a Hispanic/Latino-owned station. Further, racial and ethnic minority populations do not have wide access to stations owned by members of the same demographic group. Only about 7\% of Black/African-American TV households resided in a market with a Black/African-American-owned station and about $16 \%$ of Asian TV households resided in a market with an Asian-owned station. Just under half of all Hispanic/Latino TV households resided in a market with a Hispanic/Latino-owned station.

Further, the data show that stations owned by women, racial minorities, and Hispanic/Latino individuals earn less ad revenue than stations owned by men, white individuals, and non-Hispanic/Latino individuals respectively because they are affiliated with less popular networks, are located in smaller markets, or both. In addition, station groups owned by women and people of color are smaller, on average, than other station groups. As a result, they may be at a disadvantage when negotiating retransmission consent contracts with cable and satellite operators. ${ }^{36}$ Finally, the data show that most stations classified as having no majority interest in gender, race, and ethnicity had very little attributable voting share at all, making it impossible to ascribe majority ownership to an individual or group of individuals in any single gender, racial, or ethnic group. These stations are most often owned by widely held, public companies.

[^18]
## Appendix

| Table A1: Stations by Majority Interest, <br> Two Station Definitions | Unique Facility IDs |  | Satellite Stations <br> Grouped with Primary <br> Stations |  |
| :--- | :---: | :---: | :---: | :---: |
|  | \# Stations | Share of <br> Stations | \# Stations | Share of <br> Stations |
| Gender |  |  |  |  |
| Female | 77 | $5.6 \%$ | 69 | $5.5 \%$ |
| Male | 760 | $55.4 \%$ | 701 | $55.7 \%$ |
| Joint Female/Male | 1 | $0.1 \%$ | 1 | $0.1 \%$ |
| No Majority Interest | 531 | $38.7 \%$ | 486 | $38.6 \%$ |
| Race |  |  |  |  |
| Asian | 4 | $0.3 \%$ | 4 | $0.3 \%$ |
| Black/African American | 18 | $1.3 \%$ | 17 | $1.4 \%$ |
| Native Hawaiian/Pacific Islander | 1 | $0.1 \%$ | 1 | $0.1 \%$ |
| American Indian/Alaska Native | 4 | $0.3 \%$ | 4 | $0.3 \%$ |
| Two or More Races | 1 | $0.1 \%$ | 1 | $0.1 \%$ |
| White | 924 | $67.4 \%$ | 851 | $67.6 \%$ |
| No Majority Interest | 417 | $30.4 \%$ | 379 | $30.1 \%$ |
| Ethnicity |  |  |  |  |
| Hispanic/Latino | 55 | $4.0 \%$ | 49 | $3.9 \%$ |
| Not Hispanic/Latino | 864 | $63.0 \%$ | 799 | $63.5 \%$ |
| No Majority Interest | 450 | $32.8 \%$ | 409 | $32.5 \%$ |
| Racial or Ethnic Minority | 83 | $6.1 \%$ | 76 | $6.0 \%$ |

Notes: In columns 1 and 2, stations correspond to unique facility IDs. In columns 3 and 4, satellite stations are grouped together with their primary stations. Joint female/male is defined as a situation in which the aggregate votes of the female attributable owners and the aggregate votes of the male attributable owners both separately exceed $50 \%$ (e.g., a station where a woman and a man each own $100 \%$ of the station as joint tenants). Sources: FCC Form 323 Filings, BIA Kelsey Media Access Pro.


[^0]:    ${ }^{1}$ Economist at the Federal Communications Commission. The analyses and conclusions set forth in this paper are my own and do not necessarily reflect the view of the FCC, other Commission staff members, or any Commissioner. I would like to thank Andrew Wise, Jake Riehm, Brendan Holland, Don Stockdale, Kate Matraves, and Giulia McHenry for helpful comments and suggestions.
    ${ }^{2}$ Fifth Report on Ownership of Broadcast Stations, FCC Form 323 and 323-E Ownership Data as of October 1, 2019 (MB and OEA 2021), https://docs.fcc.gov/public/attachments/DA-21-1101A1.pdf (Fifth Report). The Fifth Report summarized ownership information compiled from forms submitted by the licensees of broadcast stations.
    ${ }^{3}$ The term people of color refers to persons who identify racially as not white and/or ethnically as Hispanic/Latino.
    ${ }^{4}$ Respondents to Form 323 report gender as female or male; currently, no other gender categories are included on Form 323. Respondents report race as American Indian or Alaska Native, Asian, Black or African American, Native Hawaiian or other Pacific Islander, White, or more than one race. Respondents report ethnicity as Hispanic or Latino or not Hispanic or Latino. The race and ethnicity categories are defined by the Office of Management and Budget. Office of Management and Budget, Revisions to the Standards for the Classification of Federal Data on Race and Ethnicity, Notice of Decision, 62 Fed. Reg. 58782, 58789 (Oct. 30, 1997).
    ${ }^{5}$ See the notes to 47 CFR § 73.3555 for the Commission's attribution rules. The attribution rules represent the Commission's best judgment concerning when an interest is sufficient to confer on the owner a potential degree of influence over a licensee that should be cognizable for purposes of applying the Commission's broadcast ownership rules.
    ${ }^{6}$ For further explanation of the Form 323 data collection see Fifth Report at 1-2, 5-6.

[^1]:    ${ }^{7}$ Some attributable interest holders do not hold voting interests and are therefore not taken into account in the analysis in this paper. For example, the Commission's rules define individuals holding particular positions within a broadcast licensee entity as attributable interest holders, even if they do not hold voting interests. See 47 CFR § 73.3555, Note 2g and Fifth Report at 5-6.
    ${ }^{8}$ Section 6 explores ownership of stations classified as no majority interest in gender, race, or ethnicity.
    ${ }^{9} \operatorname{Big} 4$ stations are stations affiliated with the broadcast networks ABC, CBS, FOX, and NBC.

[^2]:    ${ }^{10}$ Since a large share of stations are owned by entities with no majority interest in either gender, race, or ethnicity, I compare the population share for each group to the share of stations owned using only stations with a known majority interest.

[^3]:    ${ }^{11}$ ID/NF stands for insufficient data/not filed. These stations either submitted ownership filings that could not be processed or did not submit ownership filings at all. The share of such stations was very high in 2009 (nearly $15 \%$ of stations), decreased significantly in 2011 to about $3 \%$ of stations, and has been below $1 \%$ of stations since 2013 .
    ${ }^{12}$ Figures for 2009, 2011, 2013, 2015, and 2017 come from earlier reports on broadcast station ownership. Previous reports can be found at https://www.fcc.gov/biennial-forms-323-and-323-e-broadcast-ownership-data-and-reports.

[^4]:    ${ }^{13}$ The category "Any Racial Minority" is not necessarily the sum of all racial minority categories because members of different racial minority groups may own stations in the same market. In that case, the market would be included in each group's total but would be counted only once in the racial minority category. In the present case, share of

[^5]:    ${ }^{14}$ I define primary stream as the highest revenue earning stream.
    ${ }^{15}$ Big 4 stations are stations affiliated with the broadcast networks ABC, CBS, FOX, and NBC.
    ${ }^{16}$ There were 21 TV stations in U.S. territories. Puerto Rico had 15 stations, the U.S. Virgin Islands had 4 stations, and Guam had 2 stations.

[^6]:    ${ }^{17}$ I classify stations affiliated with the CW and MyNetworkTV as second tier English language general entertainment stations because these stations earn significantly less advertising revenue than the Big 4 network stations but more revenue than stations classified as other general entertainment stations. Independent English language stations, while also generally offering general entertainment programming, are grouped separately because these stations are not affiliated with a network or programming service.

[^7]:    ${ }^{18}$ Average annual advertising revenue per TV household is likely overestimated for independent English language stations, other general entertainment stations, and religious stations due to significant missing data. Missing data rates were $16.9 \%, 11.6 \%$, and $23.3 \%$ for each group respectively. BIA Kelsey's (the data source's) business is built around providing analysis of the TV and radio broadcasting markets for broadcaster clients, therefore, it is likely that stations with missing revenue estimates do not earn significant revenue. If advertising revenue were available for these stations, it would likely lower average revenue for these groups. In contrast, less than $1 \%$ of Big 4 stations were missing advertising revenue and Spanish language and second-tier English language stations had missing data rates of $1 \%$ and $4 \%$ of stations, respectively.

[^8]:    ${ }^{19} \operatorname{Big} 4$ stations include stations with multiple Big 4 affiliations and stations with a single Big 4 affiliation.

[^9]:    ${ }^{20}$ Taking the ratio of advertising revenue share to station share for each group gives the order of average revenue per station. In the case of gender, the ratio is largest for entities with no majority interest in gender ( $50.4 / 38.7=1.30$ ), next highest for men ( $47.8 / 55.8=0.86$ ), and smallest for women $(1.8 / 5.5=0.32)$. The order of the ratios implies that average advertising revenue per station is highest for stations owned by entities with no majority interest in gender and lowest for female-owned stations. Similar analysis can be applied for majority interest in race and ethnicity as well. For race, average revenue per station is highest for stations owned by entities with no majority interest in race and lowest for stations owned by racial minorities. For ethnicity, average advertising revenue per station is highest for stations owned by entities with no majority interest in ethnicity and lowest for Hispanic/Latinoowned stations.
    ${ }^{21}$ In the race regressions, Racial Minority equals 1 for stations owned by racial minorities and zero otherwise. NMIRace equals 1 for stations owned by entities with no majority interest in race and zero otherwise. Therefore, whiteowned stations are the reference group in the race regressions. In the ethnicity regressions, Hispanic/Latino equals 1

[^10]:    for stations Hispanic/Latino-owned stations and zero otherwise. NMI-Ethnicity equals 1 for stations owned by entities with no majority interest in ethnicity and zero otherwise. Therefore, not Hispanic/Latino-owned stations are the reference group in the ethnicity regressions.
    ${ }^{22}$ Stations are divided into the seven network affiliation groups shown in Table 4: stations with multiple Big 4 network affiliations, stations with one Big 4 network affiliation, Spanish language stations, second tier English language general entertainment stations, independent English language stations, other general entertainment stations, and religious stations.
    ${ }^{23}$ See Nexstar Media Group 2021 SEC Form 10-K at 12.
    ${ }^{24}$ In 2019, gubernatorial elections took place in Louisiana, Kentucky, and Mississippi. In addition, Pennsylvania's $12^{\text {th }}$ district and North Carolina's $3^{\text {rd }}$ and $9^{\text {th }}$ districts held special elections for seats in the House of Representatives. Stations in all markets in Louisiana, Kentucky, and Mississippi therefore were coded as having a 2019 election. In addition, stations in the Wilkes Barre-Scranton-Hazleton, PA; Greenville-New Bern-Washington, NC; and Charlotte, NC markets were also coded as having a 2019 election. Most voters in the Congressional districts that held elections lived in these markets.
    ${ }^{25}$ Nexstar Media Group reports that advertising revenue is higher in election years, which are usually evennumbered years. See Nexstar Media Group 2021 SEC Form 10-K at 6.
    ${ }^{26}$ If either the sampling or assignment varies systematically with groups in the sample, clustering will in general be justified. Alberto Abadie, Susan Athey, Guido W. Imbens, and Jeffrey M. Wooldridge, Sampling-Based versus Design-Based Uncertainty in Regression Analysis, 88 Econometrica 265 (2020). In this case, majority interest in gender, race, and ethnicity are determined by ownership.

[^11]:    ${ }^{27}$ This comparison is presented in Table 5 on the fourth line from the bottom.

[^12]:    ${ }^{28}$ This comparison is presented in Table 6 on the fourth line from the bottom.

[^13]:    ${ }^{29}$ The network affiliation group controls account for differences in ad revenue between network affiliation groups. Therefore, the coefficients of interest, Hispanic/Latino and NMI-Ethnicity, are identified by variation in these variables within each network group. Since variation in Hispanic/Latino within network groups is somewhat limited (no multiple Big 4 affiliation stations are Hispanic/Latino-owned and no second-tier English language stations are Hispanic/Latino-owned), the loss of significance of the Hispanic/Latino coefficient could be due to a loss of statistical power, rather than the inclusion of the network affiliation group control variables.

[^14]:    ${ }^{30}$ This comparison is presented in Table 7 on the fourth line from the bottom.

[^15]:    ${ }^{31}$ In this definition of a station group, only attributable owners with voting interests, not attributable owners with positional interests, matter.
    ${ }_{32}$ Mission Broadcasting's stations are operated by Nexstar Media Group through time brokerage agreements, shared services agreements, and joint sales agreements. Nexstar Media Group 2019 SEC Form 10-K at F-11.

[^16]:    ${ }^{33}$ Two of the stations in this group were operated by Sinclair Broadcast Group under local marketing agreements, joint sales agreements, or shared services agreements. Sinclair Broadcast Group 2019 SEC Form 10-K at 4-6.
    ${ }^{34}$ Entravision operated eight other stations through marketing and sales agreements. The group also owns Class A and low-power television stations and radio stations. Entravision Communications Corporation 2019 SEC Form 10K at 11-12.

[^17]:    ${ }^{35}$ As mentioned above, some voting share interests are not attributable, and therefore not reported on Form 323. For example, ownership of less than $5 \%$ of the outstanding voting interests of a corporation is not attributable. Particularly where the licensee is a public, widely held entity, it is common for large portions of a licensee's voting interests not to be reported on Form 323. See Fifth Report at 5-6.

[^18]:    ${ }^{36}$ Retransmission consent fees are paid to a broadcast station owner from a cable or satellite television operator for the right to retransmit the station's programming to the operator's subscribers.

