



Short communication

From viewers to voters: Tracing Fox News' impact on American democracy

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ABSTRACT

This paper provides a comprehensive assessment of the effect of Fox News Channel (FNC) on the mass public's political preferences and voting behavior in the United States from 2000 to 2020. We show that FNC has shifted the ideology and partisan identity of Americans rightward. This shift has helped Republican candidates in elections across levels of U.S. government over the past decade. Our estimates suggest that an increase of 0.05 rating points in Fox News viewership, induced by exogenous changes in channel placement, has increased Republican vote shares by at least 0.5 percentage points in recent presidential, Senate, House, and gubernatorial elections. Our findings have broad implications for political behavior, elections, and the political process in the United States.

1. Introduction

Fox News has dominated cable television over the past two decades. It often has the highest ratings of any channel on cable television, with 2–3 million Americans tuning in at prime time and millions more watching at some point during an average week.¹ About 12% of Americans watch Fox News for at least an hour a month (Broockman and Kalla, 2023b). Moreover, it has a substantial conservative slant that has become more pronounced over time (Grosseclose and Milyo, 2005; Budak et al., 2016; Martin and Yurukoglu, 2017). The popularity and partisan messaging on Fox News might shift the political preferences and voting behavior of the American public (Yglesias, 2018).

Several recent papers have provided suggestive evidence that Fox News Channel (FNC) is shifting viewers' policy preferences in a conservative direction (Earle and Hodson, 2022; Hoewe et al., 2020; Broockman and Kalla, 2023a). It is also shifting perceptions about national candidates and even factual knowledge about important policy issues (Broockman and Kalla, 2023a). There is also evidence that Fox News Channel has increased Republican vote share in the 2000, 2004, and 2008 presidential elections (DellaVigna and Kaplan, 2007; Hopkins and Ladd, 2014; Martin and Yurukoglu, 2017).

There has been little work, however, on whether Fox News has influenced the partisanship and ideological preferences of the American public and whether this has implications for down-ballot elections.

Moreover, there is limited evidence on more recent presidential elections. One study finds no effect of the rollout of Fox News on House elections (Clinton and Enamorado, 2014), and another finds an increase in the frequency of effective challenges to Democratic incumbents in the House (without looking at election margins) (Arceneaux et al., 2020).² No previous study has examined the impact of Fox News on elections for a wider set of offices, including the Senate and governors. It is also unclear whether the electoral effect of Fox News grew or diminished over the past decade as American elections became more nationalized.

In this article, we provide a comprehensive examination of the impact of FNC on public opinion and American elections. We use FNC's channel position as an instrumental variable (IV) that exogenously shifts viewership (Martin and Yurukoglu, 2017; Ash et al., 2024; Ash and Galletta, 2023). We show that because channel positions are set locally for arbitrary historical reasons, they are exogenous to other local factors influencing viewership and political behavior.

First, we examine the impact of FNC on the partisanship and ideological preferences of the American public. Previous work provides suggestive evidence that the combination of FNC's large cross-cutting viewership and right-leaning slant shifts viewers' issue attitudes and ideology in a conservative direction (Earle and Hodson, 2022; Hoewe et al., 2020; Markovich et al., 2020; Broockman and Kalla, 2023a).

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E-mail addresses: ashe@ethz.ch (E. Ash), sergio.galletta@gess.ethz.ch (S. Galletta), matteo.pinna@gess.ethz.ch (M. Pinna), warshaw@gwu.edu (C.S. Warshaw).¹ See "Year in Review: Most-Watched Television Networks — Ranking 2020's Winners and Losers," *Variety* (2020), available at <https://variety.com/2020/tv/news/network-ratings-2020-top-channels-fox-news-cnn-msnbc-cbs-1234866801>.² In addition, several previous studies have analyzed the effect of FNC on Congress members' issue positions. These studies have shown that FNC shifted roll call voting patterns to the right (Clinton and Enamorado, 2014; Arceneaux et al., 2016).

Consistent with these studies, we find that FNC has influenced the underlying political preferences of Americans. Using survey data on over half a million Americans' self-reported political attitudes 2000–2020, we find that FNC increases the percentage of surveyed Americans identifying as Republicans. We also find that it pushes Americans' policy ideology to the right.

Next, we examine the effect of FNC on presidential elections over the past two decades. Consistent with prior work, we find that FNC has boosted Republicans' vote shares in presidential elections. A one-standard-deviation decrease in FNC's channel position (shifting viewership upwards by about 0.05 rating points, corresponding to a 10% of the average viewership nationwide) boosted Republican vote share by about .6 percentage points in recent (2020) presidential elections.

Finally, we examine the effect of FNC on down-ballot elections for U.S. House, U.S. Senate, and governors over the past two decades. We find that FNC has helped Republicans at each of these levels of office. A one-standard-deviation decrease in FNC's channel position boosted Republican vote share by about .5 to .75 percentage points in recent Senate races. The effects are slightly larger in House races. In gubernatorial races, the effect comes later but is of similar magnitude in the most recent elections. Overall, the evidence suggests that the effects of FNC increased steadily over time between 2004 and 2016, with some heterogeneity across elections.

Taken together, our findings indicate that Fox News has substantial effects up and down the ballot. It boosts Republican candidates in House, Senate, gubernatorial, and presidential elections. We show that the mechanism for these electoral effects is that FNC has shifted Americans' partisanship and ideological preferences to the right. Our paper reinforces findings from other studies on the influence of partisan media on elections in both the United States (e.g., Martin and Yurukoglu, 2017; Wang, 2021) and Europe (e.g., Barone et al., 2015; Grossman et al., 2022; Foos and Bischof, 2022).

We proceed as follows. First, we discuss our theoretical expectations in Section 2. Then, we discuss our research design and data in Section 3. Next, we discuss our findings, including survey-based evidence on its effects on the political preferences of Americans and the effect of FNC on elections in Section 4. Section 5 provide robustness checks, and Section 6 concludes.

2. Background and theoretical expectations

Fox News, launched in 1996, became widely available on U.S. cable systems by 2004 (Appendix Figure A1). It often leads in cable TV ratings, averaging over 3 million primetime viewers daily in 2020. FNC viewership is also very widespread among Americans. Brookman and Kalla (2023b) shows that approximately 5% of Americans watch over 8 hours/month of Fox News. They also show that many Americans consume 'light' amounts of FNC. For example, over one in eight Americans consume at least 1 h of FNC per month, which is roughly equivalent to 2 min per day, or around 30 separate 30-second TV commercials per week. Using slightly different data, Konitzer et al. (2021) also show that FNC viewership is widespread. They find that 15% of Americans watched FNC for at least 6 min per month in 2019 and 8% of American consumed it for at least 42 min per month. Fox News attracts a varied audience, with only a third being staunch Republicans Brookman and Kalla (2023b). It also draws 10% independents and 25% Democrats, suggesting a sizeable portion of its viewers are open to political persuasion. Moreover, Fox News has a substantial conservative slant that has become more pronounced over time (Groseclose and Milyo, 2005; Budak et al., 2016; Martin and Yurukoglu, 2017). For instance, the bulk of the pundits and elites that are interviewed in FNC are conservative-leaning (Padgett et al., 2019). A recent large-scale field experiment finds that FNC's slanted coverage "leads viewers to learn a biased set of facts" about major policy issues (Brookman and Kalla, 2023a).

Overall, given its broad and varied audience coupled with a conservative tilt, Fox News likely plays a significant role in nudging American

ideological attitudes and voting behaviors toward conservatism. The mass public's attitudes are influenced by the flow of information that they receive (Zaller, 1991). A one-sided flow of information from FNC may push viewers' issue attitudes and ideology in a conservative direction. Studies have found that FNC viewership is correlated with more right-leaning issue attitudes (Hoewe et al., 2020) and leads to a conservative shift in survey respondents' policy preferences and ideology (Earle and Hodson, 2022; Brookman and Kalla, 2023a). Hopkins and Ladd (2014) provide suggestive evidence that FNC shifted the ideological positions of Republican-leaning voters further to the right in the 2000 election. Exposure to FNC also changes fiscal policy views, as expressed in voting on taxation-related ballot referendums (Ash and Galletta, 2023). Moreover, these shifts in attitudes can be persistent (Markovich et al., 2020). A recent field experiment finds that Fox News and other partisan media substantially polarize viewers' issue attitudes (Brookman and Kalla, 2023a). So, overall, previous literature suggests that FNC is shifting Americans' issue preferences in a conservative direction.

The fact that FNC appears to be shifting Americans' issue attitudes indicates that it could also have electoral effects. Indeed, previous studies have found that Fox News Channel increased Republican vote share in the 2000, 2004, and 2008 presidential elections (DellaVigna and Kaplan, 2007; Hopkins and Ladd, 2014; Martin and Yurukoglu, 2017). In particular, the instrumental variables analysis from Martin and Yurukoglu (2017) shows that exogenous increases in Fox News viewership due to the channel position led to a substantial increase in Republican vote share in the 2008 presidential election. As a result, we expect FNC to have also increased Republican vote shares in more recent elections up and down the ticket. But no previous study has examined the impact of Fox News on elections for downballot offices, such as Senate, House, and governors.

It is also unclear from previous work whether the electoral effect of Fox News grew or diminished over the past decade. The growing conservative slant of Fox News (Martin and Yurukoglu, 2017) could have accelerated its effects on the political process. It is also possible that the growing nationalization of elections has led Americans to rely more on national media rather than local factors (Hopkins, 2018). This too could have increased the ability of Fox News to influence elections. On the other hand, it is also possible that polarization has put a ceiling on the possible electoral effects of partisan media such as FNC.

3. Data and empirical strategy

Estimating the causal effects of Fox News on politics is challenging due to the endogeneity of viewing decisions. Places with a pre-existing conservative slant will have a stronger preference to watch FNC, so correlations between political choices and Fox viewership may be confounded. To identify the effect of Fox News on Americans' issue attitudes and voting behavior, we use channel position as an instrument for viewership. This channel position instrument has been used in a variety of studies on Fox News and partisan media, including Martin and Yurukoglu (2017), Li and Martin (2023), Ash and Galletta (2023), Ash et al. (2024), Pinna et al. (2022), and Ash and Poyker (2024). The next section focuses on our data, and the following section discusses the details of our instrumental variable strategy.

3.1. Data

This section briefly describes our data. First, we discuss our data on FNC's channel position and viewership. Next, we discuss the survey data that we use in our analysis. Then, we discuss the election data and demographic information in our analysis.

3.1.1. Channel positions and FNC viewership

We obtain *channel positions* for FNC, MSNBC, and CNN from the Nielsen FOCUS database, which reports channel lineups of all U.S. local broadcast systems, with information about the area served by the system at the zipcode level.³ We aggregate the data at the county level by averaging zipcode-level channel positions with weighting by zipcode population (Ash and Galletta, 2023; Ash et al., 2024). Within a zipcode, as we do not know the dominant provider, the average raw position available among the different service providers is assigned to the network.⁴ To limit the influence of outlier channels, we winsorize the channel position variables at the top and bottom deciles for all years. Throughout the analysis, the channel position is inverted (taking the negative of the position) for presentation purposes and standardized by dividing by its standard deviation to facilitate an understanding of the magnitude of the effects.

Television *viewership* by county of FNC, MSNBC, and CNN is provided by Nielsen under license. The measure is “ratings,” which represents the fraction of TV-owning households in a specific area tuned in for a minimum duration during a program’s airtime. Ratings can be converted into minutes watched by multiplying the ratings point by the number of hours in the period—e.g., 168 h in a week times 1 rating point (1%) equals 1.68 h or 100.8 min per week (Martin and Yurukoglu, 2017).⁵ We standardize the viewership throughout the paper to variance one.

3.1.2. Political attitudes and voting behavior

In order to examine the effect of FNC on political attitudes, we use a variety of large-scale surveys from 2000–2020, including the 2000 and 2004 National Annenberg Election Survey (NAES) and the 2006–2020 Cooperative Congressional Election Study (CCES) surveys. Overall, we have data on the preferences of approximately 661,000 Americans. Our analysis of survey data uses individual-level responses and demographics, matched with our county-level channel position instrument (this allows us to follow the main analysis closely). The individual level demographics include the following controls: *sex*, *race/ethnicity*, *education*, and *age*. We focus on three variables from this survey data: (1) the percentage of respondents that self-identify as Republicans (2) latent left–right ideological positions (“ideal points”) based on their responses to many policy issue questions⁶ (3) symbolic ideology. Results are consistent when including survey weights or when aggregating the survey responses at the county level.

To examine the effect of FNC on elections, we use a comprehensive dataset of county-level election returns from 1996–2020. For presidential, senate, and gubernatorial elections, we used licensed data from CQ’s Voting and Elections Collection. For House elections, we used licensed data from the Atlas of U.S. Elections (Leip, 2016). For other state

offices (i.e., attorney general and treasurer), we used crowd-sourced county-level data from OurCampaigns.com.⁷

The data on local demographics come from the 2010 U.S. Census.

3.2. Empirical strategy

Martin and Yurukoglu (2017) showed that viewers watch lower lineup channels more due to arbitrary positioning. Utilizing this as an exogenous instrument, we investigate Fox News’ influence on political preferences and election results from 1998 to 2020.

We show relevance of the instrument by estimating the first-stage equation

$$\text{FNC Viewership}_{it} = \beta \text{FNC Channel position}_{it} + \lambda_{st} + \gamma \mathbf{X}_i + \eta_{it} \quad (1)$$

where $\text{FNC Viewership}_{it}$ is FNC ratings in county i a time t and λ_{st} are state $\times$ year fixed effects, while $\mathbf{X}_i$ includes other covariates as described below. As done in Martin and Yurukoglu (2017), we report the first stage when pooling the data from election years for which we have viewership data. The specification clusters standard errors by state and year. We find a first-stage F-statistic of 16.44 (Fig. 1). When separate first-stage coefficients are estimated, they are stable across years.⁸

The first stage estimates can be interpreted as follows. A decrease in the channel position (therefore more likely to be accessed when zapping) of one standard deviation, roughly 29 positions, is associated with an increase in viewership of 4% of a standard deviation. This increase corresponds to 0.056 rating points, which is about 10% of the average FNC ratings. In practical terms, this translates to an additional 5.5 min of FNC viewership per week for the average household.⁹

Besides relevance, the other assumption for consistent estimation of Eq. (3) is exogeneity of the instrument.¹⁰ Following (Martin and Yurukoglu, 2017), we report a number of tests in Table 1 to support the assumption that endogenous channel position manipulation is unlikely to have taken place. In particular, we show that counties with high predicted FNC ratings do not have lower channel positions, channel position is not correlated with relevant demographics or vote shares, and it is not tied to pre-FNC 1996 Republican vote shares.¹¹

Ideally, we would provide first-stage and two-stage least-squares (2SLS) results for all years in our analysis. However, there are limitations in estimating and interpreting the 2SLS results. First, we only have data on both the endogenous regressor (FNC ratings) and channel positions for 2005, 2006, 2008, and 2020. Second, the first stage provides evidence that the typical variation induced by the channel positioning is somewhat limited, suggesting that the size of the 2SLS coefficients would be, by construction, unreasonable. For instance, to induce a change in ratings by 0.1, we should have a hypothetical reduction of channel position of 60, around two standard deviations. Finally, the effect on the casual viewers exposed to FNC due to its channel position might be different from the general population’s because causal viewers might be more persuadable than the average voter

³ We use channel positions from 1998 to 2016, with 1996–1997 being assigned the 1998 value and 2017–2020 being assigned the 2016 value. This interpolation should be innocuous since channel positions are persistent over time.

⁴ We provide evidence that our results are robust to using an instrument, built on Martin and Yurukoglu (2017) data, that accounts directly for the ordinal channel position of the dominant provider at the zip code level (see Appendix Figure A14).

⁵ We have data on viewership for 2005, 2006, 2008, and 2020. For 2005–2008, viewership is the average for the year and is at the zipcode level. It is aggregated to the county level by averaging across zipcodes, weighted by the population. For 2020, the data is the average for January and February and is at the county level. Some counties in the 2020 data were split into parts (e.g. North County-A, East County-A), and were aggregated together by simple average.

⁶ These estimates are based on a two-parameter item response theory (IRT) model (Tausanovitch and Warshaw, 2013). See Clinton et al. (2004) and Tausanovitch and Warshaw (2013) for a more detailed background discussion on IRT models. We use updated ideal point estimates from Tausanovitch and Warshaw (2013).

⁷ Thirty-six states elect state treasurers and 43 elect attorneys general.

⁸ The coefficients for the years 2005, 2006, 2008, 2020 are: .047(.016), .038(.017), .034(.012) and .033(.015). Reassuringly, the coefficients are similar across years despite changes in the distribution of channel positions that occurred after 2010, due to the introduction of high-definition TV.

⁹ We acknowledge that the conversion from ratings to minutes might have limitations since it is an average of a highly skewed distribution, where a small number of heavy viewers account for most of the minutes, while most households watch far less, with many watching zero minutes.

¹⁰ The exclusion restriction is not as much of an issue, as channel position number is unlikely to affect voting through other factors besides viewership (Martin and Yurukoglu, 2017).

¹¹ For completeness, we report two-stage least squares estimates in Appendix Table A4 and we obtain qualitatively similar results. Appendix Table A5 reports ordinary least squares (OLS) estimates.

(a) First stage coefficient

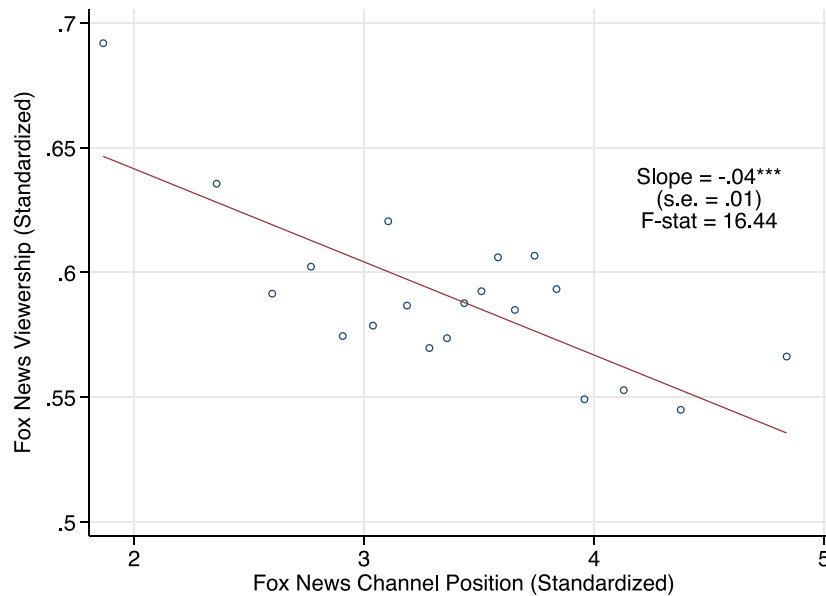


Fig. 1. Instrument relevance.

Notes: Binned scatterplot of first stage (Equation (1)) regressing FNC viewership on FNC channel position at the county level. We pool data from the election years for which we have viewership data. The specification clusters standard errors by state and year.

(see de Benedictis-Kessner et al. (2019) for a discussion of large effects of partisan media on people that are “inadvertently exposed to it”). So we are cautious about extrapolating from the reduced form results among people influenced by FNC’s channel position to potential effects among all voters.

Therefore, our main analysis focuses on the reduced form, where the outcomes (e.g., vote shares) are regressed directly on the instrument (FNC channel position).¹² First stage coefficients are similar across years despite changes in the distribution of channel positions (see Footnote 8.), suggesting that results are driven solely by changes in the Fox effect. To make the reduced-form more interpretable, the channel positions are standardized by dividing the original variable by its standard deviation. We use the data on ratings to test for instrument relevance and to validate the conditional exogeneity of the instrument.

When using as a dependent variable either Self-Reported Partisanship or Policy Ideology or Self-Reported Symbolic Ideology, we run a series of cross-sectional regressions at the individual level separately for each year of the surveys. When using voting outcomes, we estimate a series of cross-sectional regressions with county-level data, run separately for each of the four election types (president, House, Senate, governor) and for each election year (an approach equivalent to panel regressions with state-year fixed effects and by-year interactions). For the survey data, we have almost all years from 2000 to 2020, and we divide them as follows: 2000, 2004, 2006–2008, 2009–2012, 2013–2016, and 2017–2020. For presidential elections, we have a set of six elections taking place every four years, 2000–2020. For House and Senate elections, there are 12 election cycles between 1998–2020. Gubernatorial elections are fewer and more irregular, so we pool elections over four-year periods (1999–2002, 2003–2006, 2007–2010, 2011–2014, and 2015–2018).¹³

¹² We have data on channel position covering almost all this period: 1998–2016. Channels do not change much over time within county.

¹³ Due to minor changes in the availability of voting and rating data over time, the sample of counties is slightly different across years and election types. The results are consistent when limited to the subset of counties for which all data are available.

Our main empirical analysis of political attitudes comprises 18 reduced-form regressions. For each survey question and year, we estimate

$$\text{Political Attitudes}_{ji} = \alpha \text{FNC Channel position}_i + \lambda_s + \gamma \mathbf{X}_{ji} + \varepsilon_{ji} \quad (2)$$

where Political Attitudes_{ji} is the main outcome (i.e., either self-reported partisanship or policy ideology or self-reported symbolic ideology), for an individual j living in county i . FNC Channel position_i is our instrument, giving FNC channel position in the system lineup in county i in the associated election year. λ_s includes state fixed effects, while $\mathbf{X}_{ji}$ include both individual-level and county level covariates. The individual level demographics include the following controls: sex, race/ethnicity, education, and age. Time-varying controls include the share of the population with access to Fox News.¹⁴

The election results comprise 36 reduced-form regressions. For each election type and election year, we estimate

$$\text{Rep Vote Share}_i = \alpha \text{FNC Channel position}_i + \lambda_s + \gamma \mathbf{X}_i + \varepsilon_i \quad (3)$$

where Rep Vote Share_i is the main outcome, vote share for Republican Party in county i . FNC Channel position_i is our instrument, giving FNC channel position in the system lineup in county i in the associated election year. λ_s includes state fixed effects, while $\mathbf{X}_i$ includes county-level covariates. In this case, the set of time-invariant covariates includes Republican presidential vote share in 1996 (prior to the advent of Fox News) and population shares across a number of socio-demographic categories and characteristics of the county: gender, race/ethnicity groups (Black, White, Hispanic, Asian-American), land area, population density, those living in urban/rural areas, those with a college degree, working-age share of population, and proportion eligible for food

¹⁴ Filling in the missing viewership data was done as follows. For ratings before 2005, we use 2005 ratings. For the years 2005 to 2008 and 2020, we use the respective years’ ratings. For the years 2009–2019, we use an interpolation of 2008 and 2020 ratings. Results are robust to variations of this assignment: e.g. using a specific year of ratings for all years, using different averages of available years, or using the closest available year of ratings.

Table 1
Instrument Placebo tests.

	Predicted ratings	Predicted voting (Presidential)	Predicted voting (House)	1996 Rep. Votes
FNC position	−0.003 (0.003)	−0.14 (0.270)	0.02 (0.350)	−0.09 (0.070)
Observations	11,108	9,032	11,648	2183
R^2	0.48	0.37	0.34	0.002

Notes: Ratings used are 2005, 2006, 2008, and 2020, at the county level and standardized by standard deviation, we use 2005 ratings in place of 2004 ratings. Because of lack of data availability for the ratings, we run the IV checks on the subset of elections for which years of ratings are available: 2004, 2008, and 2020, for Presidential Elections and 2004, 2006, 2008, and 2020, for House Elections. For each year of elections, we use the corresponding year's channel position, except for 2020 (2016 positions). Channel positions are standardized by their standard deviation. All regressions control for the share of county population living in zipcodes with access to the network and with state-year fixed effects. Robust standard errors clustered at the state level are in parentheses: $^+ p < 0.10$, $^* p < 0.05$, $^{**} p < 0.01$, $^{***} p < 0.001$.

stamps. Time-varying controls include the share of population with access to Fox News. Observations are weighted by county population.

For all estimates, the coefficient of interest is α , which is estimated separately for each election type/survey and year. For inference and confidence intervals, standard errors are clustered by state.¹⁵

3.3. Identification checks

Previous work has found strong evidence for the exogeneity of the channel position instrument (Martin and Yurukoglu, 2017; Li and Martin, 2023).¹⁶ Here, we provide additional evidence for the exogeneity of the instrument through a series of placebo tests, as shown in Table 1. Through these tests, we want to exclude the possibility that there is a potential endogenous manipulation of the channel numbering applied by cable system providers such that FNC channel position is systematically correlated with demographic characteristics that could predict either viewership or voting behavior.

First, we run a linear model that predicts FNC ratings based on counties' socio-demographic characteristics. We then look at whether these predicted ratings are correlated with FNC channel position. As shown in column (1) of Table 1, we find no evidence of a correlation between channel position and demographic characteristics that would otherwise predict higher ratings. Following this, we carry out a similar analysis but instead focus on demographic characteristics that are associated with electoral outcomes. The results, presented in columns (2) and (3), show that channel position is not correlated with vote-share-relevant demographics. Finally, column (4) shows that the earliest available Fox News Channel position (1998) is not correlated with Republican vote share in 1996 presidential elections (before the introduction of FNC).¹⁷ Overall, these estimates provide support for the exogeneity of the channel position instrument.

4. Results

This section presents our results on the impact of FNC on political attitudes and elections. First, we look at self-reported political attitudes. Next, we show the results for presidential elections from 2000–2020. Finally, we proceed to down-ballot elections, showing results for House,

Senate, and gubernatorial elections. The estimates are reported as coefficient plots from the reduced-form model (3), plotted by year with 95% confidence intervals.¹⁸

4.1. Effect of FNC on political attitudes

In this section, we examine whether FNC is shifting the political preferences of Americans using individual-level survey data on the preferences of approximately 661,000 Americans between 2000–2020 from the National Annenberg Election Survey (NAES) and the Cooperative Congressional Election Study (CCES). We assign to each individual the average channel position of their locality, following otherwise the specification of the main regressions.¹⁹ First, we examine the effect of FNC on whether respondents self-identify as Republicans. Second, we examine the effect of FNC on Americans' left–right policy ideology (“ideal points”) based on their responses to dozens of policy issue questions (Tausanovitch and Warshaw, 2013).²⁰

Fig. 2 displays results indicating that from 2006–2008 onwards, a lower Fox News Channel (FNC) position correlates with an increase in self-identified Republican viewers, significant at the 10% level initially and 5% in recent years. A one-standard-deviation drop in FNC's channel position corresponds to a roughly one-percentage point rise in Republican self-identification. The middle panel shows the effect of FNC on the ideological preferences of the American public. A one-standard-deviation decrease in FNC's channel leads the average American's ideological position to shift .03–.04 standard deviations to the right in recent years.²¹

The bottom panel shows similar results using an additional survey-based outcome: symbolic (5-point) ideology. These results suggest that Fox News increased both Republican party affiliation and conservative policy views. This evidence complements the finding in Ash and Galletta (2023) that Fox News exposure changes fiscal policy views, as expressed in voting on taxation-related ballot referendums.

4.2. Effect of FNC on elections

4.2.1. Presidential elections

Next, in our analysis of presidential elections from 2000–2020 (Fig. 3), we found that counties with higher Fox News Channel (FNC)

¹⁵ Similar standard error estimates are obtained with clustering by media market area or without clustering. Results are also similar when not including sample weights (see Figure A8).

¹⁶ A particularly compelling placebo check in Martin and Yurukoglu (2017, p. 2581–2582) is their demonstration that FNC channel positions are not correlated with ratings among subscribers to satellite TV services.

¹⁷ In Appendix A, we report full regressions for the relationship between demographics and viewership, as well as demographics and voting. These regressions are reported in Appendix Table A1. We additionally find similar results including controls for 1992 electoral results.

¹⁸ The results here are presented graphically. Table A3 in Appendix B shows a table with all the results.

¹⁹ We use individual-level demographics without weighting by population.

²⁰ These are based on a two-parameter IRT model that estimates respondents' ideal points using their policy responses on these surveys (Tausanovitch and Warshaw, 2013). These ideal points are standardized to mean zero and variance one. Alternative survey measures also deliver similar results.

²¹ Results are similar when using survey weights in the regressions.

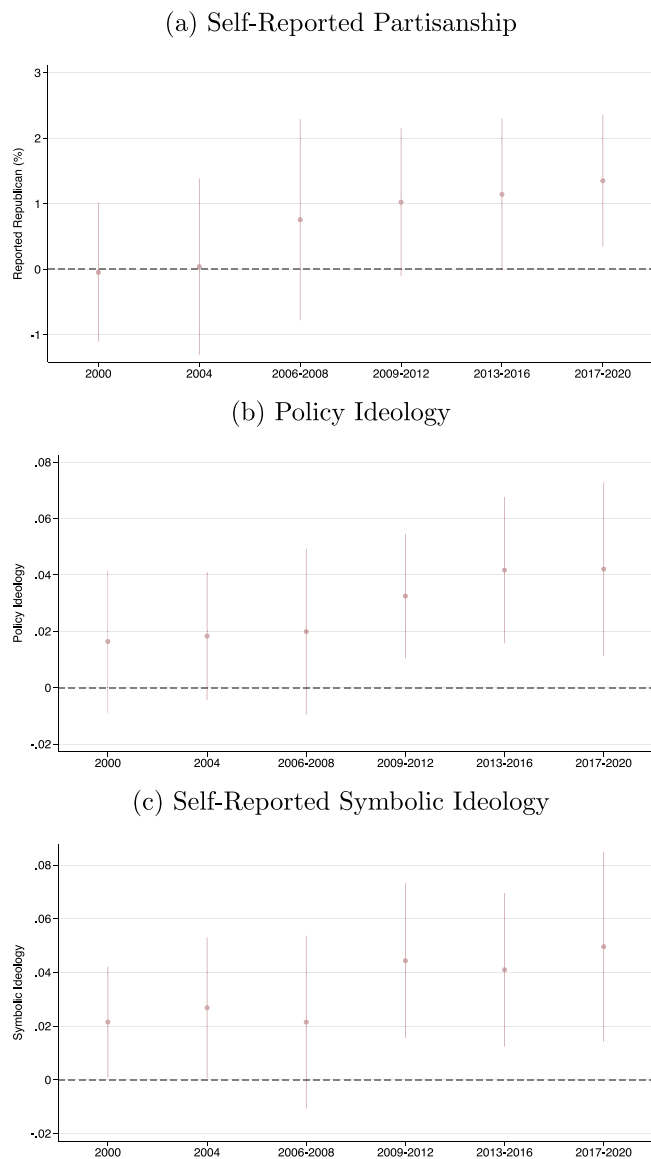


Fig. 2. Reduced form effect of Fox News on Political and Ideological Preferences. *Notes:* Reduced Form (RF) regression results (Equation (3)) for the effect of FNC on Americans' partisanship and ideology at the individual level. For each year of elections we use the corresponding year's channel position, except for 2017–2020 (2016 positions). When possible, we aggregate by election cycle.

exposure due to channel positioning increasingly voted for Republican candidates, aligning with findings from DellaVigna and Kaplan (2007) and Martin and Yurukoglu (2017). Initially, in the 2000 and 2004 elections, FNC's impact was minimal, likely due to its growing viewership. By 2008, a one-standard-deviation decrease in FNC's channel position correlated with a 0.32 increase in the Republican vote share, echoing Martin and Yurukoglu (2017), though not statistically significant.²²

Our analysis further builds on previous work by estimating the FNC effects on 2012, 2016, and 2020 elections. We find that those effects have gotten larger over time. Counties with a one-standard-deviation

lower Fox News' channel position reported a greater Republicans presidential two-party vote share of about .5% in 2012 and about .6% in 2016 and 2020.

Our findings indicate that partisan cable news, notably Fox News, significantly impacted the last four U.S. presidential elections. For instance, in 2016 and 2020, the electoral college tipping point states, Pennsylvania and Wisconsin, were won by margins of only 0.7% and 0.6%, respectively. Fox News's influence on vote shares could have been a decisive factor in these close results.

4.2.2. Down-ballot elections

The next question is whether FNC affected down-ballot races. Fig. 4 reports equivalent coefficient plots for the House (panel a), Senate (panel b), and Governor (panel c). For House and Senate races, we report results by election cycle. For gubernatorial races, we pool across four-year periods.

Overall, the effects of FNC in down-ballot elections are qualitatively similar to, though less precise than, those in presidential elections. In House elections, we see a positive (Pro-Republican) coefficient on FNC for Republicans' two-party vote share in 2012, and it becomes statistically significant starting 2018. Since around 2012, counties with one-standard-deviation lower FNC's channel position have about .6 to 1.6 percentage point greater shares in Republican vote.

In Senate elections, we find a positive coefficient starting in 2006, which becomes statistically significant starting in 2014.²³ Since then, there have been relatively consistent year-to-year effects of around .6 to .73 percentage points. In other words, a one standard deviation shift in FNC's channel position increases Republican Senate candidates' vote share by over half a percentage point.

In gubernatorial races, FNC had a small and statistically insignificant effect until the latter half of the 2010s. In recent elections, however, the effect of FNC in gubernatorial races is similar to Senate races — with a Republican vote share about .5 percentage points higher.²⁴

Fox News, despite the national focus of its content, has impacted sub-national races, including Senate, House, and gubernatorial elections. This trend reflects a growing nationalization of politics where voter choices are increasingly driven by partisanship and ideology, rather than state-specific issues (Hopkins, 2018).

5. Robustness checks

In Appendix D, we examine the robustness of our results. First, we re-run all the analyses for the main elections outcomes using a Two Stages Least Squares Estimation (Table A4) using the channel position as an instrument for viewership. As expected, the coefficients have similar signs as our main results from the reduced form models but are larger in magnitude. We then run an OLS regression of viewership's association with the outcomes (Table A5), and find a positive correlation between higher Fox News ratings and voting Republican.

Next, we perform a number of placebo tests. First, the estimates for the first year of activity of Fox News (1996) are not significant (Figure A3). We show this as well in Table 1, column 4. Second, controlling for presidential elections results for 1988, 1992, 1996 or any combination of these, does not affect our results (Figure A4).

We also run checks looking at the sensitivity of estimates to the presence of specific sets of controls. In Figure A5 and A6, we replicate our

²³ It is significant at the 10% level in 2014 and at the 5% level in 2016, 2018, and 2020.

²⁴ There is a similar, slightly stronger, effect in the 2019–2020 governor elections, which are omitted because of low sample size. In Appendix C, we examine additional down-ballot statewide races, such as Attorney General elections. We have less data on these races, and the estimates are noisy across years. FNC seems to affect Attorney General and Treasurer races, though not Secretary of State races.

²² The equivalent estimate from Martin and Yurukoglu (2017) would be $\hat{\alpha}_e \approx .3$. Their estimate is statistically significant, likely because they use zipcode-level data. Further, the Martin and Yurukoglu (2017) appendix shows similar results to ours using partial data from the 2004 and 2012 elections.

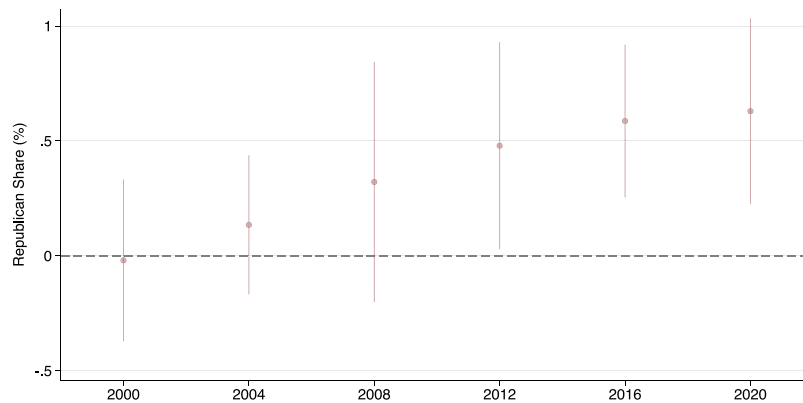


Fig. 3. Reduced form effect of Fox News on US Presidential elections.

Notes: Reduced Form (RF) regression results (Equation (3)) for the effect of FNC on election outcomes at the county level. For each year of elections, we use the corresponding year's channel position, except for 2020 (2016 positions). Channel positions are inverted and standardized by their standard deviation.

main results by running a set of reduced-form regressions, each time excluding a different set of socio-demographic and political controls: age controls, race controls, urban–rural density controls, education controls, occupation controls. The results are robust. In Figure A7 we see how our extensive set of controls helps us to pin down the magnitude of the positive effect of Fox News. Results are also robust to dropping sample weights (Figure A8), including a control for the total number of networks in the lineup (Figure A15) and to not winsorizing the IV (Figure A17). We also check how the small variations in channel position overtime affect estimates by running our main specification on an early FNC channel position (Figure A16). Next, we replicate our analysis by generating the instrumental variable using the same data as Martin and Yurukoglu (2017). This approach has the added benefit of accounting for the dominant provider at the sub-zipcode level while incorporating the ordinal positioning of the channel, with the caveat that it is time-invariant (Figure A14). Finally, we conduct a perturbation test regressing our extended specification 49 times, each time dropping the data for one state (Figure A9 and Figure A10), confirming that results are not driven by any specific outlier state.

In Figure A11, we explore heterogeneity by pre-treatment partisanship or early survey-reported measures of partisanship and ideology. We find a slightly greater magnitude of effects for democratic/liberal counties, though the difference between samples is not statistically significant. In Figure A12 we find a weak and inconsistent relationship between FNC's channel position and the difference between House and Presidential voting, showing no strong evidence of FNC itself contributing to the nationalization of elections. We then focus our attention on the effect of CNN and MSNBC. These networks show no statistically significant effect in the reduced form estimates and results are stable when controlling for the relative position of CNN and MSNBC with respect to FNC, accounting for clustering of networks in the lineup (Figure A13). We note that the first stage estimation for those channels is weaker. Summary statistics are in Table A6.

6. Conclusion

This paper has provided the most comprehensive, holistic evaluation to-date of Fox New Channel's impacts on the American political system. We have shown that FNC has had a large and growing impact on American politics over the past two decades. It has shifted the political preferences of Americans — increasing the share of Republicans in each county and pushing their ideological preferences to the right.

These shifts in Americans' political preferences have had large impacts in elections. FNC has boosted Republican candidates across levels of U.S. government, especially in the most recent elections. A one-standard-deviation decrease in FNC's channel position increased

Republicans' vote shares by between .5 and 1.5 percentage points in recent presidential, Senate, House and gubernatorial elections.

The effect sizes are substantively quite large. Indeed, the effect of just a one-standard-deviation shift in FNC's channel position (roughly 29 positions), which induces about 22 min of additional viewership per month, is larger than the effect of a one-standard-deviation change in local real wages (de Benedictis-Kessner and Warshaw, 2020) or in exposure to broadcast television political advertising (Sides et al., 2022).²⁵ Given the estimated effect sizes on presidential elections, for example, Fox News could have easily tipped the scales for Donald Trump in 2016.

This paper contributes to a growing literature on partisan media effects in American politics (e.g., Martin and Yurukoglu, 2017; Martin and McCrain, 2019; Levendusky, 2022) and around the world (e.g., Barone et al., 2015; Grossman et al., 2022). Partisan media can have substantial effects on elections up and down the ballot. In addition, many of the previous results on Fox News could be explained in part by its effect on party affiliation and ideology (Ash and Galletta, 2023). The evidence provides support for the view that FNC is skewing American Politics, contributing to a Republican advantage in elections and policymaking.

Given the importance of Fox News in American elections, there is still room for a variety of additional research on it. For instance, future work could examine FNC's effects in local elections, as well as on local policy outcomes (Ash and Galletta, 2023; Ash and Poyker, 2024). It would also be useful to examine heterogeneity in FNC's effects on different types of voters. For instance, does FNC primarily influence Republican-leaning voters (Hopkins and Ladd, 2014)? Or perhaps FNC mainly influences older voters?

Declaration of competing interest

All authors declare no conflict of interest.

Appendix A. Supplementary data

Supplementary material related to this article can be found online at <https://doi.org/10.1016/j.jpubeco.2024.105256>.

Data availability

The data that has been used is confidential.

²⁵ However, it is important to note that advertising has 2–3 times larger effects per minute of marginal viewership than FNC.

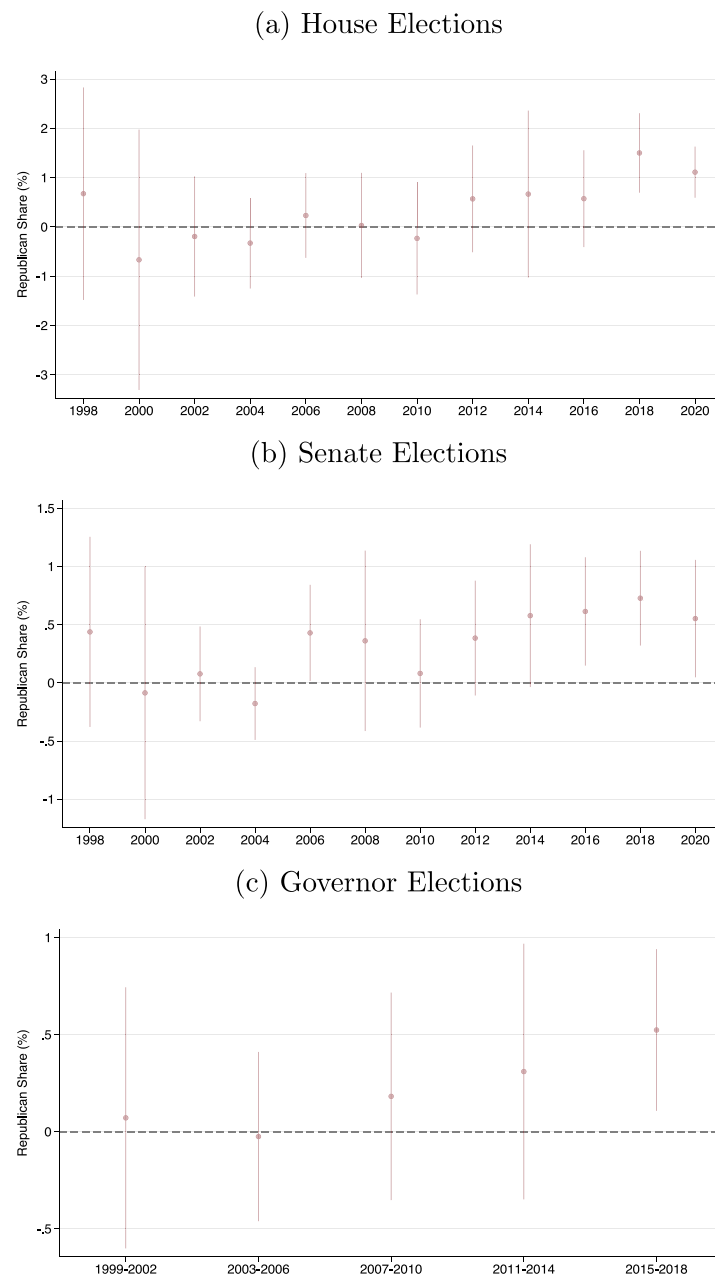


Fig. 4. Reduced Form effect of Fox News on Down-Ballot Elections.

Notes: Reduced Form (RF) regression results (Equation (3)) for the effect of FNC on elections outcomes at the county level. For each year of elections we use the corresponding year's channel position, except for 2018–2020 (2016 positions).

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Supplementary Information for “The Effect of Fox News on United States Elections”

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A Instrument validity

A.1 Instrument placebo tests

In this section, we report for completeness the results from the regressions of how demographics predict viewership and voting in Table A1. We use these predictions in the next steps of the instrument checks, reported in the main text.¹

Table A1: First Step Predictions for Instrument Placebo Tests in Main Text

	Ratings	Voting (Presidential)	Voting (House)	Ratings	Voting (Presidential)	Voting (House)
Area	0.000* (0.000)	0.002* (0.000)	0.002+ (0.001)	0.000* (0.000)	0.002 (.)	0.001 (0.001)
% Male	1.995 (1.286)	212.177* (42.357)	269.662* (63.753)	1.390 (1.282)	87.741 (.)	95.243* (23.919)
Age imbalance	-0.294+ (0.115)	-24.380* (5.505)	-28.090* (7.475)	-0.217 (0.125)	-9.040 (.)	-6.847+ (2.425)
% Food stamps	-0.132 (0.320)	-53.610+ (15.221)	-62.576 (29.579)	0.076 (0.314)	-1.608 (.)	13.035 (12.020)
Population density	0.000+ (0.000)	0.001 (0.000)	0.001+ (0.000)	0.000 (0.000)	0.000 (.)	0.001* (0.000)
% Black	-0.613* (0.167)	-38.856+ (11.544)	-33.622 (18.725)	-0.437* (0.130)	-16.583 (.)	-9.562 (9.631)
% White	0.100 (0.170)	18.795 (14.664)	23.683 (19.890)	0.180 (0.144)	18.346 (.)	13.936 (5.923)
% College	0.120 (0.128)	-36.825 (14.243)	-15.331 (13.925)	0.103 (0.131)	-42.168 (.)	-23.784 (11.217)
% Hispanic	-0.716** (0.121)	-31.676+ (9.894)	-32.106 (16.573)	-0.586* (0.117)	-18.329 (.)	-20.325 (9.613)
% Asian	-0.802+ (0.287)	-13.341 (22.197)	-47.767 (25.862)	-0.600 (0.260)	20.488 (.)	-5.826 (11.035)
% Urban	-0.045 (0.044)	-0.077 (1.362)	0.508 (1.770)	-0.052 (0.044)	-1.584 (.)	-1.651 (1.112)
% Rural	-0.085 (0.097)	-2.343 (2.693)	-4.256 (3.584)	-0.068 (0.097)	0.024 (.)	-1.579 (2.298)
Pres. Elec. 1996				0.003+ (0.001)	0.705 (0.131)	1.049* (0.184)
Constant	0.295 (0.500)	0.297 (20.279)	-29.303 (32.482)	0.202 (0.473)	-7.970 (.)	-34.485* (8.365)
Fixed Effects	state-year	state-year	state-year	state-year	state-year	state-year
States	49	49	49	49	49	49
Election Cycles	4	3	4	4	3	4
Observations	11166	9107	11756	11153	9103	11740
R²	0.194	0.826	0.635	0.195	0.913	0.757
Within-R²	0.082	0.743	0.471	0.076	0.872	0.648

Note: Because of lack of data availability for the ratings, we run the IV checks on the subset of elections for which years of ratings are available: 2004, 2008, and 2020, for Presidential Elections and 2004, 2006, 2008, and 2020, for House Elections. Regressions include state-year level fixed effects. Robust standard errors clustered at the state-year level are in parentheses: + $p < 0.10$, * $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$.

1. Predictions are virtually identical when including 1996 electoral results as controls.

For completeness in testing instrument validity, we checked the correlation between FNC position during election years (2004, 2006, 2008, 2020) and county-level demographics in Table A2. We found that the instrument is not correlated with any of the demographics at the 5% significance level. The instrument also has a statistically significant positive correlation with the share of FNC viewers, calculated as the percentage of the county population living in ZIP codes with access to the network. The regression includes state-year fixed effects and controls for Republican vote share in 1996 presidential elections (before the introduction of FNC). Robust standard errors clustered at the state level.

Table A2: Instrument Placebo Tests - Regression of Instrument on County Demographics

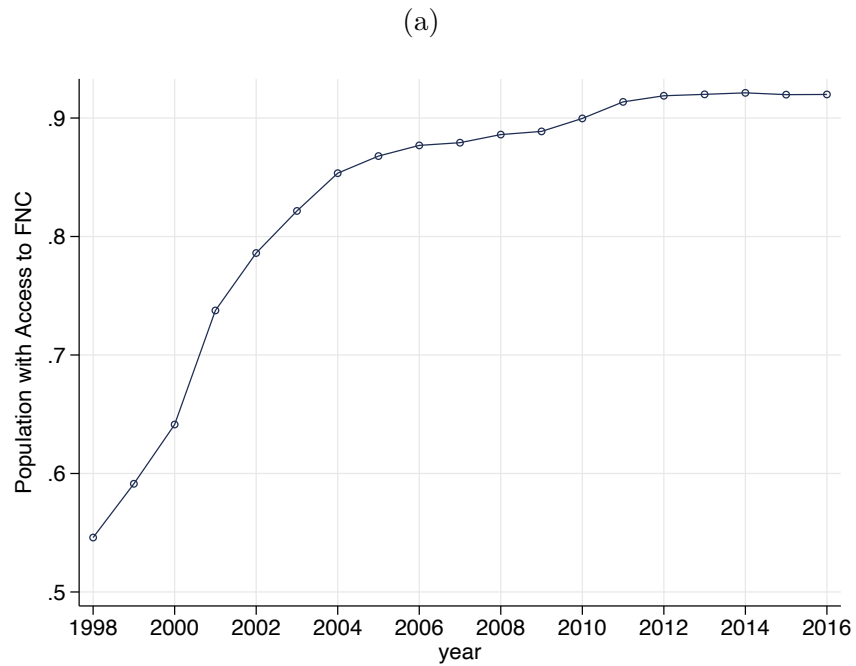
	FNC Position
Area	0.000 (0.000)
% Male	2.184 (2.212)
Age imbalance	00.110 (0.316)
% Food stamps	-1.288+ (0.509)
Population density	0.000 (0.000)
% Black	-0.353 (0.415)
% White	-0.076 (0.691)
% College	-0.413 (0.430)
% Hispanic	-0.680 (0.424)
% Asian	+1.729+ (0.669)
% Urban	+0.127 (0.090)
% Rural	-0.267 (0.157)
% Share FNC Viewers	1.861** (0.151)
Pres. Elec. 1996	0.002 (0.004)
Constant	0.733 (0.528)
Fixed Effects	state-year
States	49
Election Cycles	4
Observations	12043
R²	0.591
Within-R²	0.082

Note: Regressions include state-year level fixed effects. Robust standard errors clustered at the state-year level are in parentheses: + $p < 0.10$, * $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$.

A.2 Fox News availability in the counties

Figure A1 shows a time series of the cross-county average share of the population with access to Fox News, computed as the share of county population living in zipcodes with access to the network, for the years of availability of the Channel Position instrument (1998-2016).

Figure A1: Share of Population with Access to Fox News



B Tables for main-text results

Table A3 reports coefficient estimates for all the main results reported in figures in the main text. Each entry is a separate RF regression, where the year considered is the one reported in the first column, while the column headings define the outcome variable of interest. We include state-year fixed effects and controls for the share of zipcodes in the county that can receive FNC in that year. We also control for demographic characteristics of the county (2010 census) and 1996 presidential results.

Table A3: Main results

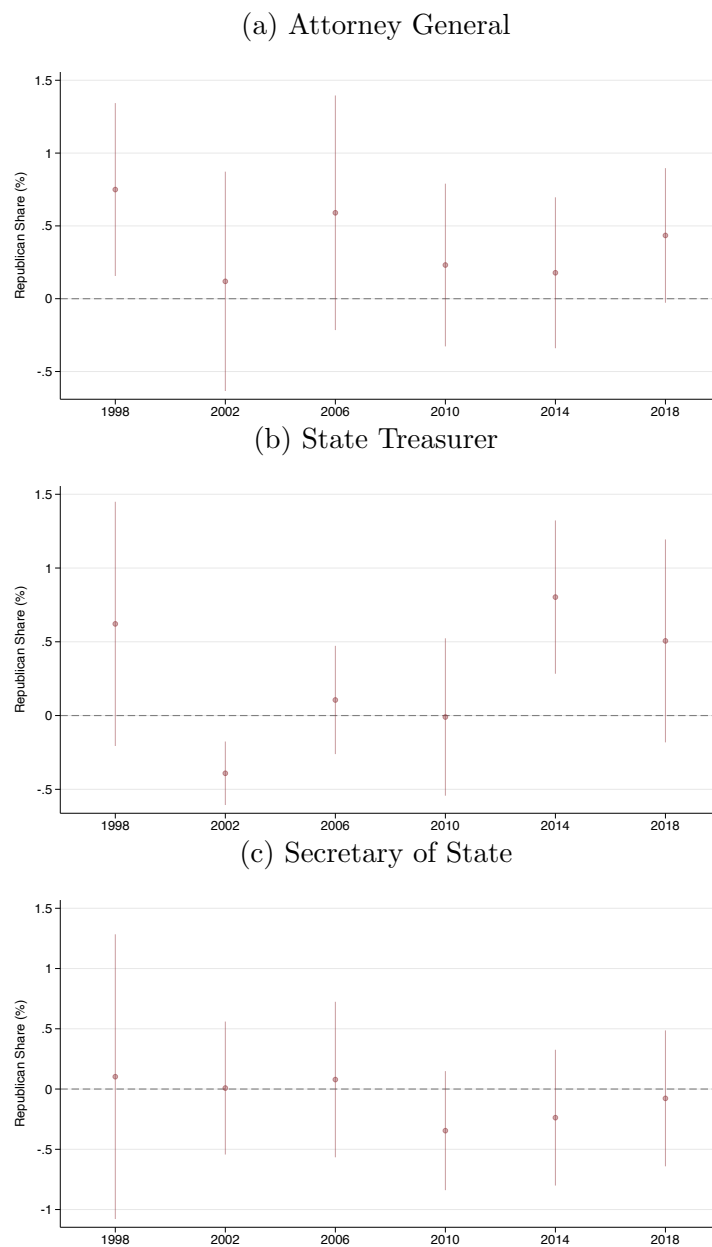
Election Results					Survey		
Year	Pres.	House	Senate	Governor	Year	Partisanship	Ideology
1998		0.675 (1.072)	0.438 (0.401)		1998		
2000	-0.019 (0.178)	-0.666 (1.313)	-0.086 (0.533)		2000	-0.045 (0.526)	0.016 (0.013)
2002		-0.193 (0.607)	0.077 (0.199)	0.072 (0.334)	2002		
2004	0.135 (0.150)	-0.327 (0.459)	-0.177 (0.153)		2004	0.041 (0.669)	0.018 (0.011)
2006		0.233 (0.428)	0.429* (0.203)	-0.025 (0.217)			
2008	0.322 (0.260)	0.031 (0.530)	0.361 (0.379)		2006	0.758 (0.763)	0.019 (0.015)
2010		-0.231 (0.566)	0.081 (0.228)	0.182 (0.265)	-2008		
2012	0.579* (0.224)	0.570 (0.539)	0.384 (0.242)		2009	1.026+ (0.561)	0.033* (0.011)
2014		0.668 (0.842)	0.579+ (0.301)	0.310 (0.327)	-2012		
2016	0.587** (0.165)	0.574 (0.488)	0.614* (0.199)		2013	1.144+ (0.575)	0.042** (0.013)
2018		1.502*** (0.401)	0.728** (0.199)	0.524** (0.207)	-2016		
2020	0.623** (0.200)	1.112*** (0.258)	0.552* (0.248)		2017	1.353** (0.497)	0.042** (0.015)
					-2020		

Note: Robust standard errors clustered at the state level are in parentheses: + $p < 0.10$, * $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$.

C Additional down-ballot election and survey results

Figure A2 displays coefficient estimates from reduced form regressions for a further set of down-ballot statewide races. Results hint at a positive effect of Fox News on Attorney General (panel a) and Treasurer (panel b) races, especially in recent years, though these results are mostly not significant, and there is no effect on Secretary of State (panel c) races.

Figure A2: Results for Other Down-Ballot Elections



D Robustness checks

In this appendix, we conduct a series of analyses to explore further the robustness of our main results. First, we re-run all the analyses for the main elections outcomes using a Two Stages Least Squares Estimation (Table A4) using the channel position as an instrument for viewership, with similar results. We then run an OLS regression of viewership’s association with the outcomes (Table A5), and find a positive correlation between higher Fox News ratings and voting Republican.

Next, we run checks looking at the sensitivity of estimates to the presence of specific sets of controls. In Figure A5, we replicate our main results by running a set of reduced-form regressions, each time excluding a different set of the socio-demographic and political controls: age controls, race controls, urban-rural density controls, education controls, occupation controls. The results are robust. In Figure A7 we see how our extensive set of controls helps us to pin down the magnitude of the positive effect of Fox News. It is worth noting that including additional controls (more education controls and extensive occupation controls) doesn’t affect our reduced form estimates. Results are also robust to dropping sample weights (Figure A8). Next, we conduct a perturbation test regressing our extended specification 49 times, each time dropping the data for one state (Figure A9) confirming that results are not driven by any specific outlier state, though the smaller sample size affects the first stage.

In Figure A11, we explore heterogeneity by pre-treatment partisanship or early survey-reported measures of partisanship and ideology. We find a slightly greater magnitude of effects for democratic/liberal counties, though the difference between samples is not statistically significant.

Next, we perform a number of placebo tests. First, the estimates for the first year of activity of Fox News (1996) are not significant (Figure A3). We show this as well in Table 1, column 4. Second, controlling for presidential elections results for 1988, 1992, 1996 or any combination of these, doesn’t affect results (A4).

We then focus our attention on the effect of CNN and MSNBC. These networks show no statistically significant effect in the reduced form estimates in Figure A13. We note that the first stage estimation for those channels is weaker. Summary statistics are in Table A6.

D.1 Ordinary least squares and two stages least squares of main regressions

Table A4 reports Two Stages Least Squares Estimation for the main electoral results – President in panel (a), Senate in panel (b), House in panel (c) and Governor in panel (d) – using the second-stage equation

$$\text{Rep Vote Share}_i = \delta \text{FNC Viewership}_i + \lambda_s + \gamma \mathbf{X}_i + \phi_i \quad (4)$$

where FNC Viewership_{*i*} is instrumented using (1) and the other elements are as before. Therefore δ identifies the local average treatment effects by election type and year.

Table A4: Main Elections Results: 2SLS

	2006			2008		
	Pres.	House	Senate	Pres.	House	Senate
		4.453 (11.631)	15.536 (14.444)	11.305 (8.889)	0.128 (15.225)	6.945 (7.529)
N		2608	1609	2688	2502	1885
R ²		.65	.48	.73	0.68	.78

Note: Robust standard errors clustered at the state level are in parentheses: + $p < 0.10$, * $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$.

The estimates are coherent with our main results in Figure 3. For example, Figure 3 shows in 2020 that one standard deviation of ratings corresponds to a shift in voting 18.98 percentage points and is equivalent to 2.34 rating points or 252 minutes of weekly viewership for the average household. Put in perspective these numbers imply therefore a .7% shift in effect due to additional 10 minutes of weekly viewership for the compliers. The effect on the compliers might be different from the general population’s as television surfers might be

more persuadable than the average voter (see Benedictis-Kessner et al. 2019 for a discussion of large effects of partisan media on people that are “inadvertently exposed to it”); this also helps to explain the difference in magnitude with the OLS results presented below.

Table A5 reports OLS estimates for the main electoral results – President in panel (a), Senate in panel (b), House in panel (c) and Governor in panel (d). The OLS analysis, simply regressing Fox News viewership on the outcome (with the same controls as in the reduced form), shows the positive correlation between watching Fox News and voting Republican. However, such estimates are likely to be biased due to the endogeneity of viewing decisions. As mentioned in the main text, places that have a pre-existing conservative slant will have a stronger preference to watch FNC, so correlations between political choices and Fox viewership may be confounded.

Table A5: Main Elections Results: OLS

	2006			2008		
	Pres.	House	Senate	Pres.	House	Senate
		-.179 (.765)	.379 (.227)	.645* (.281)	.538 (.469)	.503* (.210)
N		2608	1609	2688	2502	1885
R^2		.76	.97	.94	0.77	.94

Note: Robust standard errors clustered at the state level are in parentheses: + $p < 0.10$, * $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$.

D.2 Pre-treatment checks

Figure A3 displays further robustness checks by examining reduced form regressions of all years of Fox News channel positions on 1996 Presidential Results. It shows that electoral results from before the introduction of FNC do not correlate with our instrument and that they do not alter our results if included as controls to our baseline specification. This helps further demonstrate the validity of our instrument.

Figure A3: Pre-treatment checks (Instrument correlation with 1996 Presidential Results)

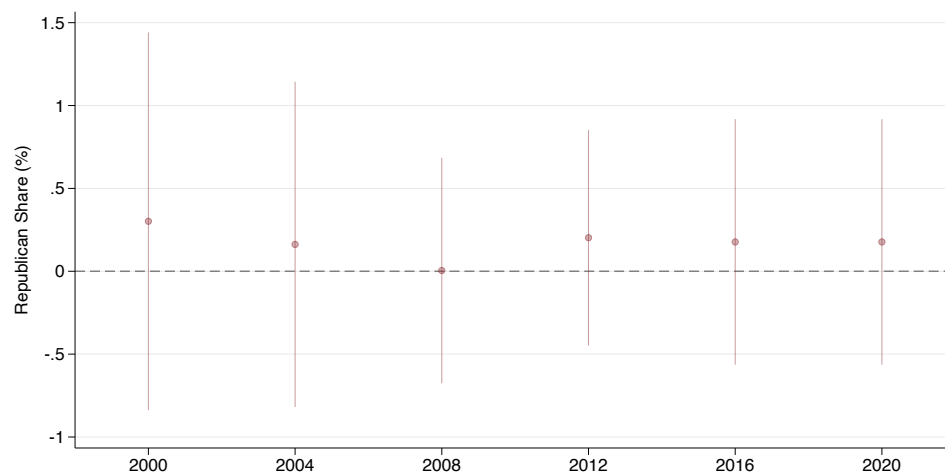


Figure A4: Pre-treatment checks (Further pre-treatment elections controls)

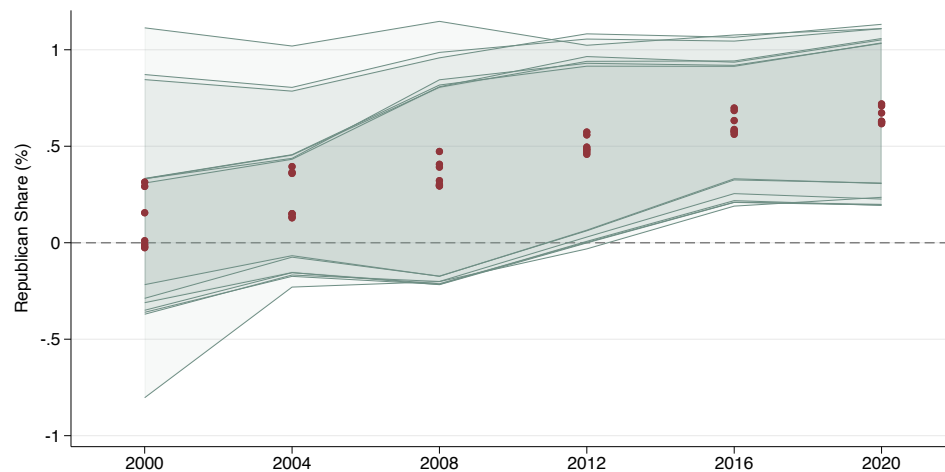


Figure A4 reports reduced form regression of presidential election results including as

controls separately and combined 1988, 1992, and 1996 presidential elections results. It shows that including pre-treatment election results as a control does not change our main results.

D.3 Specification checks

Figure A5 shows reduced form (RF) estimates for our main electoral results dropping various sets of controls. We run here a multitest, by election, dropping each time a set of controls: age controls, race controls, urban-rural density controls, education controls, occupation controls. In red are the estimates for the different control sets, and in green, the 95% confidence intervals. This shows the results are robust to variation in the precise controls we use.

Figure A5: Main Elections Results, Robustness to Dropping Groups of Controls (RF)

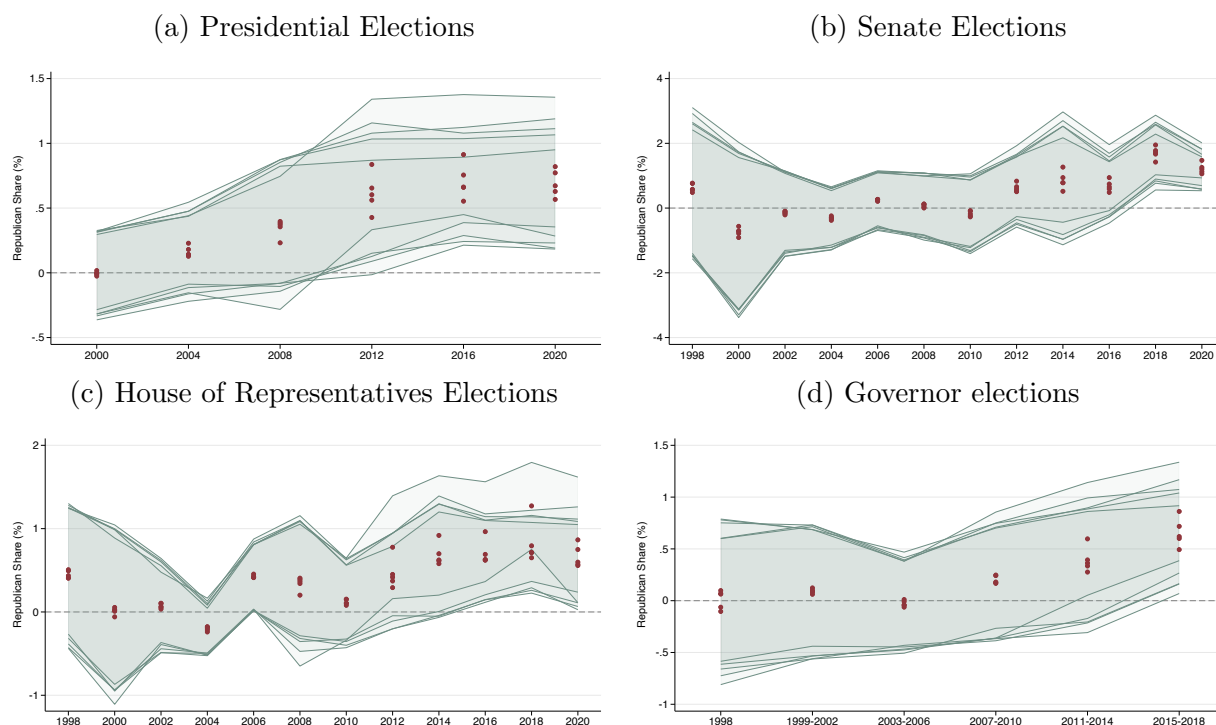


Figure A6 shows reduced form (RF) estimates for our survey results dropping various sets of controls. We run here a leave-one-out-test, dropping each time a different control from the following groups: age controls, race controls, education controls. In red are the estimates for the different control sets, and in green, the 95% confidence intervals.

Figure A6: Survey Measures, Robustness to Dropping One Control (RF)

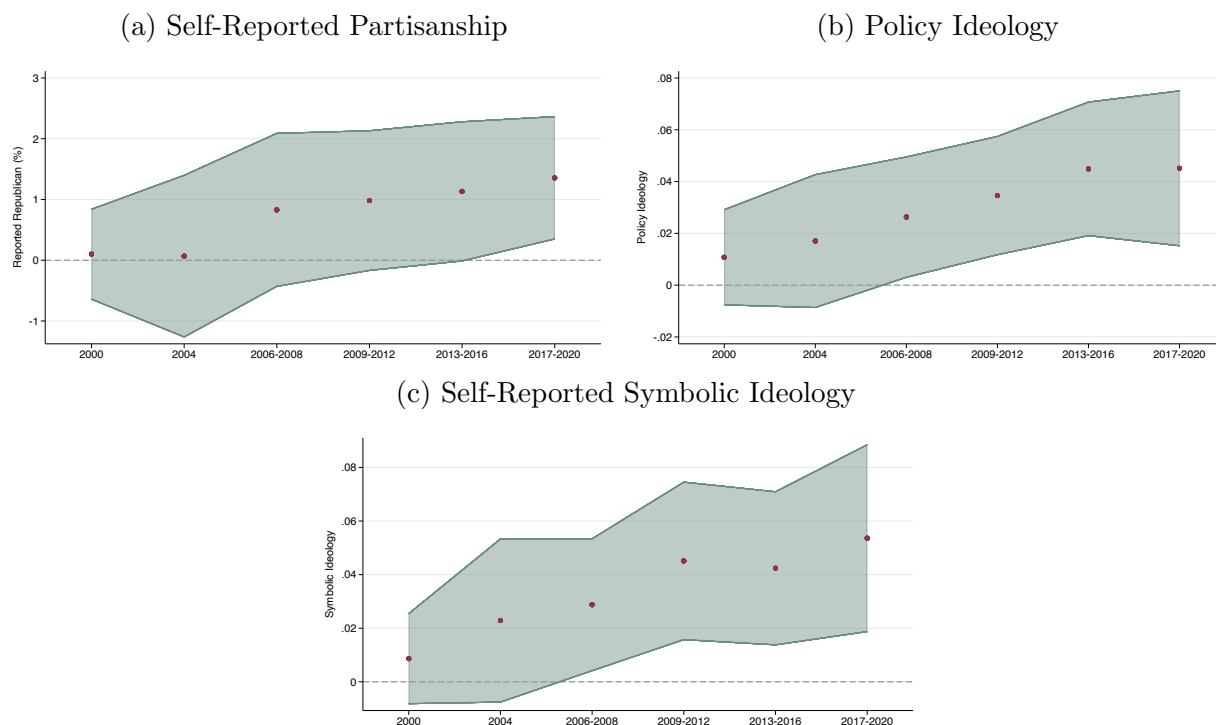


Figure A7 shows further robustness checks for our main results using additional/less sets of controls. The figure shows how controls help pin down the effect of Fox News, including further education controls (percentage of population with no high school degree and percentage of population with high school as higher education) and extensive occupation controls, produces similar estimates as our main specification.

Figure A8 shows reduced form (RF) estimates for our main electoral results without sample weighting. Despite the First Stage estimation without weighting being poorer, estimates appear to be robust, though slightly smaller in magnitude.

Figure A7: Presidential Elections - Variations to the control set

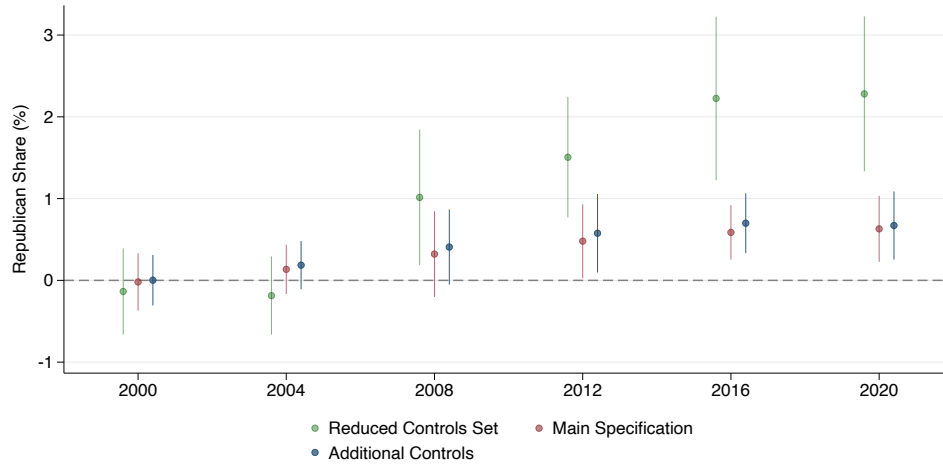
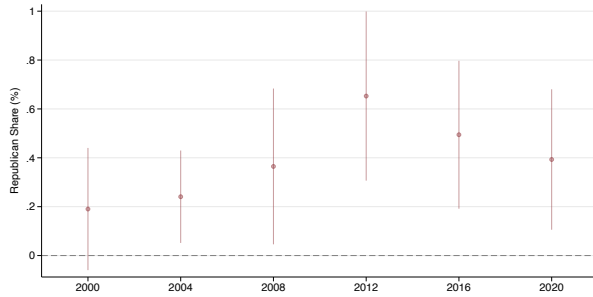
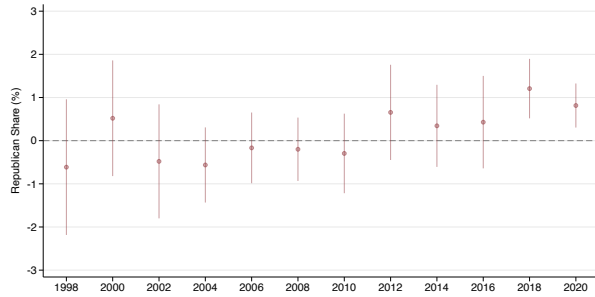


Figure A8: Main Elections Results, without Sample Weights (RF)

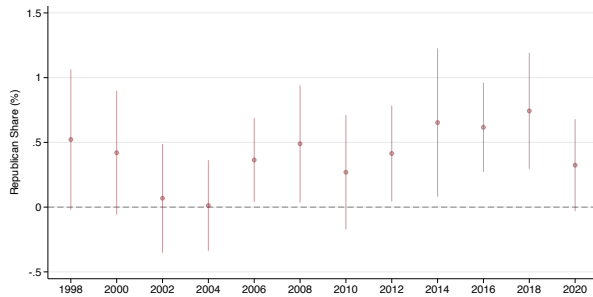
(a) Presidential Elections



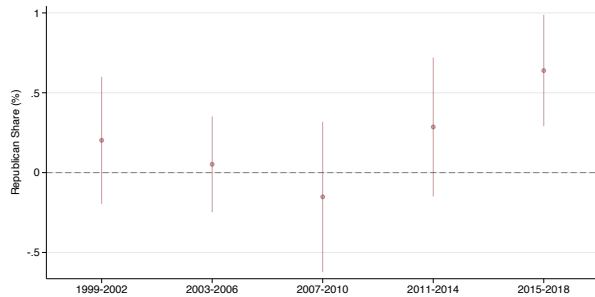
(b) Senate Elections



(c) House of Representatives Elections



(d) Governor elections



D.4 Sample checks

Figures A9 and A10 shows further robustness tests for the reduced form (RF) estimates for our main electoral result and survey results. In this figure, we run a perturbation test, dropping each time one of the 49 states at a time. We plot therefore 49 different sets of regressions. Estimates are in red and 95% confidence intervals are in green.

Figure A9: Main Elections Results, Robustness to dropping individual states (RF)

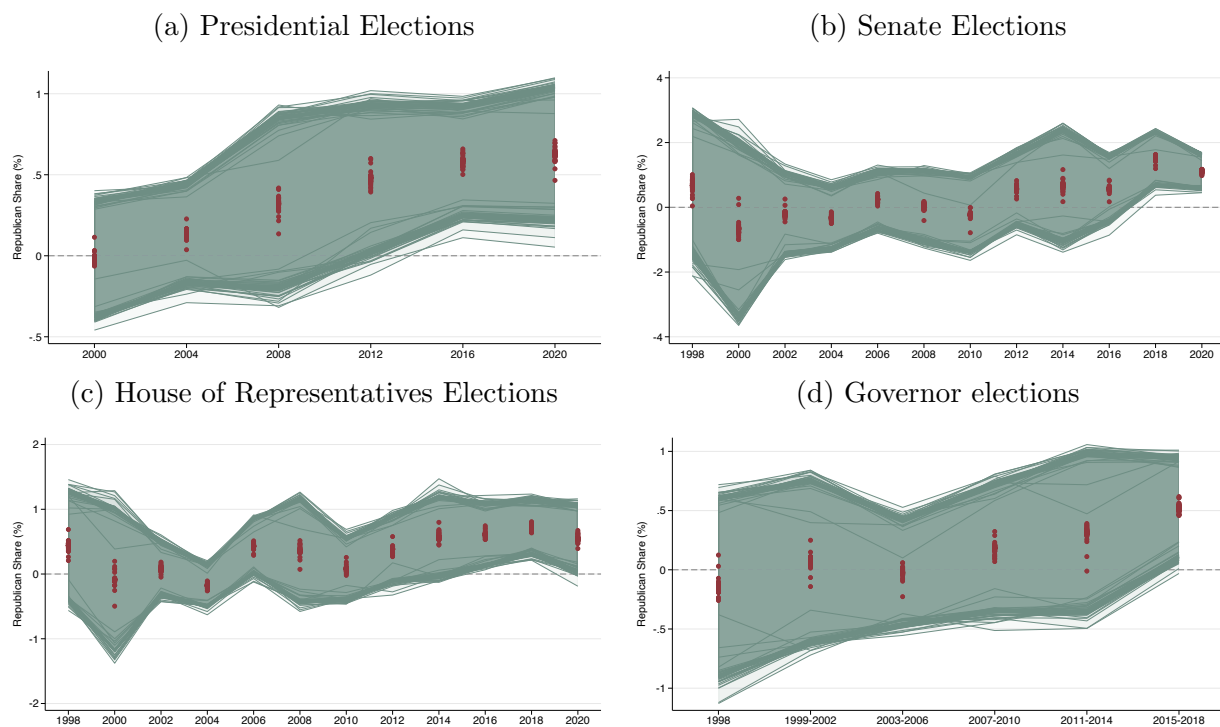
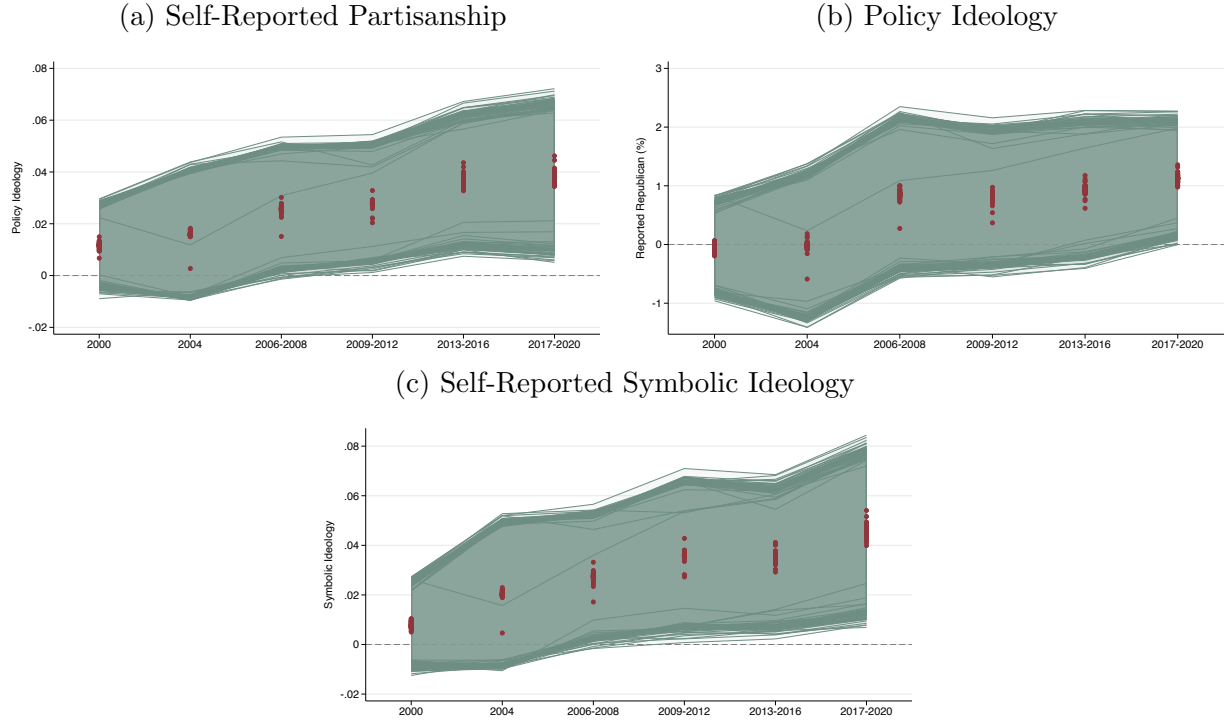


Figure A10: Survey Measures, Robustness to dropping individual states (RF)



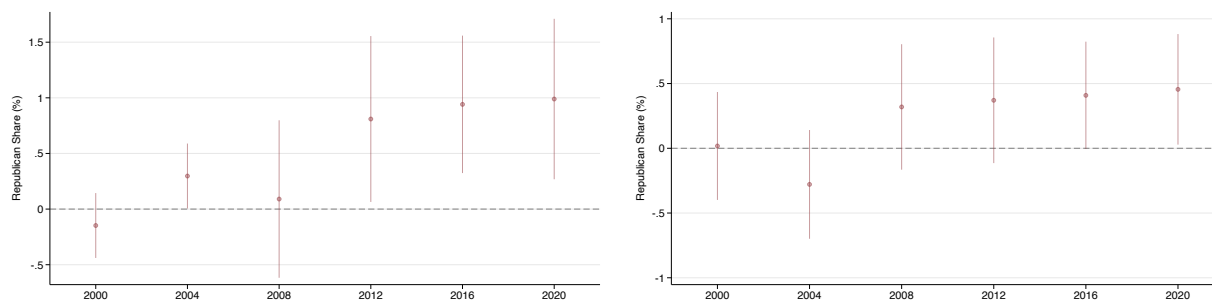
D.5 Heterogeneity by partisanship and ideology

Figure A11 shows reduced form (RF) estimates for our presidential electoral results splitting the sample according to partisanship or ideology in the early years of Fox News. These checks hint at a stronger effect for Democrat counties, though the estimates between the subsamples are not statistically different from each other.

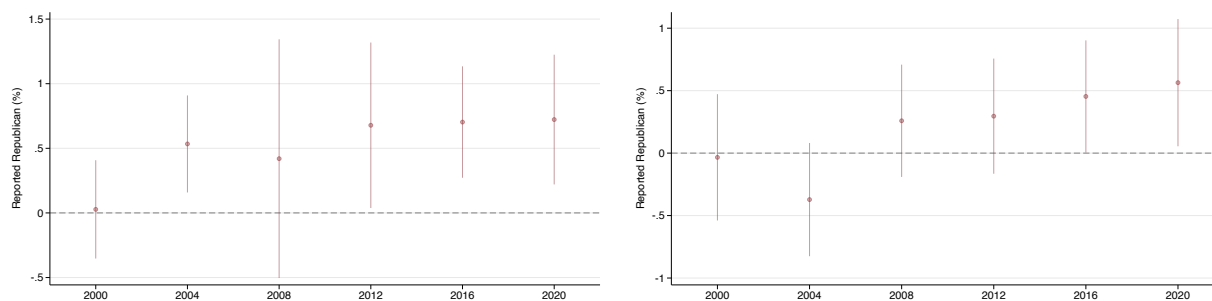
To the extent that Fox News influences Democratic areas more than Republican areas, that would be consistent with DellaVigna and Kaplan (2007, 1217), who find that “Fox News had the largest impact in Democratic districts” in the 2000 presidential election. Ecological inference problems, however, make it difficult to extrapolate implications for heterogeneity among individual voters. Indeed, Hopkins and Ladd (2014) find stronger effects of FNC among Republicans in the 2000 National Annenberg Election Survey. Future work could focus more on heterogeneity in the effect of partisan media across groups of voters.

Figure A11: Presidential elections results

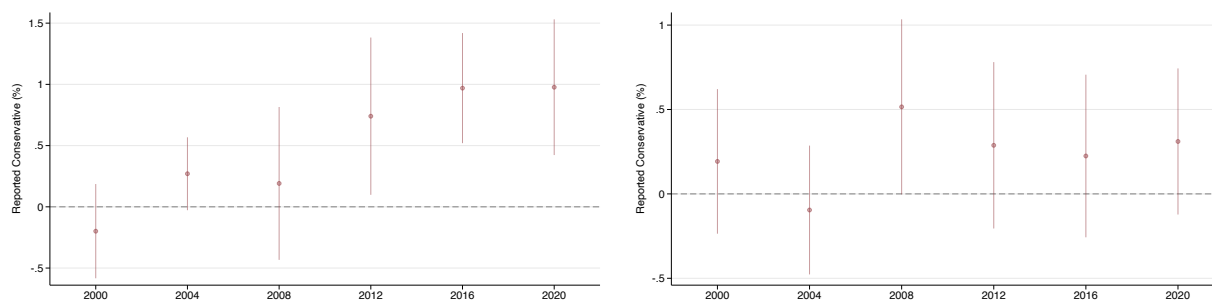
Panel (1) - Splitting by 1996 presidential elections results
 (a) Democratic Counties (b) Republican Counties



Panel (2) - Splitting by surveyed 2000 median partisanship
 (c) Democratic Counties (d) Republican Counties

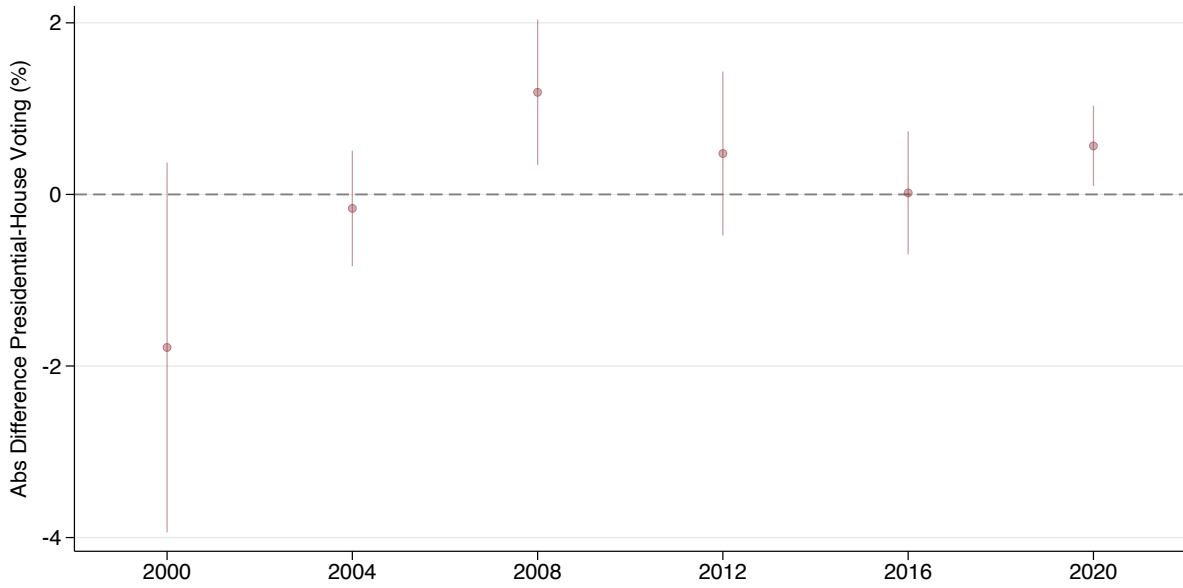


Panel (3) - Splitting by surveyed 2000 median ideology
 (e) Liberal Counties (f) Conservative Counties



D.6 Split-ticket voting

Figure A12: Absolute difference between presidential and house voting (RF)

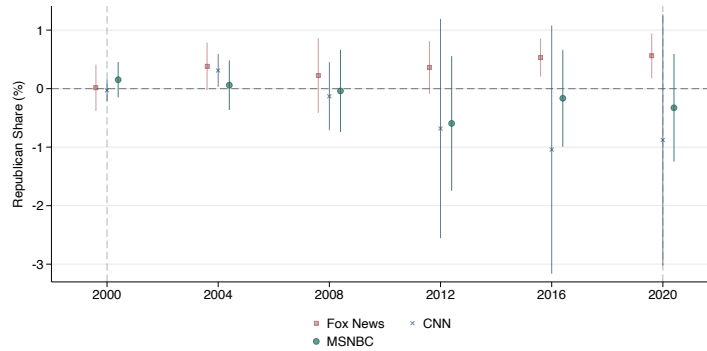


D.7 Other networks

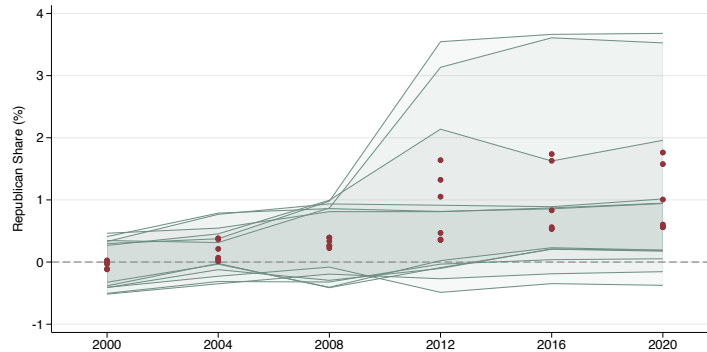
Figure A13a shows that the reduced form presidential electoral results are robust to including controls for the channel positions of the other networks.² With the caveat of a weaker first stage for those networks, estimates for CNN and MSNBC are mostly negative and not statistically significant. The exception is a positive effect for CNN in 2004 elections, which is perhaps not surprising given that CNN was relatively supportive of George W. Bush and the War in Iraq. Alternative checks controlling for the channel positions of the other networks A13b deliver similar results.³

Figure A13: Effects of other networks

(a) Effect of CNN and MSNBC on Presidential Elections



(b) Additional controls for other networks



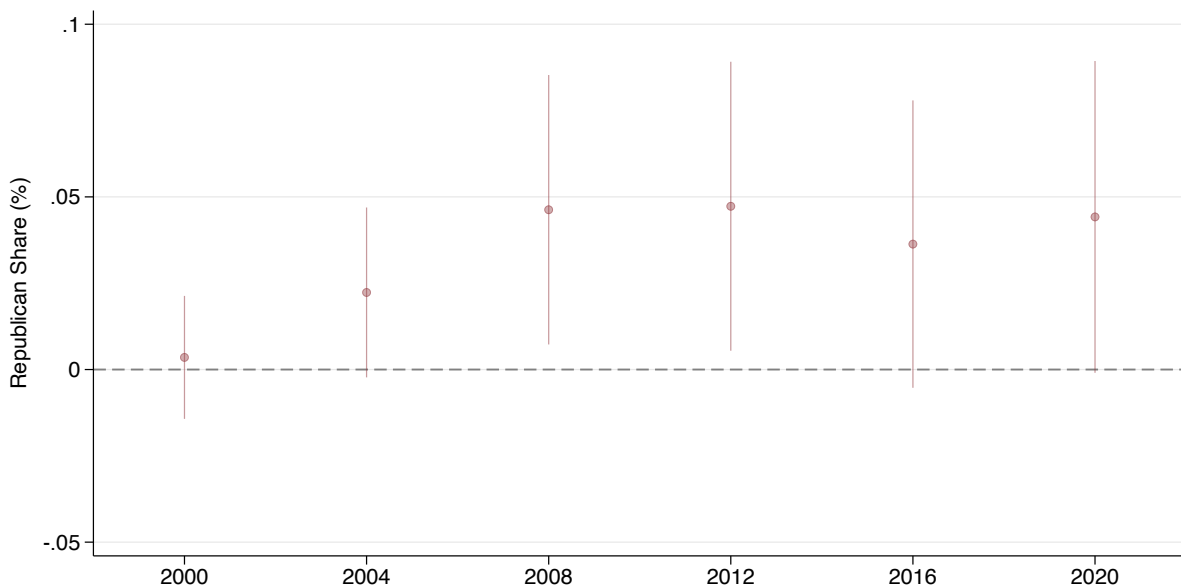
2. Fox News channel position is netted out the other networks' channels.

3. We plot 6 specifications, including singularly and together CNN and MSNBC raw and relative channel positions. Without accounting for the correlation between channel positions of different networks by using the relative position, due to clustering in the lineup, the first stage loses power and estimations more imprecise.

D.8 Alternative approach to generate the instrument

In Figure A14, we replicate our main results for presidential elections using the data from Martin and Yurukoglu (2017) to generate the instrument. A key advantage of this dataset is that it accounts for the channel position of the dominant provider at the zip-code level, while our analysis averages the channel position across different providers. It also uses the ordinal ranking of the channels instead of the reported positions by Nielsen. The limitation, however, is that this data is only available for 2008. The results remain consistent in magnitude, with minor variations in estimate noise due to the different aggregation strategies.

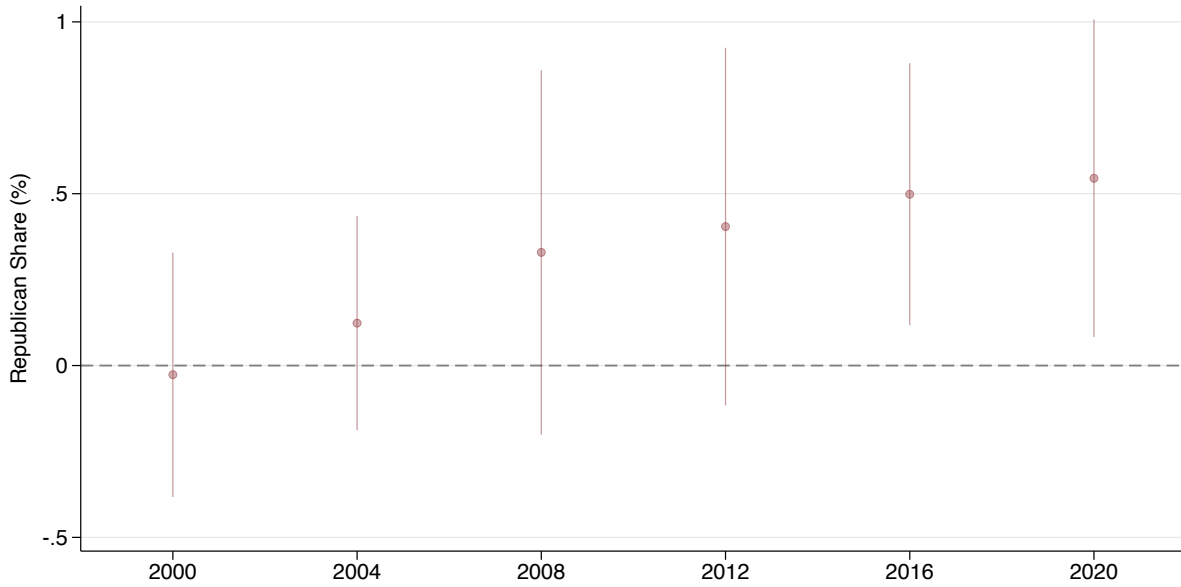
Figure A14: Alternative approach to generate the instrument



D.9 Lineup dimension controls

Figure A15 show our specification being robust to the addition of a control for the total number of networks in the lineup.

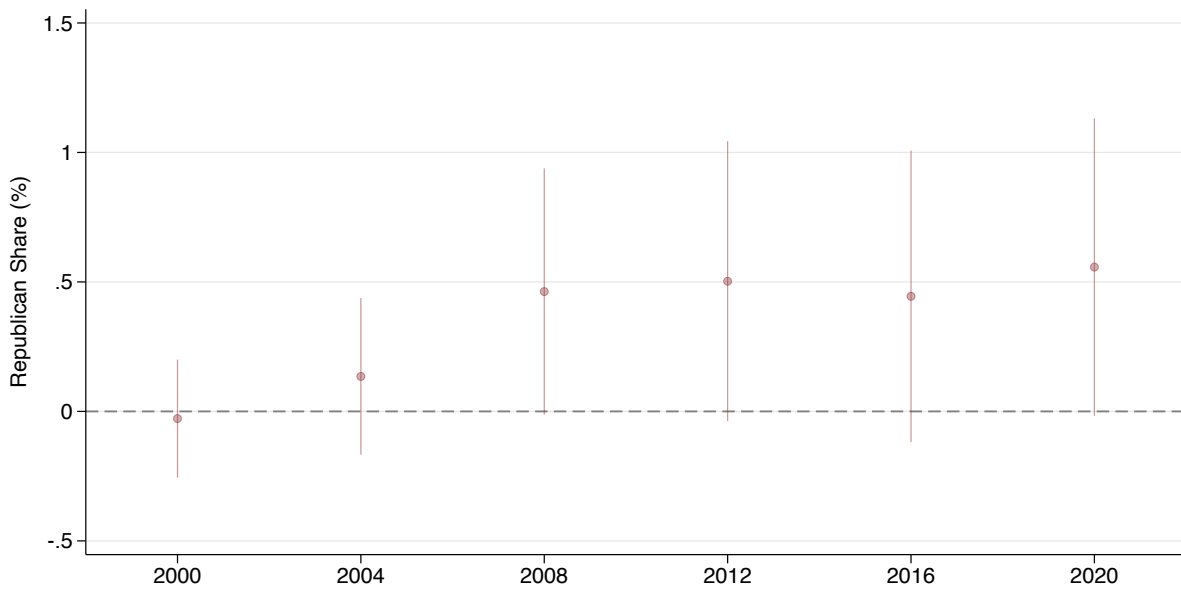
Figure A15: Lineup dimension controls



D.10 Time constant IV

Figure A16 shows all years of analysis on an earlier instrument channel position, 2004, one of the first years of elections in which Fox News availability in US counties was consolidated. results are similar but weaker, coherently with the small changes in channel position through the years.

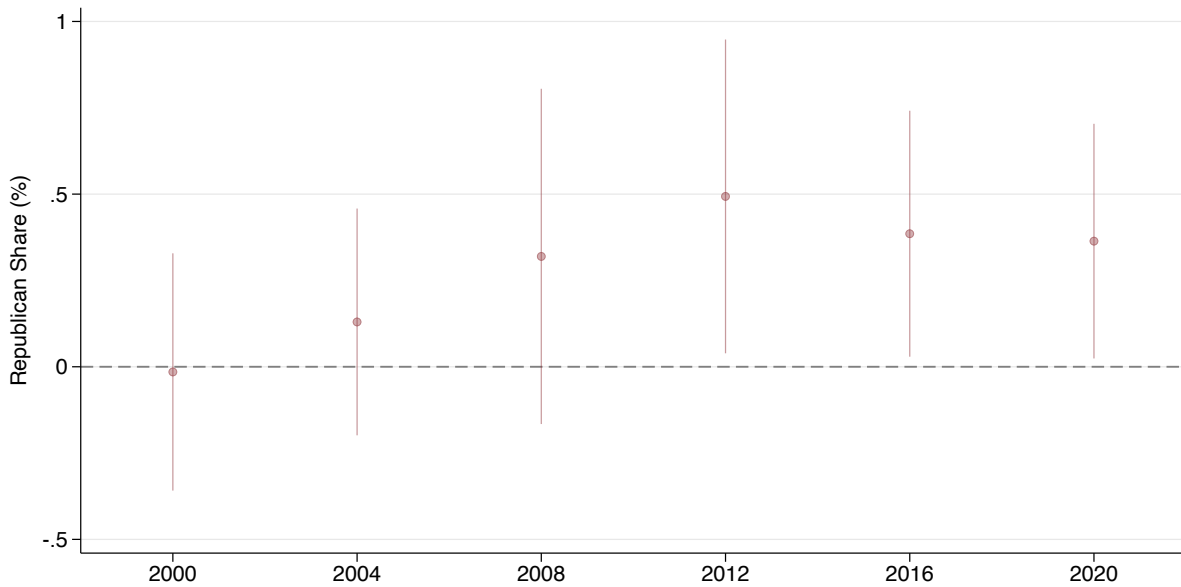
Figure A16: 2004 channel position treatment



D.11 No winsorization instrument

Figure A17 replicates our main presidential elections results without the winsorization of the channel position instrument.

Figure A17: Non-winsorized IV



D.12 Summary Statistics

Table A6: Summary statistics

Variable	Mean	Std. Dev.	Min.	Max.	N
<i>County Level Analysis</i>					
County area	511.104	664.694	1.553	9309.787	3039
Perc. male	0.499	0.021	0.438	0.719	3039
Age imbalance	1.702	0.226	1.09	4	3039
Perc. food stamps	0.126	0.06	0	0.431	3039
Pop. density	187.73	919.58	0.129	33886.035	3039
Perc. race black	0.089	0.144	0	0.851	3039
Perc. race white	0.833	0.161	0.121	0.991	3039
Perc. race hispanic	0.081	0.127	0.003	0.958	3039
Perc. race asian	0.011	0.023	0	0.439	3039
Perc. college graduates	0.192	0.085	0.054	0.706	3039
Perc. in urban areas	0.185	0.328	0	1	3039
Perc. in rural areas	0.587	0.304	0	1	3039
Population	100481.877	317608.202	80	9818535	3039
FNC Ch. Position (winsorized)	2.501	1.258	0.044	5.184	56285
CNN Ch. Position (winsorized)	2.684	1.231	0.63	4.959	58899
MSNBC Ch. Position (winsorized)	2.056	1.062	0.026	4.281	52509
FNC availability	0.819	0.267	0	1	69115
MSNBC availability	0.777	0.309	0	1	63946
CNN availability	0.928	0.13	0	1	74383
FNC ratings	0.568	0.865	0	33.1	11004
CNN ratings	0.344	0.659	0	23.9	10643
MSNBC ratings	0.106	0.343	0	26	10643
Channels in lineup	154.855	94.174	11	456.5	58911
<i>Individual Level Analysis</i>					
Race white	0.75	0.433	0	1	
Race black	0.103	0.304	0	1	
Race Hispanic	0.081	0.272	0	1	
High school graduate	0.274	0.446	0	1	
College time	0.33	0.47	0	1	
College graduate	0.22	0.414	0	1	
Graduate school	0.132	0.339	0	1	
Age 18-29	0.081	0.272	0	1	
Age 30-44	0.132	0.339	0	1	
Age 45-64	0.239	0.426	0	1	
Male	0.455	0.498	0	1	
Ideology	0.003	0.905	-2.955	3.541	659860
Partisanship	0.298	0.458	0	1	598217
Self-reported ideology	3.112	1.131	1	5	618749

References for Appendix

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- Martin, Gregory J, and Ali Yurukoglu. 2017. “Bias in cable news: Persuasion and polarization.” *American Economic Review* 107 (9): 2565–99.