

The Fox News Effect: Media Bias and Voting*

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Abstract

Does the media affect voting? We address this question by looking at the entry of Fox News in cable markets and its impact on voting. Between October 1996 and November 2000, the conservative Fox News Channel was introduced in the cable programming of 20 percent of US towns. Fox News availability in 2000 appears to be largely idiosyncratic. Using a data set of voting data for 8,634 towns, we investigate if Republicans gained vote share in towns where Fox News entered the cable market by the year 2000. We find no significant effect of the introduction of Fox News on the vote share in Presidential elections between 1996 and 2000. We can rule out an effect of Fox News larger than 0.5 percentage points. The results are robust to town-level controls, state and county fixed effects, and alternative specifications. We also find no significant effect of Fox News on voter turnout. Our results imply that Fox News convinced between 0 and 2.1 percent of its viewers to vote Republican. The evidence is consistent with the view that voters are sophisticated and filter out media bias. Alternatively, voters may display a form of confirmatory bias.

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1 Introduction

Media coverage of news can be partisan. Over 70 percent of Americans believe that there is a great deal or a fair amount of media bias in news coverage (Pew, 2004). Evidence of bias ranges from the topic choice of the New York Times (Puglisi, 2004) to the choice of think-tanks that the media refer to (Groseclose and Milyo, 2004).

This evidence, however, leaves open the question of whether media bias matters. Does media bias affect beliefs of the audience? Does it change voting behavior? Ultimately, these are the questions of interest for economics and political science.

The answer to these questions has implications also for policy, such as for the regulation of media concentration. If media bias alters voting behavior, deregulation of media markets may have a large impact on political outcomes.

In this paper, we present empirical evidence on the impact of media bias on voting. We consider one of the most significant changes in the US media in recent years, the entry and expansion of the Fox News cable channel. We exploit the natural experiment induced by the timing of the entry of this conservative news channel in local cable markets and consider its impact on voting behavior.

We employ a differences-in-differences methodology and compare changes in the Republican vote share for towns where Fox News was introduced before the 2000 elections to towns where it was not present by 2000. We exploit three key elements of the Fox News case, the fast expansion, the geographical differentiation, and the widely-perceived conservative slant in its coverage.

The 24-hour Fox News channel was introduced by Rupert Murdoch in October 1996 in order to compete with CNN. Like CNN, it is only offered via cable and, to a smaller extent, via satellite. Thanks to an aggressive marketing campaign, a number of cable companies added Fox News to their programming over the next four years. The geographical expansion of Fox News was accompanied by a corresponding increase in its share of the audience. By June 2000, 17.7 percent of the US population reported listening regularly to the Fox News channel (Pew, 2004).

The nature of the cable industry induces substantial geographical variation in access to Fox News. Cable markets are natural monopolies with capacity constraints on the number of channels. The availability of Fox News in a town depends on whether the local cable company decides to add it to the programming, possibly at the expense of another channel. Cable companies in two neighboring towns may make different decisions, creating idiosyncratic variation in access.

Even given the sudden expansion and popularity of Fox News and the variation in Fox News diffusion, it is unclear whether the addition of any single media source could have a significant impact on the information received by voters. Fox News coverage, however, is unique among

the television media. Groseclose and Milyo (2004) use data on citations of think-tanks to rank the political orientation of the media. They conclude that Fox News is significantly to the right of all the other mainstream television networks (ABC, CBS, CNN, and NBC). The introduction of Fox News into a cable market, therefore, is likely to have a systematic and significant effect on the available political information in that cable market.

In order to analyze the impact of Fox News on voting, we assemble a new panel data set of town-level election data and match it with town-level data on cable programming. The data set covers the federal elections in 1996 and 2000 for 24 US States. We compare the change in the Republican vote share between 1996 and 2000 for the towns that had adopted Fox News by 2000 with those that had not. The availability of Fox News in 2000 appears to be largely idiosyncratic. Conditional on a set of controls, the two groups of towns have indistinguishable political outcomes in 1996.

Our main result is that the entry of Fox News did not affect voting behavior. The estimates of this non-effect are very precise. We can rule out an effect of Fox News entry on vote share in Presidential elections larger than .5 percentage points. Since Fox News in 2000 is available in about 60 percent of the households, the overall effect of Fox News on the 2000 elections is estimated to be at best .3 percentage points, 300,000 votes, and possibly zero. The results hold after the introduction of town-level demographic controls, state, district, and county dummies, as well as controls for features of the cable system. The results do not differ for Republican or for Democratic States and are robust to a variety of alternative specifications.

The estimates could be biased downward in the (unlikely) event that Fox News selected into towns that were turning more Democratic. We control for town-level trends by comparing Presidential and US House races in the same town. Shifts in town-level political preferences should similarly affect the two races. However, since Fox News does not cover House races, Fox News exposure should impact mainly Presidential elections. We find no evidence that Fox News differentially affected the Republican vote share for Presidential and House elections.

Along similar lines, we also analyze Senatorial races. While most races for the US Senate go unmentioned in the Fox News programming, the Senatorial race in New York State between Hillary Clinton and Rick Lazio attracted considerable attention. In particular, Fox News maintained a very critical position toward Hillary Clinton. If Fox News affected viewers, therefore, its effect should have been highest in this race. Instead, we are unable to reject the hypothesis that the effect on the New York race was the same as on the other Senate races, that is, no effect.

Fox News entry in media markets does not appear to have had any significant effect on the Republican vote share. This, however, does not imply that Fox News did not affect voting behavior. It is possible that Fox News energized both Republicans and Democrats, inducing both to turn out more to the polls. According to this scenario, the offsetting increases in turnout lead to no overall effect on Republican vote share. We test for this possibility by

examining the effect of Fox News on two measures of voter turnout. For both measures, we fail to reject the hypothesis of no effect of Fox News on turnout.

Overall, we find no effect of Fox News on either the vote share for Republicans or turnout to the polls. These empirical results, however, do not directly address the effectiveness of media bias in altering voting behavior. The findings have to incorporate information on the size and the share of Republicans in the Fox News audience. We calibrate the media bias effect using our estimates and data on the Fox News audience from a 2000 Pew survey. The point estimates imply that Fox News convinced only 0.6 percent of its non-Republican listeners to vote Republican. An upper bound estimate for the effect is that Fox News convinced 2.1 percent of its audience. Exposure to the conservative coverage of Fox News, therefore, had at best a small effect on voting behavior of its audience.

These results contrast with findings of large effects of media exposure on political beliefs.¹ Following Lazarsfeld, Berelson and Gaudet (1944), political scientists have widely used surveys to assess the impact of the media. A survey in this tradition (Kull et al., 2003) finds that Fox News watchers are 50 percent more likely to believe (erroneously) that weapons of mass destruction were found in Iraq by October 2003, compared to viewers of other networks. In a separate strand of the literature, laboratory experiments involving exposure to political advertisements (Ansolabehre and Iyengar, 1995) find large impact on beliefs and voting intentions elicited at the end of the experiment. Our non-effect can be reconciled with these large media effects. The survey findings are likely to overstate the role of the media due to selection of viewers. The large swings in opinion induced by the experimental manipulations may be short-lived and may not translate into voting behavior.

Our results are consistent with political science studies finding no effect of media exposure, summarized in Zaller (1996). Unlike in most of this evidence, however, the non-effect is not due to lack of variation in media exposure, which leads to imprecise estimates. Our non-effect is consistent with the finding that media coverage of the incumbent in gubernatorial and senate elections does not affect the incumbent vote share (Ansolabehere, Snowberg and Snyder, 2004). Finally, the results are also consistent with studies documenting small effects of campaign spending (Levitt, 1994), although the evidence on campaign spending is mixed (Gerber, 2004).

In Section 5 we consider several interpretations of our results. Two explanations of the non-effect are contamination of the experiment and the presence of other conservative media, which would weaken the impact of Fox News entry. The non-effect could also be explained by selection of only Republican voters into watching Fox News, as we discussed above. The evidence, however, does not support these three interpretations. The results are consistent

¹Dyck and Zingales (2003) and Huberman and Regev (1999), among others, find that media coverage has a large impact on stock returns, even when arguably it conveys no new information.

with rational filtering: voters interpret media coverage and are not swayed on average by media bias (Baron, 2004; Gentzkow and Shapiro, 2004). The results are also consistent with a form of confirmatory bias (Lord, Ross, and Lepper, 1979): Republican and Democratic voters reinforce their prior beliefs, while non-voters reinforce their belief that voting is not worth the effort.

The findings do not support the theory that consumers underestimate the extent of media bias (Mullainathan and Shleifer, 2004) or are subject to persuasion bias (De Marzo, Vayanos, and Zwiebel, 2003). According to these theories, exposure to media slant should systematically alter beliefs and voting behavior.

Our paper also relates to the evidence on shifts in voter turnout following media market expansion. George and Waldfogel (2004) show that, in areas where New York Times circulation expanded in the '90s, voter turnout in local election decreased among likely readers. Gentzkow (2004) finds a similar effect on voter turnout from the expansion of television. Prat and Stromberg (2004) find that the introduction of a private TV channel in Sweden increased voter turnout. We differ from these studies in that (i) we examine the introduction of a politically-slanted media, and (ii) we consider the media effects at a finer geographical level, the town. Unlike these authors, we find no effect on voter turnout of the arrival of a new information source.

Finally, our paper relates to the field experiments on campaign methods to mobilize voters (Gerber and Green, 2000; Imai, forthcoming). These studies examine the impact of door-to-door campaigning, phone calling and mass mailings on voter turnout. They estimate that canvassing and phone calling convince about 5 percent of the subjects, while mailings have a much smaller effect. The most effective methods depend on personal contact, a feature that media exposure does not have.

The remainder of the paper is structured as follows. In Section 2 we provide an overview of the cable industry and of the history of the expansion of Fox News. In Section 3 we discuss the voting and the cable data. In Section 4 we present the empirical results of the paper, first on the Republican vote share and then on turnout. In Section 5 we present interpretations and calibrations of the results and in Section 6 we conclude.

2 Cable Industry and Fox News

Cable industry. The cable industry is a local natural monopoly. Once one company has paid the fixed cost to lay the cables in a town, it is uncommon for a second company to pay the fixed cost as well and enter the local market. In our sample, only ten percent of the towns have two competing cable companies, and only one percent have three or more companies.

A second important feature of the cable industry is the technological constraint on the number of channels. Channels are rationed, and consumers have to take as given the program-

ming choices of the cable company. This generates substantial variation across towns in the programming provided. Established channels like CNN are offered in almost all towns. New channels like Fox News, instead, have to convince local cable companies in order to be added, often at the expense of other channels being dropped.

Cable companies pay a monthly fee, typically between 10 cents and 40 cents per user, to the networks that they carry. Cable companies also pay fees to towns that grant them the right to broadcast. These fees are typically set as part of a 10- to 15-year contract between the cable company and the town. Finally, cable companies get their revenue from their monthly subscriber fees. The amount of the subscriber fee is partly regulated and varies between \$10 and \$60, depending on the cable company and on the tier of service.

Fox News history. Until 1996, the Fox Broadcasting Corporation, a subsidiary of News Corp., mainly produced national news for local affiliates. In March of 1996, Rupert Murdoch, CEO of News Corp., announced the introduction of a 24-hour-a-day cable news channel. The new channel, Fox News Channel, was created to compete with CNN. Prior to the launch of the Fox News Channel, news broadcasts took up a small share of programming of the Fox Broadcasting Corporation, which included channels like Fox Sports, Fox Entertainment, and Fox Family Channel. There was no broadcast news at a national level, and prime time programming on Fox did not include news. The main television sources for news before 1996 were the three major broadcast networks—ABC, CBS, and NBC—, in addition to CNN, distributed solely via cable.

The distribution of Fox News started on October 7, 1996 in a limited number of cable markets. In order to facilitate the spread of the new channel, the Fox Network took the unusual move to offer a one-time payment of \$10 per subscriber to cable companies that included Fox News in its programming. TCI was one of the first cable companies to sign a contract with Fox News and carried the channel already in 1996. After TCI, other cable companies signed agreements with Fox News. After the initial contract was signed by one of these companies, the local affiliates of this company decided whether to include Fox News among the channels transmitted. The timing of the agreement affected the diffusion of Fox News among the affiliates. By November 2000, AT&T Broadband, which acquired TCI Cable in February of 1999, offered Fox News in 33 percent of the 1,538 towns served by AT&T Broadband affiliates (estimate from our sample). Adelphia Communications, instead, had a late agreement with Fox News. By November 2000 only 6.3 percent of the 1,301 towns in our sample served by Adelphia affiliates included Fox News in their broadcast.

In addition to the 24-hour cable programming, Fox News distributes short news segments to local TV stations that are affiliates of Fox Broadcasting. However, the complete programming of Fox News is only available via cable and, for about 12 million subscribers as of 2000, via satellite.²

²As of June 2000, 14,458,000 US households subscribe the a satellite service, but 2 million of

In the expansion of Fox News, the most relevant year for this study is the year 2000. In our sample of 24 States, Fox News is present in 20.3 percent of the towns with cable service. Since the towns reached by Fox News in 2000 were almost twice as large as the remaining towns, Fox News was potentially available to 31.8 percent of the population of these States.³ Overall, in 2000 Fox News reached 51 million households (News Corp., 2001).

Fox News content and programming. A key feature of Fox News for the purpose of this study is the significant differentiation in political coverage relative to CNN and the network news stations. Groseclose and Milyo (2004) use data on citations of think-tanks between 1998 and 2003 to rank the political orientation of news from different media sources. In particular, they impute an ADA score for the media source based on the ADA score of the members of Congress that refer to the same think-tanks.⁴ Their estimation results assign an imputed ADA score for Fox News *Special Report* of 39.7. This score is significantly lower than the score for any of the other mainstream television media (ABC, CBS, CNN, and NBC), with scores between 56.0 (CNN *NewsNight*) and 73.7 (CBS *Evening News*). The news coverage of Fox News, therefore, is assigned a more conservative record compared to all the other TV news channels. Moreover, Fox News coverage is estimated to be to the right of the average US elected official. The *mean score for US House members* is 50.

The study by Groseclose and Milyo may, if anything, underestimate the degree of political differentiation of Fox News. The two Fox News shows with the highest ratings, *The O'Reilly Factor* and *Hannity & Colmes*, are likely more conservative than the *Special Report*, which Groseclose and Milyo use to estimate the ADA citations. Fox's top-rated show, *The O'Reilly Factor*, is named after its confrontational anchor, Bill O'Reilly. The show, which has aired since the beginning of Fox News, now occupies the popular 8pm spot. The show, which hosts mainly journalists and politicians, deals mostly with political topics. It is not meant to be unbiased; in fact, every segment of the show begins with a "Talking Points" memo, in which Bill O'Reilly shares his opinion on a leading news story. The second most popular Fox News programs is *Hannity & Colmes*, a talk show hosted by conservative Sean Hannity and liberal Alan Colmes. The more aggressive Hannity typically prevails over the calmer Colmes. This show has also been part of the programming of Fox News since 1996 and is aired at 9pm.

Fox News Audience. Mere availability of Fox News via cable is not enough to impact voting behavior of the potential audience. A necessary condition is that a substantial share of the audience were watching the Fox News channel by the year 2000. We use survey data

these subscribers do not receive Fox News (Satellite Broadcasting and Communications Association, from <http://www.sbca.com/index.asp>).

³This measure understates the share of population of the 24 US States with Fox News available via cable because some of the largest cities (such as New York) are missing from the data set. These cities almost always have cable systems that offer Fox News, but the offering varies by neighbourhood, making it impossible for us to classify the whole city.

⁴The ADA score is a measure of political orientation created by Americans for Democratic Action.

from the Pew Research Center to document the size and characteristics of the Fox News viewership in the year 2000. The survey center ran its biennial media survey in June 2000 on a representative sample of 3,142 respondents. To maximize comparability with the sample used in this paper, we exclude 276 respondents that state that no cable channel is available in their town. We also drop 345 observations with missing values for one or more of the variables. In the survey, respondents are asked, among other questions, whether they “watch or listen to [a given program] regularly, sometimes, hardly ever, or never”. In Column 1 of Table 1 we report the answer for the “Fox News CABLE Channel” and for the “Cable News Network (CNN)”. Overall, 17.7 percent of respondents reported that they listened to Fox News regularly, and 46.8 percent reported that they listened to it at least sometimes. In comparison, 22.8 percent of respondents claimed to listen to CNN regularly, while 58.7 percent listened to CNN at least sometimes. By the year 2000, therefore, Fox News had reached a substantial share of the population, a share only 20 percent lower than that of CNN.

In Table 1, we also present summary statistics on respondent characteristics for the overall sample (Column 1), for the regular Fox News audience (Column 2), and for the sample of non-regular viewers (Column 3). The regular Fox News audience is significantly more likely to watch CNN than its counterpart, probably reflecting a taste for TV news. The two samples also differ substantially in the education level. The regular Fox News audience is 45 percent less likely to have a college degree (21.7 vs. 35.5 percent). The regular Fox News audience is also more likely to be Hispanic (8.5 vs. 6.7 percent) and almost twice as likely to be African American (14.8 vs. 8.2 percent). There are no large differences in the share of the population living in urban areas, in age or in gender between the two samples.

Turning to the political variables, the political composition of the two groups is surprisingly similar. Among the regular Fox News watchers, 33.6 percent self-identify as Republicans, 32.7 percent as Democrats, the omitted group being the self-identified Independent. Among the rest of the population, the Republican share is slightly lower (30.5), but the numbers are otherwise comparable. In both groups, 67 percent of respondents report that they turnout out to the polls. Perhaps surprisingly, therefore, the political composition of the regular Fox News audience in 2000 does not differ substantially from the composition of the rest of the population.⁵

The survey also asks respondents whether they have cable and satellite. Over the whole sample (Column 1), 73.7 percent of the population reports having cable while only 13.7 percent reports having access to satellite television. The share with cable is higher for the regular Fox News audience, while the share with satellite does not vary.

In Column 4, we provide an alternative characterization of the demographic and political

⁵The share of Republicans in the Fox News audience has increased steadily over time. In the 1998 Pew Survey, Democrats outnumbered Republicans in the audience, while the opposite is clearly true in 2002 and 2004. (Hamilton, 2004).

determinants of Fox News watching. We run a probit regression of the indicator variable for watching Fox News regularly on the controls listed in Table 1, and report the marginal effects. The results confirm the differences in the summary statistics. The two significant determinants of Fox News watching are low education and African American ethnicity. Republicans are 4.5 percentage points more likely to watch Fox News regularly. A cable subscription increases the likelihood of watching Fox News by 7.8 percentage points, while a satellite has only a 3.1 percentage (insignificant) effect. Satellite appears to be used more for entertainment than for access to news. Contamination of the treatment, induced by availability of Fox News via satellite throughout the country, is likely to be limited.

For comparison purposes, we also present the results of parallel probit regressions to predict whether the respondents watch CNN regularly (Column 5) and whether they watch nightly network news (CBS, ABC, NBC) regularly (Column 6). More educated and older respondents are more likely to watch CNN. Self-reported Democrats are 5.5 percentage points more likely to be part of the regular CNN audience, as they are to watch the nightly network news. Additional demographic determinants of the audience for the network news are Hispanic and black ethnicity, and especially older age. Overall, the demographics predicting a regular CNN and network audience differ substantially from the ones predicting Fox News audience. The Fox News audience has a higher share of low-educated, African-American, conservative, and younger respondents.

3 Data

Cable data. We obtained information on programming and contracts in local cable markets from the *Television and Cable Factbook* (Warren, 2001). We use the 2001 edition, which contains information updated as of November 2000, that is, right until the 2000 elections. We did not collect information for the 1996 period, since Fox News became available only in October 1996 and just for a limited number of markets. Each observation is identified by an account number, a principal community⁶, a name, and an owner. A cable company serves up to 100 additional communities in the neighboring region, all listed in the entry. The contract structure includes the price for Basic Service and the price for Expanded Basic Service 1, 2, and 3 (when available). Though basic service programming varies from company to company, the basic service typically includes channels such as C-Span and the ABC Family Channel. In addition, cable companies are required by law to broadcast local television stations as part of their basic service. Expanded basic service, when available, typically offers additional channels such as Comedy Central and Fox Sports for an additional fee over the basic service fee. In our sample, two thirds of the subscribers purchased expanded basic service when available. Finally, cable companies sometimes offer à la carte channels for a fee; HBO is a frequent example.

⁶A principal community is the town where a given local cable company's business office is located.

Since no electronic version of the cable data exists for the year 2000, we collected the most relevant information from a paper copy. We restricted the collection to the 24 states for which we were able to collect town-level election data (Appendix Table 1). For all principal communities in these States, we collected information on communities served, company name, cable owner, number of subscribers, and price for each tier of contract. For each cable account, we collected information on whether CNN and Fox News were included in the cable package and, if so, as part of which contract (Basic or Expanded Basic). Finally, we estimated the total number of channels (excluding the local TV channels) offered by the cable company⁷. Using this information, we created a data set on cable offering for 15,640 local communities in 24 out of the 50 States. Column 1 in Appendix Table 1 shows how programming varied across states in the year 2000. The states with information on the largest number of communities are California (1,086), Michigan (1,306), New York (1,430), Ohio (1,726), and especially Pennsylvania (2,624).

Election data. We collected voting data in the general elections for Presidential, US House, and US Senate races in all the US States which made the data available. For the year 2000 we mostly used data from the Federal Election Project (Lublin and Voss, 2001). For the year 1988, we used data from the Record of American Democracy (ROAD) project (King et al., 1997). For most of the other years, and specifically for 1996, we obtained the information directly from the Election Division of the Secretary of State of each state⁸. An additional source of Presidential voting data for the years 1992 and 1996 is the Atlas Election data (Leip, 2004).

Since the information on cable is available at the town level, we have generated a data set of voting information at the town level. The data collection differs depending on the type of voting data provided by the states. A first group of states—California, Connecticut, Maine, Massachusetts, New Hampshire, New York, Rhode Island, and Vermont—directly provides voting information at the town level, which we employ. A second group of states—Minnesota, Michigan, Montana, Pennsylvania—provides precinct-level voting information with an indication of the town to which each precinct belongs; in this case, we just aggregated the voting information to the town level. Finally, a third group of states—Alaska, Alabama, Arkansas, Iowa, Idaho, Missouri, Ohio, South Carolina, Tennessee, Utah, Virginia, and Wisconsin—only has precinct-level voting information, with precinct names that usually include the name of the town. Examples of precinct names are "02 - Concord Elem School" and "Hot Springs Retirement Hm". For these states, we recover the town name from the precinct name by elimination

⁷In order to save coding time, the total number of channels is estimated using the number of lines in the cable book devoted to the channels in the Basic and Expanded Basic 1, 2, and 3 Services. We then obtain the estimated number of channels by multiplying this number by 2.6, a conversion rate estimated on a subsample of 40 cable companies. Over this subsample, a regression of actual number of channels on forecasted number of channels yields an R^2 of .95 and a coefficient of 1.

⁸Mostly this data was available online but, in some cases, we obtained hard copies or electronic files from the offices.

of numbers and commonly used words, such as "School" and "Church"⁹. Twenty-four US states fall into one of these groups and have voting information available for both years 1996 and 2000. This group of states forms the sample used in this paper. The remaining twenty-six states either do not have electronic precinct-level or town-level voting information available, or have numeric precincts with no conversion table to town available from the State.¹⁰ This procedure generates 25,322 distinct localities over the 24 States. Column 3 in Appendix Table 1 shows how voting data varies across the different States. States like Alabama, Arkansas, and Tennessee have a very large number of localities because often precinct names are incorrectly identified as a locality by our code. Conversely, the New England states have a small number of exactly-identified towns because the election data is reported at the town level.

Census data. For the 24 US states for which election and cable data are available, we collect information on town-level demographics from the 1990 Census and the 2000 Census. More precisely, we obtain the demographic information at the level of "Place", including "Remainders of Place". In order to match the place data with the election and cable data, we transform the place name using the same code employed for the election and cable data. We identify 25,663 places from the 2000 Census and 25,019 places from the 1990 Census.

Matched data. The final sample derives from the match of the cable, the election, and the Census data. The observations are matched by State, County, and Place name. The match between the cable data and the election data reduces the overall sample to 9,270 localities. Of these towns, we drop 308 localities that fail to match to the demographics data from both the 1990 and the 2000 Censuses. We also drop 35 towns for which the cable data does not report the number of channels. Finally, we drop the 297 towns with cable systems that do not offer CNN as part of the cable package. In these (few) towns, cable offerings are typically limited to the re-programming of local cable channels. Their news programming, therefore, is not comparable to the programming of the other towns.¹¹

The final sample includes 8,630 towns, for which we have complete information on cable programming, voting behavior, and town-level demographics. Column 2 of Appendix Table 1 shows the distribution of towns across States in the final sample. The states with the largest number of observations are Pennsylvania (1,778), Michigan (958), and Ohio (941), not surprisingly, given that they are three of the largest States. Overall, the two regions with the greatest number of towns in the sample are the Northeast Census region (41.4 percent) and the Midwest region (42.5 percent). The South (9.5 percent) and the West (6.4 percent) follow.

Figure 1 shows the distribution of observations over the US by county. In the majority of the 1,275 counties in the sample, no town offers Fox News. This is not surprising given that Fox News is available in only about 20 percent of towns. Very few counties have Fox News

⁹The Stata code that translates precinct names into town names is available upon request.

¹⁰We did not collect voting information when only available through the individual counties.

¹¹The results do not vary if we include these towns.

available in all towns. The remaining 315 counties, in which a fraction of the towns offers Fox News, are spread all over the United States.

Column 7 of Appendix Table 1 shows that the town-level data in the final sample covers approximately 60.7 percent of the total population in the 24 States in our sample. The corresponding figure for the voting data is 65.1 percent (Column 8). The coverage rate is lower than 100 percent for three main reasons: (1) we drop from the sample the largest cities like New York which have several cable systems spanning different parts of the city, (2) in states like Missouri, Utah, and Virginia, some of the counties have numeric precinct names that we cannot match to town, and (3) in states like Arkansas and Alabama the complicated patterns of precinct names induce a poor match between the election data and the cable and Census data. The exclusion of large cities or certain counties and the presence of States with a large non-matching rate should not affect the results, as long as the non-match rate is not correlated with Fox News and voting data¹².

Appendix Table 1 allows us also to compare the characteristics of towns in the final sample and in the initial sample. The two groups of towns have comparable Fox News availability (Columns 1 and 2). The initial sample of towns in the voting data has a somewhat higher Republican vote share in 2000 and 1996 (Columns 3 through 6) because the unmatched towns are more likely to be small and rural. Overall, the excluded towns in the 24 States are fairly comparable to the towns in the final sample.

Variables. The main variable of interest from the cable data is the indicator variable $d_{k,2000}^{FOX}$. The variable $d_{k,2000}^{FOX}$ indicates that at least one cable system in town k in year 2000 includes Fox News in either the Basic package or in one of the Expanded Basic packages. Appendix Table 1 shows the average penetration of Fox News in the original sample of cable localities (Column 1) and in the final sample (column 2). Overall, 19 percent (20.9 percent) of the towns offers Fox News in the original (final) sample. In most States, the percentage varies between 10 percent and 30 percent, indicating substantial within-State variation.

Appendix Table 1 also presents information on the voting data. For each town k in year t we denote the total number of votes cast in race j ($j = \text{Pres., Sen., House}$) for the Republican candidate as $V_{k,t}^{R,j}$. Similarly, we denote the total number of votes cast for the Democratic candidate as $V_{k,t}^{D,j}$. We aggregate the total votes cast for other parties into $V_{k,t}^{O,j}$. The main voting variable in the paper is the two-party republican vote share $v_{k,t}^{R,j} = V_{k,t}^{R,j} / (V_{k,t}^{R,j} + V_{k,t}^{D,j})$. As a robustness check, we also use the all-party republican vote share $v_{k,t}^{R,j} = V_{k,t}^{R,j} / (V_{k,t}^{R,j} + V_{k,t}^{D,j} + V_{k,t}^{O,j})$ and the right-wing vote share $v_{k,t}^{R,j} = (V_{k,t}^{R,j} + V_{k,t}^{\text{Ref},j}) / (V_{k,t}^{R,j} + V_{k,t}^{D,j} + V_{k,t}^{O,j})$, where Ref. denotes the Reform party. All these measures are set to missing if the number of votes for either the Republican or the Democratic candidate is zero, usually reflecting an incumbent running unchallenged. Over the final sample, the average two-party Republican vote share is

¹²Below, we show that the results replicate if we exclude States with low match rate.

.561 in the year 2000 (Column 4) and .470 in the year 1996. Since these simple averages weight equally small and large towns, the average Republican vote share in our sample is higher than the population-weighted average.

The second main political outcome we consider is voter turnout. Total turnout $t_{k,t}^j$ in town k for year t and race j is the share of the total number of votes in year t and the population of the town in the same year: $t_{k,t}^j = V_{k,t}^{TOT,j} / Pop_{k,t}$. For year 1996, we compute the town-level population as a linear interpolation between the 1990 and the 2000 levels: $Pop_{k,1996} = Pop_{k,1990} + .6 * (Pop_{k,2000} - Pop_{k,1990})$. The average town-level turnout is .579 in the year 2000 and .550 in the year 1996.¹³ As an alternative measure of turnout $t_{k,t}^{j'}$, we use the log total votes in year t , $\ln(V_{k,t}^{TOT,j})$. The change in this measure over time can be interpreted as the percent change in total votes cast.

4 Empirical results

4.1 Summary statistics

Column 1 of Table 2 presents summary statistics on the 8,634 towns in our sample. In the year 2000, the average cable system included over 29 channels in the Basic and Expanded Basic programming. The mean total population reached by a cable system is 88,882, with a median of 27,471. The mean town population in our sample is 10,415 people, with a median town population of 2,734. The demographic controls from the Census are the share of the population with some college, the share of college graduates, the share of African Americans and of Hispanics, the percentage unemployed, and the share of the town that is urban. These controls are present both in their 2000 value, and in the change in their value between 1990 and 2000. Finally, the political variables are the two-party vote share for Republicans in Presidential elections (1996 and 2000) and the total turnout in Presidential elections (1996 and 2000).

Columns 2 and 3 show the same statistics for the towns that offered Fox News in their programming (Column 2) and towns that did not (Column 3). Towns that offer Fox News have a substantially higher number of channels offered (45.7 versus 24.8). In addition, towns that offer Fox News have almost twice as large a population, are served by cable channels that reach three times as many people, and are more likely to be urban. Turning to the voting data, towns served by Fox News were somewhat more likely to vote Republican in 1996 (48.1 percent versus 46.8 percent), but not in the year 2000 (54.1 percent vs. 53.8 percent). In both years, turnout is comparable in the two samples.

The overall sample of towns spans 217 congressional districts, out of 435 total in the US. For each district, we compute the share of towns in the district which offered Fox News in

¹³See Section 4.5 for a thorough description of the construction of this variable, including the missing values.

the cable programming. Out of the 217 districts, 151 districts include towns that offered Fox News and towns that did not. In our differences-in-differences specification with district fixed effects, the effect of Fox News is estimated on this subgroup of districts. The median district in this subsample of 7,412 towns has 20 percent of towns offering Fox News. Columns 4 and 5 of Table 2 provide summary statistics for observations in this subsample for towns with and without Fox News, respectively. Towns in this subsample are smaller in population but have comparable political behavior and geographical distribution as in the overall sample¹⁴.

We also consider the distribution of Fox News at the finer geographical level of the county. As above, we compute the share of towns that offer Fox News within each of the 1,275 counties. Only 315 counties out of 1,275 incorporate both towns that have Fox News and towns that do not. Figure 1 shows the distribution of these counties. In our empirical specification with county fixed effects, the effect of Fox News is estimated on this subgroup of counties. Within these counties, 44.4 percent of towns offer Fox News. Columns 6 and 7 of Table 2 provide summary statistics for observations in this subsample of 3,473 towns, respectively for the subsample of towns with and without Fox News. Observations in this subsample have similar population and political data as in the subsample with District variation, and are more concentrated geographically in the Northeast and less in the South. The population and voting data is somewhat more similar across towns with and without Fox News than in the original sample. This reflects the fact that towns with and without Fox News in this subsample are close geographical neighbors and therefore are more closely matched on observables.

4.2 Selection

The empirical results in this paper rely on comparing towns with Fox News in their programming in year 2000 to towns without Fox News. Since the assignment of towns into these two groups is not random, we investigate the nature of the selection. We focus in particular on sorting with respect to electoral outcomes, since this is a concern for a causal interpretation of our estimates. Fox News may well have expanded first in more Republican areas, since demand for its services is likely to be higher in these areas. If Republican vote share in 1996 is correlated with changes in vote share between 1996 and 2000, the differences-in-difference estimates are biased.

To investigate this and other forms of selection, we estimate which town-level variables predict the availability of Fox News in 2000. In particular, we include the Republican vote share in presidential elections in 1996 (that is, pre-Fox News), $v_{k,1996}^{R,Pres}$. We estimate a linear probability model:

$$d_{k,2000}^{FOX} = \alpha + \beta v_{k,1996}^{R,Pres} + \Gamma_{2000} X_{k,2000} + \Gamma_{00-90} X_{k,00-90} + \Gamma_C C_{k,2000} + \varepsilon_k, \quad (1)$$

¹⁴The average town size is smaller because districts having either no towns with Fox News or no towns without Fox News tend to be either very rural or very urban districts.

where $X_{k,2000}$ is the set of demographic controls from the 2000 Census, and $X_{k,2000-1990}$ is the set of changes in demographic controls between the 1990 Census and the 2000 Census (see Table 2). In addition to the demographic variables, we control for features of the cable system by including $C_{k,2000}$, deciles in the number of channels provided and in the number of potential subscribers.

In Column 1 of Table 3 we present the results of the regression with the set of demographic controls, but without cable controls ($\Gamma_C = 0$). The estimated $\hat{\beta} = .223$ implies that a 10 percentage point increase in Republican vote share is associated with a 2.2 percentage points increase in Fox News penetration. Urban towns and larger towns are more likely to have Fox News by year 2000. While these demographic variables are significant, they predict a small share of the variance, with a R^2 of .023. In Column 2, we add the non-parametric controls for potential subscribers in the cable system and for number of channels. The additional variables are highly significant and raise the R^2 to .344. Larger cable systems are much more likely to offer Fox News. The introduction of the cable controls lowers the coefficient $\hat{\beta}$ on the Republican vote share by more than half. Moreover, conditional on the cable controls, towns with a declining share of college graduates between 1990 and 2000 were more likely to offer Fox News by year 2000. This is consistent with the Pew Survey evidence that the regular Fox News audience is significantly less educated than the rest of the population (Table 1). However, we also find that a decline in the share of African American is negatively associated with the probability of offering Fox News, in contrast with the survey evidence.

In Column 3 we add state and congressional district fixed effects to control for some of the geographic heterogeneity in Fox News penetration. With these additional geographic controls, specification (1) captures the determinants of within-district Fox News availability. In this specification, there is no evidence that towns with higher Republican vote share are more likely to offer Fox News: the estimated $\hat{\beta} = .0098$ is essentially zero. Given the precision of the estimates, we can reject any substantial effect of pre-existing political composition on availability of Fox News. Moreover, only 3 of 14 demographic controls are significant at the 5% level. This suggests that, once we control for geographic heterogeneity and size of the cable system, availability of Fox News in 2000 is essential idiosyncratic. We obtain similar results when we add county fixed effects in addition to the State and District fixed effects (Column 4).

In Column 5 we replicate the specification in Column 3 with the addition of another political variable, voter turnout in the 1996 Presidential election.¹⁵ As with the case of the Republican vote share, voter turnout in 1996 is uncorrelated with the availability of Fox News in 2000. Finally, in Column 6 we add the growth in the Republican vote share in Presidential elections between 1988 and 1992 to the specification of Column 3. Since town-level data for 1992 is hard to find, this reduces the sample to 3,065 towns. We find that a 10 percentage point

¹⁵The sample is somewhat smaller to insure comparability of the town definition across years; see Section 4.5.

growth in the Republican vote share between 1988 and 2002 increases the likelihood of Fox News availability by 2.5 percentage point, a significant effect.

Overall, we find that the strongest determinant of the availability of Fox News in 2000 is the presence of a cable system with a large number of channels. Once we control for cable size and for geographical heterogeneity, the presence of Fox News in 2000 appears to be largely idiosyncratic. Fox News availability is not systematically related to demographics at the town level. Further, it is orthogonal to both the Republican vote share and voter turnout in the 1996 Presidential elections. The exception to this pattern is the change in the Republican vote share in prior elections, which is correlated with future availability of Fox News.

4.3 Presidential elections

The baseline empirical specification is a standard difference-in-difference estimation. We compare towns where Fox News entered the cable market by the year 2000 with towns where Fox News was not available by the year 2000. We consider the impact of the entry of Fox News on the change in Republican vote share between 1996 and 2000. This strategy exploits the timing of the entry of Fox News. By November 1996, Fox News had been launched in only a few markets, and just one month before the elections. By November 2000, Fox News had an audience that was smaller but nonetheless comparable to that of CNN. The baseline empirical specification is

$$v_{k,2000}^{R,Pres} - v_{k,1996}^{R,Pres} = \alpha + \beta_F d_{k,2000}^{FOX} + \Gamma_{2000} X_{k,2000} + \Gamma_{00-90} X_{k,00-90} + \Gamma_C C_{k,2000} + \varepsilon_k. \quad (2)$$

This specification controls for the same demographics as in Table 3, that is, town-level demographics from the 2000 Census ($X_{k,2000}$), changes in demographics between the 1990 and the 2000 Census ($X_{k,00-90}$), and cable-level controls ($C_{k,2000}$). Column 1 in Table 4 presents the result of specification (2) with only the demographic controls $X_{k,2000}$ and $X_{k,00-90}$. The average value of the dependent variable is .0686, indicating an average 6.89 percentage point increase of vote share for Republicans between the 1996 and the 2000 elections. The estimate for β_F , $\hat{\beta}_F = -.0044$, implies that towns with Fox News became (significantly) more Democratic by four tenth of a percentage point relative to towns without Fox News. The change in vote share for Republicans is more positive in towns with lower population, fewer college graduates, fewer blacks and Hispanics, and higher unemployment in 2000. The change in vote share is also positively correlated with increases in the number of Hispanics and decreases in the number of unemployed workers between 1990 and 2000.

Column 2 presents the results after adding controls for cable size $C_{k,2000}$. A higher number of potential subscribers for cable is strongly negatively correlated with Republican vote shares. The introduction of these controls renders the coefficient β_F on Fox News positive (.001) but insignificantly different from zero. The point estimate suggests that the introduction of Fox News increases the Republican vote share by 1 tenth of a percentage point, a very small

effect. We then introduce district (Column 3) and district and county fixed effects (Column 4). In these specifications the identification of β_F depends on the comparison of neighboring towns with and without Fox News. This specification controls for unobserved differences in voting behavior that are common to a geographic area, and that may be correlated with Fox News availability. In Column 3, the comparison of neighboring towns takes place within a US House district, a geographical unit inhabited on average by 640,000 people. In Column 4, the comparison takes place within a county inside a district¹⁶, a substantially finer geographical unit. The estimate of the effect of Fox News remains small and insignificant, -.0006 and +.0015 respectively.

In Columns 5 and 6, we replicate the results of Columns 3 and 4 after adding the change in Republican vote share between 1988 and 1992 as an additional control. In this specification, the number of observations is reduced to 3,065, since town-level voting data in 1992 is available only for a limited sample of states. The point estimates of β_F are small and comparable to the benchmark ones in Columns 3 and 4. Moreover, the coefficient on change in vote share between 1988 and 1992 is not significant. These findings suggest that, even though Fox News availability in 2000 is correlated with previous vote share changes (Table 3), this correlation is unlikely to bias the estimate of the Fox News effect on voting. The null effect of Fox News, therefore, is robust to the inclusion of past voting trends.

Robustness. In Table 5, we examine the robustness of the results of specification (2) to a number of alternative assumptions. Throughout, we use the full set of controls as well as fixed effects for congressional districts, as in Column 3 of Table 4¹⁷. First, we regress vote share in 2000, $v_{k,2000}^{R,Pres}$, on vote share in 1996, $v_{k,1996}^{R,Pres}$, instead of taking their difference (Column 1). Then, we consider alternative specifications of the dependent variable to take into account the role of third parties, that is, Ross Perot in 1996 and, to a lesser extent, Ralph Nader in 2000. To the extent that towns with Fox News in 2000 are generally more informed about third party candidates, neglecting third parties could lead to a bias in the estimates. Therefore, we consider as alternative dependent variables the all-party Republican vote share $v_{k,t}^{'R,Pres} = V_{k,t}^{R,Pres} / (V_{k,t}^{R,Pres} + V_{k,t}^{D,Pres} + V_{k,t}^{O,Pres})$ (Column 2) and the right-wing-party vote share $v_{k,t}^{''R,j} = (V_{k,t}^{R,Pres} + V_{k,t}^{Ref,Pres}) / (V_{k,t}^{R,Pres} + V_{k,t}^{D,Pres} + V_{k,t}^{O,Pres})$ (Column 3). Finally, we trim the top and bottom 1 percent of the dependent variable to examine the potential impact of outliers (Column 4). In all four cases, the point estimates for $\hat{\beta}_F$ remain essentially zero.

Next, we consider alternative specifications to measure exposure to Fox News. Exposure to Fox News is likely to be higher for towns in which Fox News is provided as part of the Basic cable package, rather than as part of the (more expensive) Expanded package. We add a

¹⁶House Districts sometimes cross county borders. In this case, district and county fixed effects compare towns within the same county and district.

¹⁷The results are similar if we add fixed effects for county, as in Column 4 of Table 4.

dummy for towns with Fox News in the Basic package (Column 5). The estimated coefficient on this dummy, .0045, is marginally significant. However, given that the baseline coefficient on Fox News is negative (-.002), the overall effect of exposure to Fox News in the Basic package is not significantly positive relative to towns with no Fox News. While this specification accounts for differences in exposure to different packages, it does not account for variation across towns in subscription rates to cable. To account for this, we compute $r_{k,t}$, the ratio of the number of Fox News subscribers to the number of potential subscribers. This ratio is zero for towns that do not offer Fox News.¹⁸ The coefficient on this ratio (Column 6), -.0017, replicates the null result of the baseline specification.

We also estimate a specification in which observations are weighted by town population (Column 7) to explore whether the effect differs for larger towns. Finally, we restrict the sample to the States in which the final sample of towns covers at least 40 percent of the State population (Column 8)¹⁹. This specification addresses the concern that attenuation bias due to poor matching between electoral and cable data may contribute to the null effect for Fox News. In both cases, the results of the baseline specification do not change.

Interaction effects. In Table 6, we examine whether the effect of Fox News exposure on the Republican vote share depends on the geographical area, demographic characteristics of the town, or the previous vote share. One explanation for our measured zero effect is that Fox News had differential effects in different areas of the country which net to zero. In Column 1, we allow the result of Fox News to differ between the four Census regions, New England (the omitted category), the Midwest, the West, and the South. We do not find any evidence that the effect of Fox News differs by US region, except for the coefficient on the Midwest that is marginally significantly negative.

In Column 2 we allow the effect of Fox News to be larger for towns with demographic groups that watch it more regularly according to the Pew Survey data (Table 1). In particular, the effect should be larger for towns with more African American and smaller for towns with more college graduates. We do not find any evidence of a significantly different effect for these groups.

Finally, in Columns 3 and 4 we allow the effect of Fox News to differ based upon the Republican vote share in 1996. In particular, in Column 3 we split US States into thirds, depending on the 1996 Republican vote share in the State. We then examine if the Fox News effect is larger for swing States and for Republican States, relative to the omitted category of Democratic States. In Column 4 we do a similar split, except that we divide by congressional district. The point estimates for the Fox News effect are more positive for close States and more Republican states, but none of the interactions is close to being significant.

¹⁸Since subscription information is missing for some towns, 64 towns drop out from this regression.

¹⁹The results are the same if we limit the sample to States with town-level electoral data, as opposed to precinct-level data.

Magnitudes. Overall, across the different specifications, the entry of Fox News into a cable market by the year 2000 does not appear to have increased the Republican vote share in Presidential elections. The result is precisely estimated and robust to controls and alternative specifications. We now evaluate the magnitude of these effects on the election outcome. The benchmark estimates for the Fox News effect on the Republican vote share (Columns 3 and 4 of Table 4) have standard errors of .0015 and .0017. This implies tight confidence intervals for the effect of Fox News: $(-.0036, .0024)$ in Column 3 and $(-.0019, .0049)$ in Column 4. In the specification with district fixed effects, therefore, the 95 percent confidence interval allows us to reject an effect of Fox News on the Republican vote share larger than .24 percentage points. In the specification with county fixed effects, we can reject an effect larger than .49 percentage points.

How large are these effects relative to shifts in vote share between 1996 and 2000? The average change in vote share between 1996 and 2000 for the 8,634 towns in our sample is 6.56 percentage points, with a median change of 6.86 percentage points. The standard deviation of this same measure is 5.44 percentage points. Therefore, our point estimates of the Fox News effect represent about 1/50th of a standard deviation. Even if we consider the upper bound of the 95 percent confidence interval for the effect, the Fox News effect would still be less than 1/10th of a standard deviation, a fairly small effect.

A second way to measure the effect is to compute bounds on the number of votes that Fox News may have shifted in the 2000 Presidential election. We assume that the treatment effect estimated here holds for the 26 States for which we do not have data. The highest treatment effect that is consistent with the data, as we said, is .49 percentage points. In 2000, Fox News had 51 million household subscribers out of 85 million cable households (News Corp., 2001). Therefore, about 60 percent of the US population was in a town with Fox News exposure, that is, was part of the treatment group. The upper bound on the effect of Fox News entry on the Republican vote share is $.6 * (.0049) = .003$, that is, .3 percentage points, approximately 300,000 votes. We should stress that this is an upper bound of the Fox News effect, since the point estimates suggest a zero effect.

4.4 House and Senate elections

The baseline specification shows that overall the introduction of Fox News into cable markets did not significantly affect the propensity of voters to favor the Republican candidate. The estimates, however, could be biased downward in the (unlikely) event that Fox News selects into towns that were turning more Democratic. We control for trends with two specifications. First, we compare Presidential and US House races in the same town. Shifts in town-level political preferences should affect the two races similarly, so this specification controls for these shifts. Moreover, since Fox News does not usually cover House races, Fox News should

impact mainly the Presidential elections.

Second, we compare Senatorial races that received substantial attention in Fox News to Senatorial Races that did not. The trends in voting should be similar across the different races, and the impact of Fox News on voting should be higher for races that are explicitly discussed.

President vs. House. First, we consider how Fox News affects the Republican vote share for Presidential election, relative to the Republican vote share for House elections. The triple-difference specification is:

$$\begin{aligned} \left(v_{k,2000}^{R,Pres} - v_{k,1996}^{R,Pres} \right) - \left(v_{k,2000}^{R,House} - v_{k,1996}^{R,House} \right) = & \alpha + \beta_F d_{k,2000}^{FOX} + \Gamma_{2000} X_{k,2000} + \\ & + \Gamma_{00-90} X_{k,00-90} + \Gamma_C C_{k,2000} + \varepsilon_k. \end{aligned} \quad (3)$$

This specification is equivalent to the baseline specification (2) except that the dependent variable is the double difference of change in vote share for Presidential and House elections. Table 7 reports the findings. In Columns 1 and 2, we present the results of estimation of (3) with the full set of controls and district (Column 1) and county (Column 2) fixed effects. The point estimates for $\hat{\beta}_F$ are small and insignificantly different from zero, with standard errors that are 60-80 percent higher than in the baseline specification. The higher standard errors depend at least in part upon the smaller sample size, given the lack of availability of US House election data for some states. In Columns 3 and 4, we obtain similar results after including a 1988-1992 time trend. In Column 5, we weigh observations by population and obtain a significant negative effect of Fox News. In Column 6, we do not find a significant effect over the subsample of States for which our data covers at least 40 percent of the State population.

The effect of Fox News on the Republican vote share is significantly more positive for close districts and for Republican districts (Column 7), although it is not significantly positive, even for Republican districts. Finally, we replicate the specification of Column 1 using the all-party vote share as an alternative dependent variable. We find no effect for Fox News as in the baseline specification.

Overall, we find little support for a differential effect of Fox News exposure on Presidential elections, relative to House elections.

Featured Senate Races. Senate races are a middle ground between the national Presidential elections and the local House elections. While most Senate races fail to get national coverage, some do get national attention. In 2000, the Senate race that by a wide margin got the most coverage in Fox News was the Hillary Clinton-Rick Lazio race in New York State. The names of these two candidates got 99 overall mentions in the *O'Reilly Factor* and the *Hannity & Colmes* show in the two months prior to the 2000 elections. All the other Senate candidates running in the 2000 campaign combined got a total of 73 mentions, with Joe Lieberman, who

was typically mentioned because of his Vice-Presidential race, getting a lion share of these mentions. In addition, the mentions of the race are to a large extent critical of Hillary Clinton, and supportive of Rick Lazio.²⁰

We examine whether Fox News had a differential effect for the Clinton-Lazio race. We denote by d_{NY} the indicator variable for the New York Senate races. We then estimate the specification

$$\begin{aligned} v_{k,2000}^{R,Sen} - v_{k,1996}^{R,Pres} = & \alpha + \beta_F d_{k,2000}^{FOX} + \phi_F d_{k,2000}^{FOX} * d_{NY} + \\ & + \Gamma_{2000} X_{k,2000} + \Gamma_{00-90} X_{k,00-90} + \Gamma_C C_{k,2000} + \varepsilon_k, \end{aligned} \quad (4)$$

where the coefficient ϕ_F indicates whether the entry of Fox News has a differential effect for featured Senate races as compared to non-featured Senate races. Notice that the dependent variable is the difference of the Senatorial vote share in 2000 and the Presidential vote share in 1996. This specification maximizes sample size: only half of the States with a senatorial race in 2000 have a senatorial race in 1996, and in particular we do not have Senatorial election data for New York for years other than 2000.

Table 8 reports the results. The effect of Fox News on non-featured races is essentially zero, with standard errors of .0020 (Column 1) and .0022 (Column 2). The differential effect of Fox News on the New York race is positive (.0013 and .0022) but not significant. The point estimates are small, but given the larger standard errors (.0045 and .0046), we cannot reject a sizeable effect in New York State of one percentage point. When we introduce as an additional control the change in the presidential vote share between 1988 and 1992, we lose the New York State observations, so we cannot identify the effect for the featured races. The effect on the other races is still not significantly different from zero. In Column 5, we weigh observations by population and find a significantly positive effect for the New York race. The effect is small and insignificant for the subset of States with high data coverage (Column 6). We also find that, in Districts with close races, Fox News exposure has a significantly more positive effect on Senate races than for Democratic districts (Column 7). Finally, we do not find any significant effect when we use the all-party vote share as dependent variable (Column 8).

Overall, we find no evidence of an effect of Fox News for featured races. These findings confirm the null effect of Section 4.3.

4.5 Voter turnout

The main finding in the above Sections is that Fox News entry has no significant impact on the Republican vote share. However, the absence of an effect of Fox News on the Republican vote

²⁰Two excerpts from the "O'Reilly Factor" of 10/31/2000: "Now, I am saying to THE FACTOR viewers, and everyone else who hears what we have to say on this program, that Mrs. Clinton has trouble with honesty"; "Mr. Gore does have some honesty issues about campaign finance, but they pale beside the deceit factory the Clintons have set up".

share could occur for two reasons. First, Fox News entry did not have any effect on average on political behavior. Second, Fox News entry had a polarizing effect on Republicans and Democrats alike and it increased the turnout of both parties symmetrically. In this latter case, Fox News would have affected political behavior, but not the vote share. We use measures of turnout to test these hypotheses.

The baseline regression for voter turnout is:

$$t_{k,2000}^{\text{Pres}} - t_{k,1996}^{\text{Pres}} = \alpha + \beta_F d_{k,2000}^{\text{FOX}} + \Gamma_{2000} X_{k,2000} + \Gamma_{00-90} X_{k,00-90} + \Gamma_C C_{k,2000} + \varepsilon_k, \quad (5)$$

where $t_{k,t}^{\text{Pres}}$ is the ratio of the total number of votes cast in a town divided by population in year t . For the analysis of the turnout data, we need to be careful about states in which the town-level election data is generated from precinct-level data. Since the precinct names change frequently over time, the precincts aggregated into a town in 2000 could differ from the precincts that generate the town observation in 1996. While this is unlikely to substantially affect the estimation of vote share²¹, it may generate substantial noise in the turnout data. Therefore, we drop towns in which the number of precincts in 2000 differs by more than 20 percent from the number of precincts in 1996. We also drop towns with turnout lower than 10 percent or larger than 100 percent. The resulting sample includes 7,849 towns.

Table 9 shows the results. The average change in turnout between 1996 and 2000 is of 3.84 percentage points, reflecting a much tighter race in 2000. The estimates in Column 1 and 2 suggest that Fox News did not have any effect on voter turnout. The point estimates for $\hat{\beta}_F$ are small and negative (-.0021 and -.0024), with small standard errors (.0021 and .0025). The addition of a control for changes in turnout over the period 1988-1992 does not affect the estimates (Columns 3 and 4). We obtain the same null result in weighted regressions (Column 5) and in regressions on the sample of States with high data coverage (Column 6). We find that the impact of Fox News is essentially the same in Districts with a close race and in Republican districts (Column 7). Finally, we also find no significant impact of Fox News availability on turnout when we use the log of total votes cast in Presidential elections as an alternative measure of turnout (Column 8).

Overall, Fox News entry into a market appears neither to have mobilized new voters, nor to have turned voters away from casting ballots.

5 Interpretation

The results in this paper show that one of the most dramatic shifts in media orientation in the past years has had little or no effect on political outcomes. The entry of Fox News into local cable markets does not appear to have affected the vote share for Republicans. We fail

²¹All the results on the Republican vote share replicate in the smaller sample of towns in which the number of precincts does not vary over time.

to detect an effect also for the races to which Fox News programming gave most visibility. Further, exposure to Fox News has not affected turnout to the polls.

We now evaluate the magnitude of the Fox News effect and put forward possible interpretations of our empirical findings. The estimated effect of Fox News exposure on Republican vote share, $\hat{\beta}_F$, is essentially zero. The upper bound of the confidence interval, that is, the highest effect of Fox News that is not rejected by the data, is .0049, half of a percentage point. These figures, however, do not directly address the effect of media bias. In particular, what share of Fox News watchers were convinced by Fox News to vote Republican? Clearly, Republican voters or people that were not watching Fox News could not have been convinced. From an econometric standpoint, we do a calculation of treatment on the treated using the average treatment effect.

5.1 Calibration

We consider a population with two types of towns, town F and town N . We denote by μ_F the share of towns of type F . In town F Fox News is available in the year 2000 on cable, while in town N it is not. We denote by r the share of Republican voters and by d the share Democratic voters before the introduction of Fox News. Consequently, $(1 - r - d)$ denotes the share of non-voters. Following the evidence that the two types of towns have similar political outcomes in the pre-Fox News period (Section 4.2), we assume that r and d are the same in towns F and N .

After the nation-wide introduction of Fox News, a fraction e of the town population is exposed to the new channel. The exposure parameter e is higher in town F than in town N , that is, $e_F > e_N \geq 0$. We allow exposure e_N in town N to be positive because of the availability of satellite (which broadcasts Fox News) in both towns. We also assume that the exposure to Fox News in town j is independent of political affiliation. Again, this builds on the evidence from Section 4.2 that in 2000 the political composition of the Fox News audience was representative of the overall population.

We assume that Fox News convinces a fraction f of its audience to vote Republican. The parameter f therefore captures the causal effect of Fox News on voting. This persuasion rate f applies both to Democratic voters and to non-voters, that is, to a fraction $(1 - r)$ of the Fox News audience e_j , where $j = F, N$. Overall, therefore, the Fox News introduction increases the fraction of people voting Republican by $(1 - r)e_j f$. The two-party vote share v_j in town j , with $j = F, N$, therefore, equals

$$v_j = \frac{r + (1 - r)e_j f}{r + d + (1 - r - d)e_j f}. \quad (6)$$

(Notice that turnout increases since Fox News induces a fraction f of the non-voters to vote Republican.) Using expression (6) for towns F and N , we can now solve for the difference in

vote share between town F and town N , $v_F - v_N$. This difference corresponds to the estimated $\hat{\beta}_F$ in the data. We obtain

$$v_F - v_N = (e_F - e_N) f \frac{d}{t_N t_F}$$

where $t_j \equiv (r + d + (1 - r) e_j f)$ is the turnout in town j . It follows that the fraction of people convinced f is

$$f = \frac{v_F - v_N}{e_F - e_N} \frac{t_N t_F}{d}. \quad (7)$$

Expression (7) is easily interpretable. The numerator of the first term, $(v_F - v_N)$, is the change in Republican vote share due to the availability of Fox News via cable. The larger is the shift in votes, the higher is the impact of Fox News, f . The denominator, $(e_F - e_N)$, normalizes the change in the vote share by the differential exposure to Fox News in town F and N . The larger the difference in exposure, the smaller is the causal effect f for given vote shift $(v_F - v_N)$. Finally, the higher the turnout variables t_F and t_N and the lower the Democratic share d , the smaller the pool of people that was not already voting Republican, and therefore the larger is the impact of Fox News for a given $(v_F - v_N) / (e_F - e_N)$.

We can compute the persuading power f of Fox News, provided that we estimate the terms in expression (7). We evaluate first the political fractions t_N , t_F , and d . The data from the Pew survey in Section 4.2 suggest that the regular Fox News audience does not differ in its turnout rate from the rest of the population, and is only slightly more likely to be Republican. We therefore assume $t_F = t_N = .579$, corresponding to the average turnout rate in the year 2000 in our sample²². We estimate the percentage of Democratic voters d as the product of the turnout rate t and the average two-party vote share in 2000 in our sample, that is, $.579 * .539 = .312$. This implies $t_N t_F / d = 1.074$ and therefore $f = 1.074 * (v_F - v_N) / (e_F - e_N)$.

We estimate the difference in exposure $(e_F - e_N)$ allowing for a share s of the population that subscribes to satellite and a share c that subscribes to cable. We assume that no one subscribes to both, although this hypothesis is immaterial. We also assume that the shares s and c are the same in town F and in town N , that is, they do not depend on whether Fox News is included in the cable programming. The exposure rate e_N in town N is given by $s * E[e|s]$, where $E[e|s]$ is the share of people with satellite that watches Fox News. (Cable does not broadcast Fox News in town N) In town F , the exposure rate is given by $s * E[e|s] + c * E[e|c]$. The difference in exposure rate $(e_F - e_N)$, therefore, equals $c * E[e|c]$. While we do not observe c and $E[e|c]$ directly, we do observe the average exposure $\bar{e} = \mu_F * e_F + (1 - \mu_F) * e_N = \mu_F * (s * E[e|s] + c * E[e|c]) + (1 - \mu_F) * (s * E[e|s])$. It follows that

$$e_F - e_N = c * E[e|c] = \frac{\bar{e} - s * E[e|s]}{\mu_F}. \quad (8)$$

²²The average self-reported turnout in the Pew survey 67 percent, but self-reported turnout is known to overstate the actual figures.

Expression (8) allows us to estimate the difference in exposure $e_F - e_N$ combining Pew survey data from June 2000 and audience data. The Pew Survey data provides us with an estimate of the average Fox News audience \bar{e} . Table 1 shows that 17.7 percent of the people surveyed stated that they listened regularly to the Fox News cable channel, and an additional 29.1 percent said that they listened to it sometimes. In order to be conservative, we assume that only the regular audience is likely to be affected by Fox News, and therefore $\bar{e} = .177$. Also using Table 1, we estimate the average share of population with satellite s to be .137. We estimate $E[e|s]$ as the average share that watches Fox News regularly among satellite subscribers, .1834. Finally, audience data (News Corp., 2001) indicate that Fox News in 2000 reached 51m out of 85m cable households, that is, $\mu_F = 51/85 = .6$. Expression (8) then implies $e_F - e_N = (.177 - .137 * .1834) / (.6) = .253$.

Using these figures and the benchmark estimate for $(v_F - v_N)$ of .0015 (Table 4, Column 4), we obtain a point estimate for f of $1.074 * (.0015 / .253) = .0063$, that is, Fox News convinced 0.63 percent of its listeners that were not already voting Republican to do so. We can also compute an upper bound of the estimates, using the 95 percent confidence interval for $(v_F - v_N)$ of .0049 (Table 4, Column 4). This leads to an estimate for f of $1.074 * (.0049 / .253) = .0208$, suggesting that Fox News convinced at most 2.08 percent of its listeners.

Robustness. We now assess the robustness of the benchmark calibrations to the set of assumptions. The calibration is robust to different estimates of the political parameters t_N , t_F , and d . If, for example, we use the population-weighted town averages of t and d , we obtain $t^2/d = .494/.436 = 1.133$, a very similar ratio to the one in the benchmark calibration. The ratio $t_N t_F / d$ is unlikely to differ substantially from 1.

A key element in the calibrations is the measure of selective exposure $e_F - e_N$. The most direct evidence is available regarding the share of Fox News towns μ_F using aggregate cable availability data. The estimate $\mu_F = 51/85 = .6$, if anything, is likely to be biased upward since it refers to end of year 2000. Using our data for the 24 States, we obtain a lower figure. Mismeasurement in μ_F , therefore, leads at most to overstate the effect of Fox News.

Finally, the measurement of $\bar{e} - s * E[e|s]$ is subject to two biases going in opposite directions. This figure could be understated since we estimate \bar{e} using only the regular Fox News audience and do not include the ones that listen "sometimes" to Fox News. For example, if half of the "sometimes" audience was counted, the differential exposure $e_F - e_N$ would equal $(.322 - .137 * .330) / (.6) = .461$, 80 percent larger than in the baseline calibrations. The figure $\bar{e} - s * E[e|s]$ could instead be overstated if some of the respondents misunderstand the question to apply also to the local Fox affiliate (despite the wording "Fox News CABLE Channel"). Evidence for this is the fact that 13.4 percent of the respondents without cable or satellite state that they nevertheless listen to Fox News regularly. Given this, we can compute a lower bound on differential exposure $e_F - e_N$ as the difference between the regular Fox News audience for people with cable and for people without cable. This leads to $e_F - e_N = (.200 - .139) / .6 = .102$,

an estimate that is sixty percent lower than our benchmark calibration. This estimate is a lower bound for $e_F - e_N$ since measurement error in the cable ownership variable attenuates this difference downward. Consistent with the measurement error interpretation, 7.3 percent of respondents without cable or satellite state that they regularly listen to CNN, a channel clearly available only via cable.

5.2 Explanations

The above benchmark calibrations indicate that the non-effect of Fox News is not due to imprecision of the estimates. The benchmark estimates show that Fox News convinced from 0 to 2.08 percent of its viewers, with the point estimate being 0.63 percent. We consider six explanations for this finding of null effect of media bias upon voting. The first two explanations suggest that there was no new information provided to Fox-News towns relative to non-Fox-News towns. That is, there was no natural experiment in exposure to media bias. The next two explanations maintain that, while there was a natural experiment, exposure to Fox News had no impact on voter beliefs. Finally, the last two explanations suggest that, despite the impact of Fox News entry on beliefs, changes in beliefs did not affect voting behavior.

1. Contamination of the Treatment. A first interpretation is that there was substantial contamination of the Fox News natural experiment. Individuals in towns without the Fox News cable channel may have had exposure to the same information through satellite, through the local Fox affiliates, or through visits to houses of neighboring towns. The numerator of equation (3) implies that the contamination of the treatment is large if a large fraction s is contaminated and the exposure conditional on contamination $E[e|s]$ is large. Contamination via satellite is fairly small, as discussed above, because both s and $E[e|s]$ are relatively small. As for contamination through local TV channels, Fox affiliates offer very limited coverage of Fox News programming²³ and do not include any of the talk shows. Therefore, the conditional exposure $E[e|s]$ is very small. Finally, given that Americans spend on average about 3 hours per day watching television, the occasional visits to neighbors in different towns are unlikely offset the effect of direct exposure (that is, s is very small). Overall, the contamination of the treatment, which would lead to attenuation of the results, is likely to be limited.

2. No Differential Change in Media Coverage. Another interpretation is that there was no differential change in information between Fox-News and non-Fox-News towns. This may have occurred for three reasons. First, Fox News' programming may have become conservative only after the year 2000. There is no evidence pointing in this direction, though. Since the beginning, Fox News aired its trademark conservative shows and identified itself as 'Fair and Balanced' to differentiate itself from the allegedly liberal mainstream media. Sec-

²³Fox affiliates typically air no more than 5 minutes of news from the Fox News Cable programming in a 30-minute nightly news program.

ond, individuals may have had access to the same conservative information as provided by Fox News through other media sources, such as radio and local newspapers. This could have made Fox News entry redundant. However, while other conservative sources of information, such as Rush Limbaugh’s radio program, were broadly available in 2000, their influence is unlikely to be comparable to the influence of a television source such as Fox News. In a June 2000 survey (Pew, 2000), 44.2 percent of respondents reported watching at least 30 minutes of news in television the previous day. This percentage is almost double the percent of respondents that reported reading a newspaper (24.1) or listening to news on the radio (21.3) for at least 30 minutes the previous day. Third, in response to Fox News entry, the other television media (CNN, CBS, ABC, and NBC) may have changed their coverage to the point of making it indistinguishable from the Fox News coverage. However, Groseclose and Milyo (2004) document that over the period 1997-2003 Fox News was substantially to the right of the all the other national television news programs²⁴. Therefore, while Fox News was not the only source of conservative information in the period 1996-2000, access to Fox News programming was still the prime source of conservative information for Americans.

3. Selection of the Audience. To the extent that self-selected Fox News viewers were already Republican voters, we would expect no impact of Fox News introduction on voting. However, as we discussed above, Republicans are only slightly more likely than Democrats to be regular Fox News viewers in the year 2000 (Table 1). Selection of the audience does not explain the results.

4. Rational Filtering. An alternative explanation of the results is that viewers are by and large rational and able to filter out Fox News’s ideological bias. Therefore, whether they watch Fox News or read the Nation, they recognize the bias and extract only the true informational content embedded in the news. A related explanation is that viewers were skeptical of the information from Fox News because of it was a new source of information, whose credibility had to be assessed over time. These viewers may have seen Fox News more as a source of entertainment than as a trustworthy source of news. At first, this theory appears inconsistent with the finding of large effects of watching Fox News on beliefs from survey data (Kull et al., 2003). However, the survey results could be explained by selection, given that in 2003 Fox News viewers were substantially more likely to be Republican (Hamilton, 2004).

5. Confirmatory Bias. Another explanation is that voters are subject to a form of confirmatory bias (Lord, Ross, and Lepper, 1979). Both Republicans and Democrats confirmed their prior beliefs. Non-voters reacted to the polarized reporting by confirming their prior that the existing parties are not worth the effort of voting. This explanation makes the out-of-sample prediction that Fox News entry should affect campaign contributions, since it bolsters beliefs of the most committed voters.

²⁴Groseclose and Milyo (2004) evaluate media bias using slightly different years for each media. (Table 3) The modal period of evaluation is 1997-2003.

6. Voting by Identity. A different explanation, consistent with our empirical results and the results of the Pew survey, is that Fox News impacted people’s beliefs but not their voting decision. Voting decisions may largely depend upon social identity (Akerlof and Kranton, 2000), may be determined by family background or by early age exposure. This explanation implies that Fox News exposure may ultimately affect how people vote but the effect would be discernible empirically only after many years. This identity-based explanation of voting, however, does not explain why vote shares vary substantially between elections.

Overall, the rational filtering story is the most parsimonious explanation for the results in the paper. The audience of the new, conservative media channel appears to take the systematic bias into consideration. An alternative explanation is a form of confirmatory bias, suggesting that Fox News did not change people’s behavior because it just reinforced their prior beliefs. In either case, media bias is likely to have a more limited impact on people’s voting behavior than previously thought, although more evidence is needed on this conclusion.

6 Conclusion

This paper studies the impact of media bias upon voting. We consider one of the most dramatic changes in the US media in recent years, the sudden expansion of the Fox News cable channel from 1996 to 2000. We exploit the natural experiment induced by the timing of the entry of the Fox News channel in cable markets. We estimate the impact of the availability of Fox News in 2000 on the Republican vote share and on voter turnout.

We find no effect of exposure to Fox News on voting behavior. The effect is precisely estimated, so the null result is not due to lack of power. A simple calculation using audience data suggests that exposure to Fox News induced 0 to 2.1 percent of its viewers to start voting for the Republican party, with our most plausible calculation suggesting an insignificant 0.6 percent effect.

The results are consistent with the view that viewers are sophisticated and take into account to a large extent the bias of the source of information. Viewers know that Fox news is conservative and rationally use that knowledge when watching the Fox news programming. An alternative interpretation is a form of confirmatory bias.

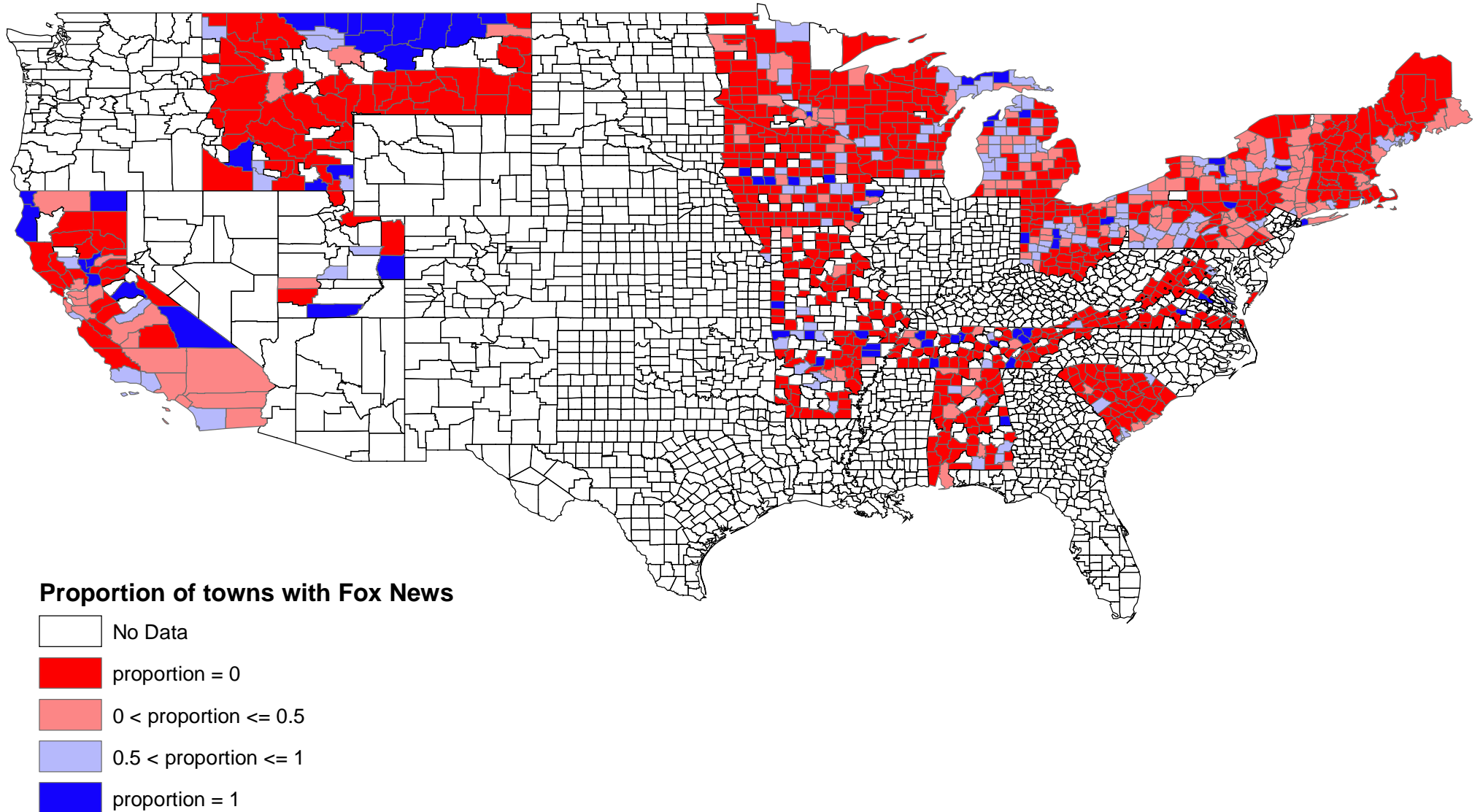
In ongoing research, we consider the impact of Fox News entry on other outcomes, such as campaign contributions. Whereas Fox News does not appear to affect voting behavior on average, it may affect the most committed Republican audience to increase campaign contributions. Fox News may also affect the political platform of local elected officials (Stromberg, 2004). We also hope that more evidence on the introduction of other sources of media bias, such as local papers and radio talk shows, will complement the evidence in this paper.

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Figure 1. Fox News Availability by County, 2000.



Note: Proportion for each county is calculated as the ratio of number of towns with Fox News available via cable to total number of towns in the county. Also, Alaska is not included because it does not have county divisions.

Table 1. Demographic Determinants of News Watching (Pew Data)

	Summary Statistics			Probit Regression		
	All	Sample: Fox News Regular Audience	Fox News Non-Regular Audience	Dependent Variable: Fox News Regular Audience	CNN Regular Audience	Network Regular Audience
	(1)	(2)	(3)	(4)	(5)	(6)
Cable Variables:						
Fox (Regular)	0.177 (0.382)	1.000 (0.000)	0.000 (0.000)			
Fox (Sometimes)	0.468 (0.499)	1.000 (0.000)	0.353 (0.478)			
CNN (Regular)	0.228 (0.419)	0.369 (0.483)	0.197 (0.398)			
CNN (Sometimes)	0.587 (0.493)	0.725 (0.447)	0.557 (0.497)			
Demogr. Variables:						
Some College	0.291 (0.454)	0.300 (0.459)	0.289 (0.454)	-0.041 (0.018)**	0.036 (0.022)	0.044 (0.024)*
College Graduate	0.331 (0.471)	0.217 (0.413)	0.355 (0.479)	-0.114 (0.017)***	0.051 (0.022)**	-0.011 (0.023)
Hispanic	0.070 (0.255)	0.085 (0.279)	0.067 (0.249)	0.037 (0.034)	0.064 (0.039)	0.113 (0.043)***
African American	0.094 (0.291)	0.148 (0.355)	0.082 (0.274)	0.117 (0.034)***	0.027 (0.031)	0.074 (0.037)**
Urban	0.843 (0.364)	0.841 (0.366)	0.844 (0.363)	0.000 (0.023)	-0.033 (0.025)	-0.035 (0.028)
Age	45.046 (18.399)	45.922 (18.283)	44.857 (18.423)	0.000 (0.001)	0.002 (0.001)***	0.006 (0.001)***
Male	0.466 (0.499)	0.456 (0.499)	0.468 (0.499)	-0.001 (0.016)	0.038 (0.017)**	-0.004 (0.019)
Political Variables:						
Republican	0.311 (0.463)	0.336 (0.473)	0.305 (0.461)	0.045 (0.021)**	0.001 (0.021)	-0.005 (0.024)
Democrat	0.316 (0.465)	0.327 (0.470)	0.314 (0.464)	0.006 (0.021)	0.055 (0.022)**	0.047 (0.024)*
Voter Turnout	0.674 (0.469)	0.678 (0.468)	0.673 (0.469)	0.017 (0.019)	0.036 (0.020)*	0.097 (0.022)***
News Availability:						
Cable	0.737 (0.440)	0.808 (0.395)	0.722 (0.448)	0.078 (0.018)***	0.166 (0.016)***	0.024 (0.022)
Satellite	0.137 (0.344)	0.139 (0.346)	0.137 (0.344)	0.031 (0.027)	0.050 (0.029)*	0.008 (0.030)
No. Observations:	<i>N</i> = 2521	<i>N</i> = 447	<i>N</i> = 2074	<i>N</i> = 2521	<i>N</i> = 2521	<i>N</i> = 2521

Notes: Data from Biennial Media Survey, Pew Survey Research, June 2000. Columns 1 through 3 show mean and standard deviation of variables in the whole sample (Column 1) and in subsamples of regular Fox News audience (Column 2) and non-regular Fox News audience (Column 3). Columns 4 through 6 show marginal effect of probit regression of regular exposure to different media on demographics. Dependent variables are indicators for regular Fox News audience (Column 4), regular CNN audience (Column 5), and regular Nightly Network audience (Column 6). Robust standard errors in parentheses.

* significant at 10%; ** significant at 5%; *** significant at 1%

Table 2. Summary Statistics

	All Sample			Mixed Districts		Mixed Counties	
	All Towns (1)	Fox News in 2000 (2)	No Fox in 2000 (3)	Fox News in 2000 (4)	No Fox in 2000 (5)	Fox News in 2000 (6)	No Fox in 2000 (26)
Cable Variables:							
Number of Channels	29.22 (15.63)	45.75 (17.31)	24.84 (11.76)	45.67 (17.44)	24.59 (11.96)	46.27 (17.70)	25.70 (12.34)
Potential Subscribers	88882 (187752)	186176 (332095)	63112 (110533)	159293 (284226)	51300 (92110)	159706 (291418)	63324 (101705)
Voting Variables:							
Vote Share in 1996	0.470 (0.124)	0.481 (0.127)	0.468 (0.123)	0.482 (0.127)	0.471 (0.122)	0.478 (0.129)	0.478 (0.121)
Vote Share in 2000	0.539 (0.126)	0.541 (0.129)	0.538 (0.126)	0.543 (0.128)	0.547 (0.122)	0.539 (0.130)	0.546 (0.121)
Turnout in 1996	0.550 (0.156)	0.554 (0.148)	0.549 (0.158)	0.553 (0.148)	0.546 (0.156)	0.554 (0.138)	0.554 (0.151)
Turnout in 2000	0.579 (0.161)	0.579 (0.153)	0.579 (0.163)	0.578 (0.153)	0.578 (0.161)	0.582 (0.143)	0.584 (0.158)
Demogr. Variables for 2000:							
Population (10,000s)	1.042 (5.496)	1.584 (10.088)	0.898 (3.341)	1.399 (9.680)	0.675 (1.691)	1.473 (10.411)	0.829 (1.996)
Some college	0.256 (0.064)	0.259 (0.064)	0.255 (0.063)	0.257 (0.064)	0.254 (0.064)	0.256 (0.064)	0.251 (0.068)
College	0.189 (0.129)	0.203 (0.137)	0.185 (0.126)	0.199 (0.135)	0.172 (0.114)	0.200 (0.136)	0.190 (0.133)
African American	0.034 (0.097)	0.032 (0.086)	0.034 (0.100)	0.029 (0.077)	0.028 (0.083)	0.029 (0.079)	0.029 (0.058)
Hispanic	0.029 (0.071)	0.029 (0.071)	0.028 (0.071)	0.027 (0.068)	0.025 (0.067)	0.027 (0.070)	0.034 (0.089)
Unemployed	0.032 (0.020)	0.032 (0.020)	0.032 (0.020)	0.032 (0.020)	0.033 (0.020)	0.032 (0.021)	0.034 (0.023)
Urban	0.382 (0.428)	0.482 (0.438)	0.356 (0.422)	0.464 (0.435)	0.320 (0.410)	0.480 (0.436)	0.372 (0.429)
Demographic Variables, Change from 1990 to 2000:							
Population (10,000s)	0.078 (0.468)	0.116 (0.000)	0.068 (0.344)	0.098 (0.000)	0.054 (0.000)	0.104 (0.000)	0.066 (0.000)
Some college	0.041 (0.048)	0.037 (0.045)	0.042 (0.048)	0.038 (0.045)	0.045 (0.049)	0.038 (0.044)	0.039 (0.047)
College	0.037 (0.042)	0.039 (0.043)	0.036 (0.041)	0.039 (0.043)	0.035 (0.040)	0.039 (0.043)	0.038 (0.042)
African American	0.004 (0.026)	0.004 (0.026)	0.004 (0.026)	0.003 (0.026)	0.003 (0.023)	0.004 (0.025)	0.003 (0.023)
Hispanic	0.010 (0.025)	0.010 (0.026)	0.010 (0.024)	0.010 (0.025)	0.009 (0.024)	0.009 (0.026)	0.009 (0.026)
Unemployed	-0.008 (0.024)	-0.007 (0.022)	-0.008 (0.024)	-0.007 (0.022)	-0.008 (0.025)	-0.008 (0.023)	-0.008 (0.026)
Urban	0.082 (0.236)	0.081 (0.234)	0.082 (0.236)	0.084 (0.236)	0.078 (0.238)	0.089 (0.243)	0.084 (0.241)
No. of observations	<i>N</i> = 8634	<i>N</i> = 1808	<i>N</i> = 6826	<i>N</i> = 1745	<i>N</i> = 5667	<i>N</i> = 1498	<i>N</i> = 1975

Notes: Standard deviations in parenthesis. The subset "Fox News in 2000" is formed by the towns with availability of Fox News in 2000 in some cable package. The subset "No Fox in 2000" is the complementary groups of towns. Towns with district variation are towns in districts in which there is at least one town that does not get Fox News and one town that does. Towns with county variation are similarly defined except at the county level. Potential Subscribers is defined as the total population of the towns reached by a cable provider. Republican two-party vote share is the votes received by the republican candidate in the presidential election divided by the votes received by both the republican and democrats candidates. Voter turnout is measured by the total number of voters that turned out in a given town divided by the total population of the town.

Table 3. Selective Penetration of Fox News, Linear Probability Model

	Dep. Var.: Fox News Availability in 2000 in Cable System					
	(1)	(2)	(3)	(4)	(5)	(6)
Pres. Republican Vote Share in 1996	0.2237 (0.0380)***	0.0964 (0.0313)***	0.0098 (0.0369)	-0.003 (0.0413)	0.0104 (0.0399)	0.0179 (0.0554)
Pres. Turnout in 1996					-0.0203 (0.0319)	
Pres. Rep. Vote Share Change 1988-1992						0.2325 (0.1027)**
Demographic controls:						
Population 2000	0.0023 (0.0010)**	-0.0006 (0.0009)	0.0005 (0.0007)	0.0012 (0.0007)	0.0002 (0.0007)	0.0004 (0.0020)
Some College 2000	0.0717 (0.0784)	0.089 (0.0626)	0.0628 (0.0791)	-0.086 (0.0828)	0.1151 (0.0852)	0.2016 (0.1226)
College Grad. 2000	-0.0555 (0.0514)	-0.1091 (0.0398)***	0.0196 (0.0426)	-0.0434 (0.0408)	-0.0093 (0.0476)	0.1637 (0.0620)***
African American 2000	-0.0665 (0.0425)	-0.0272 (0.0348)	0.0509 (0.0531)	0.0802 (0.0599)	0.0383 (0.0609)	-0.1484 (0.0889)*
Latino 2000	-0.2391 (0.0812)***	-0.1231 (0.0833)	-0.0419 (0.1137)	-0.1795 (0.1294)	-0.0792 (0.1172)	-0.4064 (0.2605)
Unemployment Rate 2000	0.446 (0.2736)	0.5472 (0.2360)**	-0.1031 (0.2350)	-0.3755 (0.2374)	0.0108 (0.2592)	0.3985 (0.3794)
Urban 2000	0.1465 (0.0133)***	0.0107 (0.0119)	-0.0118 (0.0117)	-0.0095 (0.0106)	-0.0081 (0.0127)	0.0355 (0.0195)*
Chg Population (00-90)	0.0071 (0.0145)	0.0096 (0.0111)	0.0054 (0.0112)	0.0137 (0.0121)	0.0116 (0.0110)	-0.0167 (0.0178)
Chg Some College (00-90)	-0.1523 (0.1078)	-0.1789 (0.0858)**	-0.2035 (0.0848)**	-0.0538 (0.0800)	-0.2524 (0.0919)***	-0.3377 (0.1306)***
Chg College Grad (00-90)	0.0624 (0.1320)	-0.1034 (0.1049)	-0.2043 (0.0975)**	-0.1756 (0.0870)**	-0.1025 (0.1048)	-0.2486 (0.1484)*
Chg African Am. (00-90)	-0.2196 (0.1718)	-0.2805 (0.1334)**	-0.2818 (0.1318)**	-0.1599 (0.1280)	-0.411 (0.1439)***	0.4265 (0.2477)*
Chg Latino (00-90)	-0.0267 (0.2205)	0.0471 (0.2080)	0.1391 (0.1996)	0.2278 (0.2111)	0.1442 (0.2190)	0.4129 (0.4250)
Chg Unemp. (00-90)	-0.2405 (0.2099)	-0.3811 (0.1793)**	0.1108 (0.1726)	0.2954 (0.1693)*	0.0658 (0.2045)	-0.0227 (0.2704)
Chg Urban (00-90)	-0.0805 (0.0201)***	-0.0545 (0.0159)***	-0.0109 (0.0153)	-0.002 (0.0139)	-0.0154 (0.0166)	-0.0267 (0.0269)
Control for Cable Features		X	X	X	X	X
State and District Fixed Effects			X	X	X	X
County Fixed Effects				X		
R²	0.0231	0.3439	0.4723	0.6924	0.4709	0.5012
N	N = 8634	N = 8634	N = 8634	N = 8634	N = 7566	N = 3065

Notes: Coefficients from linear probability model. The dependent variable is a binary variables that equal one if Fox News was part of the town's local cable package in 2000. Robust standard errors in parentheses.

* significant at 10%; ** significant at 5%; *** significant at 1%

Table 4. The Effect of Fox News on 2000-1996 Presidential Vote Share Change

Dep. Var.: Republican vote share change between 2000 & 1996 Pres. elections						
Two-Party Vote Share						
	(1)	(2)	(3)	(4)	(5)	(6)
Fox News 2000	-0.0044 (0.0011)***	0.001 (0.0014)	-0.0006 (0.0015)	0.0015 (0.0017)	-0.0011 (0.0024)	0.0018 (0.0032)
Pres. Vote Chg. (92-88)					-0.0065 (0.0259)	0.0001 (0.0292)
Demographic controls:						
Population 2000	-0.0002 (0.0001)***	-0.0001 (0.0000)***	-0.0001 (-0.0001)	-0.0001 (-0.0001)	-0.0001 (-0.0003)	-0.0003 (-0.0003)
Some College 2000	0.0376 (0.0101)***	0.0399 (0.0100)***	-0.0864 (0.0150)***	-0.0913 (0.0176)***	-0.0551 (0.0224)**	-0.0574 (0.0266)**
College Grad. 2000	-0.1402 (0.0055)***	-0.1294 (0.0055)***	-0.1396 (0.0057)***	-0.1388 (0.0061)***	-0.1699 (0.0109)***	-0.1631 (0.0108)***
African American 2000	-0.0914 (0.0061)***	-0.0905 (0.0061)***	-0.0858 (0.0077)***	-0.0861 (0.0083)***	-0.0708 (0.0142)***	-0.0714 (0.0150)***
Latino 2000	-0.1197 (0.0096)***	-0.1075 (0.0096)***	-0.085 (0.0134)***	-0.0763 (0.0146)***	-0.0658 (-0.0476)	0.0068 (-0.0584)
Unemployment Rate 2000	0.3989 (0.0442)***	0.3431 (0.0445)***	0.1258 (0.0451)***	0.0885 (0.0453)*	0.174 (0.0771)**	0.0768 (-0.0753)
Urban 2000	-0.0244 (0.0013)***	-0.0153 (0.0014)***	-0.0092 (0.0013)***	-0.0083 (0.0013)***	-0.0104 (0.0023)***	-0.011 (0.0022)***
Chg Population (00-90)	0.0003 (0.0007)	0.0007 (0.0007)	0.0011 (0.0007)	0.0012 (0.0008)	0.003 (0.0024)	0.0019 (0.0027)
Chg Some College (00-90)	0.0334 (0.0180)*	0.025 (0.0182)	0.0724 (0.0188)***	0.0811 (0.0194)***	0.0478 (0.0251)*	0.0633 (0.0264)**
Chg College Grad (00-90)	0.0394 (0.0159)**	0.0454 (0.0157)***	0.0575 (0.0145)***	0.0685 (0.0148)***	0.0679 (0.0277)**	0.0651 (0.0284)**
Chg African Am. (00-90)	-0.0421 (0.0217)*	-0.0353 (0.0217)	-0.0257 (0.0197)	-0.0169 (0.0206)	-0.1101 (0.0449)**	-0.099 (0.0391)**
Chg Latino (00-90)	0.0906 (0.0312)***	0.0742 (0.0300)**	0.0426 (0.0262)	0.0564 (0.0285)**	0.0073 (0.0711)	-0.0321 (0.0843)
Chg Unemp. (00-90)	-0.2606 (0.0407)***	-0.2429 (0.0394)***	-0.1122 (0.0392)***	-0.0806 (0.0370)**	-0.1563 (0.0662)**	-0.0976 (0.0552)*
Chg Urban (00-90)	0.0035 (0.0024)	0.0043 (0.0024)*	0.0054 (0.0022)**	0.005 (0.0022)**	0.0135 (0.0040)***	0.0116 (0.0036)***
Control for Cable Features		X	X	X	X	X
State and District Fixed Effects			X	X	X	X
County Fixed Effects				X		X
R²	0.3025	0.3292	0.5095	0.6615	0.5002	0.6626
N	N = 8634	N = 8634	N = 8634	N = 8634	N = 3065	N = 3065

Notes: An observation in the OLS regression is a town in one of the 24 US States in the sample. The dependent variable is the two-party republican vote share for the 2000 presidential election minus the two-party republican vote share for the 1996 presidential election. Fox News 2000 is a binary variables that equal one if Fox News was part of the town's local cable package in 2000. Robust standard errors in parenthesis.

* significant at 10%; ** significant at 5%; *** significant at 1%

Table 5. The Effect of Fox News on the 2000-1996 Presidential Vote Share Change. Robustness

Dep. Var.: Pres. Republican vote share change between the 2000 & 1996 elections								
Dep. Var.:	Rep. Vote Share 2000	All-Party Vote Share	Right-Wing Vote Share	Two-Party Vote Share				
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Fox News 2000	-0.0005 (0.0014)	0.0005 (0.0015)	-0.0013 (0.0015)	0.0009 (0.0012)	-0.002 (0.0017)		0.0001 (0.0017)	0.0007 (0.0016)
Republican Vote Share in 1996	0.8671 (0.0069)***							
Fox News in Basic Package					0.0045 (0.0025)*			
Share of Population Subscribing to Fox News Cable Package						-0.0017 (0.0041)		
Control Variables:								
Census 2000 and 1990	X	X	X	X	X	X	X	X
Cable System Controls	X	X	X	X	X	X	X	X
State and District Fixed Effects	X	X	X	X	X	X	X	X
Outliers dropped				X				
Weighted Regression							X	
States with High Data Coverage								X
R²	0.9169	0.6092	0.4764	0.5492	0.5097	0.5094	0.6944	0.516
N	N = 8634	N = 8634	N = 8634	N = 8461	N = 8634	N = 8570	N = 8634	N = 7484

Notes: An observation in the OLS regression is a town in one of the 24 US States in the sample. In column (1), the dependent variable is the two-party republican vote share for the 2000 presidential election. In columns (2)-(8), the dependent variable is the Republican vote share for the 2000 presidential election minus the same variables for the 1996 elections. In Column (2) the Republican vote share is compute using the all-party vote share and in Column (3) it is computed including the Reform Party votes together with the Republican votes. In Columns (4) through (8) the vote share refers to the two-party vote share. Fox News 2000 is a binary variable that equals one if Fox News was part of the town's local cable package in 2000. Robust standard errors in parentheses.

* significant at 10%; ** significant at 5%; *** significant at 1%

Table 6. Fox News and the Presidential Vote Share -- Interactions

Dep. Var.: Presid. Republican vote share change between 2000 & 1996				
	(1)	(2)	(3)	(4)
Fox News 2000	0.0021 (0.0020)	-0.0002 (0.0025)	-0.003 (0.0031)	-0.0036 (0.0031)
Fox News * South	-0.0049 (0.0046)			
Fox News * Midwest	-0.0046 (0.0025)*			
Fox News * West	-0.0048 (0.0058)			
Fox News * African American		-0.0026 (0.0139)		
Fox News * College		-0.0015 (0.0084)		
Fox * (.453 < Average 1996 Rep. Vote Share In State < .513)			0.0018 (0.0035)	
Fox * (Average 1996 Rep. Vote Share In State > .513)			0.004 (0.0035)	
Fox * (.428 < Average 1996 Rep. Vote Share In District < .523)				0.0042 (0.0032)
Fox * (Average 1996 Rep. Vote Share In District > .523)				0.0031 (0.0037)
Control Variables:				
Census 2000 and 1990	X	X	X	X
Cable System Controls	X	X	X	X
State and District Fixed Effects	X	X	X	X
R²	0.5097	0.5095	0.5096	0.5096
N	N = 8634	N = 8634	N = 8634	N = 8634

Notes: An observation in the OLS regression is a town in one of the 24 US States in the sample. The dependent variable is the two-party Republican vote share for the 2000 presidential election minus the same variable for the 1996 elections. Fox News 2000 is a binary variable that equals one if Fox News was part of the town's local cable package in 2000. Robust standard errors in parentheses.

* significant at 10%; ** significant at 5%; *** significant at 1%

Table 7. The Effect of Fox News on the Difference between 2000 & 1996 Presidential Minus House Vote Share

Dep. Var.: Presid. minus House Republican vote share change between the 2000 & 1996 elections								
	Two-Party Vote Share							All-Party Vote Share
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Fox News 2000	0.0014 (0.0023)	-0.0032 (0.0031)	-0.0028 (0.0037)	-0.0069 (0.0061)	-0.0091 (0.0045)**	-0.0003 (0.0025)	-0.0101 (0.0039)***	0.0034 (0.0024)
1992-1998 (Pres. - House) Vote Share Change			-0.0109 (0.0101)	-0.0251 (0.0126)**				
Fox * (.453 < Average 1996 Rep. Vote Share In District < .513)							0.0131 (0.0047)***	
Fox * (Average 1996 Rep. Vote Share In District > .513)							0.0193 (0.0050)***	
Control Variables:								
Census 2000 and 1990	X	X	X	X	X	X	X	X
Cable System Controls	X	X	X	X	X	X	X	X
State and District Fixed Effects	X	X	X	X	X	X	X	X
County Fixed Effects		X		X				
Weighted Regression					X			
States with High Data Coverage						X		
R²	0.7135	0.8312	0.6953	0.8124	0.7805	0.7135	0.714	0.7214
N	N = 5963	N = 5963	N = 2050	N = 2050	N = 5963	N = 5135	N = 5963	N = 5963

Notes: An observation in the OLS regression is a town in one of the 24 US States in the sample. For columns (1)-(7), the dependent variable is the two-party Republican vote share for the 2000 Presidential election minus the two-party Republican vote share for the 2000 House election all minus the same difference for the 1996 elections. For column (8) the dependent variable is the same except that we use the all-party Republican vote share rather than the two-party Republican vote share. Fox News 2000 is a binary variable that equals one if Fox News was part of the town's local cable package in 2000. Robust standard errors in parentheses.

* significant at 10%; ** significant at 5%; *** significant at 1%

Table 8. The Effect of Fox News on the 2000 Senatorial Races

Dep. Var.: Republican vote share change between 2000 Senate & 1996 Presidential elections								
	Two-Party Vote Share							All-Party Vote Share
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Fox News 2000	0.0015 (0.0020)	0.0009 (0.0022)	0.0003 (0.0033)	0.0041 (0.0043)	0.003 (0.0027)	0.0022 (0.0021)	-0.0062 (0.0037)*	0.0016 (0.0020)
Fox News * (New York Race)	0.0013 (0.0045)	0.0022 (0.0046)	0.0087 (0.0045)*	0.0007 (0.0046)	-0.0038 (0.0049)	0.003 (0.0043)
1992-1998 Presidential Vote Share Change			-0.07 (0.0272)**	-0.0439 (0.0295)				
Fox * (.453 < Average 1996 Rep. Vote Share In District < .513)							0.0148 (0.0043)***	
Fox * (Average 1996 Rep. Vote Share In District > .513)							0.0022 (0.0052)	
Control Variables:								
Census 2000 and 1990	X	X	X	X	X	X	X	X
Cable System Controls	X	X	X	X	X	X	X	X
State and District Fixed Effects	X	X	X	X	X	X	X	X
County Fixed Effects		X		X				
Weighted Regression					X			
States with High Data Coverage						X		
R²	0.8279	0.8947	0.9026	0.935	0.9257	0.8344	0.8283	0.8566
N	N = 7579	N = 7579	N = 2368	N = 2368	N = 7579	N = 7060	N = 7579	N = 7579

Notes: An observation in the OLS regression is a town in one of the 24 US States in the sample. For columns (1)-(7), the dependent variable is the two-party Republican vote share for the 2000 Senate election minus the two-party Republican vote share for the 1996 Presidential election. For column (8) the dependent variable is the same except that we use the all-party Republican vote share rather than the two-party Republican vote share. Fox News 2000 is a binary variable that equals one if Fox News was part of the town's local cable package in 2000. Robust standard errors in parentheses. For all regression, Fox News is interacted with dummy for New York's senatorial race between Hillary Clinton and Rick Lazio.

* significant at 10%; ** significant at 5%; *** significant at 1%

Table 9. The Effect of Fox News on the Difference between 2000 & 1996 Turnout

Dep. Var.: Turnout change between the 2000 & 1996 elections								
	Total Votes Cast as Share of Population over 18							Log Total Votes Cast
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Fox News 2000	-0.0021 (0.0021)	-0.0024 (0.0025)	0 (0.0038)	-0.0048 (0.0049)	-0.0051 (0.0034)	-0.0022 (0.0020)	-0.0002 (0.0032)	-0.0083 (0.0056)
1992-1998 Turnout			0.0477 (0.0196)**	0.0785 (0.0245)***				
Fox * (.453 < Average 1996 Rep. Vote Share In District < .513)							-0.0017 (0.0039)	
Fox * (Average 1996 Rep. Vote Share In District > .513)							-0.0042 (0.0049)	
Control Variables:								
Census 2000 and 1990	X	X	X	X	X	X	X	X
Cable System Controls	X	X	X	X	X	X	X	X
State and District Fixed Effects	X	X	X	X	X	X	X	X
County Fixed Effects		X		X				
Weighted Regression					X			
States with High Data Coverage						X		
R²	0.4249	0.5851	0.2362	0.4263	0.5537	0.4558	0.425	0.2752
N	N = 7849	N = 7849	N = 2753	N = 2753	N = 7849	N = 6979	N = 7849	N = 8634

Notes: An observation in the OLS regression is a town in one of the 24 US States in the sample. For columns (1)-(7), the dependent variable is the share of total votes cast in the 2000 presidential election over the 2000 population over 18, minus the same measure in 1996. For column (8) the dependent variable is the log of total votes cast in the 2000 Presidential elections minus the same variable in 1996. Fox News 2000 is a binary variable that equals one if Fox News was part of the town's local cable package in 2000. Robust standard errors in parentheses.

* significant at 10%; ** significant at 5%; *** significant at 1%

Appendix Table 1. Summary Statistics by State

	Average Fox News Share in 2000		Average Rep. Vote Share in 2000		Average Rep. Vote Share in 1996		Share of Final to Original Sample	
	Original Sample (1)	Final Sample (2)	Original Sample (3)	Final Sample (4)	Original Sample (5)	Final Sample (6)	Popul. (7)	Votes (8)
Total	0.190 <i>N</i> = 15640	0.209 <i>N</i> = 8634	0.561 <i>N</i> = 25322	0.539 <i>N</i> = 8634	0.483 <i>N</i> = 24834	0.470 <i>N</i> = 8634	0.607	0.652
By State								
Alabama	0.111 <i>N</i> = 506	0.120 <i>N</i> = 166	0.564 <i>N</i> = 1916	0.553 <i>N</i> = 166	0.497 <i>N</i> = 2030	0.503 <i>N</i> = 166	0.287	0.134
Alaska	0.262 <i>N</i> = 65	0.175 <i>N</i> = 40	0.621 <i>N</i> = 295	0.611 <i>N</i> = 40	0.506 <i>N</i> = 303	0.508 <i>N</i> = 40	0.228	0.118
Arkansas	0.234 <i>N</i> = 508	0.218 <i>N</i> = 142	0.526 <i>N</i> = 1583	0.509 <i>N</i> = 142	0.392 <i>N</i> = 1485	0.374 <i>N</i> = 142	0.264	0.183
California	0.236 <i>N</i> = 1086	0.253 <i>N</i> = 400	0.456 <i>N</i> = 473	0.448 <i>N</i> = 400	0.437 <i>N</i> = 469	0.430 <i>N</i> = 400	0.781	0.909
Connecticut	0.164 <i>N</i> = 183	0.163 <i>N</i> = 147	0.438 <i>N</i> = 168	0.437 <i>N</i> = 147	0.426 <i>N</i> = 168	0.425 <i>N</i> = 147	0.827	0.882
Idaho	0.101 <i>N</i> = 179	0.182 <i>N</i> = 88	0.777 <i>N</i> = 387	0.733 <i>N</i> = 88	0.651 <i>N</i> = 378	0.586 <i>N</i> = 88	0.333	0.270
Iowa	0.119 <i>N</i> = 708	0.170 <i>N</i> = 241	0.553 <i>N</i> = 1462	0.521 <i>N</i> = 241	0.484 <i>N</i> = 1475	0.452 <i>N</i> = 241	0.560	0.471
Maine	0.158 <i>N</i> = 385	0.167 <i>N</i> = 299	0.525 <i>N</i> = 512	0.500 <i>N</i> = 299	0.399 <i>N</i> = 512	0.386 <i>N</i> = 299	0.855	0.884
Massachusetts	0.056 <i>N</i> = 377	0.026 <i>N</i> = 272	0.397 <i>N</i> = 351	0.394 <i>N</i> = 272	0.346 <i>N</i> = 351	0.345 <i>N</i> = 272	0.882	0.905
Michigan	0.267 <i>N</i> = 1306	0.302 <i>N</i> = 958	0.554 <i>N</i> = 1417	0.546 <i>N</i> = 958	0.475 <i>N</i> = 1414	0.476 <i>N</i> = 958	0.848	0.882
Minnesota	0.130 <i>N</i> = 866	0.134 <i>N</i> = 648	0.564 <i>N</i> = 2485	0.534 <i>N</i> = 648	0.454 <i>N</i> = 2448	0.431 <i>N</i> = 648	0.727	0.731
Missouri	0.102 <i>N</i> = 791	0.078 <i>N</i> = 154	0.606 <i>N</i> = 1764	0.586 <i>N</i> = 154	0.509 <i>N</i> = 1570	0.482 <i>N</i> = 154	0.033	0.043
Montana	0.149 <i>N</i> = 141	0.211 <i>N</i> = 76	0.715 <i>N</i> = 218	0.678 <i>N</i> = 76	0.584 <i>N</i> = 225	0.539 <i>N</i> = 76	0.532	0.432
New Hampshire	0.000 <i>N</i> = 265	0.000 <i>N</i> = 183	0.539 <i>N</i> = 239	0.530 <i>N</i> = 183	0.466 <i>N</i> = 240	0.459 <i>N</i> = 183	0.899	0.918
New York	0.332 <i>N</i> = 1430	0.281 <i>N</i> = 748	0.548 <i>N</i> = 971	0.538 <i>N</i> = 748	0.480 <i>N</i> = 973	0.472 <i>N</i> = 748	0.342	0.613
Ohio	0.232 <i>N</i> = 1726	0.283 <i>N</i> = 941	0.596 <i>N</i> = 1592	0.583 <i>N</i> = 941	0.518 <i>N</i> = 1563	0.511 <i>N</i> = 941	0.796	0.823
Pennsylvania	0.233 <i>N</i> = 2624	0.266 <i>N</i> = 1778	0.580 <i>N</i> = 2452	0.561 <i>N</i> = 1778	0.524 <i>N</i> = 2455	0.510 <i>N</i> = 1778	0.791	0.849
Rhode Island	0.196 <i>N</i> = 46	0.226 <i>N</i> = 31	0.383 <i>N</i> = 39	0.379 <i>N</i> = 31	0.348 <i>N</i> = 39	0.343 <i>N</i> = 31	0.820	0.838
South Carolina	0.092 <i>N</i> = 306	0.072 <i>N</i> = 195	0.556 <i>N</i> = 1453	0.534 <i>N</i> = 195	0.503 <i>N</i> = 1431	0.477 <i>N</i> = 195	0.566	0.293
Tennessee	0.157 <i>N</i> = 440	0.247 <i>N</i> = 178	0.513 <i>N</i> = 1758	0.512 <i>N</i> = 178	0.481 <i>N</i> = 1761	0.463 <i>N</i> = 178	0.214	0.075
Utah	0.119 <i>N</i> = 194	0.200 <i>N</i> = 40	0.754 <i>N</i> = 348	0.793 <i>N</i> = 40	0.647 <i>N</i> = 138	0.682 <i>N</i> = 40	0.079	0.139
Vermont	0.019 <i>N</i> = 208	0.026 <i>N</i> = 114	0.478 <i>N</i> = 241	0.472 <i>N</i> = 114	0.389 <i>N</i> = 246	0.390 <i>N</i> = 114	0.684	0.724
Virginia	0.101 <i>N</i> = 456	0.122 <i>N</i> = 147	0.569 <i>N</i> = 1570	0.565 <i>N</i> = 147	0.525 <i>N</i> = 1540	0.508 <i>N</i> = 147	0.303	0.224
Wisconsin	0.091 <i>N</i> = 844	0.099 <i>N</i> = 648	0.533 <i>N</i> = 1628	0.530 <i>N</i> = 648	0.448 <i>N</i> = 1620	0.452 <i>N</i> = 648	0.681	0.674

Notes: Summary statistics on voting data and cable data before and after merge of the data.