

Replication Note

The Consequences of Broader Media Choice: Evidence from the Expansion of Fox News*

Daniel J. Hopkins¹ and Jonathan M. Ladd²

¹*Department of Government, Georgetown University, 681 ICC, Washington, DC 20057, USA; dh335@georgetown.edu*

²*McCourt School of Public Policy and Department of Government, Georgetown University, 100 Old North, Washington, DC 20057, USA; jml89@georgetown.edu*

ABSTRACT

In recent decades, the diversity of Americans' news choices has expanded substantially. This paper examines whether access to an ideologically distinctive news source — the Fox News cable channel — influences vote intentions and whether any such effect is concentrated among those likely to agree with Fox's partisan viewpoint. To test these possibilities with individual-level data, we identify local Fox News availability for 22,595 respondents to the 2000 National Annenberg

* We are grateful to Jens Hainmueller, Danny Hayes, Brian Knight, Gabriel Lenz, Jonathan Mummolo, Paul Musgrave, Daron Shaw, Gaurav Sood, the QJPS editors, and the anonymous reviewers for helpful comments. We also acknowledge the tireless research assistance of Christopher Duffner, Katherine Foley, Patrick Gavin, Ryan Kelly, Lindsay Pettingill, Andrew Schilling, Matt Rogers, and Will Tamplin. Ken Winneg of the Annenberg Public Policy Center facilitated our access to restricted data from the 2000 NAES, and Nick Eubank replicated the results. We also thank Stefano DellaVigna and Ethan Kaplan for helpful comments and for publicly posting their town-level Fox News

Online Appendix available from:

http://dx.doi.org/10.1561/100.00012099_app

MS submitted 30 October 2012; final version received 11 December 2013

ISSN 1554-0626; DOI 10.1561/100.00012099

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Election Survey. Overall, we find a pro-Republican average treatment effect that is statistically indistinguishable from zero. Yet, when separating respondents by party, we find a sizable effect of Fox access only on the vote intentions of Republicans and pure independents, a result that is bolstered by placebo tests. Contrary to fears about pervasive media influence, access to an ideologically distinctive media source reinforces the loyalties of co-partisans and possibly persuades independents without influencing out-partisans.

Keywords: Media effects; partisan media; political polarization; vote choice; Fox News.

1 Introduction

In the span of a few decades, the American news media landscape has undergone dramatic changes. Network television and print journalism were once pre-eminent sources of information about politics. But the audiences of both have declined, as Americans turn to cable television, radio, and the Internet for political information (e.g., Baum and Kernell, 1999; Prior, 2007; Hollander, 2008). In 1991, 68% of Americans reported watching network newscasts and 56% reported reading at least one newspaper. By 2010, those figures had dropped to 58% and 31%, respectively (Pew Center for the People and the Press, 2010).¹ News options in the modern era are not just different in number and mode but also in content. Many newer media outlets de-emphasize the “ideal of objectivity” (Schudson, 1978) and attract an audience by providing more overtly ideological perspectives (Gentzkow and Shapiro, 2006; Jamieson and Cappella, 2008; Gasper, 2009; Bernhardt *et al.*, 2008; Stroud, 2008, 2011).

availability data. Previous drafts of this paper were presented at the January 2012 National Capital Area Political Science Association’s American Politics Workshop, the 2012 Annual Meeting of the Midwest Political Science Association, and the May 2013 Princeton University conference “The Political Impact of Media: Economics, Communication, and Political Science Perspectives.” This paper has been successfully replicated by *QJPS* staff, but because the data includes identifying information about respondents’ places of residence, the replication files cannot be made public. Please direct any inquires about the code, data, or methods to the authors.

¹ Measuring media use with ratings data instead of phone surveys shows an even steeper decline. They indicate that from 1980 to 2010, network evening newscasts’ viewership declined by 28.9 million people, or 55.5% (Project for Excellence in Journalism, 2011).

In this article, we address a question that the transformation of the American media landscape has made increasingly important: what is the effect of access to ideologically distinctive news sources on voters' preferences? Researchers have long been interested in the potential of the news media to influence political attitudes and behaviors, whether through partisan reinforcement, priming, framing, direct persuasion, or other mechanisms (see Iyengar and Kinder, 1987; Druckman and Lupia, 2000; Kinder, 2003). But as Bennett and Iyengar (2008) point out, the growth in the number of news options might unsettle past conclusions about media influence, especially recent claims of widespread media persuasion.

The oldest strand of media effects research emphasizes partisan reinforcement — the capacity of news media exposure to reinforce citizens' political predispositions (e.g., Lazarsfeld *et al.*, 1948; Berelson *et al.*, 1954; Abramowitz, 1978; Gelman and King, 1993; Ansolabehere and Iyengar, 1995). Do those findings of partisan reinforcement remain applicable in today's media market? Or might the effects of ideological news outlets differ from those of campaign propaganda, and so influence Americans across the political spectrum (e.g., Dilliplane, 2014)?

To address these questions, we present a case study of the Fox News cable channel, which epitomizes recent changes in the media landscape. In the years after its 1996 introduction, Fox gradually became available on more cable systems, with the proportion of Americans identifying as regular viewers climbing to 23% by 2010 (Pew Center for the People and the Press, 2010). Fox's growth increased the number of news sources available to television viewers and made available a different style of news. Among its innovations, Fox provided more opinion commentary and a more conservative version of news coverage than did its competitors (Groseclose and Milyo, 2005; Jamieson and Cappella, 2008; Gasper, 2011). Fox's programming was ideologically distinctive from its debut, when its prime-time line-up featured programs with prominent conservative hosts such as *The O'Reilly Factor* and *Hannity and Colmes* (see also Groseclose and Milyo, 2005). Increasingly, its audience has reflected the channel's relatively conservative slant: by 2010, Fox's viewership contained over twice as many Republicans as Democrats (Pew Center for the People and the Press, 2010).

Compared to other potential case studies, Fox's gradual expansion also affords unique empirical leverage to estimate the effects of access to an ideologically distinctive news source. One prominent study exploits that Fox

was only available in 20% of U.S. municipalities in 2000 to conclude that Fox News increased town-level support for the GOP presidential candidate by 0.4–0.7 percentage points (DellaVigna and Kaplan, 2007). Still, the literature remains conflicted about Fox News’ town-level influence on voting (e.g., Hainmueller, 2012) — and uncertain about whether its effects are more pronounced among some groups of voters.

This article also uses Fox News’ incomplete availability during the 2000 election to consider the effect of Fox access on presidential voting. Yet instead of using aggregate-level election returns, we combine data from DellaVigna and Kaplan (2007) on which cable systems offered Fox News with individual-level survey data measuring candidate preferences from the National Annenberg Election Survey (NAES). In total, we are able to use respondents’ ZIP codes to identify their town’s Fox News availability for 22,595 respondents in 26 states, giving us substantial statistical power to estimate the effects of access to the channel.

Individual-level data offer several advantages. They enable our analysis to sidestep the ecological inference problem. They allow us to relax key assumptions through the introduction of individual- and ZIP-code level control variables, which we employ alongside town-level controls. Perhaps most importantly, individual-level data make it possible to estimate variation in the impact of Fox News access across political predispositions, an important consideration given the partisan sorting of today’s media audience (e.g., Iyengar and Hahn, 2009; Stroud, 2011; Arceneaux and Johnson, 2013).² The political implications of Fox News — and of today’s more ideologically diverse media market generally — hinge on whether its impact on Republicans, Democrats, and independents is similar.

Our results indicate that the availability of partisan media enhances partisan reinforcement and may persuade independents, but without persuading out-partisans. Overall, the estimated treatment effect of living in a town with Fox News is 1.2 percentage points in the pro-Bush direction, but it is less than 0 in 20% of simulations. The substantial individual-level uncertainty associated with this estimate means that it is consistent both with DellaVigna and Kaplan’s (2007) finding of a small pro-Republican

² The 2000 election offers a valuable opportunity to explore differential effects across partisans because the Fox News audience was less clearly partisan than it is today, a point developed below. A significant number of Democrats were still watching Fox News in 2000, allowing us to test for out-party persuasion or resistance to Fox’s messages.

effect and Hainmueller's (2012) null finding. Yet we do detect a significant pro-Republican effect among respondents more likely to be tuning in to Fox News and less likely to reject its slant. Among Republican identifiers, Republican leaners, and pure independents, the estimated treatment effect is 2.6 percentage points, with a 95% confidence interval from -0.07 to 5.3 percentage points ($p = 0.06$, two-sided).

As the Appendix details, our study goes beyond previous work in other ways as well. It finds positive effects of Fox News availability on George W. Bush's favorability (see also Schroeder and Stone 2013). Yet it detects few effects on other dependent variables, such as political knowledge or the consumption of other news media. We also investigate the process through which Fox News expanded and find results reinforcing Hainmueller's (2012, Online Appendix) concern that Fox News targeted larger cable providers and larger communities. In response, we conduct additional analyses using matching as a pre-processing step to reduce model dependence (Ho *et al.*, 2007) and focus attention on those respondents without Fox News access who are most similar to those with access. Even in this much smaller matched data set, the core result remains robust. As in DellaVigna and Kaplan (2007), two separate placebo tests indicate that Fox News availability in 2003 produces no pseudo-effects on 2000 voting, and that Fox News' availability in 2000 is not conditionally correlated with changes in town-level presidential vote shares between 1992 and 1996. We also find that, conditional on our model, residents in towns with Fox News access in 2000 are not disproportionately Republican. In fact, they are slightly more Democratic. The Appendix details these and other tests, which together indicate that the effects we attribute to Fox News are not driven by Fox moving first into Republican-leaning communities.

2 Media Effects on Voting Preferences

Recent decades have seen shifts in how scholars understand media influence and the empirical strategies they use to study it. This section reviews these approaches as well as their findings. While the terminology in the media effects literature can be inconsistent, we refer to any influence of the news media on attitudes as types of persuasion. In doing so, we follow O'Keefe (2002), who defines persuasion as a successful effort to durably influence another's mental state through communication.

Earlier generations of media scholarship emphasize the media's activation or reinforcement of predispositions (Lazarsfeld *et al.*, 1948; Berelson *et al.*, 1954; Abramowitz, 1978). While contemporary scholarship documents a variety of additional media effects, it continues to find evidence of media-induced partisan reinforcement as well (e.g., Zaller, 1992, 1996; Rahn, 1993; Bartels, 1993; Gelman and King, 1993; Ansolabehere and Iyengar, 1995; Bartels, 2006; Lenz, 2012; Levendusky, 2013). Two mechanisms are likely to underpin partisan reinforcement. The first is selective exposure, wherein people are more likely to consume information that confirms their pre-existing views (e.g., Lazarsfeld *et al.*, 1948; Hollander, 2008; Iyengar and Hahn, 2009; Nie *et al.*, 2010; Stroud, 2008, 2010, 2011; Arceneaux *et al.*, 2012; Arceneaux and Johnson, 2013; but see LaCour, 2013). The second is selective incorporation (also called motivated reasoning), in which those exposed to persuasive political information accept or reject it based on whether it aligns with their prior views (e.g., Zaller, 1992; Lodge and Taber, 2013).³ Through these mechanisms, media exposure can strengthen recipients' existing attitudes as well as leading them to adopt new preferences advocated by their party's elites (Zaller, 1992, 1994; Berinsky, 2009; Levendusky, 2009; Lenz, 2012). Rather than influencing all members of the public in the same way, this media persuasion polarizes preferences by partisanship.

Media research has also explored other types of persuasion (Zaller, 1996; Kinder, 1998, 2003). One way recent scholarship has uncovered media influence is by expanding the range of mechanisms under study to include priming (e.g., Iyengar and Kinder, 1987; Krosnick and Miller, 1997; Althaus and Kim, 2006) and framing (e.g., Nelson *et al.*, 1997; Berinsky and Kinder, 2006; Chong and Druckman, 2007). Because these processes operate through cognitive accessibility (Chong and Druckman, 2007), the effects on attitudes should not be uniform, but instead moderated by the recipient's prior stock of political attitudes. On the other hand, some recent scholarship reports evidence of more straightforward persuasion of both in-partisans and out-partisans (e.g., Bartels, 1993; Hetherington, 1996; Smidt, 2008; Gerber *et al.*, 2009; Ladd and Lenz, 2009; Dilliplane, 2014).

The extent to which media effects are reinforcing for only some voters or more uniformly persuasive may depend on the structure of the media market. As noted in Section 1, the news media environment has fragmented

³ A third possible mechanism, less prominent in prior research, is that certain messages prime partisanship by heightening the mental accessibility of partisan considerations.

in the past 30 years, adding many news sources with clearer ideological slants. Scholarship has already begun to investigate the consequences for public opinion. Greater media choice allows those uninterested in news to avoid it altogether (Prior, 2007) and better enables those who do consume news to select sources with ideological slants that reflect their predispositions (Mullainathan and Shleifer, 2005; Stroud, 2008, 2010, 2011; Iyengar and Hahn, 2009; Nie *et al.*, 2010; Arceneaux *et al.*, 2012). This selective exposure has the potential to enhance partisan reinforcement (Stroud, 2010) and limit other types of persuasive effects (Bennett and Iyengar, 2008).

3 Effects of Ideologically Distinctive Media

In this article, we seek to learn if ideologically distinctive news outlets are persuasive, and if so, for whom. With observational data, in addition to concerns about omitted variable bias, the reciprocal causal relationship between the choice of news outlet and an outlet's slant makes causal inference especially difficult. Still, there is a rich empirical literature on these questions (e.g., Veblen, 1975; Erikson, 1976; Bartels, 1993; Barker, 2002; Druckman and Parkin, 2005; Ladd and Lenz, 2009; Gerber *et al.*, 2009; Dilipplane, 2011; Gentzkow *et al.*, 2011).

One widely cited study is DellaVigna and Kaplan (2007). It examines the effect of Fox News on presidential voting in 2000 by exploiting Fox's incomplete roll-out onto cable systems as a source of plausibly exogenous variation in access. It combines data on which towns' cable systems made Fox available with aggregate-level voting returns from 1996 and 2000. The article reports a significant and moderately sized effect: towns with Fox access saw a 0.4–0.7 percentage point increase in Republican presidential voting.

A key question posed by the existing literature is whether ideologically distinctive news sources such as Fox influence primarily in-partisans or whether the effects are more uniform or even concentrated among out-partisans. DellaVigna and Kaplan (2007, p. 1213) report an interaction between Fox News accessibility and local partisanship, with Democratic towns showing larger treatment effects.⁴ But aggregate data can only provide insights about

⁴ Relatedly, Clinton and Enamorado (2012) find that the introduction of Fox News leads to more conservative voting among Congressional Democrats. Arceneaux *et al.* (2013) find a pro-Republican shift in Congressional voting among both Democrats and Republicans whose constituents have Fox News access in the run-up to an election. Using the 2000, 2004, and 2008

sub-group effects under strong assumptions. To understand who is most influenced by Fox News access, we employ a large, individual-level data set. The use of individual-level data also enables us to reduce model dependence, and helps adjudicate between the conflicting prior results from DellaVigna and Kaplan's (2007) and Hainmueller's (2012) analyses of the town-level data.

4 Data and Methods

Following DellaVigna and Kaplan (2007), we use the incomplete availability of Fox News during the 2000 election to estimate the effects of access to the channel. In the Appendix, we report detailed procedures for using respondents' ZIP codes to identify the corresponding Census-Designated Place (CDP), and with it, respondents' Fox News access in 2000. In all, we were able to identify ZIP codes for 7111 of the CDPs observed in the original town-level data provided by DellaVigna and Kaplan (2007), or 72.3%. Moreover, the towns we were unable to match are disproportionately smaller ones. Our matching procedures can thus identify ZIP codes corresponding to towns that cast 32.2 million presidential votes in 2000.⁵

The NAES surveyed Americans by phone between mid-December 1999 and mid-January 2001, and had 58,373 respondents in all. Of these, 33,063 — 56.6% — lived in one of the 26 states with at least some data on Fox News availability.⁶ As in other analyses of persuasion using geographic variation (e.g., Huber and Arceneaux, 2007), the NAES's large sample size provides substantial statistical power. We are able to use respondents' ZIP codes to match 22,595 respondents to towns for which DellaVigna and Kaplan (2007) provide data on Fox News availability, a number which represents 68% of all NAES respondents in the 26 states.⁷ Prior to listwise deletion, the individual-level data set with Fox News availability includes 10,432

NAES surveys, Schroeder and Stone (2013) report no overall effect of Fox News introduction on political knowledge.

⁵ This constitutes 79.3% of those in the full set of towns used in DellaVigna and Kaplan (2007). Relatedly, the Appendix reports results showing that the original, town-level effect reported in DellaVigna and Kaplan (2007) holds for the subset of their original sample used here.

⁶ The NAES did not collect data for respondents in Alaska or Hawaii, explaining the drop from 28 states in DellaVigna and Kaplan (2007) to 26 here.

⁷ In evaluating this figure, it is important to keep in mind that the original DellaVigna and Kaplan (2007) data do not provide full coverage in these states.

Democratic identifiers or leaners, 8,907 Republican identifiers or leaners, and 3,256 pure independents.

The core assumption underpinning our research design — as well as that of DellaVigna and Kaplan (2007) — is that once we account for observed covariates, there are no systematic differences between towns that had Fox News and those that did not that are related to presidential voting. This identification strategy could face problems if Fox targeted more politically conservative areas in its initial expansion. However, several findings are reassuring on this point, all of which are reported in the Appendix. Conditional on covariates, neither we nor DellaVigna and Kaplan (2007) find that towns with Fox News access in 2000 were more conservative than those without it. Also, placebo tests detailed in the Appendix indicate that once we account for access in 2000, Fox News access in 2003 has no conditional correlation with respondents' vote intentions. Nor does Fox News' availability in 2000 predict changes in town-level presidential vote shares between 1992 and 1996 or Republican partisanship in 2000. After accounting for covariates, there is no empirical evidence that 2000 Fox News access came disproportionately to towns or individuals that were supportive of the GOP.

Furthermore, accounts of Fox's business strategy do not indicate that political geography affected the channel's expansion. Owner Rupert Murdoch's stated goal was to make the channel available to as many people as possible to maximize ratings and revenue. Specifically, his goal was availability to 60 million viewers to rival CNN by 2003 (Kafka, 1999).⁸ Given all this, to the extent that Fox News access is confounded, variables such as the town's size or its number of potential subscribers are likely to be the primary sources of bias.

⁸ To achieve this, Fox offered any cable operator \$10 per subscriber in exchange for an agreement to carry the channel for 10 years, double the typical industry rate (Meroney, 1997; Kafka, 1999). Several large cable companies accepted this offer and carried the channel in their service areas when it launched in 1996, including Cablevision, Comcast, Continental, and TCI, as well as the DirectTV satellite service (Hall, 1997). Initially, Time Warner Cable, which was of special interest because it served New York City, turned down the offer. Owner Ted Turner called Murdoch a "scumbag" and "a pretty slimy character" and compared him to "the late Fuehrer" (Hall, 1997; Collins, 2004, p. 102). But 11 months after Fox's launch, Time Warner relented, meaning that Fox was carried by most of the largest cable companies in the country (Kafka, 1999), though it was still only available in a minority of all towns. This reinforces the notion that, to the extent that Fox News' expansion was non-random, it was not politically driven, but disproportionately concentrated in larger U.S. towns with more cable channels.

5 Modeling Choices

DellaVigna and Kaplan (2007) use a differences-in-differences design, where Fox News availability in 2000 and a long list of other independent variables predict the change in Republican presidential voting between 1996 and 2000. We begin with the same demographic covariates, including each town's 1990 and 2000 population, education level, percent Black, percent Hispanic, employment, unemployment, income, percent married, and percent male.

The intensity of presidential campaigns varies significantly by state (Johnston *et al.*, 2004; Huber and Arceneaux, 2007), so our central models include state fixed-effects. While the models in DellaVigna and Kaplan (2007) employ fixed effects at the county or congressional district levels, our models do so only in robustness checks. This is because of the high levels of collinearity between county- or district-level fixed effects and Fox News availability: 78% of all counties represented in our main data set and 38% of all Congressional districts have no variation in Fox News availability.⁹ Like DellaVigna and Kaplan, we control for the percentage of each town voting for the Republican candidate in 1996. However, we cannot also control for 1996 individual-level vote choice because the NAES rolling cross-section did not include that question.¹⁰

Still, the NAES's individual-level data provide important advantages over town-level data. First, they enable us to control for individual-level predictors of vote choice, such as respondents' gender, racial/ethnic background, marital status, education, union membership, and income, in addition to all the aggregate-level controls used by DellaVigna and Kaplan (2007).¹¹ We also control for two stable attitudinal variables: partisan identification (Green *et al.*, 2002) and identification as a born-again Christian. (Less stable attitudinal variables increase the risk of post-treatment bias.) The individual-level controls reduce the threat of omitted variable biases or aggregation biases not fully captured by town-level variables. For example, two towns could have identical levels of mean income but very different distributions of income, a potentially important fact given the strong and geographically varying relationship between income and vote choice (Gelman

⁹ In fact, 61% of the Congressional Districts represented in our data set have no more than five observations in at least one of the two cells for Fox News availability.

¹⁰ Thus, unlike DellaVigna and Kaplan (2007), this design is not a difference-in-differences design.

¹¹ To reduce assumptions about functional forms, our models include indicator variables for each response category for multi-valued responses such as income and education.

et al., 2008). Overall, there are a variety of potential sources of bias in town-level data that are eliminated through the ZIP code- and individual-level controls.

As detailed above, to differentiate between types of media effects, it is critical to know which groups of prospective voters are influenced. Although not its central focus, DellaVigna and Kaplan (2007) address possible treatment effect heterogeneity by employing interaction terms, including one between Republican districts and Fox News availability. The results indicate a stronger effect in non-Republican districts: “we find that the impact of Fox News is (marginally significantly) larger in urban towns and lower in the Republican districts, significantly so with county fixed effects” (p. 1212). However, due to ecological inference problems (Achen and Shively, 1995; King, 1997), extrapolations from this finding depend on strong assumptions. Certainly, it could be that Democratic identifiers are more influenced by Fox News irrespective of their community. But this result is also consistent with other patterns, such as Republican identifiers being especially influenced when they live in Democratic areas, perhaps because they have fewer co-partisans as local conversation partners. Another advantage of individual-level data is that they allow for the estimation of sub-group effects with weaker assumptions.

To be sure, survey-based measures are distinct from the actual political behaviors — i.e., the revealed preferences — that are of primary interest. However, political surveys provide quite accurate measures of respondents’ votes in most conditions (Keeter *et al.*, 2006; Hopkins, 2009). Our main dependent variable is a binary indicator of whether the respondent intends to vote for Republican presidential candidate George W. Bush (coded as 1) or Democratic candidate Al Gore (coded as 0).

Our baseline model includes an intercept, an indicator for Fox News availability, and a total of 109 other covariates. With the exception of the fixed effects, these models include every independent variable employed by DellaVigna and Kaplan (2007) as well as a variety of ZIP code- and individual-level covariates. Twenty-nine of the variables are individual-level measures, such as the six indicators for different levels of partisan identification or the eight indicators for different income levels. An additional 24 are town-level demographic measures imported from DellaVigna and Kaplan’s (2007) data set. The models also condition on the place-level share of voters supporting the Republican candidate in 1996 and an indicator variable for

communities without cable access. Given that we have each NAES respondent's ZIP code, the models include six ZIP code-level demographics drawn from the 2000 Census, including the percentage Black, percentage Hispanic, percentage with a bachelor's degree, percentage in the same home from 1995 to 2000, population density, and median household income. Especially for larger places, these ZIP-code level measures will further reduce the set of potentially omitted variables. Additionally, the models include 18 indicator variables isolating different aspects of the local cable market, including the number of potential subscribers and the number of available cable channels.¹²

6 Results

The first model begins with the 22,595 NAES respondents for whom we have data on place-level Fox News availability. With listwise deletion, we estimate a logistic regression with 16,768 degrees of freedom. The primary source of missing data comes from the dependent variable, as our initial models treat as missing any respondent who did not report a preference for either Gore or Bush. A total of 2,869 respondents (or 13%) were not asked this question, as it was only asked of randomly selected subsets of respondents in October, November, and December of 2000 and January of 2001.¹³ An additional 379 respondents (2%) reported that they would vote for another candidate, while 628 (3%) indicated that they did not plan to vote. A total of 1,623 respondents (7%) said they did not know, and another 315 (1%) simply provided no answer.¹⁴ As explained in the Appendix, our results are robust to alternative approaches to those who did not report a preference between Bush and Gore, including re-specifying the dependent variable simply as an indicator for Bush support and employing multiple

¹² As both DellaVigna and Kaplan (2007) and Hainmueller (2012) explain, DellaVigna and Kaplan's models are sensitive to certain specification decisions, including whether towns are weighted according to the number of votes cast and whether controls for characteristics of the cable market are included.

¹³ Such missing data is Missing Completely at Random, meaning that it introduces no bias. We retain these respondents in our sample, as they were asked other questions of interest, such as candidate favorability. They also provide information on the covariance of the independent variables that improves the multiple imputation performed as a robustness check.

¹⁴ In addition, 2,455 respondents did not report their incomes (11%), and 137 (1%) did not report their education. Overlaps in these missing responses explain why these numbers sum to more than the total number of missing respondents.

imputation in lieu of list-wise deletion. It is also important to remember that even among the vast majority who reported a preference for Bush or Gore, some portion did not actually vote.

In the full sample, we find only ambiguous evidence of a Fox News effect: the coefficient on living in a place where Fox News is available is 0.061, but with a standard error of 0.072. Clustering the standard errors at the district, county, town, or ZIP-code level has essentially no effect on our estimates of uncertainty.¹⁵ The full fitted model is in Table 1A in the Appendix. It is important to add that the uncertainty associated with a given coefficient is a function not only of the sample size but also of the correlations among the independent variables. In this case, the inclusion of such a large number of ZIP- and town-level variables not only reduces potential biases, but also increases uncertainty about the quantity of interest.

Setting the state to Pennsylvania, respondent race to white, and the other independent variables to their median values, we can estimate the predicted probability that a hypothetical respondent intends to vote for George W. Bush. In a town with Fox News, this citizen is estimated to support Bush 59.5% of the time, while a citizen without Fox News access supports Bush 58.3% of the time. On average, respondents in towns with Fox News are 1.22 percentage points more likely to intend a Bush vote, even conditional on a wide variety of individual- and place-level covariates. This point estimate is larger than the 0.7 percentage point effect estimated by DellaVigna and Kaplan's (2007). Yet the associated standard error is larger than the Fox News coefficient itself, and in 20% of simulations the effect is negative. This finding is thus compatible with both DellaVigna and Kaplan (2007) and Hainmueller's (2012) results. The two-sided p -value is 0.39. We plot both the point estimate and the associated uncertainty at the top of Figure 1, with the thicker line denoting standard deviations and the thinner line denoting the 95% confidence interval. Among all individuals, there is considerable uncertainty about the effect, even with tens of thousands of observations. This

¹⁵ The analyses in DellaVigna and Kaplan (2007) employ standard errors clustered at the level of the Congressional district. However, at the individual level, the district-based intra-class correlation is so low — 0.002 — that standard errors clustered at this level will be little different from those without clustering. We confirm this suspicion empirically, finding that standard errors clustered at the county or district level are slightly *smaller* than typical standard errors, and so employ typical standard errors. The absence of district-level clustering also indicates that statistical approaches which explicitly model spatial autocorrelation are unlikely to differ substantially in the resulting estimates.

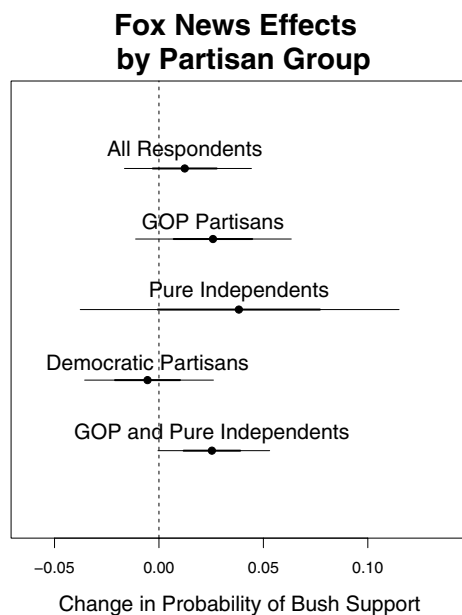


Figure 1. Estimated effect of Fox News access among different partisan groups. The dots indicate the average estimated effect of Fox News, while the thick lines indicate the effect's standard deviation and the thin lines indicate 95% confidence intervals.

uncertainty despite the large sample size could be partially a consequence of treatment effect heterogeneity.

As noted above, prior research on the media in campaigns indicates that partisan reinforcement is a common effect. Citizens often respond to political messages from candidates and news outlets differently depending on their partisan predispositions. Thus, we might expect the effect of access to opinionated media outlets to vary across partisan groups. To test this possibility, we subdivide the population into three groups: Republican identifiers plus independents who lean toward the Republicans, independents who do not lean, and Democratic identifiers plus independents who lean toward the Democrats (see Keith *et al.*, 1992). We then employ the same logistic regression model described above to these subsets, and set all variables to their group-specific medians.¹⁶ This modeling approach is similar to estimating

¹⁶ For all simulations, the state is again set to Pennsylvania to ensure comparability.

an interaction effect between each partisan grouping and Fox News coverage, with the important addition that it allows all other coefficients to vary by partisan grouping as well.

The results are again depicted in Figure 1, and they show evidence of differential effects. For the 7,002 fully observed Republican identifiers and leaners, the average effect of living in a town with Fox News access is 2.6 percentage points, with a corresponding two-sided p -value of 0.16. This is more than twice the point estimate for the sample as a whole. For the 1,725 fully observed pure independents, the effect is slightly larger at 3.7 percentage points. Yet there is so much uncertainty that the corresponding two-sided p -value is 0.34.¹⁷ For Democrats, on the other hand, the estimated effect is actually negative but near zero (-0.5 percentage points), with a two-sided p -value of 0.71. In 90% of simulations, the effect among Republicans is larger than that among Democrats. The heterogeneous effects found by DellaVigna and Kaplan (2007), with Democratic areas more influenced by Fox News, do not have an individual-level analog. Instead, the potential voters who tend to agree with Fox News' overall slant are more likely to be influenced by the channel.

Theories of partisan reinforcement emphasize the influence of communications on people already predisposed to agree. Yet it is also plausible that communications could influence anyone *not* predisposed to *disagree*, a group which in this case includes pure independents. The point estimates above give some suggestions that this is the case, albeit with considerable uncertainty induced by the small share of our respondents who are pure independents (14%). In light of those results, and in light of the possibility that predispositions might prevent persuasion among Democrats, our subsequent analyses combine the Republican identifiers and leaners with the pure independents ($n = 8,727$). Among this group, the same model and posterior estimation strategy yields an estimated effect of 2.6 percentage points, with a 95 percent confidence interval from -0.07 to 5.3 percentage points. The corresponding two-sided p -value is 0.06. These results prove surprisingly insensitive to changes in model specification, as detailed in

¹⁷ Given that many pure independents are disinterested in politics (Keith *et al.*, 1992), we also considered whether there is an interaction between interviewer-assessed political knowledge and Fox News access among this subset of potential voters. In keeping with expectations, the coefficient on that interaction is positive (0.53), but it is estimated with considerable uncertainty (SE = 0.47).

Appendix D. They also prove robust to the use of matching to remove all but the most similar 2,624 respondents, as demonstrated in Appendix E.

In Appendix F, we consider possible treatment effect heterogeneity within the non-Democratic sample, and find an especially strong influence of Fox News access among conservatives and those not registered to vote. The latter finding suggests that Fox might be especially effective at activating the partisan proclivities of a less politically engaged subset of Republicans. Similar patterns appear when the dependent variable is candidate favorability. Towns with Fox News access saw a significant increase in George W. Bush's favorability, and a borderline-significant decline in Al Gore's favorability (see Appendix G). Based on these results and their robustness, we conclude that Republicans and pure independents living in a town with Fox News on its cable systems are more likely to support the Republican presidential candidate.

7 Discussion and Conclusion

To a media consumer from the 1970s, today's news choices would likely be striking both in their number and their ideological diversity. Here, we have analyzed the expansion of Fox News in the lead-up to the 2000 presidential election as a case study to better understand media effects in an era of increasing ideological diversity. Our analysis indicates that Fox News access does not have effects so broad as to alter Democrats' electoral preferences. Instead, the effects are confined to reinforcing the predispositions of Republicans and possibly persuading independents.

Fox News' expansion offers scholars significant empirical leverage to identify the effects of access to ideologically distinctive news (see also Clinton and Enamorado, 2012; Arceneaux *et al.*, 2013; Schroeder and Stone, 2013). Early access to Fox News depended in part on idiosyncrasies related to cable system ownership, allowing us to observe similar voters in similar towns who had or lacked access to the channel. In the decade since 2000, the growth of satellite television and an end to local cable television monopolies in many areas have broken the connection between geography and cable channel access, making it difficult to replicate this research design for more recent elections. As in so many research areas, exogenous variation is historically rare.

At the same time, changes since 2000 have made this question increasingly important, as we have seen Fox's audience grow and become more Republican-leaning (Project for Excellence in Journalism, 2009; Pew Center for the People and the Press, 2010) at the same time that rivals like MSNBC have emerged on the left (Pew Center for the People and the Press, 2010). Our results indicate that Republicans and possibly pure independents were influenced by Fox News access in the run-up to the 2000 election — but it remains an open question if its effects today differ, or if sources like MSNBC produce comparable effects on Democrats. Fox's reputation as a conservative channel grew from 1998 to 2004 (Morris, 2005), making partisan identity an increasingly strong predictor of Fox News exposure. By 2004, Baum and Gussin (2008) demonstrate that merely labeling a story as coming from Fox or CNN shifted Americans' perceptions of the story's content. This phenomenon may have grown even stronger since, as Fox's political slant has become familiar to even more Americans. Future research could productively consider whether similar patterns hold in other types of media, and whether additional opinionated news options serve as complements or substitutes. For instance, does the Fox News effect grow larger or smaller as access to opinionated blogs and websites spreads?

The shift to a more partisan, fragmented media market has resurrected concerns about media influence on public opinion (see also Zaller, 1992, Chapter 12). Some observers worry that today's more diverse and ideological news outlets — whether on television, the radio, or the Internet — might have widespread persuasive effects. Speaking about Fox News, one independent television producer explained: “[w]hen you let a small number of companies have this much concentrated power, they will always abuse it . . . And if you don't change the system we can be having this conversation for the next 50 years and be talking about Rupert Murdoch the third” (Greenwald, 2004). Our results do not eliminate these perpetual fears, but they uncover an important limit on them: Democratic respondents seem unaffected by access to Fox News, suggesting that out-partisans are resistant to media influences contrary to their predispositions.

Instead, the primary concerns validated by our findings relate to mass political polarization. Partisan voting in U.S. presidential elections has increased steadily since the 1970s (Bartels, 2000; McCarty *et al.*, 2006; Levendusky, 2009). The evidence here suggests that the availability of partisan news sources may be one source of that trend. As more explicitly

opinionated sources enter the news marketplace, partisans increasingly can choose outlets that reflect their pre-existing biases. Once chosen, those outlets reinforce viewers' partisan voting tendencies. Channels like Fox News contribute to this cycle of partisan reinforcement.

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