From the Dial to the Aisle: The Effects of Talk Radio

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Abstract

I examine how the sudden and widespread deregulation of radio content in the United States—prompted by the Federal Communication Commission's (FCC) 1987 repeal of the Fairness Doctrine—transformed both local politics and public health outcomes. The Fairness Doctrine, introduced in 1949, required broadcast stations to devote "reasonable attention" to controversial public issues and to "air contrasting sides" of those issues. The sudden repeal of the doctrine led to an immediate and widespread expansion of talk radio, which beccame increasingly dominated by conservative voices and reached tens of millions of weekly listeners throughout the 1990s and 2000s. I find that quasi-exogenous exposure to the rise of conservative talk radio in the aftermath of deregulation created large and persistent increases in Republican vote share in Presidential, Senate, and House elections, which began in the early 1990s following repeal and extend decades later. Beyond voting, I show that areas experiencing greater post-repeal exposure to conservative talk radio also see greater increases in "deaths of despair,"—mortality related to substance use (including overdoses and alcohol-related illness) and suicide. These differences, which begin to surface in the mid-1990s, underscore that partisan media environments and ideological divergences can substantially reshape not only electoral outcomes but also public health, emphasizing the interconnectedness of political and health systems.

JEL Codes: D72, L82, N32, N42, I12

Keywords: media, radio, persuasion, political polarization, voting, health, mortality

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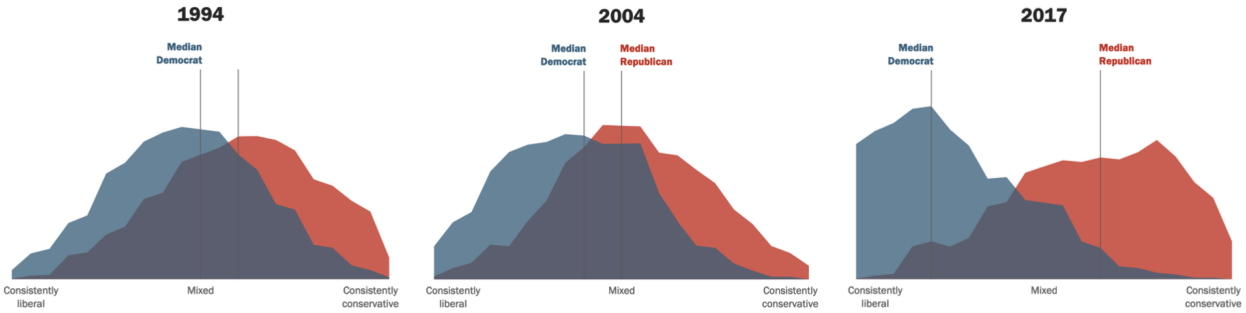
1 Introduction

Political polarization in the United States has risen markedly over the past four decades (Gentzkow, 2016). Republicans and Democrats have become more divided along ideological lines and partisan antipathy is higher now than at any point in the prior thirty years (Pew Research Center, 2014). As shown in Figure 1, three decades ago, the median Democrat and median Republican in the United States had substantial overlap in political opinion, and only 10% of American voters expressed consistently conservative or consistently liberal opinions. By 2014, this number had more than doubled to 21%, with 92% of Republicans having beliefs to the right of the median Democrat, and 94% of Democrats having beliefs to the left of the median Republican. A substantial academic literature has devoted itself to uncovering the causes of this increased polarization, often paying specific attention to the role of increasingly partisan media – spanning television, print newspapers, and the internet – as potential institutions able to change beliefs and encourage ideological segregation among the US populace (DellaVigna and Gentzkow, 2010).

One form of media referenced less often as a cause of contemporary polarization has been talk radio. Wang (2021) and Engist et al. (2024) study the influence of radio in the US in historical settings, but there is little evidence of the role of radio in helping shape contemporary politics and political beliefs. Although popular commentary often assumes that nationally syndicated hosts such as Rush Limbaugh and Sean Hannity shaped voter behaviour—and, more broadly, the populist orientation of the contemporary Republican Party—rigorous empirical evidence on their causal impact remains limited (Zurcher, 2021).

This paper aims to understand the role of talk radio in shaping contemporary voting behavior and polarization in the United States. To study this, we exploit the 1987 repeal of a stringent Federal Communications Commission (FCC) regulation known as the Fairness Doctrine. The Fairness Doctrine was a rule introduced by the FCC in 1949 which stipulated that in order to receive a broadcast license, stations had to both "devote reasonable attention to the coverage of controversial issues of public importance" and, in addition, "air contrasting

Figure 1: Political polarization trends in the United States



Source: Pew Research Center

sides of those issues" (Simmons, 1977). The doctrine has been called "the most successful episode of government censorship of the last half century," and its repeal (part of the sweeping deregulation of Ronald Reagan's presidency) fundamentally changed what content that was allowed on public airwaves (Matzko, 2020).

Using radio market data we digitized from Arbitron (now Nielsen Audio), a consumer research company that collected listener data on radio broadcasting audiences, we show that in the decade following repeal of the Fairness Doctrine, the popularity of talk radio increased rapidly, with a nearly five-fold increase in the number of radio stations broadcasting primarily talk radio content. Moreover, counties that saw the largest post-repeal expansion of talk radio display sustained rightward shifts in presidential, Senate, and House vote shares—shifts absent before the Fairness-Doctrine repeal and still evident in recent elections. To address the endogeneity of growth of talk radio – where talk radio could have grown more rapidly in areas with more latent conservative sentiment – we show that pre-period (i.e. when the Fairness Doctrine was still in effect) characteristics of local radio markets can strongly predict where talk radio would grow most prominent. Specifically, areas with *less* talk radio in the pre-period, but similar overall radio listenership levels and number of stations, experienced the largest growth, where entry was easier with fewer existing talk competitors. We show that areas with more or less talk radio prominence voted similarly in the era of the Fairness Doctrine, with a sharp and persistent divergence following its repeal. We estimate that

the introduction of politicized talk radio led to a 4.7 percentage point shift rightward in presidential elections, a 3.6 percentage point shift rightward in Senate elections, and a 5.9 percentage point shift rightward in House elections. In all analyses, these effects persist through elections more than 30 years after the Fairness Doctrine's repeal.

In addition to political outcomes, this paper also contributes to a growing literature on how media-driven political ideology can shape public health, specifically focusing on "deaths of despair." Case and Deaton (2015, 2021) coined this term in reference to rising rates of mortality involving drugs, alcohol, and suicide—trends that have reshaped overall U.S. mortality patterns in certain demographic groups. Subsequent work has documented that these deaths often cluster in regions experiencing economic distress and cultural upheaval (Montez et al., 2022), as well as areas that tend to support Republican candidates (Oberlander, 2024; Warraich et al., 2022). Recognizing that access to information environments can influence these outcomes, the CDC now includes "access to mass media" among its 12 social determinants of health (for Disease Control and Prevention, 2025). While the bulk of such evidence is observational, recent work has found causal links in the other direction: Arteaga and Barone (2022) find that exposure to prescription opioid marketing increased Republican vote share in House, presidential, and gubernatorial elections. Here, we offer novel causal evidence by examining whether talk radio's conservative turn—and the political shifts it induced—contributed to higher levels of despair-related mortality. In particular, we find that counties with faster post-repeal growth in conservative talk radio experienced pronounced increases in deaths of despair, seen across alcohol-related mortality, overdose, and suicide. By the mid- to late 1990s, these areas exhibit significantly higher despair-related death rates, suggesting that politically polarized local media environments can have profound and unintended consequences for population health.

The paper builds on three main distinct literatures. First is a large literature on the effects of media on political persuasion. Recent academic work in this literature has found that exposure to partisan cable news in the United States (specifically Fox News) increases Republican vote share (e.g. DellaVigna and Kaplan 2007; Martin and Yurukoglu 2017),

while other work has found comparable political persuasion effects of television content in other countries (e.g. Durante et al. 2019; Enikolopov et al. 2011). Other work has studied the role of newspapers, often finding more muted effects. In an experimental setting, Gerber et al. (2009) find that access to free subscriptions to the Washington Times does not affect political knowledge or turnout, but does have minor positive effects on support for Democratic candidates. In a study of newspaper entry in the United States over the past two centuries, Gentzkow et al. (2011) find that the first newspaper entrant into an area has large and positive effects on political participation, with no evidence of effects on party vote shares.

The second strand of literature concerns itself with the effects of radio more broadly, which has linked radio exposure across a variety of settings to changes in political and social outcomes. In the US, the closest works are Wang (2021), who studies Father Charles Coughlin's populist radio show, which attracted as many as 30 million weekly listeners across the US during the 1930s, and Engist et al. (2024), who study political radio in the era of the Fairness Doctrine, from 1950-1970. Wang (2021) finds exposure to Coughlin's anti-Roosevelt diatribes decreased support for Roosevelt in the 1936 election, and that areas with high exposure were more likely to form local branches of the pro-Nazi German-American Bund, and Engist et al. (2024) find small conservative persuasive effects of radio in presidential elections. In other work, Strömberg (2004) finds that areas with more radio listeners received more relief funds in the New Deal, providing evidence for the link between radio listenership (and more broadly, political informedness) and political action. Finally, in work specifically about the influence of Rush Limbaugh, Barker and Knight (2000) employ an observational study to note that listening to Rush Limbaugh is associated with holding similar beliefs as Limbaugh on issues he discusses on his radio show. However, they acknowledge the difficulty of making any credible causal claims about influence, given the selection involved with being a regular listener to the Rush Limbaugh show. This paper uses a research design centered around a natural experiment – the sudden repeal of the Fairness Doctrine, a deregulation which enabled a new brand of politicized broadcasting – to provide long-term causal evidence

of the political effects of talk radio in a contemporary setting, providing evidence that it is a meaningful contributor to increased political polarization seen in the US today.

Finally, we situate our findings within a growing body of work showing that media environments can reshape broader social outcomes. A rich historical literature links incendiary or biased broadcasts to inter-group conflict and violence: local screenings of *The Birth of a Nation* increased lynchings and Ku Klux Klan membership in the early-twentieth-century South (Ang, 2023); the extremist RTLM radio signal fuelled participation in the Rwandan genocide (Yanagizawa-Drott, 2014); BBC radio increased political violence in WWII Italy (Gagliarducci et al., 2020); cross-border Serbian radio increased anti-Serbian sentiment in Croatia (DellaVigna et al., 2014); and Nazi-controlled radio escalated antisemitic acts in pre-war Germany (Adena et al., 2015). Beyond violence, modern entertainment media have been shown to alter health-related behaviors: the staggered roll-out of cable television in rural India reduced fertility and improved women's autonomy (Jensen and Oster, 2009), while exposure to Brazilian soap operas portraying small families likewise lowered fertility rates (Ferrara et al., 2012). Closer to the health outcomes we study, a broad observational literature links political affiliation, partisan environments, and health outcomes, particularly in the domain of "deaths of despair" (e.g., Warraich et al., 2022; Montez et al., 2022; Oberlander, 2024). While most of these studies are descriptive, recent work has shown that exposure to opioid marketing campaigns can significantly shift voting patterns (Arteaga and Barone, 2022). We build on these insights by exploiting the deregulation-induced expansion of conservative talk radio to provide evidence that media-driven political realignments can translate into persistent increases in despair-related mortality, extending the documented social reach of mass communication from collective violence and demographic behavior to population health.

The rest of the paper is organized as follows: section two provides a detailed background of the research setting, the Fairness Doctrine, and the rise of conservative talk radio. Section three describes the various data sources used throughout this project. Section four discusses the empirical strategy for causal identification in this paper, which centers around an in-

strumental variables difference-in-differences design (Duflo, 2001). Section five discusses the paper's results, and section six concludes.

2 Background

The Fairness Doctrine was a policy introduced by the FCC in 1949 which required all holders of broadcast licenses to devote time to contrasting views when discussing contentious matters deemed to be in the public interest. The doctrine was borne out of concern that the three main networks of their time – ABC, CBS, and NBC – could use their broadcasts, which were delivered over publicly-owned airwaves, to advance private interest, rather than serve their communities.

The doctrine had two basic elements: the first was that broadcast stations had to devote airtime to discussing matters of public interest, and the second was that they had to allow for the airing of contrasting views regarding these matters. Failure to comply with the doctrine could lead to the full revocation of one's broadcast license.

While the Fairness Doctrine is clear conceptually, how it worked in practice is a separate issue. The supreme court case *Red Lion Broadcasting Co. v. FCC* (1969) provides a helpful example. In this case, journalist Fred J. Cook, who had recently written a scathing book about senator Barry Goldwater, the Republican Party's 1969 nominee for president, was the topic of a broadcast by Billy James Hargis, Christian evangelist and popular host of the *Christian Crusade* radio station on WGCB in Red Lion, Pennsylvania. Over the course of a 15-minute-long segment, Hargis criticized the book and Cook himself, alleging that Cook was affiliated with Communists. Cook, upon learning about the broadcast, demanded free airtime on WGCB to respond to the allegations, which was permissible under the Fairness Doctrine. Red Lion Broadcasting rejected the request, and the FCC ruled that they had violated the Fairness Doctrine. Red Lion Broadcasting filed suit, arguing the Fairness Doctrine was a violation of their First Amendment rights as broadcasters. The issue was eventually elevated to the Supreme Court, who ruled unanimously in favor of the FCC, arguing that although

broadcasters enjoyed free speech rights under the First Amendment, the FCC could partially restrict these rights to ensure the equitable and public interest use of public airwaves.

There are two main things to glean from the case: the first is that the Fairness Doctrine was enforced with genuine regulatory authority. The second – and perhaps more important – detail to note regards the monetary costs involved with discussing political issues over radio during this era. Beyond allowing for airtime to discuss opposing viewpoints to discuss contentious issues, it's important from a financial standpoint that this airtime was free. Whenever a listener heard a contentious point on a broadcast, they could call in and demand free airtime to explain an opposing side. All in all, this could add up to substantial free airtime given to anyone who wanted opposing viewpoints presented. This was explained by Rush Limbaugh himself in the excerpt below:

> *The way the Fairness Doctrine would work — and it's being set up this way — is professional complainers hear me — take any element of today's show — criticizing Harry Reid, Ted Kennedy. Within minutes the general managers of 600 radio stations would receive phone calls from MoveOn.org-type activists demanding that they get a chance to respond to what I said, and they might put 'em off for a while, but they'd keep calling and keep calling, and if the Fairness Doctrine were law, they would have to grant that, and then the station managers would say, 'To hell with this! We can't run a business this way. This is ridiculous. We're turning over the programming, literally, to people who aren't broadcasters. We're a business,' and so they just cancel all the, quote, unquote, controversial programming and they'd have to go back to, you know, doing things that nobody wanted to listen to, which is what happened when radio was regulated so much in the first place.*
>
> — Rush Limbaugh, *The Rush Limbaugh Show*, June 28, 2007

In this excerpt, Limbaugh specifically references the business incentives as being the limiting factor in facilitating a very restrained radio environment. With the ease of demanding free airtime, and the worries of license revocation with non-compliance, discussing politically contentious matters was not a financially sensible decision for owners of broadcast licenses. Overall, the issues posed by the Fairness Doctrine were salient to broadcasters. Limbaugh mentioned the doctrine in nearly 150 different episodes of his show, and personally attributed the resurgence of talk radio – and its conservative bent – to the repeal of the doctrine (Matzko, 2020). Similar to Limbaugh, Brian Rosenwald notes in his book *Talk Radio's America: How an Industry Took Over a Political party That Took Over the United States* that it was the owners of radio stations who worried about broadcasting politically charged

content, as "the lack of balance might land them in hot water with the FCC" (Rosenwald, 2019). The threat of regulatory compliance, combined with the sometimes-prohibitive costs of allowing for free airtime whenever a controversial issue was discussed, led to near-universal compliance with the doctrine.

When the Fairness Doctrine was in place, radio was dominated by music, and what little talk radio existed was primarily nonpolitical.[1] Rosenwald writes "The talk programming that flourished in a limited range of markets during the 1960s and 1970s sounded nothing like what Limbaugh would bring to the masses... Before the revolution Limbaugh sparked, hosts came in all ideological stripes, and most kept their political views to themselves. New York star Barry Farber believed that most hosts in his era would 'fly down to the Amazon and get our head shrunk before it would occur to attack the President'" (Rosenwald, 2019).

The nature of radio in the US changed substantially when the Fairness Doctrine was repealed. In 1985, during the Reagan administration, the FCC released a report stating that the doctrine both hurt the public interest and violated First Amendment rights. On August 4, 1987, the FCC repealed the Fairness Doctrine entirely. In June 1987, before the FCC decision was made, Congress attempted to bypass the FCC decision and codify the doctrine. The bill passed but was eventually vetoed by president Ronald Reagan.

With the Fairness Doctrine no longer in place, radio became a much more permissive environment. Hosts were free to discuss issues without FCC requirements to provide fair or balanced coverage. This change, combined with recent advances in satellite technology that made national syndication cheaper and easier, led to a rapid rise in the popularity talk radio. As shown in Figure 2, talk radio listenership grew over 38% between 1987 and 1998, while all other radio grew only 4%. The rise in popularity also coincides with the repeal of the Fairness Doctrine: in the five years before the repeal, talk radio listenership was flat or slightly decreasing, with a surge in popularity occurring in 1988, immediately after repeal.[2]

[1] There are some exceptions to this rule, such as in Engist et al. (2024).

[2] The immediacy of the increase in listenership should not be surprising, given how quickly hosts reacted. For example, Rush Limbaugh's talk show on WABC-AM in New York City was first nationally syndicated on August 1, 1988, less than one year after the doctrine's repeal.

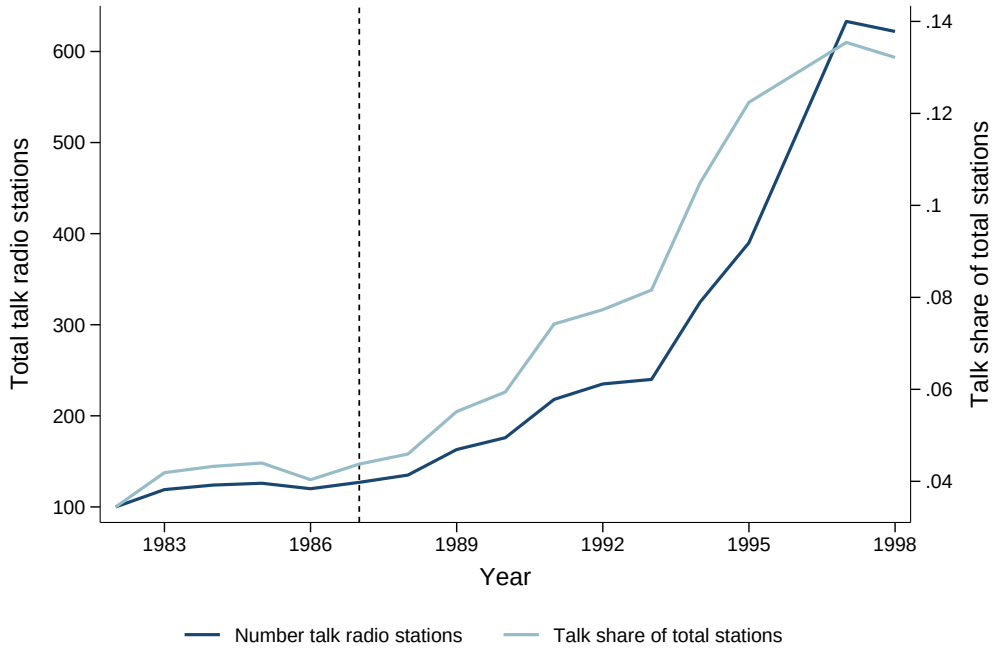
Figure 2: Talk radio vs. other radio growth over time

Notes: This figure plots growth in talk radio vs. grown in all other forms of radio from 1982 to 1999 among Arbitron-tracked markets. The left Y-axis plots total talk radio listenership over time, measured as the average total number of people listening to a station for at least 5 minutes within a 15-minute period (measured from 6am-midnight Monday-Friday). This measure is called average quarter-hour persons and is the standard measure of listenership in radio broadcasting. The right Y-axis contains the same measure for all forms of radio besides talk radio.

Beyond listenership, in the decade following radio deregulation, the number of talk radio stations grew substantially, shown in Figure 3. Similar to Figure 2, the number of talk radio stations was flat in the years prior to deregulation, with a steady increase happening after 1987. Ten years after repeal of the doctrine, the number of talk radio stations had grown from 127 to 633, a nearly five-fold increase, and the overall share of total radio stations devoted to talk radio had also grown considerably.

While the national trends show an immediate rise in talk radio popularity following deregulation, there was substantial geographic variation in its popularity. This is shown in Appendix Figure A1, which displays the cross-sectional distribution of weekly listening across radio markets in 1987 and 1997, as well as the cross-market distribution of talk radio's share of total radio listenership. The share of people who were weekly listeners to talk radio

Figure 3: Growth in talk radio stations over time



Notes: This figure plots growth in talk radio stations over time. The left Y-axis plots the total number of talk radio stations, while the left Y-axis plots the share of total stations (AM and FM) devoted to talk radio.

increased 40%, shown in panel (a), and the talk radio's share of the average radio market increased by nearly 60%, shown in panel (b). Both distributions shift to the right in the years following deregulation, but preserve a substantial amount of variation across markets in talk radio listenership.

Increases in listenership were driven by the introduction of new kinds of talk radio, which were predominantly political, often entertaining, and often openly conservative. The leader of this transition was Rush Limbaugh, the most popular conservative talk-show host of his era. Figure 4 shows the Pew Research Center's estimates of the most popular talk radio hosts in 2003, 2007, and 2010. As shown in the figure, Rush Limbaugh was consistently attracting upwards of 15 million unique weekly listeners throughout the 2000s, and 11 of the 16 most popular radio hosts were specifically political conservatives hosting conservative talk shows. Although the figure highlights popularity throughout the 2000s, conservative talk radio had already been established and growing for roughly a decade by that point.

Figure 4: Most popular radio shows

Top Talk Radio Hosts, Millions of Listeners (Weekly)

HOST	POLITICAL LEANING	2010	2007	2003
Rush Limbaugh	Conservative	15.0	13.5	14.5
Sean Hannity	Conservative	14.0	12.5	11.75
Glenn Beck	Conservative	9.0	5	*
Michael Savage	Conservative	9.0	8	7
Mark Levin	Conservative	8.5	4	*
Dave Ramsey	Financial Advice	8.5	4	*
Neal Boortz	Conservative	6.0	4	2.5
Laura Ingraham	Conservative	6.0	5	1.25
Jim Bohannon	Ind./Moderate	3.75	3.25	4
Jerry Doyle	Conservative	3.75	*	*
Mike Gallagher	Conservative	3.75	3.75	2.5
Michael Medved	Conservative	3.75	3.75	*
Doug Stephan	Ind./Moderate	3.75	3.25	2
Bill Bennett	Conservative	3.5	*	*
Clark Howard	Consumer Advice	3.5	*	*
George Noory	Supernatural, Paranormal	3.5	*	*

Source: *The State of the News Media, 2010*, Pew Project for Excellence in Journalism, at http://www.stateofthemedia.org/2010/audio_talk_radio.php#audio_toptalkhosts; and "The Top Talk Radio Audiences," *Talkers Magazine*, March, 2011, p. 22.

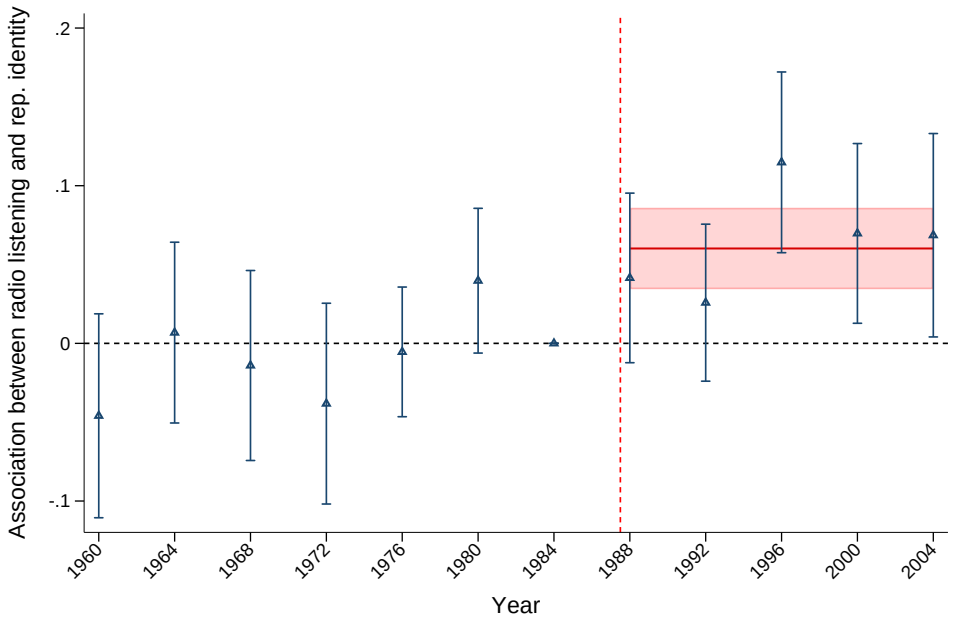
Note: * = Information unavailable or talk host not nationally broadcast.

Source: Pew Research Center

The Fairness Doctrine was repealed on August 5, 1987, and Rush Limbaugh's talk show on WABC-AM in New York City was first nationally syndicated on August 1, 1988, less than one year after the doctrine's repeal. In 1990, two years after Limbaugh's syndication, *The New York Times Magazine* wrote that "after only two years on the national dial, he has more listeners (about five million a week) than any other talk-show host and a list of stations (nearly 300) that grows every day" (Grossberger, 1990).

The contrast of this new form of talk radio is also evident when looking to the changing composition of radio listeners over time. Figure 5 shows how listening to political news on the radio related to identifying (or leaning) Republican, as estimated each survey year from ANES data. Before 1987—while the Fairness Doctrine was still enforced—this relationship hovers around zero and is never statistically significant. In the decade following repeal, however, the coefficient turns strongly positive and remains so for the rest of the sample, indicating those tuning in were increasingly Republican-leaning.

Figure 5: Relationship between talk radio listening and Republican identity over time



Notes: This figure uses ANES data to show how the relationship between listening to political news on the radio and Republican beliefs has changed over time. The Y-axis variable is an indicator for whether the respondent identifies as a Republican, and includes Republican-leaners. The X-axis variable is an indicator for whether the respondent had heard about any political campaigns on the radio. The regression is estimated each year by interacting survey year indicators with the radio indicator. The regression controls for state, year, and state-by-year fixed effects. County identifiers are not available after 1996, but the estimates up to 1996 when using county fixed effects are nearly identical.

3 Data

Data for this paper comes from a variety of different sources. The data sources can be broken out into three main categories: political data, media data, and health data. Each of these areas will be discussed in turn.

Political Data

The main political data used in this paper are presidential, Senate, and House voting outcomes from 1964-2022 that come from ICPSR's General Election Data for the United States and Dave Leip's Atlas of US Elections. The ICPSR data contain election returns for 1964-1990, while the Leip data contain election returns for 1992-2022. Unlike many other sources of US voting data, these data are available at the county level, which allows for a more

granular understanding of how the rise of conservative talk radio affected voting behavior in affected regions.

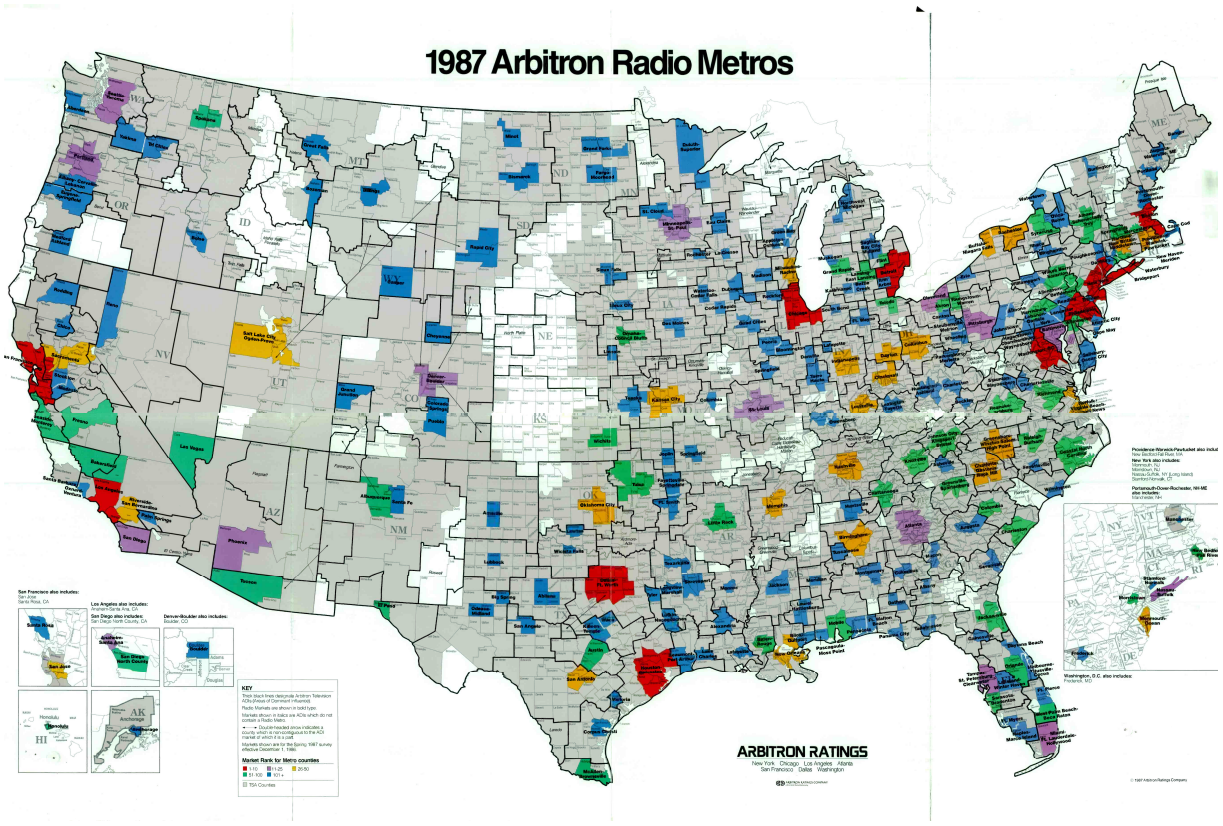
A second source of political data used in this paper comes from the Database on Ideology, Money in Politics, and Elections (DIME), which is a database of campaign finance data from 1979-2024. The data contain over 850 million itemized political contributions made by individuals to local, state, and federal elections. In addition, the data contain common-space DIME scores (CFscores), which are a measure of ideological position estimated from the distribution of contributions made (when estimating for individuals) or received (when estimating for candidates). These data allow for understanding how within-party ideological positioning was affected by the rise of conservative talk radio (Bonica, 2014, 2024).

A final source of political data used in this paper comes from the American National Election Studies (ANES), which is a series of national surveys of voters in the United States, dating back to 1948. The ANES are used to trace out descriptive statistics of the relationship between radio listenership and conservative beliefs over time.

Media Data

The main media dataset used in this paper comes from *American Radio*, a series of extensive radio ratings reports published between 1975 and 2004 by media professional James Duncan. The rating's information was collected and published using data from Arbitron, the main consumer research company in the United States that collected radio listener data, and features an extensive look at various features of all local radio markets surveyed by Arbitron. A key variable in our analysis is information on the number of stations in a radio market that were talk radio stations at a given point of time, as well as the total share of listening in that market that was devoted to these talk radio stations. All reports are available in PDF form on `https://www.worldradiohistory.com`. An example of the data contained in these reports in shown in Appendix Figure A2, which shows a page from the radio market report in Spring 1997 for Akron, Ohio. The report indicates the most popular stations in the Akron area, as well as most popular stations broken out by demographic group. Additionally, the

Figure 6: 1987 Arbitron radio metro areas



Source: Arbitron

data contain information on average weekly listening hours as well as the AM/FM breakdown of listening shares. The bottom-left of the page shows format-specific shares, both in terms of overall listening and in terms of number of stations, data that is instrumental for following analyses. The main Arbitron data used in this paper comes from the volume one of Duncan's *An American Radio Trilogy*, which tracks radio market-level trends from 1975 to 2004. While these specific data have not been used in any prior academic work, other issues of *American Radio* have been used in a series of papers in the industrial organization literature from the late 1990s to early 2000s (see Berry and Waldfogel 1996, 1999, 2001).

A limitation of these data is that the radio markets defined and tracked by Arbitron – collected and formatted into *American Radio* – were generally large markets. Markets

were defined using a proprietary measure called an Arbitron Radio Metro (ARM), which was a distinct collection of counties that closely resembled a Metropolitan Statistical Area (MSA). In 1987, Arbitron tracked and recorded detailed data for 165 of these areas, which had a median of three counties per area.[3] Figure 6 shows these areas, with different colors representing different market sizes.[4] Because the mapping of Arbitron Radio Metros to counties is proprietary and not identical to a mapping between MSAs and counties, we construct our own crosswalk of Arbitron Radio Metros to counties using the map above. The Arbitron markets studied in this paper comprise 576 distinct counties representing 66% of the US population. A histogram showing the average number of counties included in each Arbitron Radio Metro is provided in Figure A3.

Characteristics of areas in the US that are vs. are not represented in the Arbitron data are shown in Table 1. All county characteristics are computed using pre-period (i.e. before the Fairness Doctrine was repealed) data from 1980 (1972-1980 in the case of voting outcomes). As shown in the table, the areas with coverage from Arbitron tend to be much larger in population, wealthier, more educated, and substantially more urban. Given that later analyses of the effects of radio will be restricted to counties tracked by Arbitron, the selection into the sample is important to take note of. Given the large percentage of the US covered in the data, the comparison of counties in the Arbitron data to averages among all counties in the US yields smaller differences. Additionally, to the extent that some of the largest growth in Republican Party affiliation in the US over the past four decades has occurred in rural areas and talk radio became prominent in these areas, sample selection toward urban America may understate the true effects of talk radio on conservative sentiment and other outcomes.[5]

[3]Arbitron tracked additional areas shown on the map, but Duncan's American Radio only provided extensive data for "Large" Arbitron markets, of which there were 165 in 1987.

[4]The color ordering is as follows, from largest to smallest radio markets: red, purple, yellow, green, blue. Areas not tracked skew much more rural than the average area included in the analysis. In all main analyses of this paper, the results are restricted to a balanced panel of portions of the US who lived in areas that were tracked by Arbitron.

[5]See Edsall (2023) and Wyatt (2013) for information about rural moves toward conservatism and rural engagement with talk radio.

Table 1: Pre-deregulation county characteristics, by presence in Arbitron data

	Counties included in Arbitron data	Counties not included in Arbitron data	All counties
Demographics (1980)			
Population (in thousands)	258.621	30.293	72.217
Household income (in thousands)	20.433	16.384	17.128
Non-HS-grad share of population	34.624	42.774	41.313
College-grad share of population	15.078	10.535	11.349
Unemployed share	0.063	0.069	0.068
Manufacturing share of employment	0.239	0.201	0.208
Agricultural share of employment	0.038	0.147	0.127
NAFTA vulnerability	0.025	0.033	0.031
Urban share of population	0.497	0.044	0.127
Rural share of population	0.369	0.697	0.637
Poverty rate	0.086	0.133	0.125
Share receiving SSI benefits	0.247	0.313	0.301
Median age	29.821	31.291	31.021
White share of population	0.87	0.882	0.88
Political preference (1972-1980)			
Republican presidential two-party vote share	57.358	57.622	57.573
Republican Senate two-party vote share	44.925	45.307	45.237
Republican House two-party vote share	44.205	43.156	43.35
Number of counties	576	2774	3350

Notes: This table shows 1980 county characteristics by presence in Arbitron data. Demographic characteristics come from the 1980 Decennial Census, and NAFA vulnerability comes from Choi et al. (2021). Political preference variables are estimated using ICPSR voting data and Dave Leip's Atlas.

Health Data

A first source of health-related data comes from the General Social Survey (GSS), a biannual survey which collects information about the beliefs, attidues, and practices of residents of the US. The GSS cross-sectional cumulative data is used to show descriptive patterns about the relationship between main sources of information about event in the news (newspapers, internet, TV, radio, or other) and beliefs about mental health treatment and confidence in medical institutions.

The final source of data used in this paper is restricted-use multiple cause of death data provided by the National Center for Health Statistics (NCHS). The restricted-use version of the NCHS data has detailed descriptions of the universe of deaths occurring in the United States, including detailed geographic, demographic, and cause-of-death information. Specif-

ically, the county of residence and county of occurrence for each deceased person is recorded, as well as their cause of death (recorded by either ICD-8, ICD-9, or ICD-10 codes depending on the year) and up to 20 additional related factors contributing to the death. The health data used in this paper extends from 1969 to 2021, allowing for an extensive look at pre-period trends in mortality and health behavior between more- and less-exposed areas. A core aim of this project is to argue that large political shifts can have downstream implications that extend far beyond politics. The NCHS data is crucial for being able to show how sudden political divergences across the US can also affect public health.

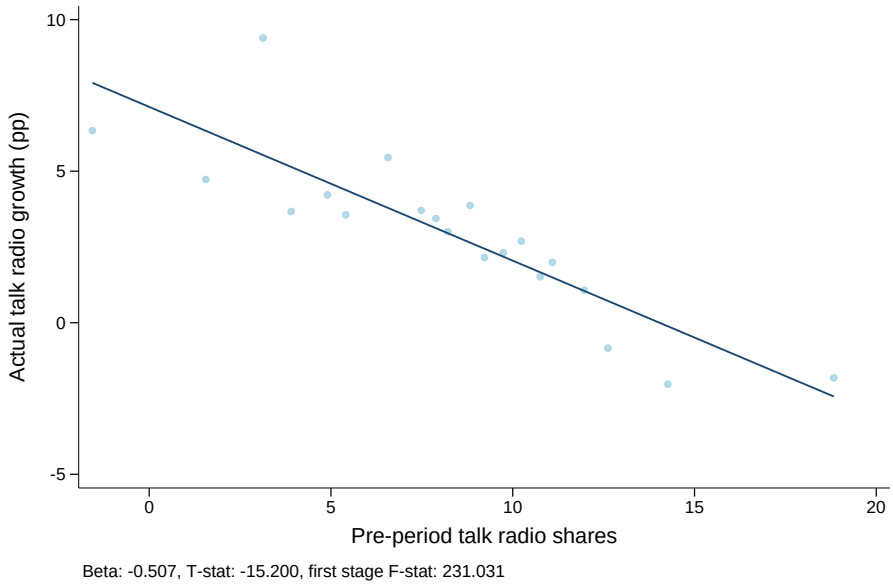
4 Empirical Strategy

The primary concern with a naive approach to this analysis – comparing the evolution of outcomes among counties in the US where conservative talk radio did vs. did not become popular – is the endogeneity of growth of conservative talk radio. While the sudden repeal of the Fairness Doctrine, the instigating factor allowing rapid entry of a novel and politically-charged brand of radio content, provides exogenous timing variation in radio content, this shock affected the entire US. Simply comparing areas that did vs. did not experience growth in its aftermath ignores the fact that many of these areas that saw the largest growth likely had latent political attitudes that made them receptive to this new kind of political content.

With this in mind, our study employs an instrumental variables difference-in-differences approach (DDIV), where the instrument is pre-period share of talk radio in a local market. While the repeal of the Fairness Doctrine functions as a national-level shock which generates temporal variation in treatment, the instrument generates additional cross-sectional variation that, combined with the repeal of the Fairness Doctrine, can be exploited for identification. The availability of multiple periods of pre-shock data weakens the typical independence assumption of IV designs into one of parallel trends, which we test in all following results (de Chaisemartin, 2010; Hudson et al., 2017).[6] Methodologically, the paper's estimation

[6]This relaxing of the conditional independence assumption is especially helpful in this setting, as we often think of industry shares as equilibrium objects, making exogeneity a difficult assumption to make.

Figure 7: First stage regression



Notes: This figure shows the first stage relationship between our instrument and actual talk radio growth between 1980 and 1995, conditional on state fixed effects and county-level controls for population density and rural share. The figure is a visual representation of the first stage regression in equation 1.

strategy is similar to Bartik-style designs, which use pre-period market shares combined with national-level shocks to predict local-area growth.

The first stage regression is:

$$TalkRadioGrowth_{m,1980-1995} = \delta + \mu\, TalkShare_{m,1980} + \sigma_s + \xi \mathbf{X}_c + \nu_m \tag{1}$$

Here, $TalkShare_{m,1980}$ refers our instrument, which is defined at the local Arbitron Radio Metro (ARM) level denoted by subscript m. $TalkRadioGrowth_{m,1980-1995}$ is the change in local talk radio share over the 15-year period from 1980 to 1995. All shares and growth variables include talk radio on both the AM and FM bands. State fixed effects are denoted by σ_s, and $\mathbf{X}_c$ contains 1980 county-level population density and rural share. ν_m is an idiosyncratic error term.

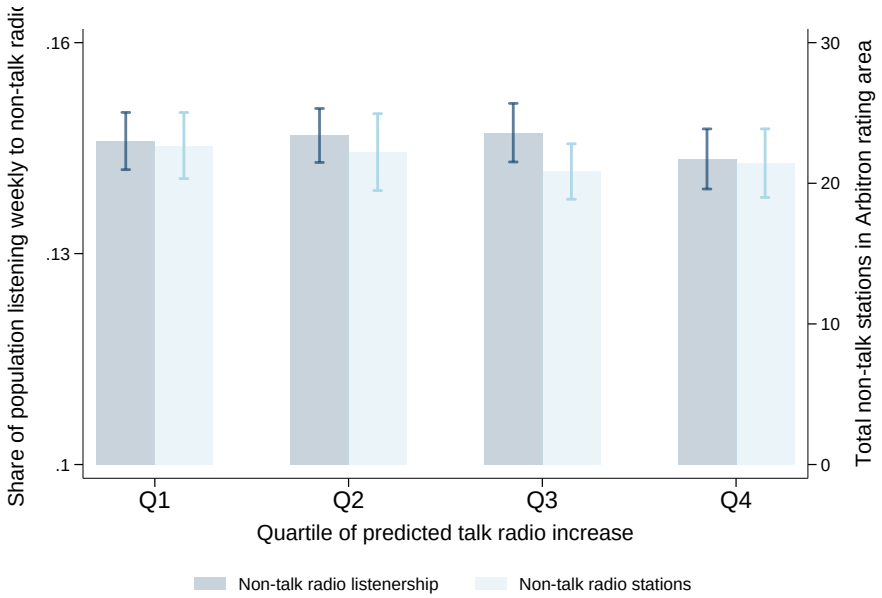
Figure 7 shows the results of the first stage regression, and a map of the US displaying geographic variation in the first stage predicted values is shown in Figure A4. The relationship between the instrument and talk radio growth is strong and negative, with a first-stage

F-statistic over 231. In other words, having less talk radio presence in 1980 is strongly predictive of large growth in talk radio in the following repeal of the Fairness Doctrine. Two main factors contribute to the negative relationship. First, areas where talk radio was well-established and prominent already meant new entrants faced much steeper competition when trying to enter these markets. Where radio markets were crowded and show lineups were well-known, there was less opportunity for new faces to emerge. Second, advances in satellite technology for program distribution in the early 1980s had made national syndication of radio programming much easier and cheaper (Sterling and Kittross, 2001).[7] Before this technology was available, producing local talk radio was an expensive endeavor. Beyond needing an on-air host and producer, talk programs needed technical staff, someone to schedule and sequence segments, and additional personnel to screen incoming calls. Buying a syndicated show didn't necessarily fix these issues: because networks sent their programs over phone lines, they could only transmit one show at a time and buyers faced high line-rental fees. The arrival of satellite distribution changed this model by enabling networks to send multiple shows simultaneously at much lower costs, substantially easing the burden on affiliate stations (Rosenwald, 2015).

Because of the cost of production and difficulties with syndication, many small stations avoided producing their own talk shows, choosing instead to broadcast other, cheaper forms of content. The fact that these sometimes-prohibitive costs were specific to talk radio is important: Figure 8 shows that it's not the case that areas with little talk radio in the pre-period had little radio presence overall. In fact, the overall share of the population who was tuning into non-talk radio weekly, and the total number of non-talk stations broadcasting in the area, is remarkably similar across markets. With the advent of new satellite technology, areas without prior talk radio could easily and cheaply broadcast syndicated content, and the cost of entry for novice hosts into new, untouched areas was far cheaper than it was before. These two forces – lack of competition and cheap entry – allowed talk radio to flourish in

[7]This was spearheaded by the launch of Satellite Music Network in 1981, which was the first satellite delivered network to provide continuous music programming to stations.

Figure 8: Pre-period non-talk radio listenership and total non-talk stations



Notes: This figure shows: (1) in darker blue, the average share of people listening to non-talk radio weekly in 1987, and (2): in lighter blue, the average total number of non-talk-radio stations available in each ARM in 1987. Both are split by quartile of predicted talk radio growth. The quartiles shown in the figure are from $\widehat{TalkRadioGrowth}_{m,1980-1995}$, the predicted values from equation 1. Higher quartiles imply larger predicted growth in talk radio market share.

new areas.

Table 2 provides more detail about the counties that were more or less exposed to the growth of talk radio. It provides demographic and political characteristics of these counties in the analysis sample during the pre-period, broken out by quartile of predicted change in talk radio, estimated from equation 1. Most demographic characteristics are estimated from 1980 data, while political preferences are estimated using averages from 1972-1980. As shown in the table, counties in the highest quartile of predicted talk radio growth do not differ sharply from those in the lowest quartile on most observable characteristics. Notably, areas in the highest quartile of predicted talk radio growth are more urban and less rural than those in the lowest quartile. Certain outcomes, such as population, education, and urban/rural share indicate a non-monotonic relationship across the instrument, while other outcomes, such as employment shares by industry, poverty, and share receiving SSI vary minimally without a clear pattern. The overall similarity of these characteristics across instrument quartiles

Table 2: Pre-deregulation county characteristics, by quartile of predicted talk radio change

	Quartile of instrument			
	1	2	3	4
Demographics (1980)				
Population (in thousands)	349.581	189.186	203.204	292.511
Household income (in thousands)	21.521	19.843	19.895	20.474
Non-HS-grad share of population	34.650	36.749	34.417	32.682
College-grad share of population	16.453	14.026	14.455	15.378
Unemployed share	0.054	0.066	0.067	0.065
Manufacturing share of employment	0.243	0.237	0.250	0.227
Agricultural share of employment	0.034	0.043	0.035	0.039
NAFTA vulnerability	0.026	0.028	0.023	0.021
Urban share of population	0.512	0.443	0.483	0.552
Rural share of population	0.362	0.435	0.357	0.324
Poverty rate	0.084	0.093	0.085	0.083
Share receiving SSI benefits	0.236	0.243	0.257	0.252
Median age	30.072	29.223	30.242	29.747
White share of population	0.853	0.861	0.888	0.879
Political preference (1972–1980)				
Republican presidential two-party vote share	56.264	58.197	57.542	57.429
Republican Senate two-party vote share	45.170	42.293	46.937	45.305
Republican House two-party vote share	40.733	43.975	46.890	45.239
Number of counties	144	144	144	144

Notes: This table shows 1980 county characteristics by quartile of predicted change in talk radio market share, estimated from equation 1. Higher quartiles imply larger predicted growth in talk radio market share.

suggests that our instrument is unlikely to be confounded by other systematic factors, but later regression analyses will probe robustness to flexibly controlling for increasing numbers of these characteristics.

In our main following analyses, we use our measure of predicted talk radio growth to estimate the following event study specification:

$$Y_{ct} = \alpha_c + \gamma_t + \sum_{\tilde{t} \neq t_0} \beta_t (\widehat{TalkRadioGrowth}_{m,1980-1995}) \times \mathbb{1}(t = \tilde{t}) + \lambda \mathbf{X}_{ct} + \theta_{st} + \varepsilon_{ct} \qquad (2)$$

Where Y_{ct} is a given outcome in county c and year t, α_c are county fixed effects, γ_t are year fixed effects, and $\widehat{TalkRadioGrowth}_{m,1980-1995}$ is the predicted change in local area talk radio growth in radio metro l from 1980 to 1995 estimated from equation 1, which is interacted with year fixed effects to trace out the dynamic evolution of talk radio's effects. $\mathbf{X}_{ct}$ are county-level controls that are interacted with year fixed effects to allow them to vary within areas over time, θ_{st} are state-by-year fixed effects, and ε_{ct} is an idiosyncratic error term. Our omitted event, t_0, is defined to be the latest pre-period year available in the data, which will vary by outcome (e.g. presidential elections are once every four years). As opposed to the quartiles of $\widehat{TalkRadioGrowth}_{m,1980-1995}$ shown in Table 2, in the event study specification, predicted talk radio growth enters linearly, which allows for flexible covariate adjustments. Our main specification includes flexible controls for rural share and population density in $\mathbf{X}_{ct}$, with additional specifications including more controls. Standard errors are clustered at the Arbitron Radio Metro level.

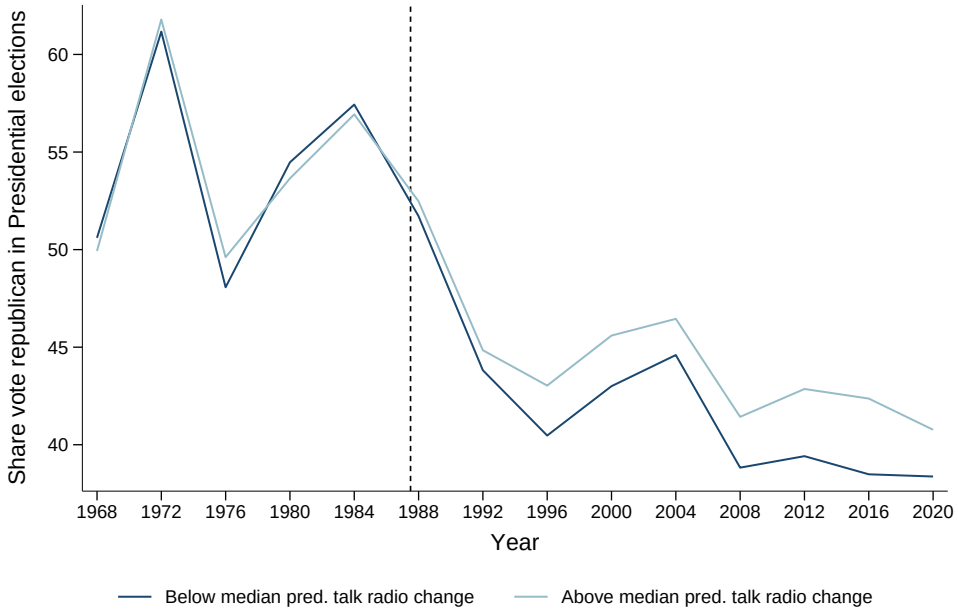
5 Results

Political results

Figure 9 shows raw trends that motivate the various event study results that will be described in this section. It plots the average Republican two-party vote share in presidential elections for counties above and below the median predicted change in talk radio (from equation 1) from 1968 to 2022. As shown in the figure, areas above and below the median voted similarly in presidential elections both in trends and levels before the Fairness Doctrine was repealed in 1987, indicating that our instrument is not being driven by unobserved differences in political preferences. As soon as 1992, a gap emerges between these areas, which widens over the following decades and remains large as recently as the 2020 election.

While the raw data plot has the benefits of transparency and interpretability, more parametric event study figures can more easily show robustness to controls and specification choices. In Figure 10, we show the event study results for the effects of talk radio on two-

Figure 9: Republican vote share in presidential elections, above/below median predicted talk radio increase

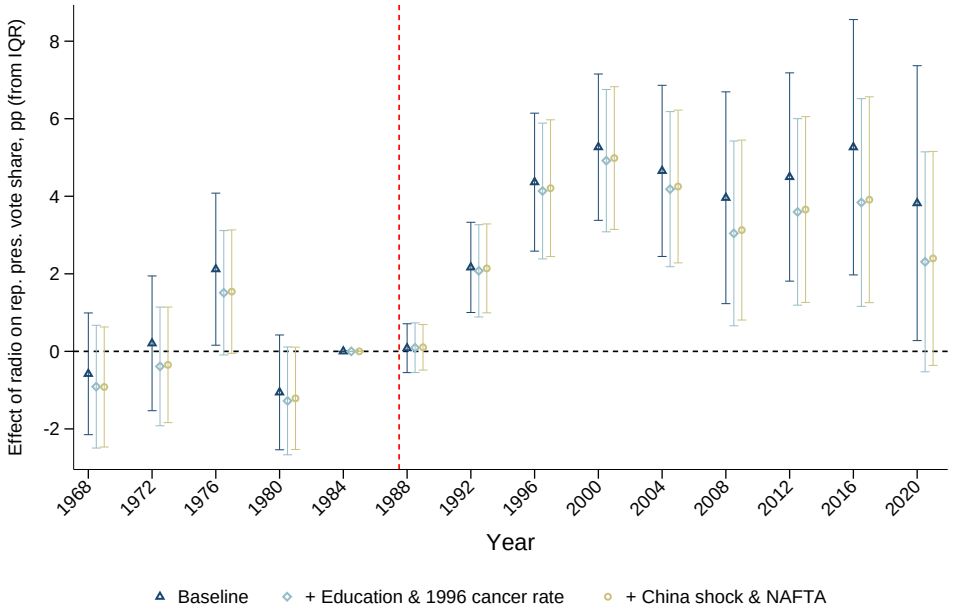


Notes: This figure shows raw trends in Republican vote share in presidential elections between counties with above- and below-median predicted changes in talk radio market share, from 1968 to 2022. Voting data comes from the ICPSR and Dave Leip's Atlas of elections.

party Republican vote share in presidential elections. The first series in Figure 10 plots the β_t estimates from our baseline version of equation 1 where we control for county, year, state-by-year fixed effects, and time-varying controls for county-level rural share and population density, estimated by interacting 1980 values for these variables with year fixed effects. As noted by Choi et al. (2021), the 1990s was an active moment for state policy experimentation. State-by-year fixed effects help capture the effects of these reforms or other unobserved within-state changes over time, so the remaining variation used to identify the effects of talk radio captures within-state differences across radio markets over time not driven by overall state trends.[8] The coefficient values in the period before the repeal of the Fairness Doctrine indicate no clear pre-trend, and become positive and significant starting with the 1992 presidential election and continue to be positive and signification for each election after.

[8]Choi et al. (2021) list the AFDC welfare waives before the 1996 federal welfare reform act, Medicaid expansions, and EITC introductions and expansions as examples of some of the policies adopted on a state-by-state basis during the 1990s.

Figure 10: Republican vote share in presidential elections as a function of predicted talk radio increase



Notes: This figure shows the event study coefficients and 95% confidence intervals from estimation of equation 2, where Y_{ct} is Republican two-party vote share in presidential elections. Three estimates are shown in different colors, starting with the baseline model (dark blue triangles). This specification estimates equation 2 with state-by-year fixed effects, with $\mathbf{X}_{ct}$ containing interactions between 1980 rural share and year fixed effects and 1980 population density and year fixed effects; specification (2), shown in light blue diamonds, additionally controls for 1980 percent college educated interacted with year fixed effects and 1996 cancer rate interacted with year fixed effects; specification (3), shown in light brown circles, replicates specification (2) but with added controls for NAFTA exposure from Choi et al. (2021) interacted with year fixed effects and China shock exposure from Autor et al. (2013) interacted with year fixed effects. All specifications are weighted by 1980 county population, and standard errors are clustered at the Arbitron Radio Metro level.

In our second specification, we add in time-varying controls for 1980 county percent with a college education - as voters without a college education have increasingly turned toward the Republican Party in recent decades (Cohn, 2021) - and 1996 county-level cancer rate, which is used in Arteaga and Barone (2022) to predict exposure to opioid marketing and led to increased Republican vote shares. An additional series is shown as a robustness check. In the third series, we adapt specification (2) to include time-varying controls for NAFTA exposure, another policy change from the 1990s that led to affected voters turning away from the Democratic Party, as well as China shock exposure from Autor et al. (2013). Adding these controls have a mostly negligible impact on point estimates, but does depress them

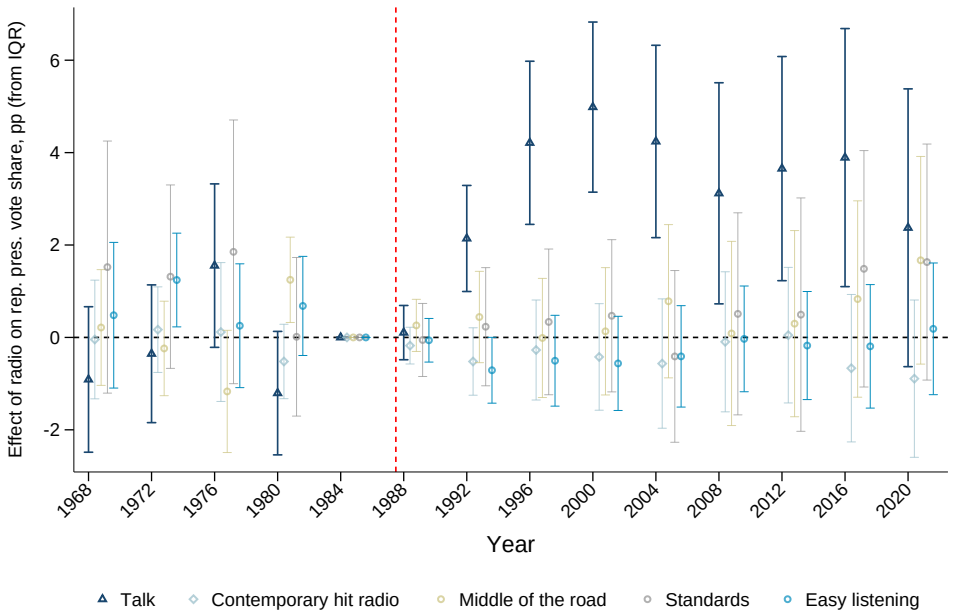
slightly: all post-period coefficients starting in 1992 stay statistically significant except for the 2020 election, which becomes marginally insignificant. Additionally, in Appendix Figure A5, we see that the effect sizes seem to vary linearly with the instrument, indicating that results are not being driven by outliers.

As a final check of sensitivity to inclusion of controls, we also employ a post-LASSO procedure for feature selection. To implement this, we run a LASSO regression of our predicted first stage values on all pre-period county characteristics available in our data, and use the features selected by the LASSO regression as controls in our event study. After inclusion of these additional variables, coefficient estimates remain very close to what is shown in the third series, indicating that it is unlikely results are being driven by unobservables. The post-LASSO event study and the full list of LASSO-selected controls are shown in Figure A6.

Because our measure of predicted talk radio growth enters the event study equation linearly, it can be difficult to interpret the size of the coefficient estimates. To map these coefficient estimates into interpretable effect sizes, we multiply our y-axis in the event study by a measure of dispersion in our estimate of predicted radio growth. Here and in following event studies, we use the interquartile range of our measure. When using the interquartile range, the results suggest that talk radio growth led to a 4.7 percentage point increase in Republican Party vote share in presidential elections, Intuitively, these estimates capture the estimated effect on Republican Party vote share when moving from a county at the 25th percentile of predicted talk radio growth to a county at the 75th percentile, and are somewhat akin to earlier analyses which analyzed county characteristics by quartile of our instrument. These estimates suggest that the effects of talk radio's growth on conservative voting were both significant and large in magnitude.

To further probe robustness of the result, we re-estimate our event study using a series of placebo instruments. Here, we replicate our instrumental variables strategy, but replace our instrument with measures of predicted growth of various popular non-talk-radio formats. We use the four most popular radio formats in 1987, which were contemporary hit radio (CHR),

Figure 11: Republican presidential vote share with placebo instruments



Notes: This figure plots event study coefficients and their associated 95% confidence intervals for estimation of equation 2 for Republican two-party vote shares. Five series are shown, with the first series (dark blue triangles) showing the event study coefficients from our main analysis, and the other four series showing event study coefficients from estimation of equation 2 using placebo instruments. The placebo instruments are predicted growth in the four most popular radio formats in 1980: contemporary hit radio (CHR), middle-of-the-road radio (MOR), standards, and easy listening. All specifications are weighted by 1980 county population, and standard errors are clustered at the Arbitron Radio Metro level. The controls used in each specification are the same as used in specification (3) of Figure 10, with additional controls for the pre-period shares of other radio formats interacted with year fixed effects to avoid the placebo instruments being mechanically correlated with talk radio shares.

middle-of-the-road radio (MOR), standard, and easy listening. We then plot estimated event study coefficients from instrumenting for growth in these formats alongside the event study coefficients from our main analysis. The results are shown in Figure 11. As shown in the figure, the coefficients from the placebo instruments are all economically and statistically negligible. This suggests that our results are not being driven by other unobserved factors that may have been correlated with radio growth, but rather by the repeal of the Fairness Doctrine and subsequent growth of talk radio.

Figure 12 shows that the large effects of talk radio on conservative voting were not limited to presidential elections. This figure shows the coefficient estimates when looking to Senate elections, with analogous specifications to Figure 10. Because Senate terms are for six years,

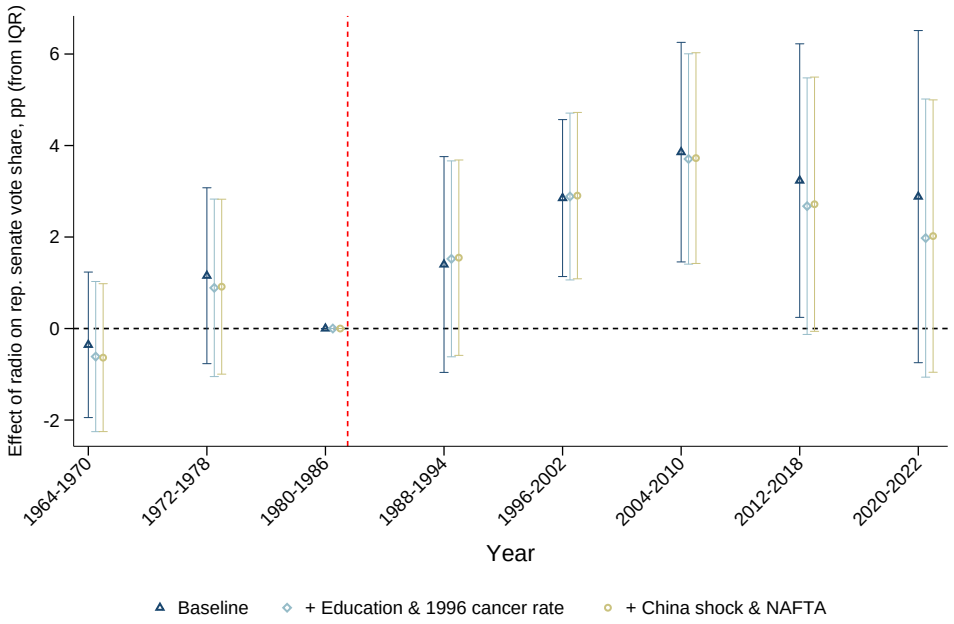
election results are aggregated into six-year intervals. Such aggregation guarantees that each event study coefficient is identified using the full panel of counties, as all counties must undergo at least one Senate election within a six-year period. The event study results are very comparable to the results from Figure 10. Here, our baseline specification indicates there are no noticeable pre-period differential trends, and the estimates are significant for all Senate elections between 1996 and 2018, becoming marginally insignificant for the 2020 and 2022 elections, with effect sizes slightly smaller but similar to those found in the analysis of presidential voting patterns. As before, additional controls beyond those included in our preferred specification have little effect on our estimates, but do depress them slightly in more recent years.

We can additionally replicate these analyses for House elections, shown in Figure 13. Because House terms are only two years, we estimate our event study coefficients here biannually from 1968-2020. The results are similar in magnitude and timing to the results from presidential and Senate elections - indicating a shift to the right - but with substantially larger standard errors. Across all specifications, the only statistically significant event study coefficient is for the 2002 election cycle. However, when running a differences-in-differences specification - essentially aggregating the event study coefficients - we see a significant and positive effect of talk radio on Republican vote share in House elections, comparable to those found in presidential and Senate elections. These results are included in Table 3. Overall, these analyses show that talk radio had a large and lasting influence on voting behavior in the United States that continues into the current moment.

While the prior results show a clear shift toward voting for Republican candidates, it is not immediately obvious whether the shift was due to changes in political preferences (a persuasion channel) or increased turnout for existing Republican voters (a voter mobilization channel). To better understand these competing explanations, we study the effect of talk radio growth on overall voter turnout.

In Figure 14, we show the event study results for overall turnout in presidential elections. The results show no clear effect on overall voter turnout across all specifications, indicating

Figure 12: Republican vote share in Senate elections as a function of predicted talk radio increase

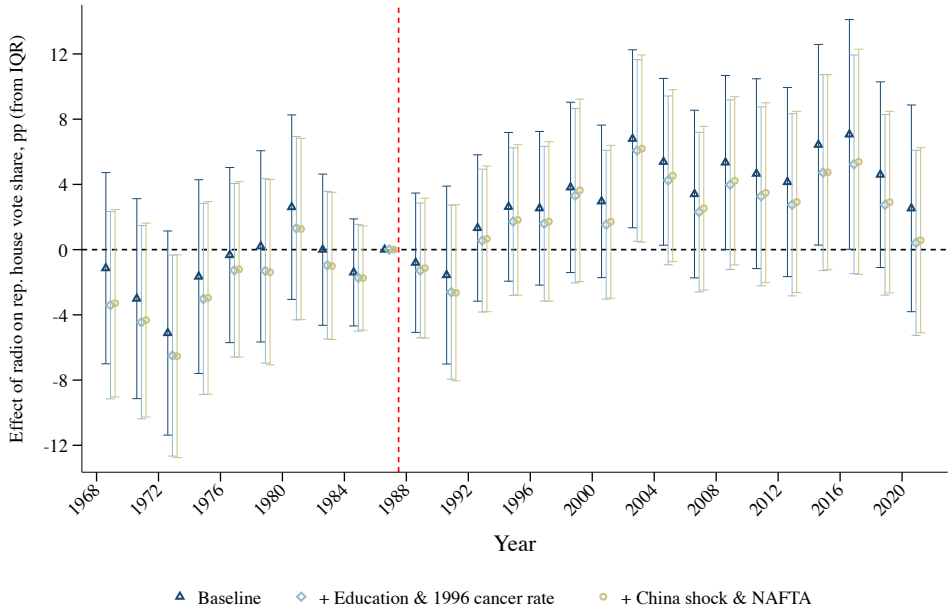


Notes: This figure is very similar to Figure 10, replacing the outcome variable as Republican two-party vote share in Senate elections. Since Senate terms are for six years, the Senate election data are aggregated to 6-year intervals to ensure that the event study coefficients are each identified using at least one observation from each county in the sample. Three estimates are shown in different colors, starting with the baseline model (dark blue triangles). This specification estimates equation 2 with state-by-year fixed effects, with $\mathbf{X}_{ct}$ containing interactions between 1980 rural share and year fixed effects and 1980 population density and year fixed effects; specification (2), shown in light blue diamonds, additionally controls for 1980 percent college educated interacted with year fixed effects and 1996 cancer rate interacted with year fixed effects; specification (3), shown in light brown circles, replicates specification (2) but with added controls for NAFTA exposure from Choi et al. (2021) interacted with year fixed effects and China shock exposure from Autor et al. (2013) interacted with year fixed effects. All specifications are weighted by 1980 county population, and standard errors are clustered at the Arbitron Radio Metro level.

that the persuasion channel seems to dominate in explaining political results. The results for turnout in Senate and House elections are shown in Appendix Figure A7, and are very similar to the results for presidential elections, indicating no obvious effects on voter mobilization overall.

To show specific point estimates and place these various results alongside one another, we also estimate a difference-in-differences specification, give by equation 3 below. The difference-in-differences specification is nearly identical to its event study counterpart in equation 2, but here only one difference-in-differences coefficient is estimated.

Figure 13: Republican vote share in House elections as a function of predicted talk radio increase

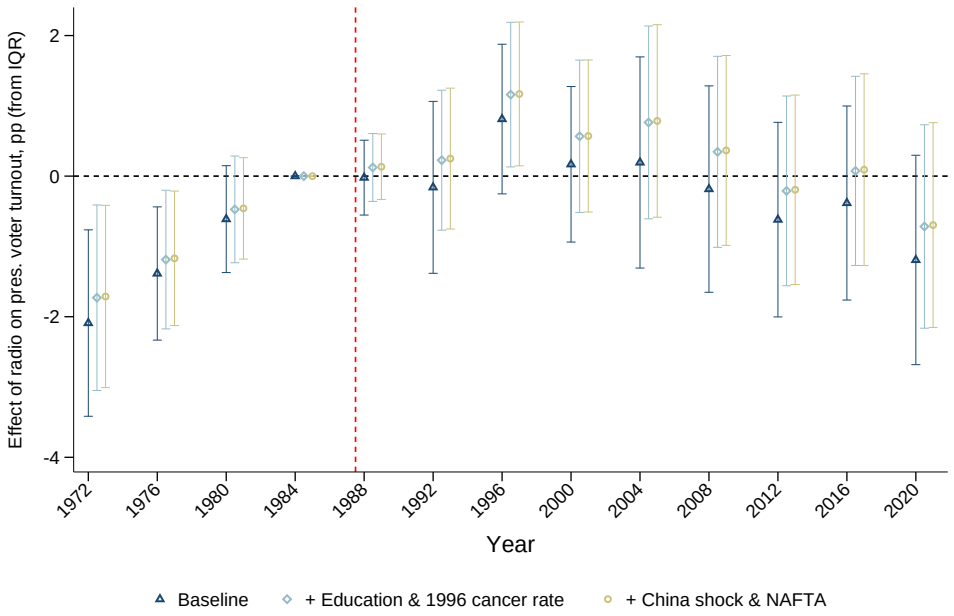


Notes: This figure replicates the previous event studies, using Republican two-party vote share in House elections as the outcome variable. Three estimates are shown in different colors, starting with the baseline model (dark blue triangles). This specification estimates equation 2 with state-by-year fixed effects, with $\mathbf{X}_{ct}$ containing interactions between 1980 rural share and year fixed effects and 1980 population density and year fixed effects; specification (2), shown in light blue diamonds, additionally controls for 1980 percent college educated interacted with year fixed effects and 1996 cancer rate interacted with year fixed effects; specification (3), shown in light brown circles, replicates specification (2) but with added controls for NAFTA exposure from Choi et al. (2021) interacted with year fixed effects and China shock exposure from Autor et al. (2013) interacted with year fixed effects. All specifications are weighted by 1980 county population, and standard errors are clustered at the Arbitron Radio Metro level.

$$Y_{ct} = \alpha_c + \gamma_t + \beta \, Talk\widehat{RadioGrowth}_{m,1980-1995} \times \mathbf{1}[t > 1987] + \lambda \mathbf{X}_{ct} + \theta_{st} + \varepsilon_{ct} \qquad (3)$$

The results from the difference-in-differences specification are shown in Table 3. The first three columns show the results for Republican two-party vote share in presidential, Senate, and House elections, while the last three columns show the results for election turnout in presidential, Senate, and House elections. Four specifications are shown with increasing numbers of controls — additional specifications are given in Table A1. The difference-in-differences coefficients in the first value for each column/specification. Standard errors are in

Figure 14: Turnout in presidential elections as a function of predicted talk radio increase



Notes: This figure shows event study coefficients and 95% confidence intervals for estimation of equation (3) with turnout in presidential elections as the outcome variable, measured by total presidential votes cast divided by population 18 years or older. Three estimates are shown in different colors, starting with the baseline model (dark blue triangles). This specification estimates equation 2 with state-by-year fixed effects, with $\mathbf{X}_{ct}$ containing interactions between 1980 rural share and year fixed effects and 1980 population density and year fixed effects; specification (2), shown in light blue diamonds, additionally controls for 1980 percent college educated interacted with year fixed effects and 1996 cancer rate interacted with year fixed effects; specification (3), shown in light brown circles, replicates specification (2) but with added controls for NAFTA exposure from Choi et al. (2021) interacted with year fixed effects and China shock exposure from Autor et al. (2013) interacted with year fixed effects. All specifications are weighted by 1980 county population, and standard errors are clustered at the Arbitron Radio Metro level.

parentheses, and p-values are in brackets. The difference-in-differences estimate multiplied by the IQR of the instrument (as in the event studies) are indicated by the fourth value (denoted with a $\sim$) for each column/specification. Overall, we see effects on two-party Republican vote share that that range from 3.4 to 4.7 percentage points for presidential elections, 2.4 to 3.6 percentage points for Senate elections, and 4.5 to 5.9 percentage points for House elections, all of which are robust to the inclusion of additional controls. The turnout effects for all election types are both smaller in magnitude and mostly statistically insignificant. We also re-estimate our difference-in-differences results with varying controls using a block cluster bootstrap approach and show these results in Table A2. Results align very closely with our standard specifications, showing robust estimates for voting outcomes

and statistically insignificant estimates for turnout.

While the results indicate effects of talk radio on changing the ideological preferences of the voting population, there is also evidence that the candidates themselves were changing. Figure 15 shows the results of an analysis of candidate polarization, which is a measure of how extreme candidates are in their ideological positions, developed by Bonica (2014). We show within-party changes in ideology among candidates for the House of Representatives from 1986 to 1996, estimated from DIME contribution data. Panel 15a shows estimates of ideological change for Republican Party candidates, while Panel 15b shows estimates for Democratic Party candidates. The y-axis variable is the average change in CFscores for candidates from a given area. CFscores greater than 0 indicate republican ideologies, while scores below 0 indicate democratic ideologies. In this sense, an increasing CFscore indicates shifts towards conservatism over time (or toward more extreme conservatism if already conservative), while decreasing CFscores indicate the analogous effects for democratic ideology. Here, we that in the pre-period, Republican candidates from areas with high vs. low predicted growth in talk radio had similar ideological positions, but Republican Party candidates from areas with higher predicted talk radio growth grew more conservative in the decade following repeal of the Fairness Doctrine (t-stat = 3.75). This effect is localized within Republican Party candidates: there is no appreciable difference in the ideological positions of Democratic Party candidates from areas with high vs. low predicted talk radio growth (t-stat = 1.48). This suggests that the effects of talk radio on political preferences were not limited to voters, but also extended to candidates themselves.

Health results

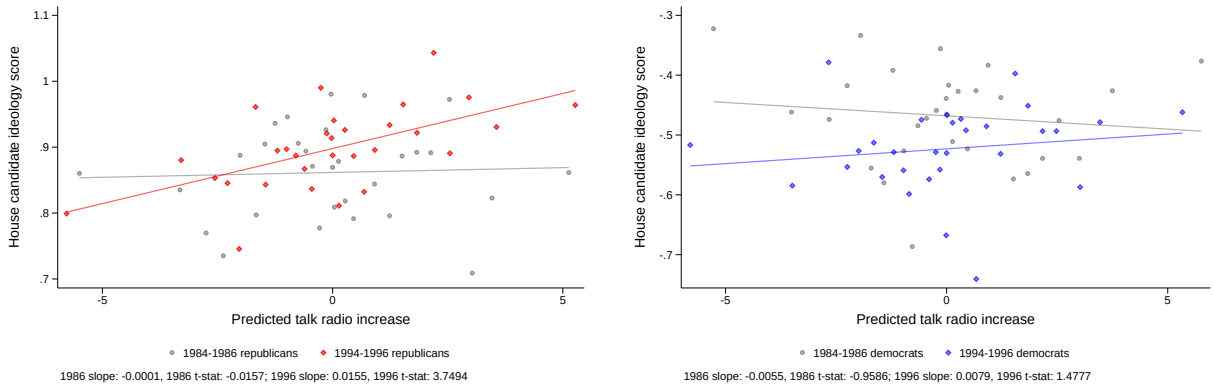
In this section, we document how exposure to talk radio – and its resulting effects on political preferences – led to notable increases in "deaths of despair"—mortality attributed to substance use (including alcohol and opioids) and suicide. This terminology, popularized by Case and Deaton (2015, 2021), has come to signify a set of behaviors and mortality risks linked to deteriorating economic and social conditions, particularly in working-class commu-

Table 3: Difference-in-Differences Estimates for Political Outcomes

	Two-party Rep. vote share			**Election turnout**		
	President	Senate	House	President	Senate	House
Baseline	0.736	0.561	0.931	0.201	0.174	0.141
	(0.162)	(0.155)	(0.235)	(0.069)	(0.087)	(0.102)
	[0.000]	[0.000]	[0.000]	[0.004]	[0.046]	[0.170]
	~ 4.701	~ 3.584	~ 5.943	~ 1.282	~ -1.110	~ 0.901
+ Pop. density	0.643	0.468	0.828	0.126	0.094	0.078
	(0.175)	(0.156)	(0.240)	(0.101)	(0.121)	(0.130)
	[0.000]	[0.003]	[0.001]	[0.217]	[0.441]	[0.550]
	~ 4.105	~ 2.990	~ 5.284	~ 0.802	~ -0.599	~ 0.496
+ Pct. rural	0.573	0.402	0.751	0.136	0.099	0.087
	(0.138)	(0.137)	(0.219)	(0.098)	(0.119)	(0.126)
	[0.000]	[0.004]	[0.001]	[0.167]	[0.407]	[0.492]
	~ 3.659	~ 2.569	~ 4.791	~ 0.868	~ 0.632	~ 0.556
+ Pct. college	0.537	0.373	0.708	0.162	0.154	0.136
	(0.128)	(0.118)	(0.210)	(0.096)	(0.109)	(0.119)
	[0.000]	[0.002]	[0.001]	[0.093]	[0.159]	[0.254]
	~ 3.426	~ 2.382	~ 4.517	~ 1.034	~ 0.983	~ 0.868
Observations	7772	3899	14629	7008	1330	13773
Dep. var. mean	54.364	45.677	43.869	54.756	45.549	43.176
R-squared	0.903	0.915	0.700	0.939	0.947	0.884

Notes: This table shows difference-in-differences estimates for the effects of talk radio on political outcomes, estimated from equation 3. The first three columns show estimates for the effects of talk radio on Republican two-party vote share in presidential, Senate, and House elections, while the last three columns show estimates for the effects of talk radio on election turnout in presidential, Senate, and House elections. The difference-in-difference coefficients in the first value for each column/specification. Standard errors are in parentheses, and p-values are in brackets. The difference-in-differences estimate multiplied by the IQR of the instrument (as in the event studies) are indicated by a tilde ($\sim$). The baseline specification includes state-by-year fixed effects only. Other specifications progressively add 1980 values for the variable described interacted with year fixed effects as controls. Each additional specification is additive, and includes the prior specification's control variables. Additional (additive) specifications for this table are given in A1. The dependent variable means are calculated using the outcome for all pre-periods. The R-squared value refers to the value from the baseline specification. All specifications are weighted by 1980 county population, and standard errors are clustered at the Arbitron Radio Metro level.

Figure 15: House candidate changes in ideological polarization



(a) Republican candidates

(b) Democrat candidates

Notes: These figures show within-party changes in ideology among candidates for the House of Representatives from 1986 to 1996, estimated from DIME contribution data. Panel 15a shows estimates of ideological change for Republican Party candidates, while Panel 15b shows estimates for Democratic Party candidates. Geography is inferred from the zip code from which the candidate received the most individual contributions. The y-axis variable is the average change in CFscores for candidates from a given area. CFscores greater than 0 indicate republican ideologies, which scores below 0 indicate democratic ideologies. CFscores are estimated from campaign contributions as described in Bonica (2014). The x-axis variable is the predicted change in talk radio market share, estimated from equation (2).

nities. While the original deaths of despair literature emphasized adverse economic trends, the results below suggest that changes in political messaging and media environments can be another powerful contributor to risky behaviors and poor health outcomes. Notably, the CDC itself recognizes "access to mass media" as one of its 12 social determinants of health (for Disease Control and Prevention, 2025), highlighting how information channels can shape broader health disparities. To shed light on potential mechanisms, we later present descriptive evidence from the GSS showing that radio listeners hold markedly different attitudes toward mental health care than audiences of other media.

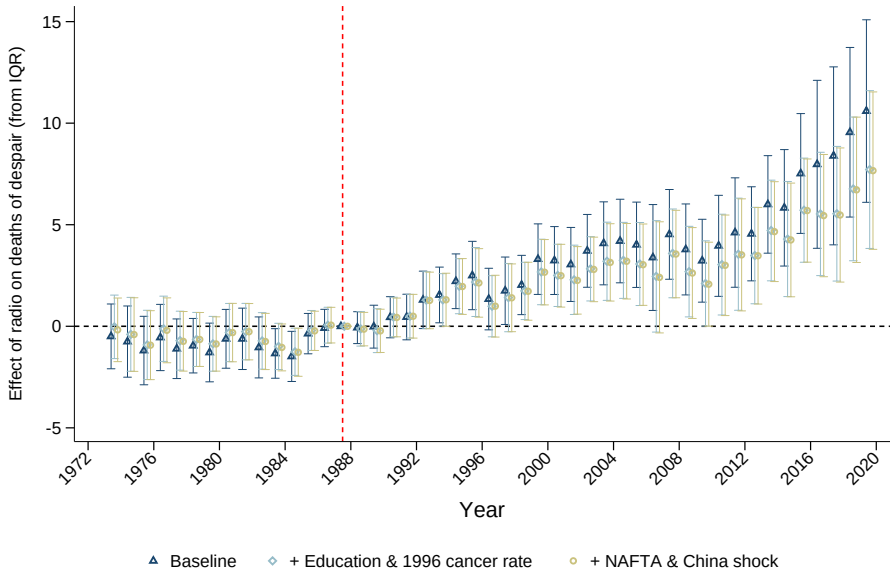
A broad observational literature has linked increasing political polarization to health disparities, including deaths of despair. Oberlander (2024) notes that individual health outcomes are segregated along ideological lines, which they attribute to a variety of factors, including individual health behaviors, health provider ideological sorting, and health policy implementation. Specifically concerning deaths of despair, Warraich et al. (2022) find that the gap in overall mortality rates between counties won by Democrats versus Republicans

widened substantially between 2001 and 2019, and they highlight that cause-specific mortality related to suicide and substance use has grown disproportionately in Republican-leaning areas. Similarly, Callaghan et al. (2024) find that Republicans are less likely than Democrats to use the new national suicide prevention hotline.

These observational studies underscore that broader politically-oriented cultural contexts can relate to individuals' health and well-being. However, they are not straightforward evidence of causality: political affiliation may reflect underlying socioeconomic conditions (job loss, poverty, insufficient healthcare access, and others) that also lead to higher mortality. A more recent causal literature has explored how media can have effects on outcomes beyond political ideology: Ang (2023) show that exposure to the 1915 film *The Birth of a Nation* had lasting impacts on local support for the KKK, and finds higher rates of hate crimes a century later, while Grosfeld et al. (2024) show that media access can substantially affect religiosity. Relatedly, recent findings around COVID-19 revealed that partisan environments can alter behavior, such as vaccine uptake and social distancing, thereby affecting mortality (Allcott et al., 2020; Wallace et al., 2023). Our analysis provides new causal evidence in this vein, focusing on the sudden rise of conservative talk radio as an exogenous shift in local political messaging which led to lasting changes in political preferences.

Figure 16 plots event-study estimates for our principal measure of deaths of despair. Following Case and Deaton (2015), we categorize any given death as a death of despair if it involves alcohol, chronic liver disease, an overdose, or suicide. Our outcome is age-adjusted rates of deaths of despair, where our rate is the number of occurrences per 100,000 people. As before, our effects are pre-multiplied by the IQR of our instrument range to be interpretable, so each coefficient in the figure represents the effect of moving from the 25th to the 75th percentile of predicted talk radio growth (see Section 4), interacted with year indicators. Prior to the repeal of the Fairness Doctrine in 1987, we see no divergences, indicating no meaningful differences in mortality trends between areas more or less exposed to conservative talk radio. After deregulation, however, the two series begin to diverge, and by the mid-to-late 1990s, counties with higher predicted talk radio growth experience notably higher rates

Figure 16: Event-study estimates of talk radio and deaths of despair

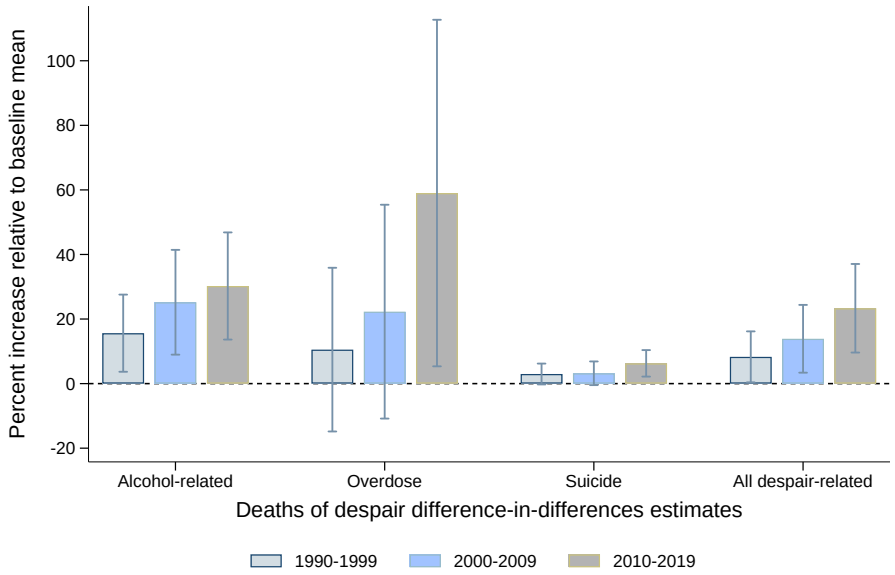


Notes: This figure shows the event study coefficients and 95% confidence intervals from estimation of equation 2, where Y_{ct} is age-adjusted annual rate of deaths of despair (per 100,000). A death is categorized as a death of despair if it involved alcohol, chronic liver disease, an overdose, or suicide, following Case and Deaton (2015). Three estimates are shown in different colors, starting with the baseline model (dark blue triangles). This specification estimates equation 2 with state-by-year fixed effects, with $\mathbf{X}_{ct}$ containing interactions between 1980 rural share and year fixed effects and 1980 population density and year fixed effects; specification (2), shown in light blue diamonds, additionally controls for 1980 percent college educated interacted with year fixed effects and 1996 cancer rate interacted with year fixed effects; specification (3), shown in light brown circles, replicates specification (2) but with added controls for NAFTA exposure from Choi et al. (2021) interacted with year fixed effects and China shock exposure from Autor et al. (2013) interacted with year fixed effects. All specifications are weighted by 1980 county population, and standard errors are clustered at the Arbitron Radio Metro level.

of deaths of despair. Over our sample, these increases amount 5 to 10 additional deaths of despair per 100,000 people relative to pre-repeal levels in more exposed counties.

Although Figure 16 points to a pronounced post-1987 increase in overall deaths of despair, it does not distinguish among specific causes. In Figure 17, we break out the results by category—overdose, alcohol-related (including chronic liver disease), and suicide—and present difference-in-differences estimates for three sub-periods (1990–1999, 2000–2009, and 2010–2019). Results are presented as percentage changes relative to baseline means. All despair-related deaths first appear in the 1990s and grow larger over time. By the 2010s, overdose mortality emerges as an increasingly important contributor to overall despair-related deaths. While these overdose deaths also have roots in changes to pharmaceutical access and

Figure 17: Difference-in-differences estimates by category of deaths of despair



Notes: This figure shows a decomposition of the deaths of despair result from figure 16. Difference-in-differences estimates are shown for alcohol-related mortality, overdose mortality, and suicide mortality - which together comprise all deaths of despair - alongside overall despair related deaths. As in figure 16, outcomes are defined as age-adjusted annual rates. The differences-in-differences regression in equation 3 for three different time periods (compared to the pre-period): 1990-1999, 2000-2009, and 2010-2019. The difference-in-differences regression includes as controls all control variables used in specification (3) of figure 16. Outcomes on the y-axis are estimated as percent changes relative to their pre-period means. All specifications are weighted by 1980 county population, and standard errors are clustered at the Arbitron Radio Metro level. Event study versions of these outcomes (further disaggregating alcohol-related mortality to separate chronic liver disease) are provided in Appendix Figure A8.

marketing (see, e.g., Alpert et al., 2022; Arteaga and Barone, 2022), the data here suggest that broader cultural and political mechanisms may also contribute. Finally, suicide rates also exhibit a modest but persistent rise in more exposed counties, especially in the 2000s onward. Event study versions of each of these outcomes are provided in Appendix Figure A8.[9]

We aggregate our overall estimates into a standard difference-in-differences specification estimated in equation 3 and show the results in Table 4. As with political outcomes, we also include additional controls in our differences-in-differences specification in Table A3, and show bootstrapped estimates for our deaths of despair measure in Table A4. In line with the

[9]The event studies in the Appendix further disaggregate alcohol-related mortality by excluding chronic liver disease and plotting it separately to show varying time paths of effects.

Table 4: Difference-in-Differences Estimates for Health-Related Outcomes

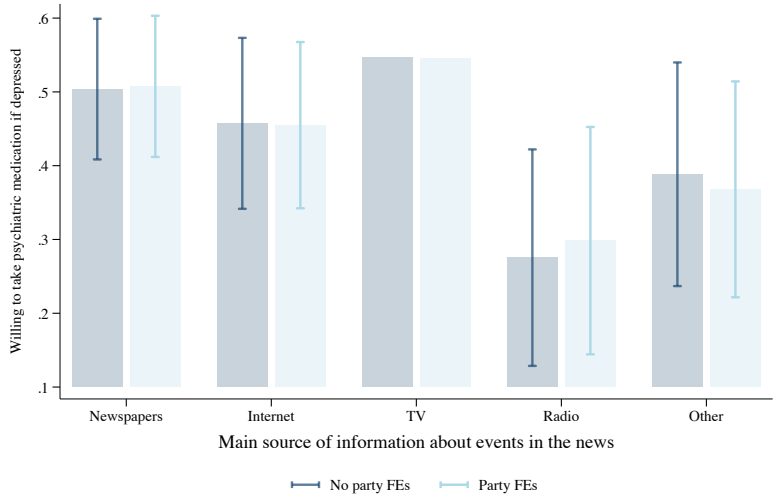
	Health-related Outcomes			
	Alcohol-related	Overdose	Suicide	All despair
Baseline	0.356	0.179	0.161	0.665
	(0.088)	(0.126)	(0.044)	(0.192)
	[0.000]	[0.159]	[0.000]	[0.001]
	∼ 2.276	∼ 1.142	∼ 1.025	∼ 4.248
+ Pop. density	0.332	0.290	0.110	0.709
	(0.091)	(0.120)	(0.038)	(0.197)
	[0.000]	[0.017]	[0.005]	[0.000]
	∼ 2.120	∼ 1.853	∼ 0.699	∼ 4.527
+ Pct. rural	0.340	0.293	0.116	0.726
	(0.089)	(0.122)	(0.039)	(0.197)
	[0.000]	[0.018]	[0.003]	[0.000]
	∼ 2.170	∼ 1.873	∼ 0.741	∼ 4.637
+ Pct. college	0.306	0.214	0.084	0.583
	(0.099)	(0.121)	(0.035)	(0.210)
	[0.002]	[0.079]	[0.017]	[0.006]
	∼ 1.954	∼ 1.368	∼ 0.537	∼ 3.719
Observations	25662	25662	25662	25662
Dep. var. mean	8.516	2.974	12.642	23.300
R-squared	0.797	0.848	0.651	0.857

Notes: This table shows difference-in-differences estimates for the effects of talk radio on deaths-of-despair outcomes, estimated from equation 3. The first three columns show estimates for constituent parts of deaths of despair, while the fourth column shows estimates for their aggregation. The difference-in-difference coefficients in the first value for each column/specification. Standard errors are in parentheses, and p-values are in brackets. The difference-in-differences estimate multiplied by the IQR of the instrument (as in the event studies) are indicated by a tilde (∼). The baseline specification includes state-by-year fixed effects only. Other specifications progressively add 1980 values for the variable described interacted with year fixed effects as controls. Each additional specification is additive, and includes the prior specification's control variables. Additional (additive) specifications for this table are given in A1. The dependent variable means are calculated using the outcome for all pre-periods. The R-squared value refers to the value from the baseline specification. All specifications are weighted by 1980 county population, and standard errors are clustered at the Arbitron Radio Metro level.

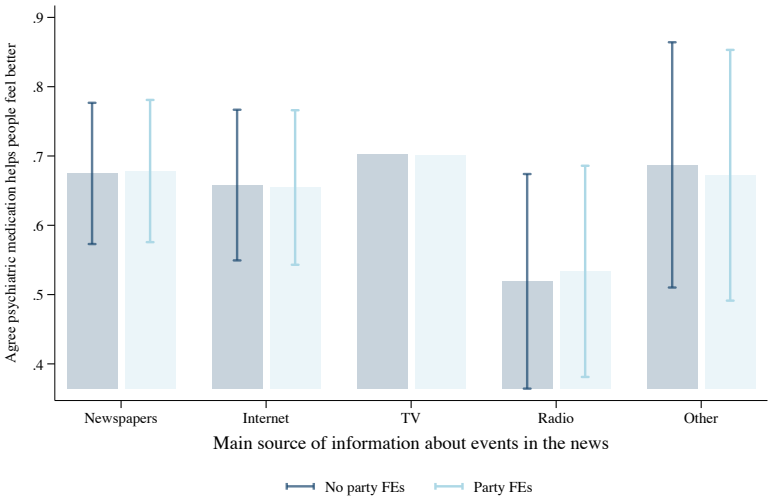
event studies in Figure A8, Table 4 shows that the majority of despair-related deaths are driven by alcohol-related mortality and overdose mortality, with increases in suicide being a statistically significant but small share of overall despair-related mortality increases.

Understanding why exposure to conservative talk radio might lead to higher rates of deaths of despair is a complex question. One possibility relates directly to the content of

Figure 18: Willingness to use and beliefs about psychiatric medication



(a) Willingness to use medication if depressed



(b) Believe psychiatric medication improves peoples' lives

Notes: This figure shows descriptive patterns for the relationship between primary media sources and willingness to use / beliefs about the efficacy of psychiatric medication. Each outcome variable is a binary indicator for whether the respondent agreed with the given statement or question. The independent variable refers to main source of information the respondent uses for information about events in the news. The coefficients are estimated by regressing each outcome on main media source fixed effects, using television as the omitted category. Each regression includes fixed effects for year, 10-year age bins, sex, race, education level (aggregated into 8 categories), and region (9 categories). The specification shown in light blue also includes fixed effects for party identifcation, which has 8 categories (from strong democrat to strong republican, including other party), while the specification in dark blue omits this control. Both variables are estimated in 2006 – the only year of overlap with our main media source variable. Standard errors are clustered at the primary sampling unit level.

talk radio shows, which may downplay certain health risks or foster distrust in government interventions, thereby altering health behaviors (Allcott et al., 2020). Alternatively, the influence of talk radio on political preferences could be the deeper driver: as individuals become

more conservative in their outlook or voting patterns, they may become receptive to different public-health messages, or encounter policy environments less inclined toward robust social and mental-health supports. Another pathway is that talk radio often highlights economic grievances or cultural anxieties, and when these remain unresolved, individuals may turn to harmful coping behaviors—including substance use, alcohol abuse, or self-harm. Further research might disentangle whether it is the direct, day-to-day messaging of conservative radio programs or the broader realignment in political ideology (and corresponding policies) that more acutely shapes these health outcomes.

Consistent with the messaging channel, descriptive results indicate that individuals who used radio as their primary source of information about events in the news have markedly different views regarding mental health and mental health care than consumers of other forms of media. Using data from the GSS from after the repeal of the Fairness Doctrine, we regress a set of binary indicators concerning beliefs about various mental-health-related issues on fixed effects for the respondents' primary news source, including flexible controls for age, education, sex, race, region, and (in a second specification) political affilation, and television (the dominant source of news at the time) as the omitted category.[10] As shown in Figure 18, individuals for whom radio is their primary media source exhibit a 27 percentage point lower willingness to use psychiatric medication for depression than television viewers, and are 18 percentage points less likely to believe psychiatric medication can improve peoples' lives. Additional results for differences by media source in beliefs about mental health are given in Table 5 and Table A5, which indicate that the aforementioned gap in willingness to use psychiatric medication does not stem from lower illness recognition: when presented with a vignette describing a symptomatic individual, radio and television audiences were comparably likely to indicate the person "has a mental illness", but radio listeners were significantly less likely to recommend seeing a psychiatrist or any mental-health professional. Although these patterns are purely descriptive, they are consistent with the notion that

[10]Most specifications include only data from 2006, though some variables allow for estimation using a biannual sample from 2006 to 2018. Details are in the table notes for Table 5.

Table 5: Main Media Sources and Mental-Health–Related Beliefs

	No Party-ID FEs					+ Party-ID FEs				
Outcome (1=Agree)	Radio	Newspaper	Internet	Other	Cons./Obs.	Radio	Newspaper	Internet	Other	Cons./Obs.
A. Confidence in medical institutions										
Trust doctors' judgment	−0.073	−0.019	−0.062	−0.049	0.854	−0.089	−0.015	−0.053	−0.054	0.854
	(0.071)	(0.038)	(0.046)	(0.067)	909	(0.075)	(0.039)	(0.044)	(0.062)	906
Confident in medicine	−0.048	−0.018	−0.018	−0.107	0.407	−0.043	−0.016	−0.016	−0.098	0.405
	(0.030)	(0.021)	(0.020)	(0.031)	6,016	(0.030)	(0.021)	(0.020)	(0.031)	5,977
B. Willingness to take psychiatric medication										
Take b/c personal trouble	−0.101	0.026	−0.064	−0.089	0.310	−0.091	0.029	−0.063	−0.105	0.310
	(0.062)	(0.045)	(0.060)	(0.059)	897	(0.061)	(0.046)	(0.060)	(0.058)	894
Take b/c stress	−0.205	−0.064	−0.172	−0.107	0.519	−0.169	−0.055	−0.161	−0.118	0.513
	(0.078)	(0.048)	(0.058)	(0.074)	894	(0.078)	(0.047)	(0.056)	(0.074)	892
Take b/c depressed	−0.271	−0.042	−0.089	−0.158	0.546	−0.247	−0.038	−0.090	−0.177	0.545
	(0.075)	(0.049)	(0.059)	(0.077)	897	(0.079)	(0.049)	(0.057)	(0.075)	895
Take b/c fear	−0.092	−0.066	−0.083	0.025	0.688	−0.073	−0.059	−0.079	0.011	0.686
	(0.077)	(0.050)	(0.059)	(0.071)	896	(0.081)	(0.050)	(0.059)	(0.071)	894
C. Beliefs about psychiatric medication										
Harmful to body	0.094	0.000	−0.038	−0.017	0.275	0.084	0.000	−0.042	−0.010	0.275
	(0.088)	(0.048)	(0.050)	(0.082)	864	(0.088)	(0.048)	(0.050)	(0.079)	861
Helps people feel better	−0.184	−0.028	−0.045	−0.016	0.703	−0.167	−0.023	−0.046	−0.029	0.701
	(0.079)	(0.052)	(0.055)	(0.090)	870	(0.078)	(0.052)	(0.057)	(0.092)	867
D. Response to mental health vignettes (person X)										
X has mental illness	0.013	−0.010	0.013	0.070	0.612	0.004	−0.020	−0.001	0.066	0.618
	(0.078)	(0.049)	(0.060)	(0.085)	887	(0.079)	(0.050)	(0.062)	(0.081)	885
Recommend psychiatrist	−0.091	0.018	−0.021	0.018	0.874	−0.094	0.014	−0.029	0.005	0.878
	(0.070)	(0.030)	(0.045)	(0.048)	890	(0.069)	(0.030)	(0.044)	(0.052)	887
Recommend other MH	−0.136	−0.044	−0.044	−0.026	0.821	−0.134	−0.048	−0.054	−0.036	0.825
	(0.071)	(0.049)	(0.042)	(0.061)	887	(0.069)	(0.049)	(0.044)	(0.064)	884
E. Acceptability of suicide										
OK if: dishonor family	0.041	0.017	0.031	0.000	0.087	0.041	0.015	0.030	0.002	0.088
	(0.020)	(0.013)	(0.011)	(0.018)	5,842	(0.020)	(0.013)	(0.011)	(0.019)	5,801
OK if: tired of living	0.019	0.034	0.013	−0.002	0.180	0.019	0.030	0.012	−0.004	0.181
	(0.025)	(0.019)	(0.015)	(0.025)	5,786	(0.025)	(0.019)	(0.015)	(0.025)	5,744

Notes: This table shows descriptive patterns for the relationship between primary media sources, mental-health-related beliefs, and trust in medical institutions in the US. Each outcome variable is a binary indicator for whether the respondent agreed with the given statement or question. The independent variable refers to main source of information the respondent uses for information about events in the news. The coefficients are estimated by regressing each outcome on main media source fixed effects, using television as the omitted category. Each regression includes fixed effects for year, 10-year age bins, sex, race, education level (aggregated into 8 categories), and region (9 categories). The specification on the right side of the table also includes fixed effects for party identifcation, which has 8 categories (from strong democrat to strong republican, including other party). Variables "Confident in medicine" and suicide-related variables are included in biannual surveys from 2006 to 2018. All other variables are estimated in 2006 – the only year of overlap with our main media source variable. "Cons./Obs." refer to the baseline mean in the regression and the number of observations used to estimate the regression. Standard errors are clustered at the primary sampling unit level.

conservative radio may cultivate skepticism toward medical expertise and discourage help-seeking, thereby increasing vulnerability to despair-related mortality.

Irrespective of the specific channels, our findings show that partisan media extends well beyond influencing elections and shaping voter attitudes: it also carries significant consequences for population health. This conclusion aligns with a wider literature documenting

that highly polarized information environments can exacerbate social and economic vulnerabilities. As Oberlander (2024) emphasizes, contemporary trends in mortality from despair cannot be understood solely in economic terms—cultural, political, and media factors play a crucial role. The repeal of the Fairness Doctrine in 1987—and the ensuing boom in conservative talk radio—creates a quasi-experimental setting that illuminates these dynamics. While existing descriptive work highlights that Republicans and Democrats differ in health outcomes, our analysis provides evidence of a causal link between changing political communication and rising despair-related mortality. More generally, our results underscore the interconnectedness of political and health systems: shifting the former can have profound, and sometimes unexpected, consequences for the latter.

6 Conclusion

This paper shows that deregulating radio content in 1987 had lasting effects on not only local political outcomes but also aspects of public health in the United States. By exploiting quasi-experimental variation in the rapid expansion of conservative talk radio following repeal of the Fairness Doctrine, we demonstrate a sizable and enduring rightward shift in voting behavior, beginning as early as the 1992 election and remaining apparent through subsequent decades. The effects we document also extend beyond the political sphere: counties that gained greater exposure to talk radio also experienced higher rates of "deaths of despair"—mortality related to alcohol, drug overdoses, and suicide.

Collectively, these findings underscore the capacity of partisan media to operate as a powerful channel for political persuasion, shaping ideological preferences and amplifying polarization. At the same time, the results speak to broader ways in which changes in political messaging can shape behavior outside the electoral arena, including decisions about substance use and mental health. From a policy perspective, these insights have implications for debates over media regulation and public-health interventions. The repeal of the Fairness Doctrine opened the door for hosts to air partisan views unencumbered, which in turn

influenced voting patterns and downstream health outcomes. Policymakers interested in mitigating polarization and its health consequences may wish to consider the unintended effects of media deregulation, as well as options that bolster media literacy or expand mental-health resources in politically shifting communities.

In sum, the repeal of the Fairness Doctrine enabled a novel, conservative-leaning information ecosystem whose reach extended well beyond electoral success for Republican candidates. The findings indicate that media-induced ideological shifts can propagate into health-relevant behaviours. By linking political persuasion to rising deaths of despair, this study highlights that the realm of partisan media can have substantial long-run social costs, tying aspects of public health to the channels that shape political discourse.

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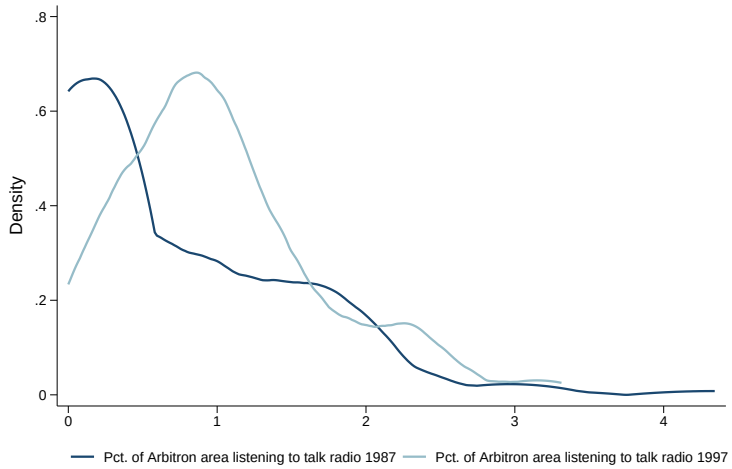
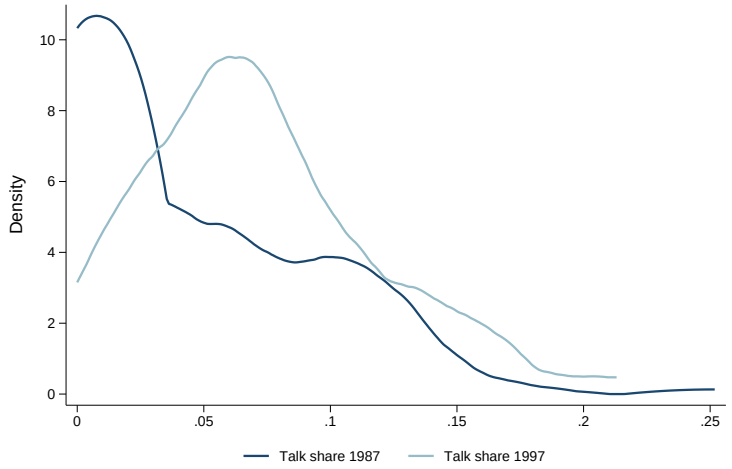
Appendix Figures

Figure A1: Changes in talk radio before/after repeal



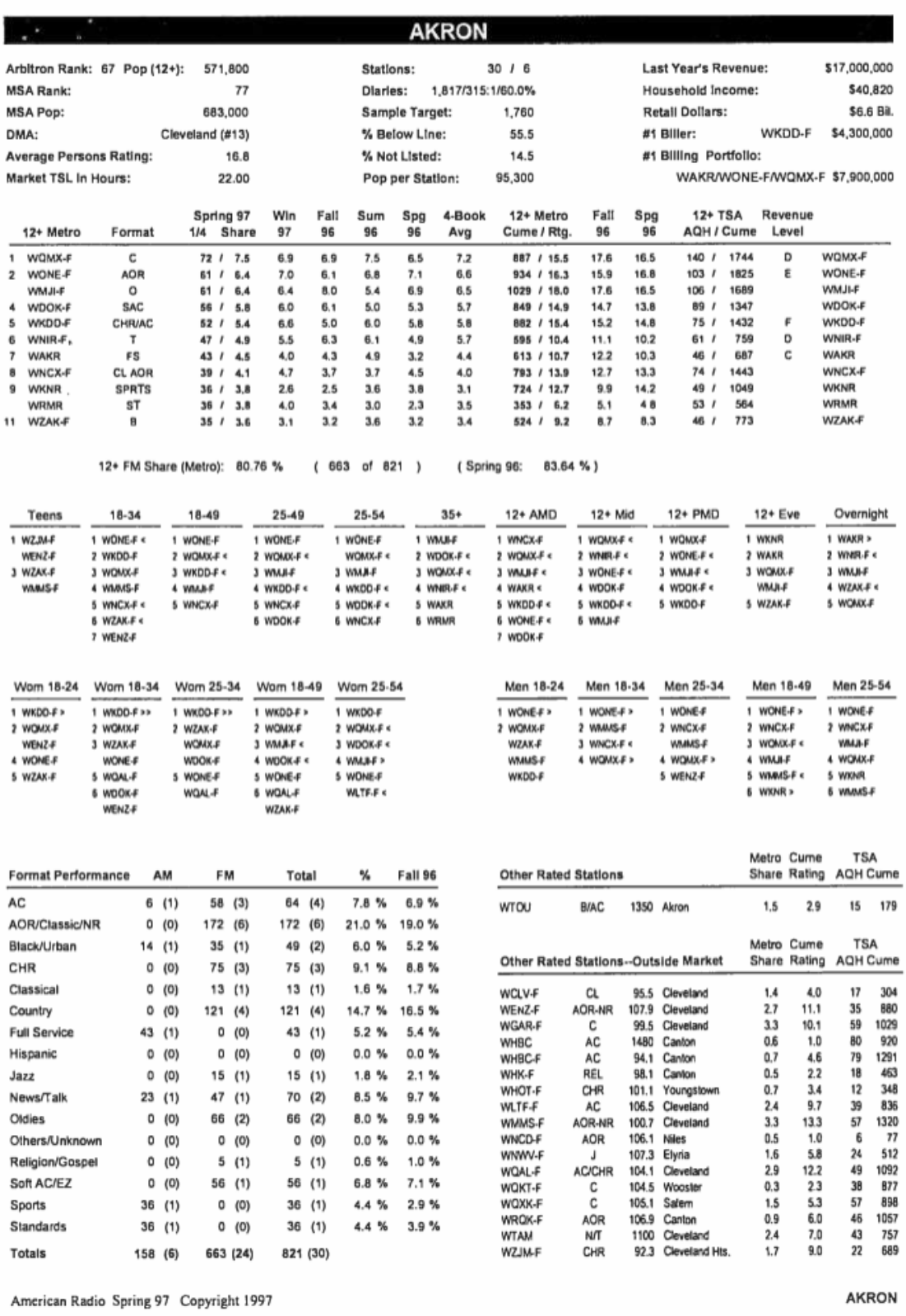
(a) Percent weekly listeners



(b) Shares

Notes: This figure shows density plots of the distribution of talk radio market share across markets in 1987 and 1997. The red line shows the distribution in 1987, and the blue line shows the distribution in 1997. Panel (a) shows a large increase in the percentage of people tuning into talk radio weekly, and panel (b) shows a large increase in market share of talk radio stations.

Figure A2: James Duncan's *American Radio*



AKRON

Arbitron Rank: 67 Pop (12+): 571,800
MSA Rank: 77
MSA Pop: 683,000
DMA: Cleveland (#13)
Average Persons Rating: 16.8
Market TSL In Hours: 22.00

Stations: 30 / 6
Diaries: 1,817/315:1/60.0%
Sample Target: 1,760
% Below Line: 55.5
% Not Listed: 14.5
Pop per Station: 95,300

Last Year's Revenue: $17,000,000
Household Income: $40,820
Retail Dollars: $6.6 Bil.
#1 Biller: WKDD-F $4,300,000
#1 Billing Portfolio:
WAKR/WONE-F/WQMX-F $7,900,000

	12+ Metro	Format	Spring 97 1/4 Share	Win 97	Fall 96	Sum 96	Spg 96	4-Book Avg	12+ Metro Cume / Rtg.	Fall 96	Spg 96	12+ TSA AQH / Cume	Revenue Level	
1	WQMX-F	C	72 / 7.5	6.9	6.9	7.5	6.5	7.2	887 / 15.5	17.6	16.5	140 / 1744	D	WQMX-F
2	WONE-F	AOR	61 / 6.4	7.0	6.1	6.8	7.1	6.6	934 / 16.3	15.9	16.8	103 / 1825	E	WONE-F
	WMJI-F	O	61 / 6.4	6.4	8.0	5.4	6.9	6.5	1029 / 18.0	17.6	16.5	106 / 1689		WMJI-F
4	WDOK-F	SAC	56 / 5.8	6.0	6.1	5.0	5.3	5.7	849 / 14.9	14.7	13.8	89 / 1347		WDOK-F
5	WKDD-F	CHR/AC	52 / 5.4	6.6	5.0	6.0	5.8	5.8	882 / 15.4	15.2	14.8	75 / 1432	F	WKDD-F
6	WNIR-F,	T	47 / 4.9	5.5	6.3	6.1	4.9	5.7	595 / 10.4	11.1	10.2	61 / 759	D	WNIR-F
7	WAKR	FS	43 / 4.5	4.0	4.3	4.9	3.2	4.4	613 / 10.7	12.2	10.3	46 / 687	C	WAKR
8	WNCX-F	CL AOR	39 / 4.1	4.7	3.7	3.7	4.5	4.0	793 / 13.9	12.7	13.3	74 / 1443		WNCX-F
9	WKNR	SPRTS	36 / 3.8	2.6	2.5	3.6	3.8	3.1	724 / 12.7	9.9	14.2	49 / 1049		WKNR
	WRMR	ST	36 / 3.8	4.0	3.4	3.0	2.3	3.5	353 / 6.2	5.1	4.8	53 / 564		WRMR
11	WZAK-F	B	35 / 3.6	3.1	3.2	3.6	3.2	3.4	524 / 9.2	8.7	8.3	46 / 773		WZAK-F

12+ FM Share (Metro): 80.76 % (663 of 821) (Spring 96: 83.64 %)

Teens	18-34	18-49	25-49	25-54	35+	12+ AMD	12+ Mid	12+ PMD	12+ Eve	Overnight
1 WZJM-F	1 WONE-F <	1 WONE-F	1 WONE-F	1 WONE-F	1 WMJI-F	1 WNCX-F	1 WQMX-F <	1 WQMX-F	1 WKNR	1 WAKR >
WENZ-F	2 WKDD-F	2 WQMX-F <	2 WQMX-F <	WQMX-F <	2 WDOK-F <	2 WQMX-F <	2 WNIR-F <	2 WONE-F <	2 WAKR	2 WNIR-F <
3 WZAK-F	3 WQMX-F	3 WKDD-F <	3 WMJI-F	3 WMJI-F	3 WQMX-F <	3 WMJI-F <	3 WONE-F <	3 WMJI-F <	3 WQMX-F	3 WMJI-F
WMMS-F	4 WMMS-F	4 WMJI-F	4 WKDD-F <	4 WKDD-F <	4 WNIR-F <	4 WAKR <	4 WDOK-F	4 WDOK-F <	WMJI-F	4 WZAK-F <
	5 WNCX-F <	5 WNCX-F	5 WNCX-F	5 WDOK-F <	5 WAKR	5 WKDD-F <	5 WKDD-F <	5 WKDD-F	5 WZAK-F	5 WQMX-F
	6 WZAK-F <		6 WDOK-F	6 WNCX-F	6 WRMR	6 WONE-F <	6 WMJI-F			
	7 WENZ-F					7 WDOK-F				

Wom 18-24	Wom 18-34	Wom 25-34	Wom 18-49	Wom 25-54
1 WKDD-F >	1 WKDD-F >>	1 WKDD-F >>	1 WKDD-F >	1 WKDD-F
2 WQMX-F	2 WQMX-F	2 WZAK-F	2 WQMX-F	2 WQMX-F <
WENZ-F	3 WZAK-F	WQMX-F	3 WMJI-F <	3 WDOK-F <
4 WONE-F	WONE-F	WDOK-F	4 WDOK-F <	4 WMJI-F >
5 WZAK-F	5 WQAL-F	5 WONE-F	5 WONE-F	5 WONE-F
	6 WDOK-F	WQAL-F	6 WQAL-F	WLTF-F <
	WENZ-F		WZAK-F	

Men 18-24	Men 18-34	Men 25-34	Men 18-49	Men 25-54
1 WONE-F >	1 WONE-F >	1 WONE-F	1 WONE-F >	1 WONE-F
2 WQMX-F	2 WMMS-F	2 WNCX-F	2 WNCX-F	2 WNCX-F
WZAK-F	3 WNCX-F <	WMMS-F	3 WQMX-F <	WMJI-F
WMMS-F	4 WQMX-F >	4 WQMX-F >	4 WMJI-F	4 WQMX-F
WKDD-F		5 WENZ-F	5 WMMS-F <	5 WKNR
			6 WKNR >	6 WMMS-F

Format Performance	AM	FM	Total	%	Fall 96
AC	6 (1)	58 (3)	64 (4)	7.8 %	6.9 %
AOR/Classic/NR	0 (0)	172 (6)	172 (6)	21.0 %	19.0 %
Black/Urban	14 (1)	35 (1)	49 (2)	6.0 %	5.2 %
CHR	0 (0)	75 (3)	75 (3)	9.1 %	8.8 %
Classical	0 (0)	13 (1)	13 (1)	1.6 %	1.7 %
Country	0 (0)	121 (4)	121 (4)	14.7 %	16.5 %
Full Service	43 (1)	0 (0)	43 (1)	5.2 %	5.4 %
Hispanic	0 (0)	0 (0)	0 (0)	0.0 %	0.0 %
Jazz	0 (0)	15 (1)	15 (1)	1.8 %	2.1 %
News/Talk	23 (1)	47 (1)	70 (2)	8.5 %	9.7 %
Oldies	0 (0)	66 (2)	66 (2)	8.0 %	9.9 %
Others/Unknown	0 (0)	0 (0)	0 (0)	0.0 %	0.0 %
Religion/Gospel	0 (0)	5 (1)	5 (1)	0.6 %	1.0 %
Soft AC/EZ	0 (0)	56 (1)	56 (1)	6.8 %	7.1 %
Sports	36 (1)	0 (0)	36 (1)	4.4 %	2.9 %
Standards	36 (1)	0 (0)	36 (1)	4.4 %	3.9 %
Totals	158 (6)	663 (24)	821 (30)		

Other Rated Stations				Metro Share	Cume Rating	TSA AQH	TSA Cume
WTOU	B/AC	1350	Akron	1.5	2.9	15	179

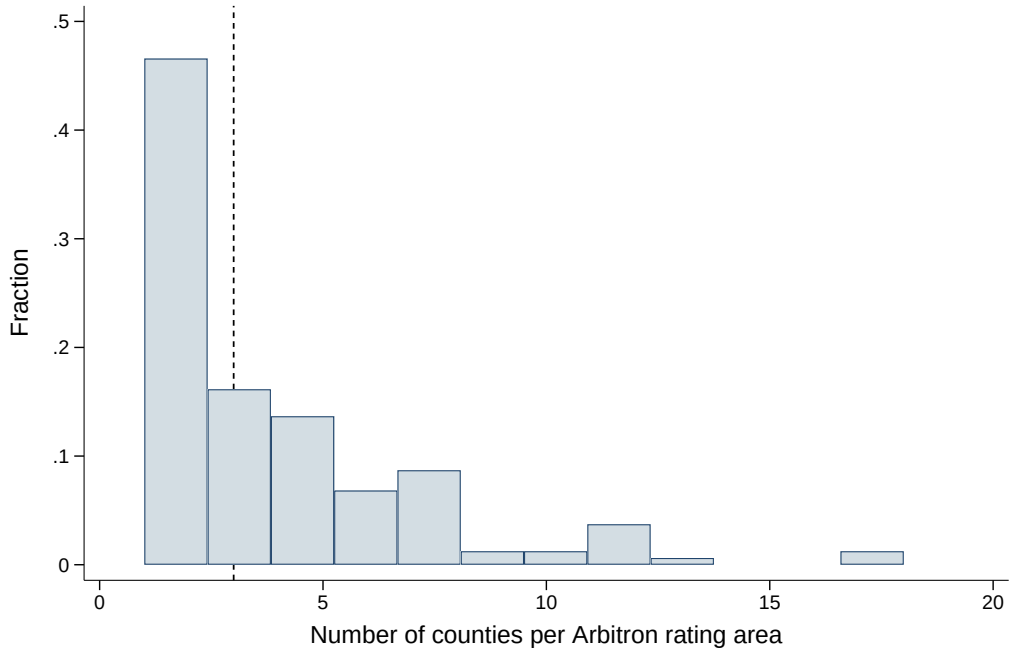
Other Rated Stations--Outside Market				Metro Share	Cume Rating	TSA AQH	TSA Cume
WCLV-F	CL	95.5	Cleveland	1.4	4.0	17	304
WENZ-F	AOR-NR	107.9	Cleveland	2.7	11.1	35	880
WGAR-F	C	99.5	Cleveland	3.3	10.1	59	1029
WHBC	AC	1480	Canton	0.6	1.0	80	920
WHBC-F	AC	94.1	Canton	0.7	4.6	79	1291
WHK-F	REL	98.1	Canton	0.5	2.2	18	463
WHOT-F	CHR	101.1	Youngstown	0.7	3.4	12	348
WLTF-F	AC	106.5	Cleveland	2.4	9.7	39	836
WMMS-F	AOR-NR	100.7	Cleveland	3.3	13.3	57	1320
WNCD-F	AOR	106.1	Niles	0.5	1.0	6	77
WNWV-F	J	107.3	Elyria	1.6	5.8	24	512
WQAL-F	AC/CHR	104.1	Cleveland	2.9	12.2	49	1092
WQKT-F	C	104.5	Wooster	0.3	2.3	38	877
WQXK-F	C	105.1	Salem	1.5	5.3	57	898
WRQK-F	AOR	106.9	Canton	0.9	6.0	46	1057
WTAM	N/T	1100	Cleveland	2.4	7.0	43	757
WZJM-F	CHR	92.3	Cleveland Hts.	1.7	9.0	22	689

American Radio Spring 97 Copyright 1997

AKRON

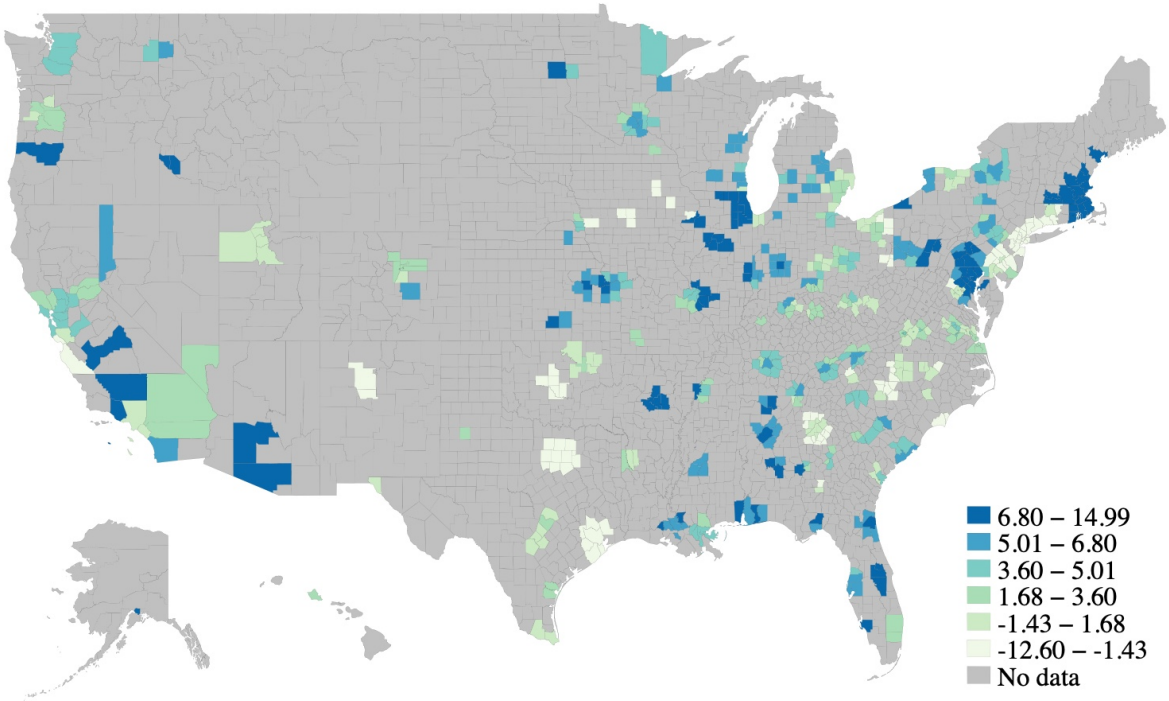
Source: James Duncan's *American Radio*, Spring 1997 Edition

Figure A3: Number of counties per Arbitron metro area



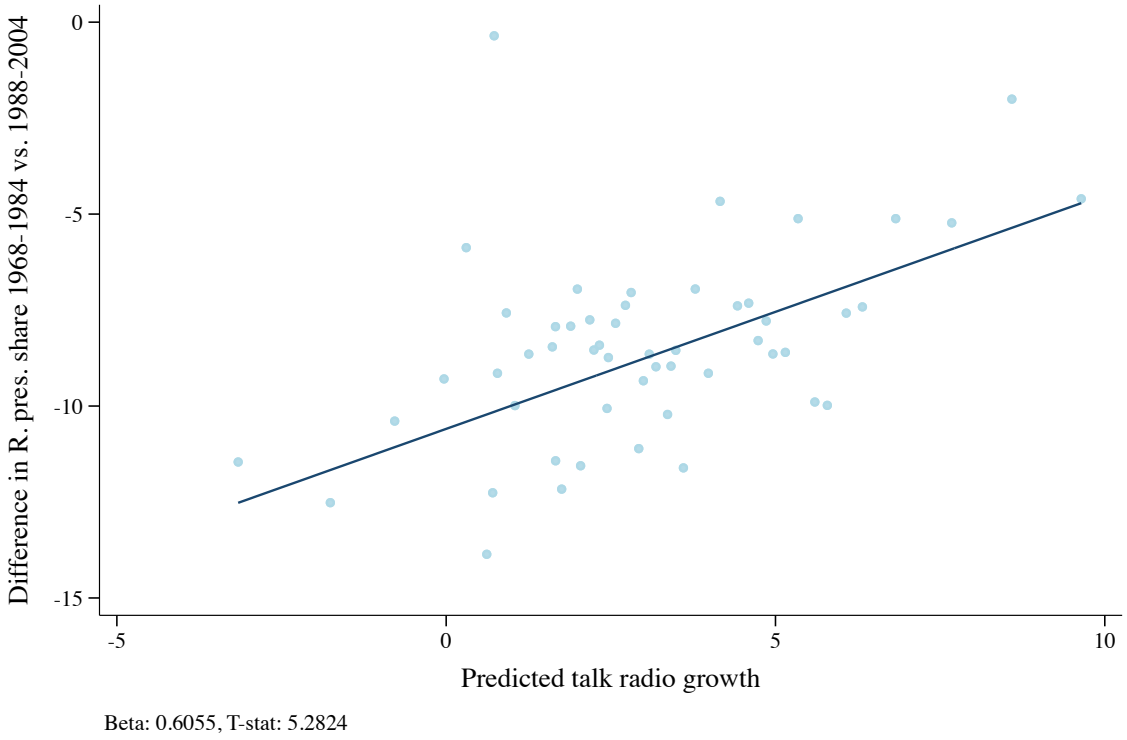
Notes: This plot shows a histogram of the number of counties included per Arbitron rating area. The median number of counties per area is 3, shown with the dashed black line.

Figure A4: Instrument variation



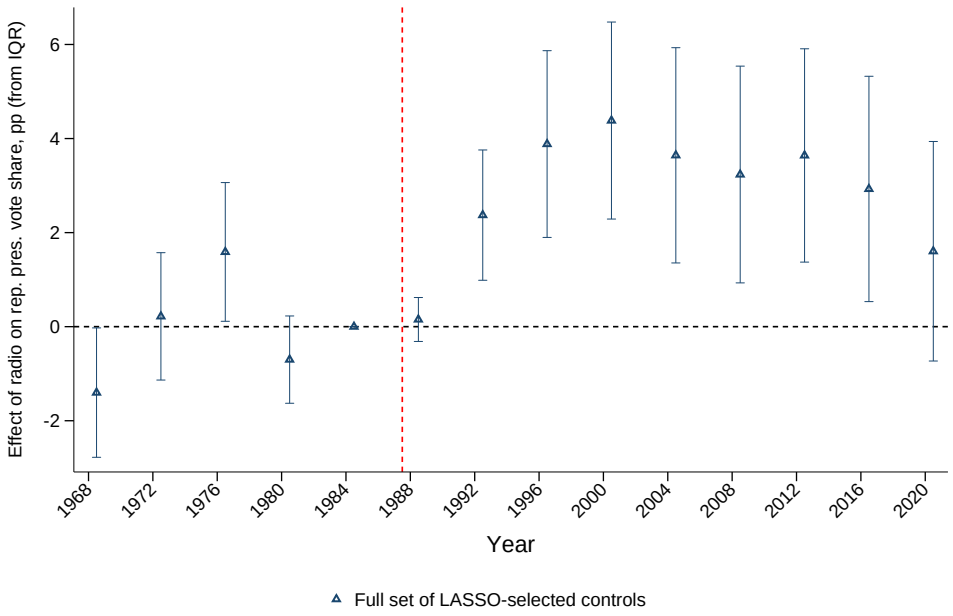
Notes: This plot shows a map of the US, with counties colored by the predicted change in talk radio market share. Darker colors indicate a larger predicted increase in talk radio share.

Figure A5: Distribution of effect sizes for Republican presidential vote share



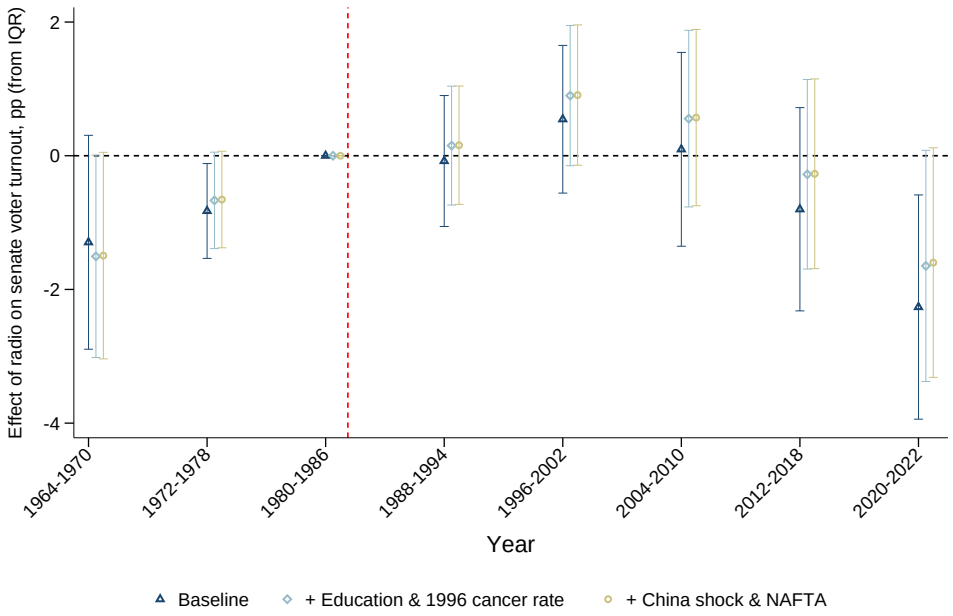
Notes: This paper shows the relationship between mean differences in two-party Republican vote share between the 1988-2004 elections and the 1968-1984 elections and our predicted talk radio growth instrument. The binned scatterplot and regression fit are weighted by 1980 county population and include state fixed effects. Standard errors are clustered at the Arbitron Radio Metro level.

Figure A6: Event study Republican presidential vote share with LASSO-selected controls

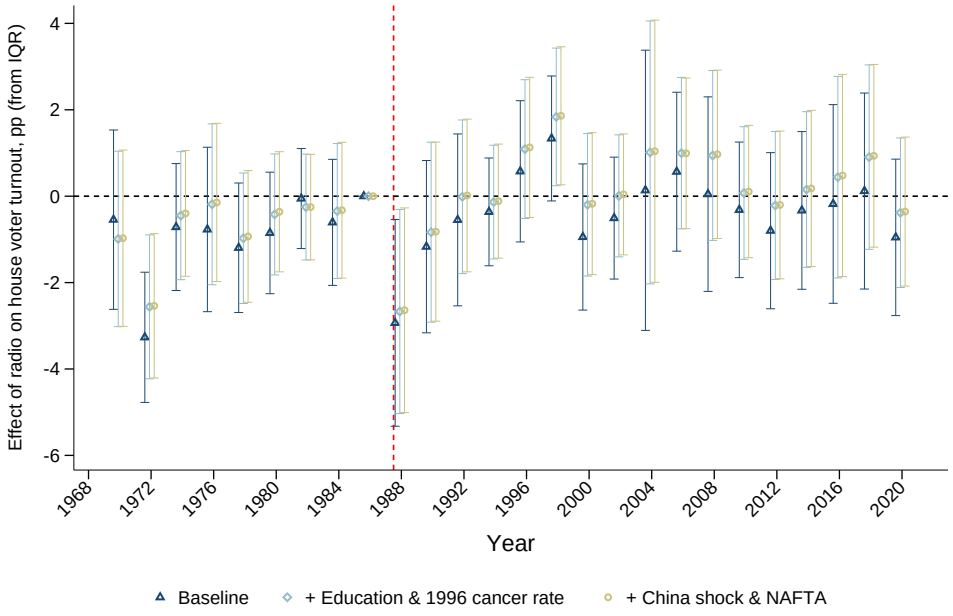


Notes: This event study estimates equation 2 for the two-party Republican vote share outcome, using a post-LASSO procedure for covariate selection to include in the regression as controls. First, a LASSO regression is run of our instrument on the full set of covariates in our data, and selected features are included as controls interacted with year fixed effects in the event study regression. The full set of LASSO-selected variables are: NAFTA vulnerability, pct. no HS (1980), pct. HS only (1980), pop. (1900, 1970), area (sq. mi., 1980), pct. male 10–14 and 65–74 (1980), pct. female 5–9, 15–17, 18–24, 35–44, 45–54, 85+ (1980), pct. age 15–17 and 45–54 (1980), pct. white, Native American (1980), pct. divorced, institutionalized, and elementary education (1980), pct. Black college educated (1980), pct. employed (1980), pct. in manufacturing, communications, finance, business services (1980), pct. federal, state, and local government workers (1980), pct. self-employed (1980), pct. Households with income $50–75k, $125–149k, $150–174k, $225–249k, $300–349k, and $350–399k (1980), pct. occupied and vacant housing (1980), pct. veteran (1980), cancer prevalence, population density (1980), unemployment rate (1980), pct. college (1980), and China shock exposure.

Figure A7: Event studies of turnout in Senate and House elections



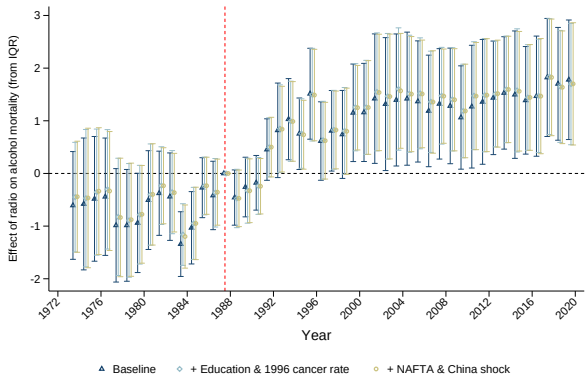
(a) Turnout in Senate elections



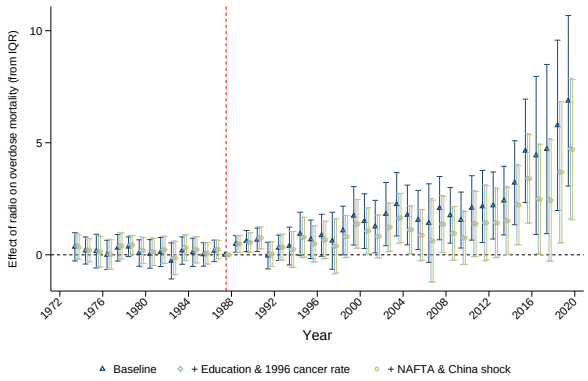
(b) Turnout in House elections

Notes: These figures replicate Figure 14 for Senate and House elections. For each panel, three estimates are shown in different colors, starting with the baseline model (dark blue triangles). This specification estimates equation 2 with state-by-year fixed effects, with $\mathbf{X}_{ct}$ containing interactions between 1980 rural share and year fixed effects and 1980 population density and year fixed effects; specification (2), shown in light blue diamonds, additionally controls for 1980 percent college educated interacted with year fixed effects and 1996 cancer rate interacted with year fixed effects; specification (3), shown in light brown circles, replicates specification (2) but with added controls for NAFTA exposure from Choi et al. (2021) interacted with year fixed effects and China shock exposure from Autor et al. (2013) interacted with year fixed effects. All specifications are weighted by 1980 county population, and standard errors are clustered at the Arbitron Radio Metro level.

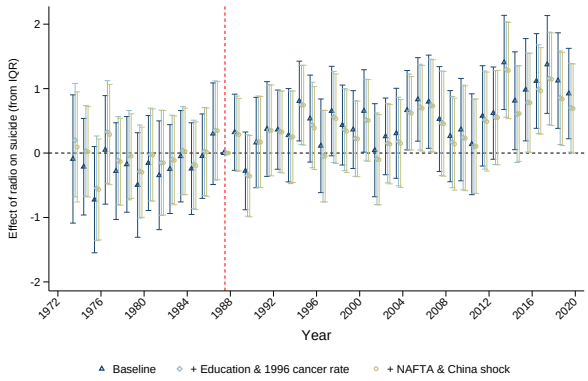
Figure A8: Event studies for components of deaths of despair



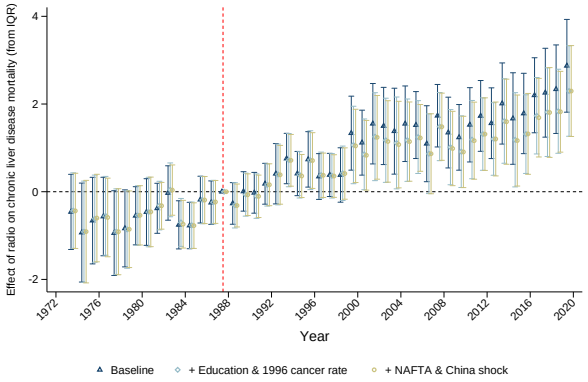
(a) Alcohol-related mortality



(b) Overdose mortality



(c) Suicide mortality



(d) Chronic liver disease mortality

Notes: These figures decompose Figure 16 into four categories of mortality: panel (a) shows alcohol-related mortality, panel (b) shows overdose mortality, panel (c) shows suicide mortality, and panel (d) shows chronic liver disease mortality. For each panel, three estimates are shown in different colors, starting with the baseline model (dark blue triangles). This specification estimates equation 2 with state-by-year fixed effects, with $\mathbf{X}_{ct}$ containing interactions between 1980 rural share and year fixed effects and 1980 population density and year fixed effects; specification (2), shown in light blue diamonds, additionally controls for 1980 percent college educated interacted with year fixed effects and 1996 cancer rate interacted with year fixed effects; specification (3), shown in light brown circles, replicates specification (2) but with added controls for NAFTA exposure from Choi et al. (2021) interacted with year fixed effects and China shock exposure from Autor et al. (2013) interacted with year fixed effects. All specifications are weighted by 1980 county population, and standard errors are clustered at the Arbitron Radio Metro level.

Appendix Tables

Table A1: Additional specifications, DiD Estimates for Political Outcomes

	Two-party Rep. vote share			**Election turnout**		
	President	Senate	House	President	Senate	House
+ Med. inc.	0.748	0.694	1.010	0.202	0.209	0.196
	(0.140)	(0.120)	(0.244)	(0.105)	(0.116)	(0.124)
	[0.000]	[0.000]	[0.000]	[0.057]	[0.074]	[0.116]
	∼ 4.776	∼ 4.433	∼ 6.448	∼ 1.289	∼ 1.332	∼ 1.254
+ China shock	0.743	0.693	1.001	0.203	0.208	0.197
	(0.141)	(0.118)	(0.243)	(0.105)	(0.114)	(0.123)
	[0.000]	[0.000]	[0.000]	[0.055]	[0.071]	[0.113]
	∼ 4.745	∼ 4.425	∼ 6.393	∼ 1.298	∼ 1.329	∼ 1.256
+ NAFTA	0.738	0.692	1.008	0.203	0.208	0.197
	(0.141)	(0.119)	(0.244)	(0.106)	(0.114)	(0.124)
	[0.000]	[0.000]	[0.000]	[0.057]	[0.071]	[0.114]
	∼ 4.712	∼ 4.421	∼ 6.433	∼ 1.294	∼ 1.328	∼ 1.255
+ Cancer rate	0.726	0.695	1.011	0.203	0.208	0.197
	(0.135)	(0.120)	(0.243)	(0.109)	(0.116)	(0.126)
	[0.000]	[0.000]	[0.000]	[0.065]	[0.076]	[0.120]
	∼ 4.634	∼ 4.436	∼ 6.451	∼ 1.297	∼ 1.326	∼ 1.256
Observations	7772	3899	14629	7008	1330	13773
Dep. var. mean	54.364	45.677	43.869	54.756	45.549	43.176
R-squared	0.903	0.915	0.700	0.939	0.947	0.884

Notes: This table extends the results from 3 for additional controls. The specifications include controls additively, so the first specification, which adds 1980 median income interacted with year fixed effects, is added in addition to the controls in the final specification of Table 3. The cancer rate control is the 1996 cancer rate, taken from Arteaga and Barone (2022) and the NAFTA and China shock controls are from Choi et al. (2021) and Autor et al. (2013), respectively.

Table A2: Bootstrapped DiD Estimates for Political Outcomes

	President	Senate	House
Panel A. Two-party Republican vote share			
Baseline	0.627	0.416	0.901
	[–0.595, 1.167]	[–0.662, 0.910]	[–0.277, 1.657]
	∼4.522	∼2.982	∼6.407
+ Pct. rural & pop. density	0.591	0.381	0.891
	[0.249, 0.987]	[0.006, 0.747]	[0.332, 1.812]
	∼4.240	∼2.701	∼6.274
+ Pct. college & cancer	0.536	0.363	0.881
	[0.187, 0.928]	[0.009, 0.676]	[0.352, 1.765]
	∼3.854	∼2.585	∼6.219
+ NAFTA & China shock	0.535	0.363	0.904
	[0.184, 0.958]	[0.023, 0.681]	[0.315, 1.790]
	∼3.859	∼2.595	∼6.403
Panel B. Election turnout			
Baseline	0.138	0.133	0.083
	[–0.176, 0.328]	[–0.140, 0.434]	[–0.302, 0.336]
	∼0.978	∼0.936	∼0.586
+ Pct. rural & pop. density	0.153	0.134	0.093
	[–0.061, 0.413]	[–0.143, 0.434]	[–0.234, 0.434]
	∼1.079	∼0.941	∼0.655
+ Pct. college & cancer	0.182	0.078	0.138
	[–0.045, 0.418]	[–0.192, 0.394]	[–0.200, 0.472]
	∼1.284	∼0.528	∼0.982
+ NAFTA & China shock	0.180	0.121	0.134
	[–0.042, 0.431]	[–0.239, 0.363]	[–0.204, 0.474]
	∼1.272	∼0.860	∼0.952

Notes: This table shows difference-in-differences estimates for political outcomes, where coefficient estimates and 95% confidence intervals are estimated using the block cluster bootstrap with 1000 replications. Estimated 95% confidence intervals are shown in brackets. The difference-in-differences estimate multiplied by the IQR of the instrument (as in the event studies) are indicated by a tilde (∼). The control variables in each specification are identical to those in Figure 10. The first specification includes only state-by-year fixed effects; the second includes state-by-year fixed effects, with $\mathbf{X}_{ct}$ containing interactions between 1980 rural share and year fixed effects and 1980 population density and year fixed effects; the third specification additionally controls for 1980 percent college educated interacted with year fixed effects and 1996 cancer rate interacted with year fixed effects; and the fourth specification replicates specification the third but with added controls for NAFTA exposure from Choi et al. (2021) interacted with year fixed effects and China shock exposure from Autor et al. (2013) interacted with year fixed effects. All specifications are weighted by 1980 county population.

Table A3: Additional specifications, DiD Estimates for Health-Related Outcomes

	Health-related Outcomes			
	Alcohol-related	Overdose	Suicide	All despair
+ Med. inc.	0.317	0.159	0.068	0.525
	(0.131)	(0.137)	(0.042)	(0.269)
	[0.017]	[0.247]	[0.106]	[0.053]
	~ 2.022	~ 1.015	~ 0.435	~ 3.352
+ China shock	0.319	0.147	0.071	0.519
	(0.130)	(0.136)	(0.042)	(0.267)
	[0.016]	[0.282]	[0.093]	[0.054]
	~ 2.039	~ 0.941	~ 0.454	~ 3.314
+ NAFTA	0.325	0.143	0.071	0.521
	(0.132)	(0.134)	(0.042)	(0.268)
	[0.015]	[0.287]	[0.092]	[0.053]
	~ 2.076	~ 0.914	~ 0.456	~ 3.328
+ Cancer rate	0.327	0.148	0.072	0.528
	(0.127)	(0.123)	(0.040)	(0.246)
	[0.011]	[0.230]	[0.073]	[0.034]
	~ 2.085	~ 0.945	~ 0.462	~ 3.373
Observations	25662	25662	25662	25662
Dep. var. mean	8.516	2.974	12.642	23.300
R-squared	0.797	0.848	0.651	0.857

Notes: This table extends the results from Table 4 for additional controls. The specifications include controls additively, as in table A3.

Table A4: Bootstrapped DiD Estimates for Deaths of Despair

	Specification			
	(1)	(2)	(3)	(4)
Dep var: deaths of despair				
DiD estimate	0.764	0.662	0.494	0.493
Bootstrapped CI	[0.165, 1.335]	[0.201, 1.261]	[0.054, 1.048]	[0.038, 1.081]
DiD IQR	∼5.425	∼4.678	∼3.451	∼3.441

Notes: This table shows difference-in-differences estimates for age-adjusted annual rates of deaths of despair. Coefficients and 95% confidence intervals (shown in brackets) are computed using the block cluster bootstrap with 1000 replications. Each column indicates a different specification. Estimated 95% confidence intervals are shown in brackets. The difference-in-differences estimate multiplied by the IQR of the instrument (as in the event studies) are indicated by a tilde (∼). Specification (1) includes only state-by-year fixed effects; specification (2) includes state-by-year fixed effects, with $\mathbf{X}_{ct}$ containing interactions between 1980 rural share and year fixed effects and 1980 population density and year fixed effects; specification (3) additionally controls for 1980 percent college educated interacted with year fixed effects and 1996 cancer rate interacted with year fixed effects; specification (4) adds controls for NAFTA exposure from Choi et al. (2021) interacted with year fixed effects and China shock exposure from Autor et al. (2013) interacted with year fixed effects. All specifications are weighted by 1980 county population.

Table A5: Main Media Sources and Mental-Health–Related Beliefs

	No Party-ID FEs					+ Party-ID FEs				
Outcome (1=Agree)	Radio	Newspaper	Internet	Other	Cons./Obs.	Radio	Newspaper	Internet	Other	Cons./Obs.
A. Confidence in medical institutions										
Some confidence in medicine	0.017	−0.004	−0.010	0.008	0.502	0.013	−0.006	−0.012	0.004	0.503
	(0.032)	(0.022)	(0.020)	(0.037)	6,016	(0.032)	(0.022)	(0.020)	(0.037)	5,977
Hardly any confidence	0.031	0.022	0.029	0.099	0.091	0.030	0.022	0.028	0.094	0.091
	(0.023)	(0.014)	(0.012)	(0.027)	6,016	(0.023)	(0.014)	(0.012)	(0.027)	5,977
B. Willingness to take psychiatric medication										
Won't take b/c personal trouble	0.210	0.063	0.140	0.058	0.466	0.193	0.057	0.140	0.073	0.467
	(0.069)	(0.049)	(0.067)	(0.087)	897	(0.068)	(0.049)	(0.067)	(0.084)	894
Won't take b/c stress	0.079	0.065	0.141	0.152	0.299	0.046	0.054	0.131	0.170	0.304
	(0.073)	(0.046)	(0.054)	(0.080)	894	(0.073)	(0.046)	(0.052)	(0.078)	892
Won't take b/c depressed	0.139	0.076	0.062	0.191	0.291	0.124	0.070	0.058	0.202	0.293
	(0.081)	(0.048)	(0.056)	(0.080)	897	(0.078)	(0.049)	(0.055)	(0.077)	895
Won't take b/c fear	0.071	0.064	0.039	0.003	0.186	0.048	0.055	0.039	0.011	0.188
	(0.071)	(0.046)	(0.046)	(0.063)	896	(0.073)	(0.045)	(0.047)	(0.061)	894
C. Beliefs about psychiatric medication										
Interferes w/ daily act.	0.065	0.023	0.036	0.123	0.415	0.069	0.027	0.039	0.126	0.412
	(0.073)	(0.051)	(0.063)	(0.081)	869	(0.072)	(0.051)	(0.062)	(0.079)	866
Helps w/ stresses	−0.054	−0.064	−0.072	0.005	0.874	−0.050	−0.063	−0.075	−0.010	0.874
	(0.058)	(0.039)	(0.041)	(0.077)	884	(0.059)	(0.038)	(0.041)	(0.080)	882
Makes relations easier	−0.073	−0.119	−0.032	0.077	0.798	−0.073	−0.116	−0.036	0.059	0.799
	(0.074)	(0.044)	(0.052)	(0.072)	882	(0.073)	(0.044)	(0.051)	(0.074)	880
Controls symptoms	0.006	−0.062	−0.025	0.052	0.890	0.017	−0.057	−0.019	0.047	0.888
	(0.044)	(0.033)	(0.044)	(0.052)	881	(0.043)	(0.033)	(0.044)	(0.055)	879
E. Acceptability of suicide										
OK if: incurable disease	0.038	0.033	0.039	−0.021	0.612	0.035	0.026	0.035	−0.017	0.615
	(0.028)	(0.021)	(0.019)	(0.035)	5,737	(0.028)	(0.021)	(0.018)	(0.035)	5,700
OK if: bankrupt	0.018	0.016	0.029	−0.002	0.092	0.017	0.014	0.028	−0.001	0.093
	(0.018)	(0.013)	(0.012)	(0.019)	5,853	(0.018)	(0.013)	(0.012)	(0.019)	5,810

Notes: This table is identical to Table 5 for additional mental-health-related outcomes not included in the main text table. As before, each outcome variable is a binary indicator for whether the respondent agreed with the given statement or question. The independent variable refers to main source of information the respondent uses for information about events in the news. The coefficients are estimated by regressing each outcome on main media source fixed effects, using television as the omitted category. Each regression includes fixed effects for year, 10-year age bins, sex, race, education level (aggregated into 8 categories), and region (9 categories). The specification on the right side of the table also includes fixed effects for party identifcation, which has 8 categories (from strong democrat to strong republican, including other party). Panel A, "Confidence in medical institutions" and Panel E, "Acceptability of suicide" variables are included in biannual surveys from 2006 to 2018. All other variables are estimated in 2006 – the only year of overlap with our main media source variable. "Cons./Obs." refer to the baseline mean in the regression and the number of observations used to estimate the regression. Standard errors are clustered at the primary sampling unit level.