Media, Pulpit, and Populist Persuasion: Evidence from Father Coughlin

By Tianyi Wang*

I study the political impact of the first populist radio personality in American history. Father Charles Coughlin blended populist demagoguery, anti-Semitism, and fascist sympathies to create a hugely popular radio program that attracted thirty million weekly listeners in the 1930s. I find that exposure to Father Coughlin's anti-Roosevelt broadcast reduced Franklin D. Roosevelt's vote share in the 1936 presidential election. Coughlin's effects were larger among Catholics and persisted after Coughlin left the air. Moreover, places more exposed to Coughlin's broadcast were more likely to form a local branch of the pro-Nazi German-American Bund and sold fewer war bonds during WWII.
JEL: D7,L82,N42,Z12

New media and communication technologies make it easier for charismatic individuals to gain influence. The 2016 U.S. presidential election and the rise of populist leaders across the world in recent years heighten the concern that individuals, through their charisma and media savviness, can manipulate public opinions for political gain. How and to what extent can charismatic individuals exploit the media to shape political outcomes? This paper studies the political impact of the first populist radio personality in American history. Father Charles Coughlin blended populist demagoguery, anti-Semitism, and fascist sympathies to create one of the first loyal mass audiences in broadcasting history, attracting tens of millions of listeners throughout the 1930s (Warren, 1996). This paper assembles a unique data set to evaluate the impact of exposure to Father Coughlin's radio program.

Roman Catholic priest Charles Coughlin embraced radio broadcasting when radio was a new and rapidly exploding technology during the 1920s. For the first

* Department of Economics, University of Copenhagen and CEBI. Email: tianyi.wang@pitt.edu. I am extremely grateful to Osea Giuntella, Allison Shertzer, and Randy Walsh for their guidance and support throughout this project. I also thank the coeditor, Stefano DellaVigna, and three anonymous referees for valuable comments and guidance. I am grateful to Sascha O. Becker, Arthur Blouin, George Fenton, Andy Ferrara, Matthew Gentzkow, Taylor Jaworski, Ilyana Kuziemko, Torben Heien Nielsen, Craig Palsson, Daniel I. Rees, Richard Van Weelden, Eugene White, and seminar participants at Aalto, Bristol, Exeter, Jinan, Oxford, Princeton, Simon Fraser University, Stockholm School of Economics, Tilburg, UCLouvain, University of Copenhagen, University of Pittsburgh, University of Toronto, UNSW, USC, as well as participants at the ASREC Workshop, China Star Tour, Cliometric Society Conference, EHA Meeting, MWEHC, NBER-DAE Summer Institute, SEA Conference, and SSHA for helpful comments and discussions. I also thank Ben Olken for sharing the radio software and Andy Ferrara for sharing the OCR software. I gratefully acknowledge funding from the Novo Nordisk Foundation (grant no. NNF17OC0026542) and from the Danish National Research Foundation through its grant (DNRF-134) to the Center for Economic Behavior and Inequality (CEBI) at the University of Copenhagen.

time one could broadcast to a mass audience over long distances. He initially aired religious sermons but switched to broadcasting almost exclusively his opinions on social and economic issues following the onset of the Great Depression. In a nation mired in its worst economic crisis, Coughlin became the voice of the people against the nation's economic and financial elites. A charismatic orator, Coughlin became seen as the champion of the common man and referred to as the "Radio Messiah" (Warren, 1996). By the mid-1930s, Coughlin had developed a weekly national audience of 30 million, making Father Coughlin the most listened to regular radio speaker in the world during the 1930s (Brinkley, 1982).

A supporter of Franklin D. Roosevelt and the New Deal during FDR's early presidency, Coughlin grew disillusioned with the Roosevelt administration over time and became its harsh denouncer by 1936, largely because FDR did not follow Coughlin's proposal to address the Depression (Tull, 1965). Accusing FDR of being "anti-God" and a puppet controlled by both international bankers and communists, Coughlin co-founded a third political party, which proposed a populist alternative to challenge FDR in the 1936 presidential election. By the late 1930s, Father Coughlin had become more extreme in his broadcast and transformed into a major anti-Semitic icon, fascist sympathizer, and isolationist in pre-war America.

The episode of Father Coughlin provides a unique opportunity to study the impact of media manipulation by a charismatic individual. My baseline analysis examines the impact of exposure to Father Coughlin's radio program on voting outcomes in the presidential election of 1936, the year in which Coughlin harshly attacked the Roosevelt administration. I collect unique data on the location and technical details of Coughlin's transmitters in 1936, which allow me to predict the signal strength of Coughlin's radio program across space. Notably, Coughlin's transmitters changed little over time since 1933, when he was supporting FDR. It is therefore unlikely that the transmitter location in 1936 was directly functional to Coughlin's opposition to FDR.

Nonetheless, reception of Father Coughlin's broadcast could be correlated with other county characteristics that might influence voting. To address this concern, I employ a strategy pioneered by Olken (2009) to exploit the variation in Coughlin's signal strength resulting from topographic factors. Specifically, I regress the outcomes on the signal strength of Coughlin's radio program, while controlling for the hypothetical signal strength when there is no geographic or topographic obstacles such as mountains and hills. Hence, identification comes from the residual variation in signal strength as a result of idiosyncratic topographic factors along the signal transmission route, which I find to be uncorrelated with past voting outcomes and a large set of pre-existing county socioeconomic variables.

I find that counties more exposed to Father Coughlin's radio program displayed lower support for FDR in the 1936 presidential election. Specifically, a one standard deviation increase in Coughlin signal strength reduced FDR's vote share by 2.4 percentage points, or about 4 percent relative to the mean. The effect was

larger in counties with more Roman Catholics, consistent with Father Coughlin's greater influence on Catholics.

To show that the results did not reflect the effect of exposure to radio programs in general, I run a falsification test using exposure to national radio network stations that did not carry Coughlin's program. In a statistical horse race between Coughlin and non-Coughlin exposure, I find that what mattered was exposure to Coughlin's stations and not exposure to other stations, suggesting that the effect was unique to Coughlin's radio program.

To better understand the magnitude of the effect, I follow previous studies (Enikolopov, Petrova and Zhuravskaya, 2011; DellaVigna et al., 2014; Adena et al., 2015) and calculate the persuasion rate of Father Coughlin's radio program. I find that Father Coughlin's radio program had a persuasion rate of about 28 percent, which is considerably larger than the typical persuasion rates of the media found by previous studies (DellaVigna and Gentzkow, 2010). Exploring potential channels, I provide evidence consistent with the view that religion and an electorate of lower education and economic status likely have contributed to Father Coughlin's persuasiveness. The baseline findings thus show that under certain conditions the media can have especially large effects.

Moreover, as an alternative empirical strategy, I exploit Coughlin's switch in attitude towards FDR during 1932-1936 and panel data in a difference-in-differences framework. Exploiting within-county variation, the difference-in-differences strategy controls for any time-invariant differences across counties and for statewide shocks to counties. Findings from this strategy confirm the baseline results, which also hold under a series of additional robustness checks, further strengthening the causal interpretation of the results.

Because of Father Coughlin's more extreme stance in the late 1930s, I turn to examine the effects of Coughlin exposure in the late 1930s on anti-Semitism and civilian support for America's involvement in WWII. I collect unique data from FBI records, which allow me to identify all cities with a local branch of the pro-Nazi German-American Bund in 1940. I find that cities with a one standard deviation higher exposure to Father Coughlin's radio program in the late 1930s were about 10 percentage points more likely to have a local branch of the pro-Nazi German-American Bund.

Furthermore, using county-level WWII war bond sales data, I find that higher exposure to Coughlin's radio program in the late 1930s was also associated with lower per capita purchase of war bonds. Specifically, a one standard deviation higher Coughlin exposure was associated with 15 percent lower per capita purchase of war bonds in 1944, suggesting that Father Coughlin's isolationist stance likely dampened public support for the war effort.

This paper contributes to the literature on the political effects of the media (for surveys of this literature, see DellaVigna and Gentzkow (2010); Prat and Strömberg (2013); Enikolopov and Petrova (2015); Zhuravskaya, Petrova and Enikolopov (2020)). In particular, my paper is closely related to the seminal

work by Strömberg (2004), who finds that U.S. counties with more radio listeners during the 1930s saw greater New Deal relief funds and higher voter turnout. Previous work has also studied media backed by large institutions, such as the state or major media organizations.[1] In contrast, this paper focuses on media used by a charismatic individual, and in particular, a charismatic leader. The political influence of charismatic individuals, such as politicians, opinion leaders, and media personalities across a variety of media platforms, has become increasingly evident in recent years, including during the 2016 U.S. presidential election (Marwick and Lewis, 2017). For instance, the use of Twitter by Donald Trump is widely considered (even by Trump himself) to have contributed to his election in 2016. Yet, there exists little empirical evidence on the political impact of media wielded by charismatic individuals.

I study the extent to which an individual charismatic leader can manipulate the media to influence voting behavior. Related to my work is that of Garthwaite and Moore (2013) who study the effects of political endorsements by celebrities. They show that Oprah Winfrey's endorsement of Barack Obama brought approximately 1 million additional votes to him during the 2008 U.S. Democratic Presidential Primary. Instead of examining political endorsements by celebrities, I focus on the impact of a charismatic demagogue (O'Toole, 2019; Brinkley, 1982; Bennett, 1969; Lee and Lee, 1939) who uses the media to spread propaganda and misinformation.[2] To my knowledge, this paper is the first in the literature to empirically document how a charismatic leader, as an individual, can manipulate the media to influence voting and political preferences. In this regard, the paper also adds to the small but growing literature on the effects of leaders, where empirical evidence so far is still limited.[3] Moreover, this paper to my knowledge is also the first in the media and politics literature to empirically examine media with a strong leaning on religion and to show the possibility for religion to generate large media impacts. The findings of this paper therefore underscore the substantial influence of charismatic leaders with access to modern media and the potential

[1]For instance, Adena et al. (2015) find that radio controlled by Nazi Germany contributed to the support for the Nazi Party and anti-Semitism in Nazi Germany. DellaVigna and Kaplan (2007) find that the entry of Fox News increased Republican vote shares in both U.S. presidential and senatorial elections. Enikolopov, Petrova and Zhuravskaya (2011) find that the only independent national TV channel in Russia increased votes for opposition parties and reduced support for the government party in the 1999 parliamentary election. Besides, Durante, Pinotti and Tesei (2019) show that exposure to Italy's Mediaset all-entertainment TV program increased support for Berlusconi's party and for populism in general. An exception, however, is Xiong (Forthcoming), who studies the political premium of TV celebrity and finds that Ronald Reagan's tenure as the host of a 1950s entertainment TV program translated into electoral support during his presidential campaign in 1980.

[2]I consider misinformation as statements that *ex post* turn out to be false (Bursztyn et al., 2020). For an analysis on Coughlin's propaganda techniques, see Lee and Lee (1939).

[3]For instance, previous studies have examined leaders' impacts on economic growth (Jones and Olken, 2005; Besley, Montalvo and Reynal-Querol, 2011), fertility-related beliefs and behavior (Bassi and Rusal, 2017), the diffusion of radical and innovative ideas (Becker et al., 2020), and war (Dippel and Heblich, 2021; Cagé et al., 2020). In particular, Bassi and Rusal (2017) find that the Papal visit to Brazil in 1991 had large effects on the households' fertility-related beliefs and behavior, consistent with the large influence of religious authorities on their followers. My paper provides novel empirical evidence on the political influence of a religious leader.

for religion to enhance that influence.

By exploring arguably the darkest episode of anti-Semitism in American history, this paper also adds to the literature on media and inter-group animosity (Bursztyn et al., 2019; Müller and Schwarz, Forthcoming, 2020; Adena et al., 2015; DellaVigna et al., 2014; Yanagizawa-Drott, 2014), on religious extremism (Iannaccone and Berman, 2006), and more specifically, on anti-Semitism (Becker and Pascali, 2019; Johnson and Koyama, 2019; Finley and Koyama, 2018; Anderson, Johnson and Koyama, 2017; Voigtländer and Voth, 2012). Previous work on anti-Semitism has almost exclusively focused on the European context. Organized anti-Semitism reached unprecedented levels in inter-war America, and Father Coughlin is widely considered its foremost proponent (Strong, 1941; Lee and Lee, 1939). This paper studies an important episode of anti-Semitism in America, which has received little attention in the literature.

Furthermore, this paper contributes to the growing literature on populism and political extremism. Existing work has focused on the economic and cultural roots of populism and political extremism (Inglehart and Norris, 2019; Colantone and Stanig, 2019; Noury and Roland, 2020; Autor et al., 2020; Golder, 2016; de Bromhead, Eichengreen and O'Rourke, 2013). There is still little empirical evidence on the extent to which media matter to populist and extremist leaders. The findings of this paper are particularly relevant to today's ongoing debate on the role of media in the rise of populism (Couttenier et al., 2019; Durante, Pinotti and Tesei, 2019; Zhuravskaya, Petrova and Enikolopov, 2020). Lastly, this paper also contributes to the social science literature examining Father Coughlin (Warren, 1996; Brinkley, 1982; Bennett, 1969; Tull, 1965).

I. Historical Background

Radio as a new communication technology entered American households in the early 1920s. Providing a variety of music, shows, and information, radio soon became a popular form of household entertainment. Based on the 1940 Broadcasting Yearbook (Broadcasting Publications, Inc., 1940), Online Appendix Figure A1 shows that the share of American families owning a radio set rose from zero in 1920 to approximately 40 percent by 1930, and it further increased to about 80 percent by 1940; the number of radio stations also increased rapidly during 1920-1940. As a result, the period is often dubbed the Golden Age of Radio.

Radio was central to the rise of Father Coughlin from a local Roman Catholic priest to a national figure. In 1926, Coughlin started as a priest at the National Shrine of the Little Flower church in Royal Oak, Michigan, just outside of Detroit. He quickly embraced radio to broadcast his weekly theological teachings from the Detroit station WJR. A charismatic orator on the radio, Coughlin soon attracted a loyal audience in the Midwest and became known as the "radio priest." Indeed, one listener claimed that Coughlin possessed such a mesmerizing voice "that anyone turning past it almost automatically returned to hear it again" (Bennett,

1969).

The onset of the Great Depression and the ensuing human suffering, however, convinced Father Coughlin to switch to broadcasting almost exclusively social and economic commentaries. He described American society as controlled by powerful "banksters," "plutocrats," "atheistic Marxists," and "international (commonly understood to mean Jewish) financiers," whom Coughlin blamed for the catastrophe of ordinary American citizens (Warren, 1996). Coughlin's outspokenness on the nation's economic plight brought him fame as a champion of the common man, but his controversial statements were often considered demagogic by others (Bennett, 1969; Tull, 1965; Brinkley, 1982).

The CBS national network picked up Coughlin's radio program in 1930, making Father Coughlin a household name. Coughlin's increasingly controversial statements about the economic and financial elites as well as his refusal to tone down his rhetoric, however, led the CBS to drop his program a year later (Warren, 1996). In response, Father Coughlin purchased airtime from individual stations and formed his own radio network, and his weekly radio show was soon broadcast again every Sunday afternoon to a national audience. The Gallup Poll in April 1938 estimated retrospectively that 26.5% of Americans listened regularly to Father Coughlin's radio program before the 1936 presidential election.[4] This would put Coughlin's listenership at above 30 million in the mid-1930s. During the same period, Coughlin also received on average more than 10,000 unsolicited letters a day from his listeners, often with a small donation enclosed (Warren, 1996). This would make Father Coughlin the most listened to regular radio speaker as well as the person receiving the most letters in the world during the 1930s (Brinkley, 1982). It is therefore not surprising that many contemporary observers regarded Father Coughlin as the second most influential public figure in the U.S., next only to President Franklin D. Roosevelt (Brinkley, 1982).

Initially a supporter during FDR's early presidency, Father Coughlin coined the phrase "Roosevelt or Ruin" in 1933 following FDR's election (Tull, 1965).[5] Coughlin, however, grew disillusioned with Roosevelt over time and deemed the New Deal administration unsuccessful at addressing the nation's social and economic problems. In November 1934 Coughlin founded his own organization, the National Union for Social Justice (NUSJ), to promote ideologies and policies which he believed would lead to greater prosperity and social justice.[6] The Roosevelt administration, however, did not follow Coughlin's proposals. By 1936, Coughlin had become a harsh denouncer of the Roosevelt administration (Tull, 1965). With the new slogan "Roosevelt and Ruin," Coughlin accused FDR of being "anti-God" and a "great betrayer and liar" controlled by both international

[4]The number is calculated by the author based on the April 1938 Gallup Poll data (Gallup Organization, 1938*a*) from the Roper Center for Public Opinion Research: `https://ropercenter.cornell.edu/`.

[5]In 1932, FDR defeated incumbent Republican President Herbert Hoover, who was first elected in 1928.

[6]Online Appendix B provides the 16 principles of the National Union Social Justice that Father Coughlin outlined at its founding in November 1934.

bankers and communists.[7]

In 1936, Coughlin co-founded a third political party, the Union Party, together with old-age pension advocate Francis Townsend and Gerald L. K. Smith, who replaced Huey Long as the head of the Share Our Wealth movement following Long's assassination in 1935. The Union Party chose Republican Senator William Lemke from North Dakota as its candidate and proposed a populist alternative to challenge FDR in the 1936 presidential election.[8]

Father Coughlin had become more extreme by the late 1930s. Throughout 1938-1939, Coughlin's radio broadcast and weekly newspaper, *Social Justice*, were overtly anti-Semitic (Warren, 1996). He portrayed Jews as malicious aliens associated with communism, claimed that Nazism was a necessary defense mechanism against communism, and made bitter personal attacks on leading rabbis and Jewish organizations (O'Toole, 2019; Tull, 1965). He blamed Jews for inciting the European conflicts, supported pro-Nazi organizations in America such as the German-American Bund, and serialized in his weekly newspaper the *Protocols of the Elders of Zion*, the notorious fake document purporting Jewish plans for world domination (O'Toole, 2019). Some of Father Coughlin's writings in his newspaper even followed Joseph Goebbels' speeches verbatim (Warren, 1996). In 1938, Coughlin also played an instrumental role in forming a paramilitary and anti-Semitic organization, the Christian Front, which specialized in harassing and beating up Jews and vandalizing Jewish property across major U.S. cities (O'Toole, 2019). In addition, Coughlin was also a staunch supporter for American isolationism. Calling FDR "the world's chief warmonger," Coughlin vehemently opposed America's entry into WWII and endorsed the leading U.S. isolationist organization, the American First Committee. Coughlin also claimed that FDR was using the war as an opportunity to turn the U.S. into a dictatorship (Warren, 1996).

Father Coughlin's controversial activities eventually led to his downfall. In late 1939, the National Association of Broadcasters (NAB) introduced a new self-regulation code that prohibited radio stations from discussing controversial issues in sponsored programs, a rule that many believe was introduced specifically to rein in Father Coughlin (Warren, 1996). Following this new rule, almost no station was willing to sell Coughlin airtime, which forced him off the air in 1940. Shortly following the Pearl Harbor attack, the federal government further invoked the Espionage Act of 1917 and banned postal circulation of Coughlin's weekly newspaper in 1942 because of its seditious content. Church superiors also ordered Coughlin to relinquish any political involvement or to give up his priesthood. Father Coughlin chose to return to his parish duties in 1942 and refrained from the public sphere thereafter.

[7]Online Appendix C and Appendix Figure A2 use Father Coughlin's radio transcripts (Coughlin, 1936*a*) and compare Coughlin's attitudes towards FDR between 1933 and 1936.

[8]The Republican Presidential candidate in 1936 was Governor Alf Landon of Kansas.

II. Data

My baseline empirical work relates exposure to Father Coughlin's anti-FDR broadcast in 1936 to voting outcomes in the 1936 presidential election. In this section, I describe the data employed in the baseline analysis.

A. Exposure to Father Coughlin's Radio Program

A challenge to study Father Coughlin's impact on the 1936 presidential election is the lack of data measuring exposure to Coughlin's radio program at a fine-grained geographic level. For this project, I assemble a unique data set from several sources that is particularly suited to measure the political impacts of Father Coughlin. To proceed, I identify all the radio stations that Coughlin used for his weekly broadcasts in 1936 from the historical magazine *Broadcasting*.[9] Online Appendix Figure A3 displays the location of the stations, showing a total of 33 stations. For each of Coughlin's station, I collect technical details, including the transmitter frequency and power, from the 1936 *Broadcasting Yearbook* (Broadcasting Publications, Inc., 1936). I then use this information to calculate the signal strength of Father Coughlin's radio program across U.S. counties in 1936.

Radio signal transmission obeys the laws of electromagnetic propagation. In free space (i.e. assuming the earth is smooth and without any geographic or topographic obstacles), signal strength is inversely proportional to the square of the distance from the transmitter (Olken, 2009). In actual transmission, however, the presence of geographic or topographic obstacles, such as mountains or hills, would lead to diffraction and greater transmission loss in signal. I calculate the signal transmission loss with a professional radio propagation software based on the Irregular Terrain Model (ITM). The ITM was developed by the U.S. government in the 1960s and typically used by radio and TV engineers to predict signal strength of broadcasts.[10]

Following Olken (2009), I calculate the transmission loss for each transmitter-county pair using the ITM algorithm.[11] I then deduct the transmission loss from the power of the transmitter to get the predicted signal strength, where signal strength is measured in decibel-milliwatts (dBm). Finally, for each county I use the maximum predicted signal strength across all transmitters as the predicted signal strength in that county.

Panel (a) of Figure VI shows the predicted signal strength of Father Coughlin's radio program across counties, where stronger signals are shown with darker colors.[12] Previous studies (Olken, 2009; Enikolopov, Petrova and Zhuravskaya,

[9]Broadcasting Publications, Inc. 1935. *Broadcasting*, November 1, 1935. WorldRadioHistory.com. `https://worldradiohistory.com/Archive-BC/BC-1935/1935-11-01-BC.pdf`

[10]I am grateful to Benjamin Olken for sharing the ITM software. ITM has also been used to calculate radio signal strength in other historical settings, such as by Adena et al. (2015) in the context of Nazi Germany and by Gagliarducci et al. (2020) in the context of Italy during WWII.

[11]I use the centroid of each county as the receiving location.

[12]Evidently the Cincinnati station is the most powerful station, with its signal dominating a large

2011; Adena et al., 2015) have shown that signal strength is a strong predictor for the actual audience size. Because county-level listenership data of Coughlin's radio program are not available, I follow Durante, Pinotti and Tesei (2019) and use the continuous measure of signal strength as the explanatory variable.[13]

Online Appendix Figure A3 also shows that Father Coughlin had no station in the geographic South, which has been attributed to the fact that Coughlin would not have been able to attract a substantial audience in the South as a Catholic priest of Irish descent (Tull, 1965). Indeed, online Appendix Figure A5 maps the spatial distribution of the Catholic population in 1926 and shows that the location of Coughlin's stations largely followed the pre-existing spatial distribution of Catholics, of which the South had few. In addition, the South had fewer radio owners than the rest of the nation (see online Appendix Figure A6) and a much more homogeneous support for the Democratic Party in the 1930s (Strömberg, 2004).

The lack of variation in support for FDR and the much lower Coughlin listenership in the South make it harder to identify the effect of exposure to Coughlin on voting outcomes in this region. I therefore focus my analysis on states outside of the geographic South to improve the precision of my estimates.[14] The central results are qualitatively similar when I include all states in my analysis.

I use the ITM software to also generate the hypothetical signal strength in free space, assuming the earth is free of any geographic or topographic obstacles that may hinder signal transmission. This is important to my baseline identification strategy which exploits the varying topography along the signal transmission route to provide plausibly exogenous variation in signal strength, a point I will return to in Section 4.

B. Voting Data and County Characteristics

The main outcomes of interest in my baseline analysis consist of county-level vote shares (in percentage points) of FDR (Democratic Party), Landon (Republican Party), and Lemke (Union Party) in the 1936 presidential election. The

number of counties. This is because the Cincinnati station WLW was chosen by the federal government to experiment with high power broadcasting and authorized to broadcast at 500 kW between 1935 and 1939, while all other stations were operating at 50 kW or less. WLW was one of Coughlin's stations in 1936. My results are robust to simply removing this station from Coughlin's radio network or using 50 kW as its power, which was its original power before 1935, to calculate the signal strength. Hence, my results are not driven by the Cincinnati station.

[13]The Gallup Poll in April 1938 asked retrospectively about Coughlin listenership before the 1936 election. The data unfortunately do not contain county identifiers for individual respondents. Online Appendix Figure A4 provides evidence that the share of population who regularly listened to Coughlin before the 1936 election was highly correlated with the location of his stations and with the predicted signal strength across regions. In addition, I show in Online Appendix D that Coughlin signal averaged at the state-level strongly predicts actual listenership. As a robustness check, I also use an indicator variable that equals 1 if a county's signal strength is above median and 0 otherwise in Section 5.5.

[14]Indeed, online Appendix Figure A4 shows that the South had the lowest Coughlin listenership among all regions before the 1936 election. The 11 Southern states excluded are Oklahoma, Arkansas, Tennessee, North Carolina, Texas, Louisiana, Mississippi, Alabama, Georgia, Florida, and South Carolina. I show as a robustness check that the results are qualitatively similar when these states are included.

data come from the ICPSR Study 8611 data set (Clubb, Flanigan and Zingale, 2006).[15] Online Appendix Figure A7 shows FDR's vote share across counties in 1936.

From the ICPSR 2896 data set (Haines and ICPSR, 2010), I obtain a rich set of 1930 county demographics, measuring county population and population by gender, race, birth place, age, literacy, employment status, radio ownership, and farm characteristics. The data set also provides the Roman Catholic population across counties in 1926. I use the 1930 Census IPUMS microdata (Ruggles et al., 2020) to compute for each county its mean occupational income score and shares of employment in manufacturing and in agriculture. Moreover, I use ArcGIS to generate additional county-level geographic characteristics, including area, elevation, and terrain ruggedness.[16]

III. Empirical Strategy

My baseline empirical work examines the impact of exposure to Father Coughlin's radio program on voting outcomes in the 1936 presidential election. Notably, the location of Father Coughlin's stations in 1936 were mostly the same as that in 1933, when Coughlin was in favor of FDR. Online Appendix Figure A3 maps Coughlin's stations in 1936, which shows that 25 out of the 33 (or about 76%) stations in 1936 were already in Coughlin's network in 1933, when Coughlin was still a strong supporter for FDR. It is therefore unlikely that station location in 1936 was intentionally driven by Coughlin's opposition to FDR.[17]

Nonetheless, reception of Coughlin's broadcast might have been correlated with other local characteristics (e.g. distance to major cities) that could have influenced voting behavior in 1936. To address this concern, I employ an empirical strategy pioneered by Olken (2009) and exploit plausibly exogenous variation in Coughlin's signal strength resulting from topographic factors.[18] Specifically, I regress the outcomes of interest on the actual signal strength ($Signal$), while controlling for the hypothetical signal strength in free space ($SignalFree$) where the earth is assumed to be free of any topographic obstacles, such as mountains or hills, that diffract and weaken radio signal transmission. Crucially, the variable $SignalFree$ controls for a county's proximity to a transmitter as well as the

[15] Data on Lemke's vote share is missing for several states in the ICPSR 8611 data set; for these states, I have obtained data on Lemke's vote share from the ICPSR 1 "United States Historical Election Returns, 1824-1968" data set (ICPSR, 1999).

[16] I obtain 1/3 arc-second (10 meters) Digital Elevation Models (DEM) data (U.S. Geological Survey, 2018) from the Geospatial Data Gateway of Natural Resource Conservation Service at the United States Department of Agriculture. The data were originally sourced from the National Elevation Database developed by the U.S. Geological Survey. I process the DEM data in ArcGIS to calculate each county's mean elevation and mean ruggedness (measured by the variance of elevation). I obtain 1930 state and county shapefiles from IPUMS NHGIS (Manson et al., 2020).

[17] While Coughlin's radio network clearly expanded westward between 1933 and 1936, the results are robust to restricting the sample to counties only in the Northeast and the Midwest (i.e., states east of the Dakotas, Nebraska, and Kansas), where station location changed little over time.

[18] A similar strategy has also been used by Durante, Pinotti and Tesei (2019), DellaVigna et al. (2014), and Yanagizawa-Drott (2014).

power of the transmitter. Therefore, once controlling for $SignalFree$, identification of the coefficient of $Signal$ comes from variation in diffraction patterns caused by topographic obstacles along the signal transmission route. Figure VI shows the actual (ITM-predicted) signal strength of Coughlin's radio program and the hypothetical signal strength in free space.

Because a county's own topography could also potentially influence its political outcomes, I control for various local geographic characteristics of the county, including the county's surface area, altitude, and terrain ruggedness as well as the square terms of each of these geographic variables. Therefore, I only exploit residual variation in signal strength resulting from the topography along the signal transmission route *outside* the county, which is arguably more exogenous.[19] Furthermore, I include state fixed effects to compare counties within the same state in all my analyses.

I run the following regression for my baseline analysis:

$$Vote_c = \beta Signal_c + \gamma SignalFree_c + \delta' X_c + \eta_s + \epsilon_c \quad (1)$$

where $Vote_c$ is the vote share (in percentage points) received by a party in county c in the 1936 presidential election. $Signal_c$ is the actual signal strength of Father Coughlin's radio program in county c in 1936. $SignalFree_c$ is the hypothetical signal strength in free space. X_c is a vector of county baseline controls for local geographic characteristics, socioeconomic characteristics, and past voting outcomes. η_s are state fixed effects, controlling for any differences across states that might influence voting. ϵ_c is the error term. Standard errors are corrected for clustering at the state level.[20] To ease the interpretation of the results, I standardize signal strength such that it has a mean of zero and a standard deviation of one.

The coefficient β provides the reduced-form estimate of the effect of exposure to Father Coughlin's radio program. The identification assumption is that $Signal$ is not correlated with unobserved factors that influence voting outcomes, conditional on all the covariates in equation (1). While the assumption is ultimately untestable, I support the conditional exogeneity assumption through balance and placebo tests by examining the correlation of $Signal$ with pre-existing county socioeconomic characteristics and past voting outcomes.

In Table 1, I examine the correlation between Coughlin's signal strength in 1936 and 1930 county socioeconomic characteristics. As seen in column 2, $Signal$ is significantly correlated with quite a few socioeconomic variables in the uni-

[19]The exceptions are the counties that contained Coughlin stations. I provide robustness checks by dropping these counties as well as the areas surrounding them.

[20]I test the robustness of my baseline estimate to alternative ways of adjusting for spatial correlation in error terms in online Appendix Table A1, such as allowing for spatial correlation in error terms following Conley (1999)'s approach with different distance cutoffs, using the wild cluster bootstrap procedure suggested by Cameron, Gelbach and Miller (2008) and Cameron and Miller (2015) to deal with the relatively small number of states (37 in total) as clusters, and clustering standard errors at Coughlin's station level.

variate regression. This is not surprising given that Father Coughlin's stations were mostly in large cities in the Northeast and the Midwest. *Signal*, however, becomes more balanced across the set of 17 socioeconomic characteristics after I control in column 4 for the "free space" variable, state fixed effects, and local geographic characteristics. In fact, $SignalFree$, state fixed effects, and local geographic characteristics explain about 30-60 percent of the overall variation of most of the socioeconomic variables. Conditional on the additional covariates, *Signal* is no longer correlated with most pre-existing demographic or industrial characteristics, although it is still correlated with the share of elderly, unemployment rate, and radio ownership. To be conservative, I control for all the socioeconomic characteristics in Table 1 in equation (1).

In Table 2, I perform a series of placebo tests by examining the correlation between *Signal* and Democratic and Republican vote shares in past presidential elections before 1936. Conditional on the full set of baseline controls, *Signal* is not significantly correlated with any of the past electoral outcomes during the period 1920-1932 (columns 1-8) or with changes in electoral outcomes between 1928 and 1932 (columns 9-10); the estimated coefficients are also generally small.[21] The results suggest that exposure to Father Coughlin's radio program in 1936 was not systematically correlated with pre-existing political preferences in either levels or trends, providing support to the conditional exogeneity assumption of equation (1).

IV. Father Coughlin and Presidential Elections

In this section, I present the results on the impact of exposure to Father Coughlin's radio program on presidential election voting outcomes. I focus on the presidential election of 1936, the year in which Father Coughlin harshly attacked FDR in his radio broadcasts and co-founded the Union Party to challenge FDR in the presidential race.

A. Baseline Results

Table 3 shows the estimated effects of exposure to Father Coughlin's broadcast on voting in the 1936 presidential election. I find that exposure to Coughlin's radio program had a large negative effect on the support for FDR in the 1936 presidential election. Based on column 1, without any controls, a one standard

[21] Although Father Coughlin favored FDR in 1932, he did not broadcast his support for FDR during the 1932 campaign. As a priest, he believed he should not publicly show favoritism during an election (Brinkley, 1982; Tull, 1965). It was not until 1933, after FDR became president, that Coughlin began broadcasting his support (Brinkley, 1982). Consistent with historical accounts and based on Father Coughlin's radio transcripts (Coughlin, 1936*a*), online Appendix Figure A8 shows the average number of times that Coughlin mentioned the name "Roosevelt" during each broadcast between 1931 and 1936. The figure shows that Coughlin essentially did not mention "Roosevelt" during 1931-1932. In fact, the only time he mentioned "Roosevelt" during 1931-1932 was a reference to Theodore Roosevelt. The figure is therefore consistent with historical accounts that Coughlin did not broadcast his support for FDR in 1932.

deviation increase in exposure to Father Coughlin's radio program was associated with a reduction in FDR's vote share by about 3.8 percentage points. The results are robust and of similar magnitudes when adding in different controls in subsequent columns, including state fixed effects, the "free space" variable, and county socioeconomic and geographic characteristics. In column 5, after further controlling for past electoral outcomes, the estimated coefficient changes little. Based on column 5, which is my preferred specification that includes all baseline controls, a one standard deviation increase in exposure to Coughlin's radio program reduced FDR's vote share by about 2.4 percentage points, which is about 4 percent relative to the mean of FDR's vote share.

Column 6 of the table shows that most of the reduction in FDR's vote share as a result of exposure to Coughlin went to the Republican Party. A one standard deviation increase in exposure to Coughlin's radio program increased the Republican vote share by about 2 percentage points. Column 7 shows that exposure to Father Coughlin increased Lemke's vote share by about 0.4 percentage points (about 15 percent relative to the mean), although the estimate is statistically insignificant.[22] The statistically insignificant effect on Lemke's vote share is not entirely surprising, given historical accounts that Father Coughlin was more focused on attacking FDR than on advancing Lemke's candidacy in 1936 (Bennett, 1969; Warren, 1996). In fact, through a simple word count using Coughlin's radio transcripts (Coughlin, 1936*b*), online Appendix Figure A9 shows that Father Coughlin mentioned the name "Roosevelt" about 8.8 times as often as he did for "Lemke" in the months leading up to the 1936 election. Moreover, column 8 of Table 3 shows that exposure to Coughlin had little effect on voter turnout. Taken as a whole, Table 3 suggests that exposure to Father Coughlin's radio program reduced support for FDR in the 1936 presidential election.

Next, I turn to examine the role of religion in Father Coughlin's persuasion. As a Roman Catholic priest, Father Coughlin likely had greater influence among the Catholic population. Indeed, based on a Gallup Poll survey in December 1938 (Gallup Organization, 1938*b*), Panel B of online Appendix Figure A10 shows that close to 70% of Catholics approved of what Father Coughlin said in general, much higher than other religious groups did. I therefore expect exposure to Father Coughlin's radio program to have a larger effect in counties with more Catholics. To test this hypothesis, I include in my regression interaction terms between *Signal* and an indicator variable that equals 1 if a county's population share of Catholics was in the top quartile of the distribution among all counties and 0 otherwise.[23]

[22]The number of observations is smaller because the Union Party was not on the ballot in several states, namely California, Kansas, Maryland, Nevada, New York, Vermont and West Virginia. This was primarily because the Union Party was formed relatively late in the summer of 1936 and missed the deadlines in several states to register itself as a party in the 1936 election (Bennett, 1969). Even in states where the Union Party registered, its name did not appear on the ballot as "Union Party" in several states (Tull, 1965). From the November 2, 1936 issue of *Social Justice*, I identify states where the Union Party's name appeared on the ballot. The result is similar when I restrict the sample to these states.

[23]Results based on a continuous measure of the population share of Catholics are similar and shown

Panel A of Table 4 reports the estimates based on this regression. Consistent with the expectation, the effects estimated are larger in highly Catholic counties. Here the effect of *Signal* in highly Catholic counties is equal to the sum of the coefficient on *Signal* and that on the interaction term $Signal \times Catholic$. Based on column 1, a one standard deviation increase in Coughlin exposure reduced FDR's votes by about 3.4 percentage points in highly Catholic counties. While column 2 shows that there was no differential effect on the Republican vote share in highly Catholic counties, column 3 shows that a one standard deviation increase in Coughlin exposure increased the support for Lemke by about 1.4 percentage points. Taken together, Panel A of Table 4 is consistent with Father Coughlin having a greater influence on Catholic voters and suggests the possibility for religion to be exploited for political persuasion.[24]

A potential concern remains that the baseline results may simply reflect exposure to radio programs in general instead of exposure to Father Coughlin. To address this concern, I collect data on NBC and CBS network radio stations that did not carry Coughlin's broadcast and run a falsification test. Specifically, I use the same method to predict the signal strengths from the non-Coughlin stations and then include the non-Coughlin signal strengths (including the "free space" variable) in my baseline regression to perform a statistical horse race. Panel B of Table 4 shows that the estimated effects of exposure to non-Coughlin stations are much smaller in magnitude and statistically insignificant, while the estimates for exposure to Coughlin's stations remain strong and similar as in the baseline. The statistical horse race between Coughlin's and other stations therefore suggests that Father Coughlin's radio program had a unique and independent effect on support for FDR in 1936.[25]

B. Persuasion Rate

To better understand the magnitude of the effects of Father Coughlin's radio program, I calculate the persuasion rate, which was pioneered by DellaVigna and Kaplan (2007) and a standard way to measure the effectiveness of media persuasion (DellaVigna and Gentzkow, 2010; Jun and Lee, 2019). In my case, the persuasion rate measures the fraction of Father Coughlin's listeners who were convinced to vote against FDR in 1936 as a result of exposure to Father Coughlin's radio program. I follow previous studies (Enikolopov, Petrova and Zhuravskaya, 2011; DellaVigna et al., 2014; Adena et al., 2015) to calculate the persuasion rate

in online Appendix Table A2.

[24] I also examine how exposure to Coughlin's radio program interacts with the 1930 county-level radio listenership, which is the key explanatory variable of interest in Strömberg (2004). One would expect Father Coughlin to have had a pronounced effect in areas with a greater radio audience. Online Appendix Table A3 shows evidence consistent with this expectation.

[25] The finding that exposure to radio in general did not affect FDR's vote share in 1936 may reflect a mixed effect: a positive effect from receiving greater New Deal relief funds (Strömberg, 2004) and a negative effect from a potential substitution away from newspapers or other alternative sources of information (similar to what Gentzkow (2006), Gavazza, Nardotto and Valletti (2019), and Angelucci, Cagé and Sinkinson (2020) find for other media in later years).

and provide the detailed steps of its calculation in Online Appendix D.

Based on the estimates, I find that Father Coughlin's radio program had a persuasion rate of about 28.1 percent (with a standard error of 8.9 based on the delta method).[26] The persuasion rate of Father Coughlin's radio program is on the higher end of persuasion estimates found in the literature (DellaVigna and Gentzkow, 2010). For instance, DellaVigna and Kaplan (2007) find that Fox News has a persuasion rate of about 11.6 percent, and other studies find that news media's persuasion rates typically range between 6 and 20 percent (DellaVigna and Gentzkow, 2010).[27] The evidence therefore suggests that Father Coughlin's radio program had especially large persuasive effects.

C. Channels

Having documented Father Coughlin's substantial effects, I now turn to explore potential channels that might explain his persuasiveness.

Religion

One potential channel that might have contributed to Father Coughlin's persuasiveness is religion, which has been documented to have strong influence on individuals and their minds (Iyer, 2016). In his broadcasts, Father Coughlin frequently claimed that his teachings were consistent with those of God and the popes (i.e., Leo XIII and Pius XI) and that he was nonpartisan and speaking of the truth only (Warren, 1996). His superior, Bishop Michael Gallagher of Detroit, also frequently defended Coughlin's stance. In fact, many of Coughlin's listeners thought Coughlin was a mouthpiece of the Church and his broadcasts "the words of God" (Bennett, 1969). Coughlin's status as a religious authority and his appeal to religion could have increased his credibility and persuasiveness. The baseline findings that the effects of Coughlin's radio program were larger in counties with more Catholics (Panel A of Table 4) are consistent with religion being a potential channel for his persuasiveness.

Media Saturation

Another possible explanation for Father Coughlin's large effects is that the media landscape was less saturated in the 1930s, which might have afforded greater influence to an impressive media program like Coughlin's. To test this hypothesis, I examine the interaction between the signal of Coughlin's radio program

[26]The persuasion rate captures the average instead of the marginal effect of persuasion, and it can be highly heterogenous across different subgroups of the population (Jun and Lee, 2019; DellaVigna and Gentzkow, 2010). Online Appendix D estimates that Father Coughlin's persuasion rate among Catholics was likely above 38%.

[27]Father Coughlin's persuasion rate, however, is comparable in magnitude to that of the Weimar government (a persuasion rate of 36.8 percent), which broadcast radio messages against voting for extremist parties such as the Nazis in 1930 (Adena et al., 2015). Online Appendix Table A4 provides a summary of persuasion rates found in previous studies.

and those of other radio stations (i.e., NBC or CBS stations) that did not carry Coughlin's program. Column 1 of Table 5 shows that the interactive effect is small in magnitude and statistically indistinguishable from zero.[28]

In addition, following Strömberg (2004), I use a dummy variable that equals one for counties with only rural population and zero otherwise as an alternative measure of access to information. Rural counties in the 1930s had lower access to alternative sources of information, such as newspapers (Brunner, 1935; Strömberg, 2004). Column 2 of Table 5 again shows little evidence that Coughlin's broadcasts had differential effects in rural counties. Columns 1-2 of the table therefore suggest that a less saturated media landscape was unlikely to explain Father Coughlin's persuasiveness.[29]

Demographics of the Electorate

To explore potential channels further, I consider the demographics of the electorate in the 1930s. Previous studies document that less-educated (or less cognitively sophisticated) voters and the lower class are more susceptible to populist rhetoric (Durante, Pinotti and Tesei, 2019; Arzheimer, 2009; Spruyt, Keppens and Droogenbroeck, 2016). At a time when a relatively larger proportion of the electorate were of lower education and economic status, Father Coughlin's populist rhetoric could have a stronger appeal.[30] Consistent with this view, columns 3 and 4 of Table 5 show that the effects of Coughlin's radio program were larger in counties with worse measures of education and income levels.[31] The evidence therefore suggests that an electorate of relative lower education and economic status likely have contributed to Father Coughlin's persuasiveness.

Economic Plight from the Depression

Moreover, the Great Depression could also have made Coughlin's message more attractive, as populist movements tend to rise during times of economic hardship

[28]For the ease of interpretation, I also standardize other radio signal strengths such that they have a mean of zero and a standard deviation of one. I do the same also for the other continuous variables used to interact with exposure to Coughlin in Table 5, except for column 2 that uses a dummy variable.

[29]Using individual survey data from the April 1939 Gallup Poll (Gallup Organization, 1939), I, however, find suggestive evidence that individuals more exposed to Coughlin were less likely to listen to news broadcasts regularly or read daily newspapers regularly. Online Appendix Table A5 presents these results. To the extent that the news media likely covered FDR more objectively than Coughlin did, a substitution away from them could also negatively affect the support for FDR.

[30]According to the U.S. Census Bureau, only 24.5% of the U.S. population aged 25 or above had a high school degree in 1940, as compared to 80.4% of the same population group in 2000. Piketty and Saez (2003) also show that the average real income (in 1998 dollar) in the U.S. was $12,542 in 1928, which was about one third of that in 1998 ($38,739).

[31]Data on education attainment and income are not available until the 1940 Census. I therefore use data from Haines and ICPSR (2010) that measures the 1930 share of illiterate among native population aged 10 and above to proxy for the pre-existing education level of the local electorate. For pre-existing local income level, I use the county average of 1930 occupational income scores (averaged across individuals using the 1930 Census micro-data from IPUMS), which was commonly used by previous studies interested in pre-1940 labor market outcomes (Saavedra and Twinam, 2020); the results are qualitatively similar when using the natural log of average retail wage to proxy for income as in Strömberg (2004).

(Inglehart and Norris, 2019; Algan et al., 2017). To explore this channel, I examine the interactive effect between $Signal$ and the 1930 unemployment rate, which has also been used by previous studies to measure local economic hardship during the Depression (Strömberg, 2004; Fishback, Kantor and Wallis, 2003). As reported in column 5 of Table 5, the result, however, suggests that Coughlin had a smaller effect in counties hit harder by the Depression. The result is consistent with what Strömberg (2004) and Fishback, Kantor and Wallis (2003) find that counties hit harder by the Great Depression also received more New Deal relief funds from the Roosevelt administration, which might have increased the appeal of the Roosevelt presidency and made Coughlin's attacks less effective.

Overall, the evidence suggests that religion and an electorate of lower education and economic status likely have contributed to Father Coughlin's persuasiveness.

D. Evidence from a Difference-in-Differences Strategy

A unique feature of my empirical setting is Father Coughlin's switch in his attitude towards FDR between 1932 and 1936. Although Father Coughlin favored FDR in the 1932 campaign, Coughlin believed that he should not take side in an election as a priest and therefore did not broadcast his support for FDR until FDR had taken over the presidency in 1933 (Warren, 1996; Brinkley, 1982; Tull, 1965). Yet, by 1936, Coughlin had taken an explicit stand against FDR and made that public through his radio program. Therefore, I would expect places more exposed to Father Coughlin's radio program in 1936 to display a greater *reduction* in support for FDR between 1932 and 1936.[32]

To exploit the change in Father Coughlin's attitude between 1932 and 1936, I turn to a difference-in-differences specification using the 1932-1936 panel and exploit only within-county variation over time. Specifically, I run the following regression:

$$Vote_{ct} = \beta Signal_c \times Post_t + X_c \times Post_t + \sigma_c + \eta_{st} + \epsilon_{ct} \tag{2}$$

where $Signal_c$ is the predicted signal strength of Father Coughlin's radio program in county c in 1936. $Post_t$ is an indicator for post-1932, which equals 1 in 1936 and 0 in 1932. σ_c are county fixed effects, controlling for any time-invariant county characteristics. η_{st} are state-by-year fixed effects, controlling for statewide shocks to all counties in each state. In some specifications, I further control for the interactions between all my baseline county characteristics X_c (including the signal in free space) and $Post_t$, which allows each baseline county characteristic to have a differential effect on voting over time. The standard errors are corrected for clustering at the county level.

[32]Panel (c) of Figure VI provides visual evidence that counties more exposed to Coughlin in 1936 saw greater reductions in FDR's vote shares between 1932 and 1936.

Table 6 reports the results from the difference-in-differences specification, which substantially confirm the baseline results. Column 1 of Table 6 shows that, controlling for county fixed effects and year fixed effects, a one standard deviation increase in exposure to Father Coughlin's radio program decreased FDR's vote share by about 1.5 percentage points. The estimated effects remain robust after controlling for state-by-year fixed effects in column 2 and, if anything, become slightly larger when controlling for the interactions between baseline county characteristics and the *Post* dummy in column 3.[33] Columns 4 and 5 of the table show that the estimated effects for the Republican Party and for other parties remain similar as found in the baseline.

The identifying assumption of the difference-in-differences specification is that vote shares in counties with different levels of exposure to Father Coughlin would have followed parallel trends absent of Father Coughlin's radio program. To check whether the parallel trends assumption is plausible, I use an event study on a longer panel. Specifically, I run equation (2) on the panel of 1912-1944, replacing $Post_t$ with year dummies and using 1932 as the omitted category. The period of 1912-1944 covers all four presidential elections (1932-1944) involving FDR as well as five elections before. Online Appendix Figure A11 presents the event study figure and shows a sharp decrease in FDR's vote share in 1936 with no pre-trend, supporting the parallel trends assumption.

Moreover, online Appendix Table A6 presents the results from a triple-difference specification (i.e., $Signal \times Post \times Catholic$, where $Catholic$ is defined in the same way as in Panel A of Table 4). The triple-difference specification provides consistent evidence that Father Coughlin's broadcasts had larger effects in counties with more Catholics. Online Appendix Figure A12 also shows an event study version of the triple-difference specification, supporting the parallel trends assumption.

E. Additional Results and Robustness Checks

Besides attacking FDR, Father Coughlin also described the New Deal as an "economic failure" and that it was surrounded by "atheists" and "communists" (Warren, 1996). Coughlin's denunciation of the New Deal might have also negatively affected the Democratic Party in congressional elections. Consistent with this expectation, online Appendix Table A7 shows that a one standard deviation increase in exposure to Coughlin reduced Democratic vote shares by about 2.3 percentage points (4.6 percent of the mean) in the 1936 House election.

While the evidence so far comes from the 1930s and the 1940s, Figure VI plots the estimated effects of exposure to Coughlin on Democratic vote shares in subsequent presidential elections up to 1972, the last year covered by the ICPSR Study 8611 dataset (Clubb, Flanigan and Zingale, 2006).[34] The conditional exogene-

[33] The results are also robust to controlling for the interaction between the 1932 signal strengths of Coughlin's radio program and the *Post* dummy.

[34] As discussed in Section 2, Coughlin was taken off the air in Fall 1940 and *Social Justice* was banned in 1942; he ceased public political activities at the order of the Church in 1942.

ity assumption underlying my baseline analysis could be harder to satisfy in the long run. I therefore cautiously interpret the results as suggestive evidence that Coughlin's radio program might have lasting effects, which appear to decrease after FDR died in office in 1945 and decline over time.[35]

Besides, I perform additional robustness checks in online Appendix Table A8, which shows that the baseline result is robust to using a binary measure of signal that equals one if the signal strength was above the median and zero otherwise (column 1); to restricting the sample to counties more than 100 miles from any of Coughlin's stations, where the population tended to be smaller and the exposure to Coughlin was more likely exogeneous (column 2);[36] to controling for the "free space" variable more flexibly by including its squared and cubic terms as additional controls (column 3); to controlling for per capita New Deal expenditures (grant, relief, and loans) using data from Fishback, Kantor and Wallis (2003) (column 4); to including Southern counties in the sample (column 5);[37] and to weighting the regression with county population (column 6). In addition, I find similar results from an exercise exploiting the spatial discontinuity in exposure to Coughlin between neighboring and otherwise identical county pairs, as detailed in Online Appendix E. The robustness of the results to this series of additional checks further supports the causal interpretation of the results.

V. Father Coughlin, Anti-Semitism, and Civilian Support for WWII

By the late 1930s, Father Coughlin had become a leading anti-Semitic icon, fascist sympathizer, and isolationism advocate in pre-war America (Tull, 1965; Brinkley, 1982; Warren, 1996). I now turn to examine the impact of Coughlin's radio broadcast on measures of anti-Semitism, fascist sympathies, and civilian support for the war effort in the U.S.

[35]I have explored potential mechanisms underlying the persistence in effects. Using individual survey data from the American National Election Studies (ANES) from the 1950s onwards, I find that individuals from counties with greater exposure to Coughlin were more likely to associate the Democratic Party with war, socialism, and communism in the later years, consistent with Coughlin's attacks on Democrats on these matters. Moreover, the effects were present among older cohorts of people directly exposed to Coughlin's broadcasts but not among younger cohorts born after Coughlin had left the air, suggesting that direct exposure, instead of intergenerational transmission of values, was likely to explain the persistent effects. These results are available upon request. In addition, the persistence in effects was unlikely driven by future television stations that might have co-located with the 1936 Coughlin radio stations. In fact, online Appendix Figure A13 shows that the long-run estimates are similar when I focus on counties more than 100 miles away from any of the Coughlin stations, which would have been beyond the reach of TV signals originating from the location of Coughlin stations (Angelucci, Cagé and Sinkinson, 2020).

[36]The results are qualitatively similar when focusing on counties that were 150, 200, 250 or 300 miles away from any of Coughlin's stations.

[37]The coefficient in column 5 is somewhat smaller and less precisely estimated (p-value = 0.104), possibly because of Coughlin's much lower listenership in the South as well as the region's homogeneous support for Democrats during the 1930s (Strömberg, 2004). The results, however, are qualitatively similar and statistically significant (p-value = 0.012) when I use the difference-in-differences specification with the whole country.

A. Civilian Support for America's War Effort

First, I examine whether exposure to Father Coughlin's radio program affected civilian support for America's war effort during WWII. Specifically, I use data on county-level WWII bond sales in 1944, which come from the 1947 *County and City Data Book* (U.S. Bureau of the Census, 2012). I divide total bond sales by county population to obtain per capita sales of WWII bonds in each county. For the ease of interpretation, I use the natural log of per capita war bond sales as the outcome variable. To measure exposure to Father Coughlin's radio program, I collect data on Coughlin's stations in 1939 (Broadcasting Publications, Inc., 1939) and use the ITM software to measure their signal strengths across counties as I did in the baseline analysis.[38] I then run a similar regression as in equation (1), regressing war bond sales in 1944 on the signal strength of Coughlin's radio program in 1939. To be consistent with my baseline analysis, I again focus on regions outside of the geographic South.[39]

Panel A of Table 7 shows that exposure to Father Coughlin's radio program in 1939 was associated with lower per capita war bond sales in 1944. Based on column 5, conditional on the baseline controls and per capital New Deal spending in the county, a one standard deviation increase in Coughlin signal was associated with about a 15% decrease in per capita WWII bond sales.[40] The results suggest that exposure to Father Coughlin's radio program in the late 1930s might have lowered civilian support for America's war effort.

B. Evidence from the German-American Bund

In a broadcast following Nazi Germany's Kristallnacht in November 1938, Father Coughlin notoriously labeled the attacks on Jews as a defense against communism (Warren, 1996). Based on the December 1938 Gallop Poll, Panel B of online Appendix Figure A10 shows that while close to 70% of Catholics approved of what Coughlin said in general, only about 20% of Jews did. It is natural to wonder whether exposure to Father Coughlin's anti-Semitic broadcasts throughout the period of 1938-1939 affected anti-Semitism in America.

A challenge to study anti-Semitism or fascist sympathies in pre-war America, however, is the lack of data measuring these outcomes. To overcome the challenge,

[38] I identify Coughlin's 1939 stations from the following source: Broadcasting Publications, Inc. 1939. *Broadcasting*, July 1, 1939. `https://worldradiohistory.com/Archive-BC/BC-1939/1939-07-01-BC.pdf`. Previous historical work on Father Coughlin generally agrees that Coughlin's broadcasts did not concentrate on isolationism or anti-Semitism until the late 1930s (Tull, 1965; Brinkley, 1982; Warren, 1996). Online Appendix Figure A14 documents significant changes in exposure to Coughlin's broadcasts across counties between 1936 and 1939. This means that the 1936 signal, when used to measure exposure to Coughlin's isolationist or anti-Semitic broadcasts in the late 1930s, is likely to contain large measurement errors. I therefore use the 1939 signal to measure exposure to Coughlin's isolationist and anti-Semitic broadcasts.

[39] Results based on the full sample of counties are qualitatively similar and remain statistically significant at the 5 percent level.

[40] Caprettini and Voth (2020) find that welfare support from the New Deal increased patriotism in the U.S. during WWII.

I collect new data from the FBI records (Federal Bureau of Investigation, 1940) on the German-American Bund, the leading anti-Semitic and pro-Nazi organization in pre-war America (Strong, 1941). The data allow me to identify all the cities with a local branch of the Bund in 1940, a total of 54 cities.

I conduct a similar exercise as in the baseline analysis at the city level, where the outcome is a binary variable that equals one if a city had a local branch of the Bund in 1940 and the explanatory variable is city-level signal strength of Coughlin's radio program in 1939.[41] Panel B of Table 7 reports the results from this exercise. Based on column 3 of the table, conditional on the full set of controls, a one standard deviation increase in Coughlin exposure was associated with about a 9.9 percentage points higher likelihood of having a local branch of the German-American Bund.[42] The estimate changes little in column 4 when I further restrict my sample to only those cities more than 50 miles away from a Coughlin station, whose exposure to Coughlin was more likely to be exogenous. The last column uses a probit model and reports the marginal effect at the mean of the covariates.[43] The result from the probit model is qualitatively similar.

As a placebo test, I examine the presence of the Friends of New Germany, which was pro-Nazi and the immediate predecessor of the German-American Bund before the latter's founding in 1936 (Strong, 1941).[44] Column 1 of online Appendix Table A9 shows that, conditional on the same set of city controls used for the Bund analysis, exposure to Coughlin in the late 1930s was not significantly correlated with the presence of the Friends of New Germany in 1934, before Coughlin's broadcasts turned anti-Semitic. The finding holds when I further control in column 2 for the full set of baseline county socioeconomic and political characteristics. In contrast, I find that the results on the German-American Bund are robust to controlling for the full set of baseline county characteristics (column 3) and for the presence of the Friends of New Germany in 1934 (column 4). Overall, the results suggest that Father Coughlin's radio program likely have increased fascist sympathies and anti-Semitic sentiment in pre-war America.[45]

[41]Since the smallest city with a local branch of the Bund had a population of 11,710, I define the sample to consist of all identifiable cities in the 1930 Census that had a population of 10,000 or above.

[42]The controls included are the "free space" variable, state fixed effects, geographic characteristics (i.e., elevation, terrain ruggedness, and their squared terms), and 1930 city socioeconomic characteristics (i.e. population, percent unemployed, average occupational income score, percent owning a radio, percent of Jewish descent, percent of recent German immigrants, percent native, and an indicator for having a population above 100,000). The city socioeconomic characteristics are generated based on the 1930 Census IPUMS microdata (Ruggles et al., 2020). I measure population of Jewish descent by counting individuals whose mother tongues were either Yiddish or Hebrew in the 1930 Census. I measure population of recent German immigrants by counting individuals whose mother tongues were German or who had at least one parent born in Germany in the 1930 Census.

[43]The sample size is smaller for column 5, because the inclusion of state fixed effects in the probit regression drops any state that did not have a branch of the Bund.

[44]I obtain the location of branches of the Friends of New Germany from the June 7, 1934 issue of the *New York Times*, which covered the effort by the McCormack–Dickstein Special Committee on Un-American Activities to investigate Nazi propaganda activities in America. A caveat is that 5 out of the 21 local branches of the Friends of New Germany were not named by the *Times* and hence are not included in the data.

[45]Using individual survey data from the Gallup Poll in November 1938, I also find suggestive evidence

VI. Conclusion

New media and information technologies make it easier for charismatic individuals to gain influence. Yet, the possibility that a charismatic individual can shape political outcomes with the media remains little studied. This paper assembles a unique data set to study the political impacts of the first populist radio personality in American history. I find that exposure to Father Coughlin's radio program attacking the New Deal administration decreased support for FDR in the 1936 presidential election. The results suggest that Father Coughlin had a high persuasion rate of about 28 percent and that religion likely played an important role in his persuasiveness. Moreover, I find evidence that places more exposed to Father Coughlin's anti-Semitic and isolationist broadcasts in the late 1930s were more likely to form a local branch of the pro-Nazi German-American Bund and sold fewer war bonds during WWII.

My findings provide the first systematic evidence that a charismatic individual can manipulate the media to influence voting behavior. Although specific to the episode of Father Coughlin, the results provide more general insights on the substantial influence of charismatic leaders with access to modern media and the potential for religion to enhance that influence.

REFERENCES

Adena, Maja, Ruben Enikolopov, Maria Petrova, Veronica Santarosa, and Ekaterina Zhuravskaya. 2015. "Radio and the Rise of the Nazis in Prewar Germany." *The Quarterly Journal of Economics*, 130(4): 1885–1939.

Algan, Yann, Sergei Guriev, Elias Papaioannou, and Evgenia Passari. 2017. "The European Trust Crisis and the Rise of Populism." *Brookings Papers on Economic Activity*, 309–382.

Anderson, Robert Warren, Noel Johnson, and Mark Koyama. 2017. "Jewish Persecutions and Weather Shocks, 1100-1800." *Economic Journal*, 127(602): 924–958.

Angelucci, Charles, Julia Cagé, and Michael Sinkinson. 2020. "Media Competition and News Diets." *NBER Working Paper No. 26782*.

Arzheimer, Kai. 2009. "Contextual Factors and the Extreme Right Vote in Western Europe, 1980–2002." *American Journal of Political Science*, 53(2): 259–275.

Autor, David, David Dorn, Gordon Hanson, and Kaveh Majlesi. 2020. "Importing Political Polarization? The Electoral Consequences of Rising Trade Exposure." *American Economic Review*, 110(10): 3139–3183.

that individuals more exposed to Coughlin was more likely to approve Nazis' treatment of Jews and less willing to accept Jewish exiles from Germany into the U.S. The results are available upon request.

Bassi, Vittorio, and Imran Rusal. 2017. "Persuasion: A Case Study of Papal Influences on Fertility-Related Beliefs and Behavior." *American Economic Journal: Applied Economics*, 9(4): 250–302.

Becker, Sascha O., and Luigi Pascali. 2019. "Religion, Division of Labor, and Conflict: Anti-Semitism in Germany over 600 Years." *American Economic Review*, 109(5): 1764–1804.

Becker, Sascha O., Yuan Hsiao, Steven Pfaff, and Jared Rubin. 2020. "Multiplex Network Ties and the Spatial Diffusion of Radical Innovations: Martin Luther's Leadership in the Early Reformation." *American Sociological Review*, 85(5): 857–894.

Bennett, David H. 1969. *Demagogues in the Depression: American Radicals and the Union Party, 1932-1936.* Rutgers University Press. New Brunswick.

Besley, Timothy, Jose G. Montalvo, and Marta Reynal-Querol. 2011. "Do Educated Leaders Matter?" *The Economic Journal*, 121(554): 205–227.

Brinkley, Alan. 1982. *Voices of Protest: Huey Long, Father Coughlin and the Great Depression.* Alfred A. Knopf. New York.

Broadcasting Publications, Inc. 1936. *Broadcasting 1936 Yearbook.* Washington, D.C.: Broadcasting Publications, Inc. Accessed from WorldRadioHistory.com. `https://worldradiohistory.com/Archive-BC-YB/1936/1936-BC-YB.pdf`.

Broadcasting Publications, Inc. 1939. *Broadcasting 1939 Yearbook.* Washington, D.C.: Broadcasting Publications, Inc. Accessed from WorldRadioHistory.com. `https://worldradiohistory.com/Archive-BC-YB/1939/1939-BC-YB.pdf`.

Broadcasting Publications, Inc. 1940. *Broadcasting 1939 Yearbook.* Washington, D.C.: Broadcasting Publications, Inc. Accessed from WorldRadioHistory.com. `https://worldradiohistory.com/Archive-BC-YB/1940/1940-BC-YB.pdf`.

Brunner, Edmund. 1935. *A Symposium on the Relation of Radio to Rural Life.* The Radio Institute of the Audible Arts, New York.

Bursztyn, Leonardo, Aakaash Rao, Christopher Roth, and David Yanagizawa-Drott. 2020. "Misinformation During a Pandemic." *NBER Working Paper No. 27417.*

Bursztyn, Leonardo, Georgy Egorov, Ruben Enikolopov, and Maria Petrova. 2019. "Social Media and Xenophobia: Evidence from Russia." *NBER Working Paper No. 26567.*

Cagé, Julia, Anna Dagorret, Pauline A. Grosjean, and Saumitra Jha. 2020. "Heroes and Villains: The Effects of Combat Heroism on Autocratic Values and Nazi Collaboration in France." *CEPR Discussion Paper 15613*.

Cameron, A. Colin, and Douglas Miller. 2015. "A Practitioner's Guide to Cluster-Robust Inference." *Journal of Human Resources*, 50(2): 317–372.

Cameron, A. Colin, Johan Gelbach, and Douglas Miller. 2008. "Bootstrap-Based Improvements for Inference with Clustered Errors." *Review of Economics and Statistics*, 90(3): 414–427.

Caprettini, Bruno, and Hans-Joachim Voth. 2020. "From Welfare to Warfare: New Deal Spending and Patriotism during World War II." *CEPR Discussion Papers 12807*.

Clubb, Jerome M., William H. Flanigan, and Nancy H. Zingale. 2006. "Electoral Data for Counties in the United States: Presidential and Congressional Races, 1840–1972." Inter-university Consortium for Political and Social Research [distributor], 2006-11-13. https://doi.org/10.3886/ICPSR08611.v1.

Colantone, Italo, and Piero Stanig. 2019. "The Surge of Economic Nationalism in Western Europe." *Journal of Economic Perspectives*, 33(4): 128–151.

Conley, Timothy G. 1999. "GMM Estimation with Cross Sectional Dependence." *Journal of Econometrics*, 92(1): 1–45.

Coughlin, Charles E. 1936*a*. "An Historical Exploration of Father Charles E. Coughlin's Influence: Broadcast Book Collection (1931-1936)." University of Detroit Mercy Archives. https://libraries.udmercy.edu/archives/special-collections/index.php?collectionSet=community&collectionCode=coughlin_cou.

Coughlin, Charles E. 1936*b*. "An Historical Exploration of Father Charles E. Coughlin's Influence: Social Justice Collection (September 12–October 24, 1936)." University of Detroit Mercy Archives. https://libraries.udmercy.edu/archives/special-collections/index.php?collectionSet=community&collectionCode=coughlin_cou.

Couttenier, Mathieu, Sophie Hatte, Mathias Thoenig, and Stephanos Vlachos. 2019. "The Logic of Fear - Populism and Media Coverage of Immigrant Crimes." *CEPR Discussion Paper No. DP13496*.

de Bromhead, Alan, Barry Eichengreen, and Kevin H. O'Rourke. 2013. "Political Extremism in the 1920s and 1930s: Do German Lessons Generalize." *The Journal of Economic History*, 73(2): 371–406.

DellaVigna, Stefano, and Ethan Kaplan. 2007. "The Fox News Effect: Media Bias and Voting." *The Quarterly Journal of Economics*, 122(3): 1187–1234.

DellaVigna, Stefano, and Matthew Gentzkow. 2010. "Persuasion: Empirical Evidence." *Annual Review of Economics*, 2(6): 643–669.

DellaVigna, Stefano, Ruben Enikolopov, Vera Mironova, Maria Petrova, and Ekaterina Zhuravskaya. 2014. "Cross-Border Effects of Foreign Media: Serbian Radio and Nationalism in Croatia." *American Economic Journal: Applied Economics*, 6(3): 103–132.

Dippel, Christian, and Stephan Heblich. 2021. "Leadership in Social Movements: Evidence from the Forty-Eighters in the Civil War." *American Economic Review*, 111(2): 1–35.

Durante, Ruben, Paolo Pinotti, and Andrea Tesei. 2019. "The Political Legacy of Entertainment TV." *American Economic Review*, 109(7): 2497–2530.

Enikolopov, Ruben, and Maria Petrova. 2015. "Media Capture." In *Handbook of Media Economics*. Vol. 1, , ed. Simon Anderson, Joel Waldfogel and David Stromberg, 687–700.

Enikolopov, Ruben, Maria Petrova, and Ekaterina Zhuravskaya. 2011. "Media and Political Persuasion: Evidence from Russia." *American Economic Review*, 111(7): 3253–3285.

Federal Bureau of Investigation. 1940. "German American Federation/Bund Part 08 of 11." FBI Records: The Vault. `https://vault.fbi.gov/german-american-bund`.

Finley, Theresa, and Mark Koyama. 2018. "Plague, Politics, and Pogroms: The Black Death, the Rule of Law, and the Persecution of Jews in the Holy Roman Empire." *The Journal of Law and Economics*, 61(2): 253–277.

Fishback, Price V., Shawn Kantor, and John Joseph Wallis. 2003. "Can the New Deal's Three Rs be Rehabilitated? A Program-by-Program, County-by-County Analysis." *Explorations in Economic History*, 40(3): 278–307.

Gagliarducci, Stefano, Massimiliano Gaetano Onorato, Francesco Sobbrio, and Guido Tabellini. 2020. "War of the Waves: Radio and Resistance during World War II." *American Economic Journal: Applied Economics*, 12(4): 1–38.

Gallup Organization. 1938*a*. "Gallup Poll 1938-0118: Depression/Political Parties/Father Coughlin's Radio Talks/Telephone/Finances, 1938 [Dataset]." Roper 31087102, Version 3. Gallup Organization [producer]. Cornell University, Ithaca, NY: Roper Center for Public Opinion Research [distributor]. `https://doi.roper.center/?doi=10.25940/ROPER-31087102`.

Gallup Organization. 1938*b*. "Gallup Poll 1938-0141: Father Coughlin's Radio Talks/World's Fair/Spanish Civil War/Radio, 1938 [Dataset]." Roper

31087125, Version 3. Gallup Organization [producer]. Cornell University, Ithaca, NY: Roper Center for Public Opinion Research [distributor]. https://doi.roper.center/?doi=10.25940/ROPER-31087125.

Gallup Organization. 1939. "Gallup Poll 153, 1939 [Dataset]." Roper 31087137, Version 4. Gallup Organization [producer]. Cornell University, Ithaca, NY: Roper Center for Public Opinion Research [distributor]. https://doi.roper.center/?doi=10.25940/ROPER-31087137.

Garthwaite, Craig, and Timothy J. Moore. 2013. "Can Celebrity Endorsements Affect Political Outcomes? Evidence from the 2008 US Democratic Presidential Primary." *Journal of Law, Economics, & Organization*, 29(2): 355–384.

Gavazza, Alessandro, Mattia Nardotto, and Tommaso Valletti. 2019. "Internet and Politics: Evidence from U.K. Local Elections and Local Government Policies." *The Review of Economic Studies*, 86(5): 2092–2135.

Gentzkow, Matthew. 2006. "Television and Voter Turnout." *The Quarterly Journal of Economics*, 121(3): 931–972.

Golder, Matt. 2016. "Far Right Parties in Europe." *Annual Review of Political Science*, 19: 477–497.

Haines, Michael, and ICPSR. 2010. "Historical, Demographic, Economic, and Social Data: The United States, 1790–2002." Inter-university Consortium for Political and Social Research [distributor], 2010-05-21. https://doi.org/10.3886/ICPSR02896.v3.

Iannaccone, Laurence R., and Eli Berman. 2006. "Religious Extremism: The Good, the Bad, and the Deadly." *Public Choice*, 128(1/2): 109–129.

ICPSR. 1999. "United States Historical Election Returns, 1824-1968." Inter-university Consortium for Political and Social Research [distributor], 1999-04-26. https://doi.org/10.3886/ICPSR00001.v3.

Inglehart, Ronald, and Pippa Norris. 2019. *Cultural Backlash: Trump, Brexit and Authoritarian-Populism.* Cambridge University Press. New York.

Iyer, Sriya. 2016. "The New Economics of Religion." *Journal Economic Literature*, 54(2): 395–441.

Johnson, Noel D., and Mark Koyama. 2019. *Persecution and Toleration: The Long Road to Religious Freedom.* Cambridge University Press. Cambridge.

Jones, Benjamin F., and Benjamin A. Olken. 2005. "Do Leaders Matter? National Leadership and Growth Since World War II." *The Quarterly Journal of Economics*, 120(3): 835–864.

Jun, Sung Jae, and Sokbae Lee. 2019. "Identifying the Effect of Persuasion." *Cemmap Working Paper CWP69/19*.

Lee, Alfred McClung, and Elizabeth Briant Lee. 1939. *The Fine Art of Propaganda: A Study of Father Coughlin's Speeches*. The Institute for Propaganda Analysis. Harcourt, Brace and Company. New York.

Manson, Steven, Jonathan Schroeder, David Van Riper, Tracy Kugler, and Steven Ruggles. 2020. "IPUMS National Historical Geographic Information System: Version 15.0 [dataset]." Minneapolis, MN: IPUMS, 2020. http://doi.org/10.18128/D050.V15.0.

Marwick, Alice, and Rebecca Lewis. 2017. "Media Manipulation and Disinformation Online." Data and Society.

Müller, Karsten, and Carlo Schwarz. 2020. "From Hashtag to Hate Crime: Twitter and Anti-Minority Sentiment." https://ssrn.com/abstract=3149103. Accessed on 2020-10-15.

Müller, Karsten, and Carlo Schwarz. Forthcoming. "Fanning the Flames of Hate: Social Media and Hate Crime." *Journal of the European Economic Association*.

Noury, Abdul, and Gerard Roland. 2020. "Identity Politics and Populism in Europe." *Annual Review of Political Science*, 23: 421–439.

Olken, Ben. 2009. "Do Television and Radio Destroy Social Capital? Evidence from Indonesian Villages." *American Economic Journal: Applied Economics*, 1(4): 1–33.

O'Toole, Fintan. 2019. "The Irish Priest Who Paved Way for Donald Trump." *The Irish Times*.

Piketty, Thomas, and Emmanuel Saez. 2003. "Income Inequality in the United States, 1913–1998." *The Quarterly Journal of Economics*, 118(1): 1–41.

Prat, Andrea, and David Strömberg. 2013. "The Political Economy of Mass Media." In *Advances in Economics and Econometrics: Tenth World Congress*. , ed. D. Acemoglu, M. Arellano and E. Dekel. Cambridge University Press.

Ruggles, Steven, Sarah Flood, Sophia Foster, Ronald Goeken, Jose Pacas, Megan Schouweiler, and Matthew Sobek. 2020. "IPUMS USA: Version 11.0 [dataset]." Minneapolis, MN: IPUMS, 2020. https://doi.org/10.18128/D010.V11.0.

Saavedra, Martin, and Tate Twinam. 2020. "A machine learning approach to improving occupational income scores." *Explorations in Economic History*, 75.

Spruyt, Bram, Gil Keppens, and Filip Van Droogenbroeck. 2016. "Who Supports Populism and What Attracts People to It?" *Political Research Quarterly*, 69(2): 335–346.

Strong, Donald Stuart. 1941. *Organized Anti-Semitism in America: The Rise of Group Prejudice During the Decade 1930-1940.* American Council on Public Affairs. Washington, D.C.

Strömberg, David. 2004. "Radio's Impact on Public Spending." *Quarterly Journal of Economics*, 119(1): 189–221.

Tull, Charles J. 1965. *Father Coughlin and the New Deal.* Syracuse University Press. Syracuse.

U.S. Bureau of the Census. 2012. "County and City Data Book [United States] Consolidated File: County Data, 1947-1977." Inter-university Consortium for Political and Social Research [distributor], 2012-09-18. `https://doi.org/10.3886/ICPSR07736.v2`.

U.S. Geological Survey. 2018. "1/3rd arc-second Digital Elevation Models (DEMs) - National Elevation Dataset (NED) Spatial Metadata." Retrieved from the Geospatial Data Gateway of Natural Resource Conservation Service, United States Department of Agriculture. `https://nrcs.app.box.com/v/elevation/file/423833113076`, Accessed August 8, 2019.

Voigtländer, Nico, and Hans-Joachim Voth. 2012. "Persecution Perpetuated: The Medieval Origins of Anti-Semitic Violence in Nazi Germany." *The Quarterly Journal of Economics*, 127(3): 1339–1392.

Warren, Donald. 1996. *Radio Priest: Charles Coughlin, the Father of Hate Radio.* The Free Press. New York.

Xiong, Heyu. Forthcoming. "The Political Premium of Television Stardom." *American Economic Journal: Applied Economics.*

Yanagizawa-Drott, David. 2014. "Propaganda and Conflict: Theory and Evidence from the Rwandan Genocide." *The Quarterly Journal of Economics*, 129(4): 1947–1994.

Zhuravskaya, Ekaterina, Maria Petrova, and Ruben Enikolopov. 2020. "Political Effects of the Internet and Social Media." *Annual Review of Economics*, 12: 415–438.

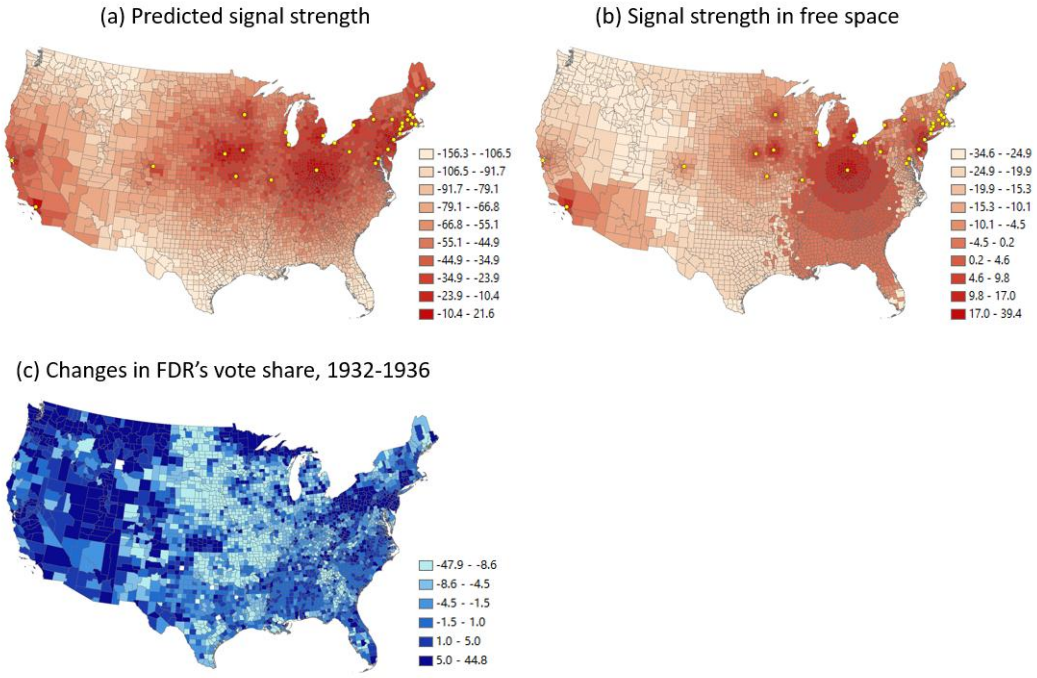


FIGURE 1. COUGHLIN SIGNAL STRENGTH IN 1936 AND CHANGES IN FDR'S VOTE SHARE, 1932-1936

Note: Panel (a) shows the predicted (actual) signal strength of Father Coughlin's radio program in 1936. The dots are the location of Coughlin's radio stations, and darker colors represent stronger signals. Panel (b) shows the signal strength in free space. Panel (c) shows the changes in FDR's vote shares between the 1932 and the 1936 presidential elections. Data on Coughlin's radio network are drawn from the newspaper *Broadcasting* (1936) and the 1936 *Broadcasting Yearbook*. Signal strength is calculated based on the Irregular Terrain Model (ITM) and measured in decibel-milliwatts (dBm). Data on FDR's vote shares are drawn from the ICPSR 8611 data set (Clubb, Flanigan and Zingale, 2006).

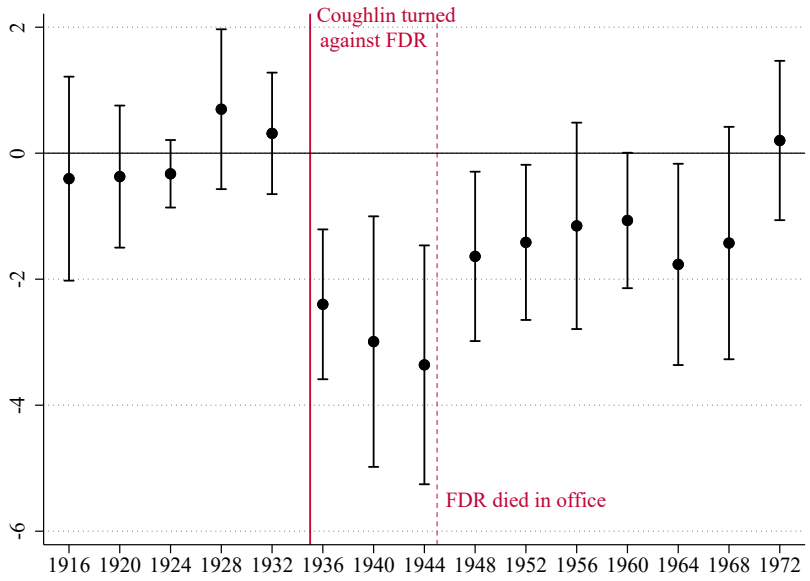


FIGURE 2. EXPOSURE TO COUGHLIN AND DEMOCRATIC VOTE SHARES, 1916-1972

Note: This figure shows the estimated effects of exposure to Father Coughlin's broadcast in 1936 on Democratic vote shares in each presidential elections during 1916-1972. The estimates come from separate OLS regressions following equation (1) with the Democratic vote share in each presidential election as the outcome variable. The sample consists of all counties outside of the geographic South. The explanatory variable is the signal strength of Coughlin's radio program in 1936. Each regression includes all baseline controls as in column 5 of Table 3. Standard errors are corrected for clustering at the state level. The dots are the estimated coefficients and the vertical lines represent the 95% confidence intervals. The vertical solid line in 1935 denotes the year in which Coughlin explicitly turned against FDR. The vertical dashed line in 1945 indicates the year in which FDR died during his last term in office.

Table 1—Exposure to Father Coughlin and 1930 County Characteristics (Balance Tests)

	Mean	Univariate		SignalFree, State FE & Geographic Controls	
	(S.D.)	Coefficient	R^2	Coefficient	R^2
	(1)	(2)	(3)	(4)	(5)
ln(Population)	9.829	0.509	0.168	0.133	0.479
	(1.137)	(0.101)		(0.123)	
% Male	52.169	-1.316	0.253	-0.080	0.561
	(2.396)	(0.130)		(0.214)	
% Native whites	87.539	2.339	0.035	1.775	0.509
	(11.415)	(0.928)		(1.257)	
% Foreign-born whites	6.935	-1.331	0.037	-0.478	0.629
	(6.328)	(0.705)		(0.675)	
% Blacks	3.413	1.302	0.018	0.292	0.685
	(8.953)	(0.365)		(0.676)	
% Urban	24.338	5.786	0.037	-0.858	0.227
	(27.526)	(1.995)		(2.844)	
% Age $\geq$ 65	6.647	0.834	0.128	0.585	0.450
	(2.139)	(0.199)		(0.227)	
% Catholics (1926)	10.819	-0.411	0.001	1.065	0.361
	(12.051)	(1.144)		(1.313)	
% Illiterate	2.414	0.165	0.003	0.008	0.574
	(2.804)	(0.337)		(0.323)	
% Unemployed	6.686	0.054	0.000	-1.364	0.223
	(4.929)	(0.299)		(0.368)	
Occupational income score	7.344	0.096	0.002	0.088	0.402
	(1.825)	(0.186)		(0.207)	
% Radio owners	34.718	3.027	0.034	5.505	0.651
	(15.002)	(2.045)		(1.837)	
% Manufacturing workers	12.036	2.416	0.033	-0.432	0.411
	(12.121)	(1.245)		(1.293)	
% Agricultural workers	42.080	-3.636	0.023	1.683	0.381
	(21.734)	(2.132)		(2.011)	
ln(Average farm size)	7.457	-0.560	0.303	0.025	0.693
	(0.931)	(0.098)		(0.086)	
ln(Land value per acre)	3.528	0.396	0.158	0.134	0.539
	(0.909)	(0.106)		(0.100)	
% Tenant acres	27.561	3.844	0.052	-0.722	0.573
	(15.493)	(1.177)		(1.232)	

Note: This table shows the mean of 1930 county characteristics (column 1) and their correlation with exposure to Father Coughlin's radio program in 1936 (columns 2 and 3). Specifically, columns 2 and 3 report the coefficient and R^2 of the univariate OLS regression of each variable on Coughlin signal strength in 1936 ($Signal$). In columns 4 and 5, I include controls for the hypothetical signal strength in free space ($SignalFree$), state fixed effects, and county geographic characteristics (area, elevation, and terrain ruggedness as well as their squared terms). The sample consists of all counties outside of the geographic South. Standard errors, shown in parentheses, are corrected for clustering at the state level.

Table 2—Exposure to Coughlin and Voting in Past Presidential Elections (Placebo Tests)

	1932 (1)	1928 (2)	1924 (3)	1920 (4)	Δ1928-32 (5)
	Panel A. Democratic Vote Shares				
Signal	0.315	0.698	-0.327	-0.371	-0.384
	(0.471)	(0.620)	(0.262)	(0.551)	(0.548)
Observations	1,978	1,978	1,978	1,978	1,978
Full baseline controls	Yes	Yes	Yes	Yes	Yes
R-squared	0.882	0.886	0.980	0.955	0.665
Mean of Dep. Var.	58.37	37.29	28.66	33.77	21.07
Std. Dev. of Dep. Var.	11.23	11.22	18.20	14.94	7.74
	Panel B. Republican Vote Shares				
Signal	-0.310	-0.670	0.014	0.656	0.360
	(0.439)	(0.605)	(0.264)	(0.597)	(0.599)
Observations	1,978	1,978	1,978	1,978	1,978
Full baseline controls	Yes	Yes	Yes	Yes	Yes
R^2	0.890	0.889	0.957	0.929	0.682
Mean of Dep. Var.	39.35	61.94	51.80	61.74	-22.60
Std. Dev. of Dep. Var.	11.19	11.13	13.70	13.59	8.10

Note: This table shows the correlation between exposure to Father Coughlin's radio program in 1936 and voting outcomes in past presidential elections. Each column represents the results from a separate OLS regression following equation (1), where each observation is a county. The sample consists of all counties outside of the geographic South. Panel A shows the results for the Democratic Party, and Panel B does so for the Republican Party. In each panel, the outcome variables are the vote shares of the party in each presidential election during 1920-1932 (columns 1-4) and the change in vote shares during 1928-1932 (column 5). The explanatory variable is the signal strength of Coughlin's radio program in 1936. Each regression controls for all the baseline controls as in column 5 of Table 3. Standard errors, shown in parentheses, are corrected for clustering at the state level.

Table 3—Exposure to Father Coughlin and 1936 Voting Outcomes

	Vote Shares (%) in the 1936 Presidential Election for							
	FDR (Dem.)					Landon (Rep.)	Lemke (Union)	Voter Turnout
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Signal	-3.799	-2.120	-3.018	-2.779	-2.399	1.976	0.402	0.670
	(0.540)	(1.144)	(1.301)	(0.835)	(0.581)	(0.609)	(0.373)	(0.637)
Observations	2,007	2,007	2,007	1,996	1,978	1,978	1,646	1,978
State FE		Yes	Yes	Yes	Yes	Yes	Yes	Yes
SignalFree			Yes	Yes	Yes	Yes	Yes	Yes
County characteristics				Yes	Yes	Yes	Yes	Yes
Past electoral controls					Yes	Yes	Yes	Yes
R^2	0.091	0.391	0.393	0.548	0.818	0.854	0.642	0.907
Mean of Dep. Var.	57.11	57.11	57.11	57.03	56.95	40.34	2.70	72.03
Std. Dev. of Dep. Var.	11.51	11.51	11.51	11.46	11.45	11.77	3.71	15.69

Note: This table shows the estimated effects of exposure to Father Coughlin's radio program in 1936 on voting in the 1936 presidential election. Each column represents the results from a separate OLS regression following equation (1), where each observation is a county. The sample consists of all counties outside of the geographic South. The outcome variables are the vote shares for FDR (columns 1-5), Landon (column 6), Lemke (column 7) and voter turnout (column 8), all measured in percentage points. The explanatory variable is the signal strength of Coughlin's radio program in 1936. *SignalFree* is the hypothetical signal strength in free space. County characteristics include the socioeconomic variables listed in Table 1 (i.e., natural log of the population, the population shares of males, blacks, native whites, foreign-born whites, urban population, population aged 65 or above, Catholics, illiterate, unemployed, families with a radio, mean occupational income score, share of employment in manufacturing, share of employment in agriculture, natural log of average farm size, natural log of farm land value per acre, and share of farm land by tenant farmers) and the county's own geographic characteristics (area, elevation, terrain ruggedness, as well as their squared terms). Past electoral controls include average vote shares of the Democratic Party and of the Republican Party as well as average voter turnout during 1920-1928. Standard errors, shown in parentheses, are corrected for clustering at the state level.

Table 4—Additional Baseline Results

1936 Vote Shares for:	FDR (Dem.) (1)	Landon (Rep.) (2)	Lemke (Union) (3)
Panel A.	Effects in Counties with Large Shares of Catholics		
Signal × Catholic	-1.341	-0.096	1.574
	(0.460)	(0.352)	(0.352)
Signal	-2.051	2.014	0.006
	(0.607)	(0.625)	(0.405)
Catholic	-0.708	0.756	0.257
	(0.696)	(0.579)	(0.403)
Observations	1,978	1,978	1,646
Full baseline controls	Yes	Yes	Yes
R^2	0.820	0.854	0.663
Panel B.	Coughlin and Non-Coughlin (CBS and NBC) Stations		
Signal	-2.280	1.773	0.483
	(0.546)	(0.559)	(0.439)
Non-Coughlin Signal	-0.143	0.270	-0.146
	(0.378)	(0.267)	(0.260)
Observations	1,978	1,978	1,646
Full baseline controls	Yes	Yes	Yes
R^2	0.818	0.854	0.643
Mean of Dep. Var.	56.95	40.34	2.70
Std. Dev. of Dep. Var.	11.45	11.77	3.71

Note: The table shows additional baseline results, where the outcome variables are the vote shares for FDR (column 1), Landon (column 2), and Lemke (column 3) in the 1936 presidential election. The sample consists of all counties outside of the geographic South. Each column represents the results from a separate OLS regression where each observation is a county. *Signal* is the signal strength of Coughlin's radio program in 1936. Panel A shows the estimated effects of Coughlin exposure in counties with high and low shares of Catholic population. *Catholic* is a dummy variable that equals 1 if the county's population share of Roman Catholics was in the top quartile of the distribution and 0 otherwise. Panel B shows the estimated effects of exposure to Coughlin and non-Coughlin (i.e., CBS and NBC) stations. Non-Coughlin signal is the highest CBS or NBC radio signal strength received in the county in 1936. For both panels, the regressions include all the baseline controls as in column 5 of Table 3. Standard errors, shown in parentheses, are corrected for clustering at the state level.

Table 5—Exploring Potential Channels

	FDR's Vote Share in 1936				
$X =$	Other radio signal, 1936	Rural county, 1930	% Illiterate, 1930	Occupational income score, 1930	% Unemployed, 1930
	(1)	(2)	(3)	(4)	(5)
Signal $\times X$	-0.023	0.008	-1.577	0.446	0.467
	(0.163)	(0.369)	(0.570)	(0.192)	(0.155)
Signal	-2.194	-2.381	-3.222	-2.611	-2.518
	(0.522)	(0.621)	(0.559)	(0.537)	(0.539)
X	-0.270	-0.269	0.743	-0.124	-0.134
	(0.360)	(0.508)	(1.216)	(0.363)	(0.215)
Observations	1,978	1,978	1,978	1,978	1,978
Full baseline controls	Yes	Yes	Yes	Yes	Yes
R^2	0.818	0.818	0.819	0.819	0.819
Mean of Dep. Var.	56.95	56.95	56.95	56.95	56.95
Std. Dev. of Dep. Var.	11.45	11.45	11.45	11.45	11.45

Note: This table explores potential channels for Father Coughlin's persuasiveness. Each column represents the results from a separate OLS regression, where each observation is a county. The sample consists of all counties outside of the geographic South. The outcome variable is FDR's vote share in the 1936 presidential election. *Signal* is the signal strength of Coughlin's radio program in 1936. Each column examines an interaction between *Signal* and another county characteristic X, where X is the highest CBS or NBC radio signal strength received in the county in 1936 (column 1), a dummy variable that equals 1 if the county had only rural households in 1930 (column 2), the share of the illiterate among native population aged 10 or above in 1930 (column 3), the average occupational income score (column 4), and the population share of the unemployed in 1930 (column 5). Each regression includes all the baseline controls as in column 5 of Table 3. Standard errors, shown in parentheses, are corrected for clustering at the state level.

Table 6—Exposure to Father Coughlin and Voting Outcomes, 1932-1936 Panel

	Vote Shares in Presidential Elections				
	FDR (Dem.)			Rep.	Others
	(1)	(2)	(3)	(4)	(5)
Signal × Post	-1.548	-1.967	-2.713	2.286	0.427
	(0.914)	(0.929)	(0.795)	(0.689)	(0.333)
Observations	4,012	4,012	3,956	3,956	3,956
County FE	Yes	Yes	Yes	Yes	Yes
Year FE	Yes				
State-by-Year FE		Yes	Yes	Yes	Yes
Baseline controls x Post			Yes	Yes	Yes
R-squared	0.867	0.919	0.948	0.965	0.829
Mean of Dep. Var.	57.79	57.79	57.66	39.85	2.49
Std. Dev. of Dep. Var.	11.39	11.39	11.36	11.49	3.04

Note: This table shows the estimated effects of exposure to Coughlin on voting in presidential elections during 1932-1936. Each column represents the results from a separate OLS regression following the difference-in-differences specification in equation (2), where each observation is a county-year. The sample consists of all counties outside of the geographic South. The outcome variables are FDR's vote shares in columns 1-3, the Republican vote share in column 4, and other parties' vote share in column 5. The explanatory variable is the interaction between Coughlin signal strength in 1936 and a dummy variable *Post* that equals 1 for the year of 1936 and 0 for the year of 1932. Each regression controls for county fixed effects. Column 1 controls for year fixed effects; column 2 controls for state-by-year fixed effects; and column 3 further controls for the interactions between each of the baseline county characteristics ($SignalFree$, socioeconomic, geographic, and past electoral outcomes, as in column 5 of Table 3) and *Post*. Columns 4-5 follow the same specification as in column 3. Standard errors, shown in parentheses, are corrected for clustering at the state level.

TABLE 7—EVIDENCE FROM WWII BOND SALES AND THE GERMAN-AMERICAN BUND

Panel A.	ln(WWII Bond Sales Per Capita in 1944)				
	(1)	(2)	(3)	(4)	(5)
Signal	-0.378	-0.195	-0.185	-0.169	-0.149
	(0.073)	(0.060)	(0.056)	(0.065)	(0.060)
Observations	1,993	1,979	1,961	1,961	1,960
SignalFree	Yes	Yes	Yes	Yes	Yes
Geographic controls	Yes	Yes	Yes	Yes	Yes
Socioeconomic controls		Yes	Yes	Yes	Yes
Past electoral controls			Yes	Yes	Yes
State FE				Yes	Yes
New Deal expenditure					Yes
R^2	0.180	0.516	0.522	0.558	0.576
Panel B.	**Having a Local Branch of the Bund**				
	OLS				Probit
	(1)	(2)	(3)	(4)	(5)
Signal	0.161	0.148	0.099	0.085	0.010
	(0.075)	(0.059)	(0.045)	(0.049)	(0.005)
Observations	752	752	743	494	589
SignalFree	Yes	Yes	Yes	Yes	Yes
State FE	Yes	Yes	Yes	Yes	Yes
Geographic controls		Yes	Yes	Yes	Yes
Socioeconomic controls			Yes	Yes	Yes
Sample	Full	Full	Full	50 miles away	Full
R^2	0.121	0.140	0.390	0.377	0.560
Mean of Dep. Var.	0.068	0.068	0.061	0.047	0.076
Std. Dev. of Dep. Var.	0.252	0.252	0.239	0.211	0.266

Note: Each column represents the results from a separate OLS regression, where each observation is a county in Panel A and a city in Panel B. *Signal* is the signal strength of Coughlin's radio program in 1939 in the county (Panel A) or city (Panel B), and *SignalFree* is the the hypothetical signal strength in free space in 1939 in the respective geographic unit. In Panel A, the sample consists of all counties outside of the geographic South. The outcome variable is the natural log of per capita purchase of WWII bonds in 1944. The county geographic, socioeconomic, and past electoral controls are the same as those included in column 5 of Table 3. Column 5 also controls for per capita New Deal grant, relief, and loans. In Panel B, the sample consists of all identifiable cities in the 1930 Census that were outside of the geographic South and had a population above 10,000. The outcome is a binary variable that equals 1 if the city had a branch of the German-American Bund in 1940 and 0 otherwise. City geographic controls include elevation and terrain ruggedness as well as their squared terms. City socioeconomic controls include population, percent unemployed, average occupational income score, percent owning a radio, percent of Jewish descent, percent of recent German immigrants, percent native, and an indicator for large city (having a population above 100,000). Column 4 restricts the sample to cities more than 50 miles away from any of Coughlin stations in 1939. Column 5 uses a probit model and shows the marginal effect at the mean of the covariates; the pseudo R^2 from the probit regression is reported. Standard errors, shown in parentheses, are corrected for clustering at the state level in both panels.

Online Appendix

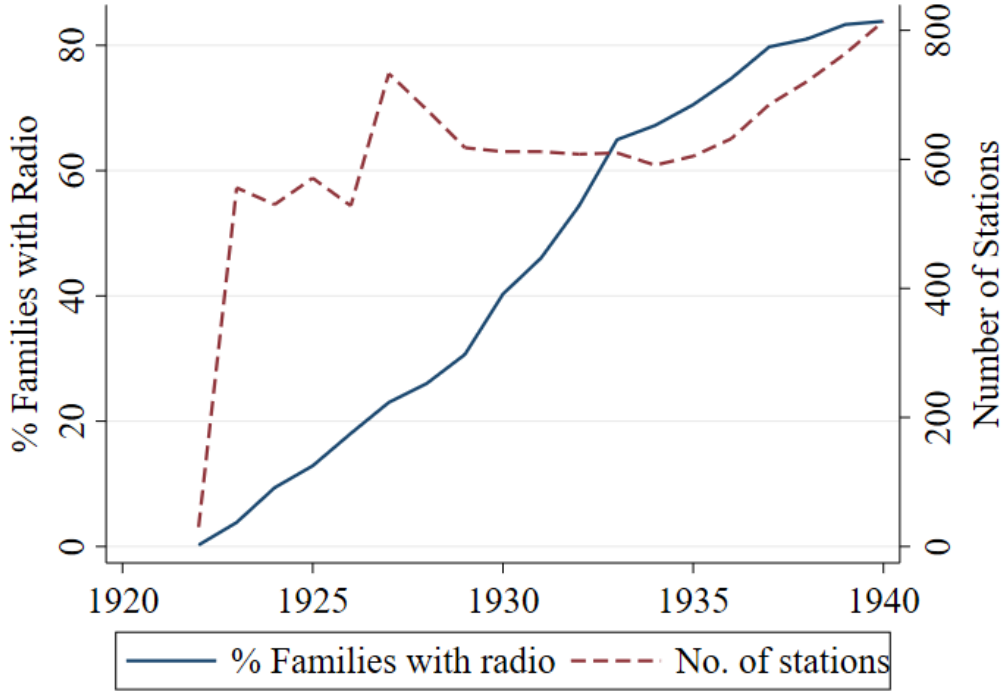
Media, Pulpit, and Populist Persuasion: Evidence from Father Coughlin

Tianyi Wang

Contents

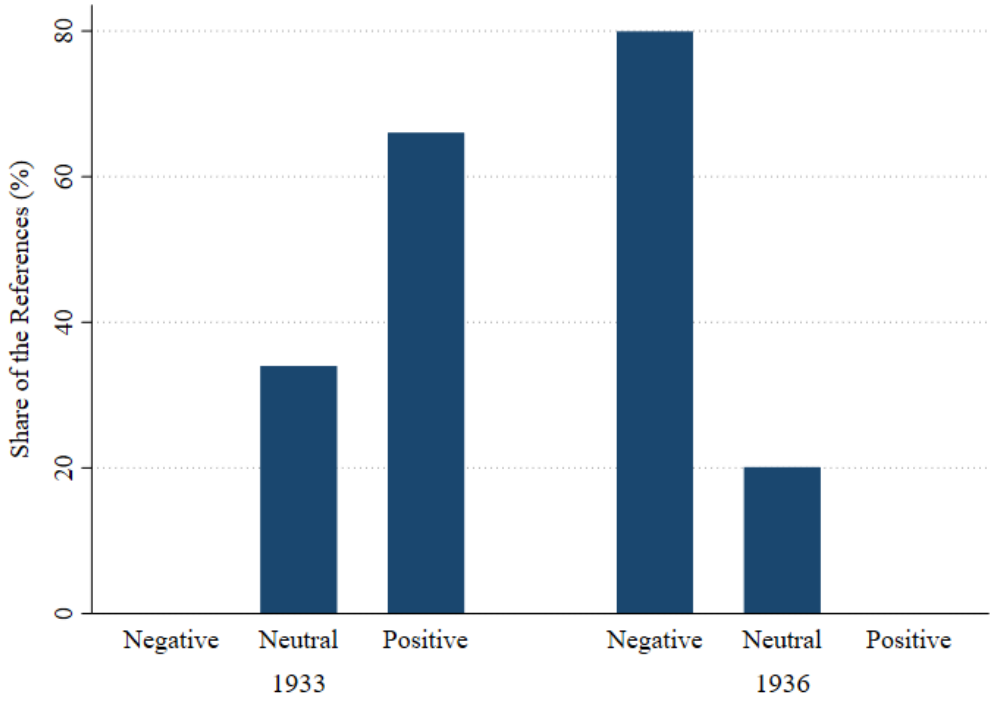
1 Appendix A: Supplemental Figures and Tables

Figure A1: Radio in America, 1920-1940



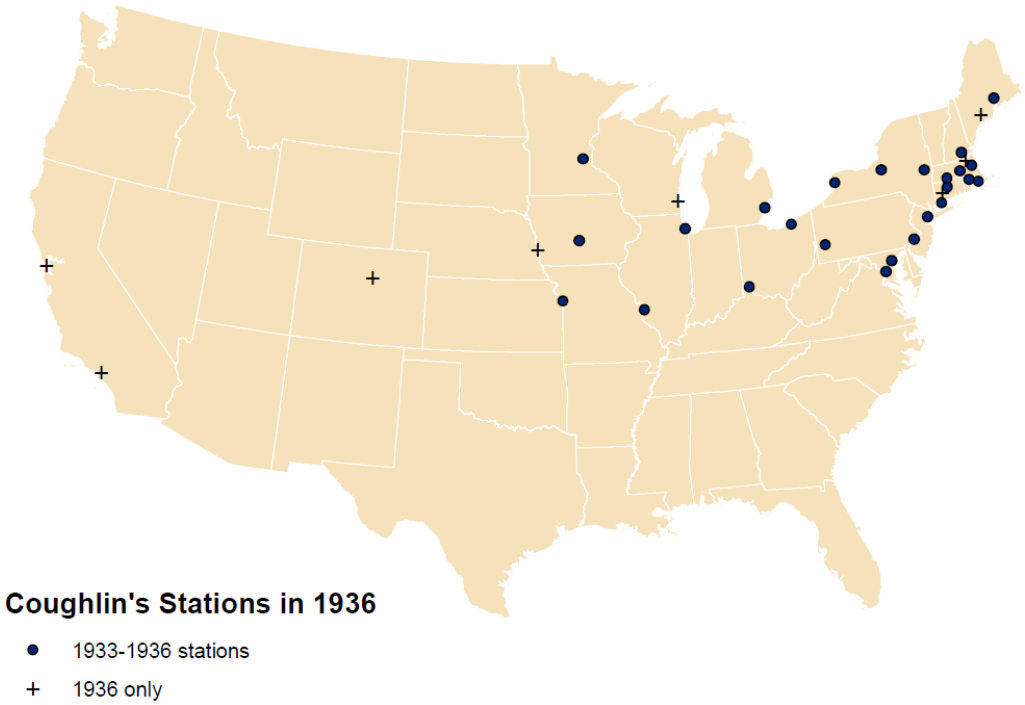
Notes - Data are drawn from the 1940 *Broadcasting Yearbook* (*Broadcasting Publications, Inc., 1940*).

Figure A2: Slant of Coughlin's References to FDR, 1933 versus 1936



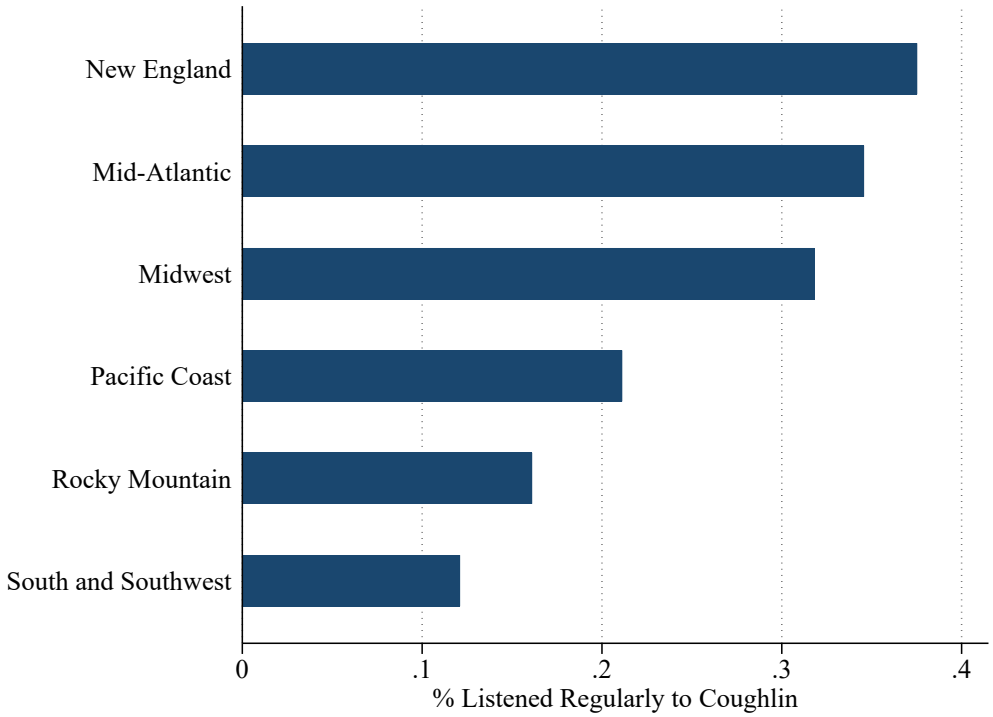
Notes - Author's own calculations based on Father Coughlin's radio transcripts in 1933 and 1936 (Coughlin, 1936a) accessed from the University of Detroit Mercy Archives.

Figure A3: Father Coughlin's Radio Stations, 1936



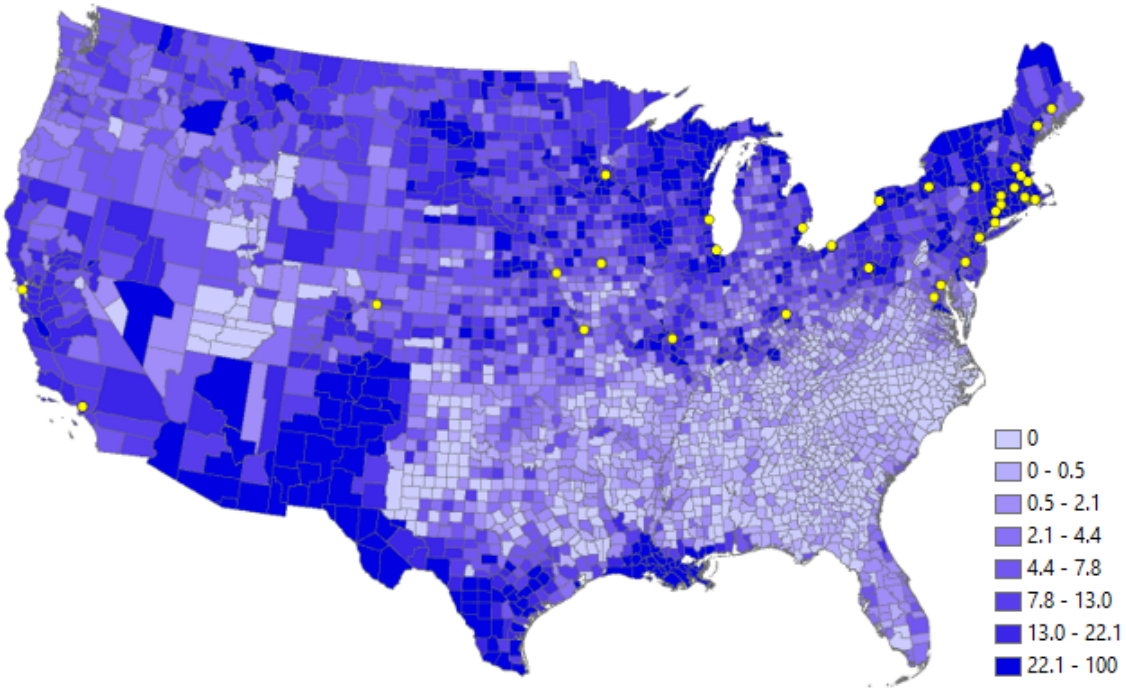
Notes - Data are drawn from the 1933 and 1936 *Broadcasting* magazines. The dots represent stations in Coughlin's network in both 1933 and 1936; the crosses represent stations that were new in 1936.

Figure A4: Regular Listeners of Coughlin's Radio Program by Region before the 1936 Election



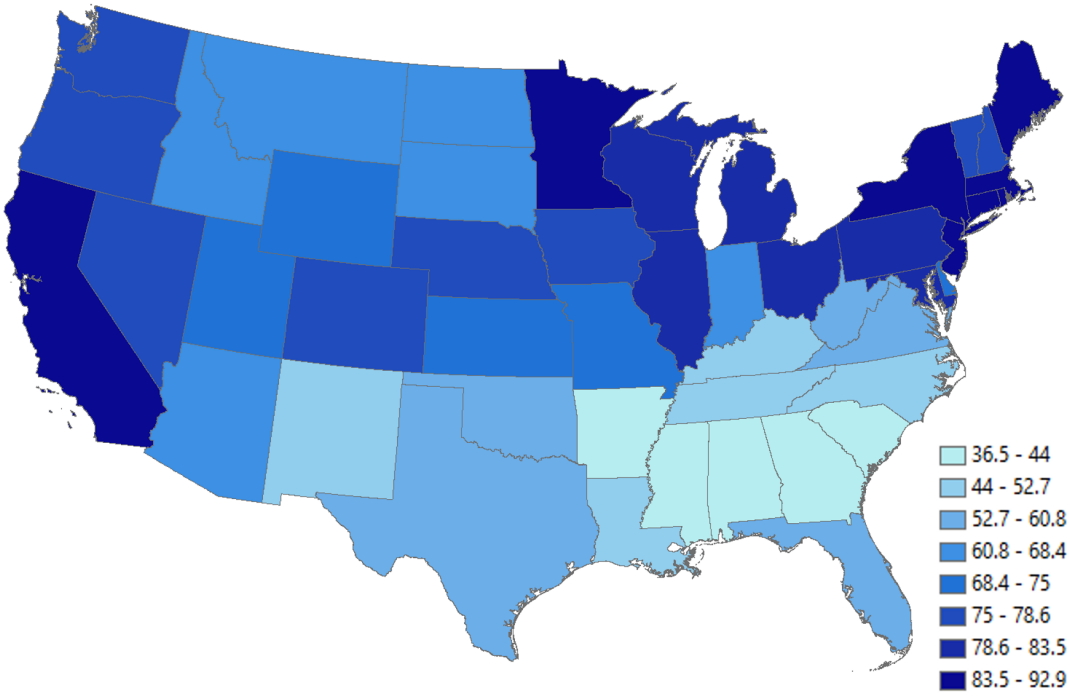
Notes - Data are drawn from the April 1938 Gallup Poll (Gallup Organization, 1938a), accessed from the Roper Center for Public Opinion Research: `https://ropercenter.cornell.edu/`

Figure A5: Percent of Catholics in Population, 1926



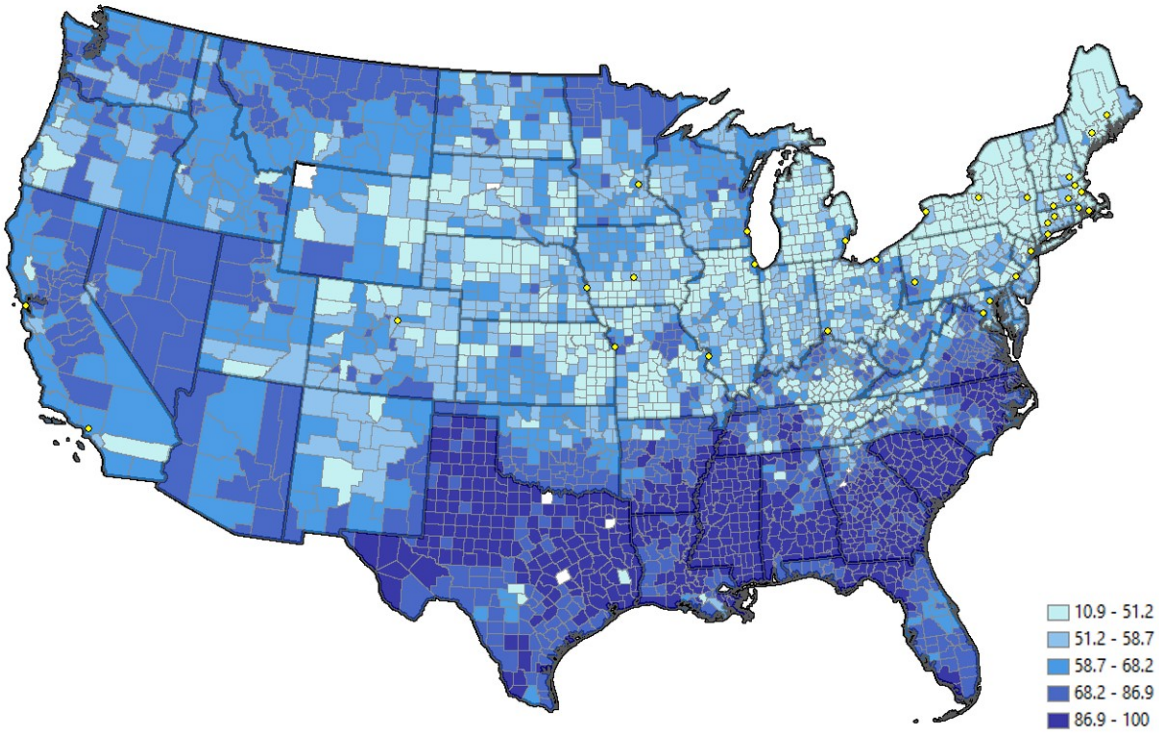
Notes - Data are drawn from the ICPSR 2896 data set (Haines and ICPSR, 2010). Darker colors represent higher shares of Catholics.

Figure A6: Percent of Families with a Radio, 1936



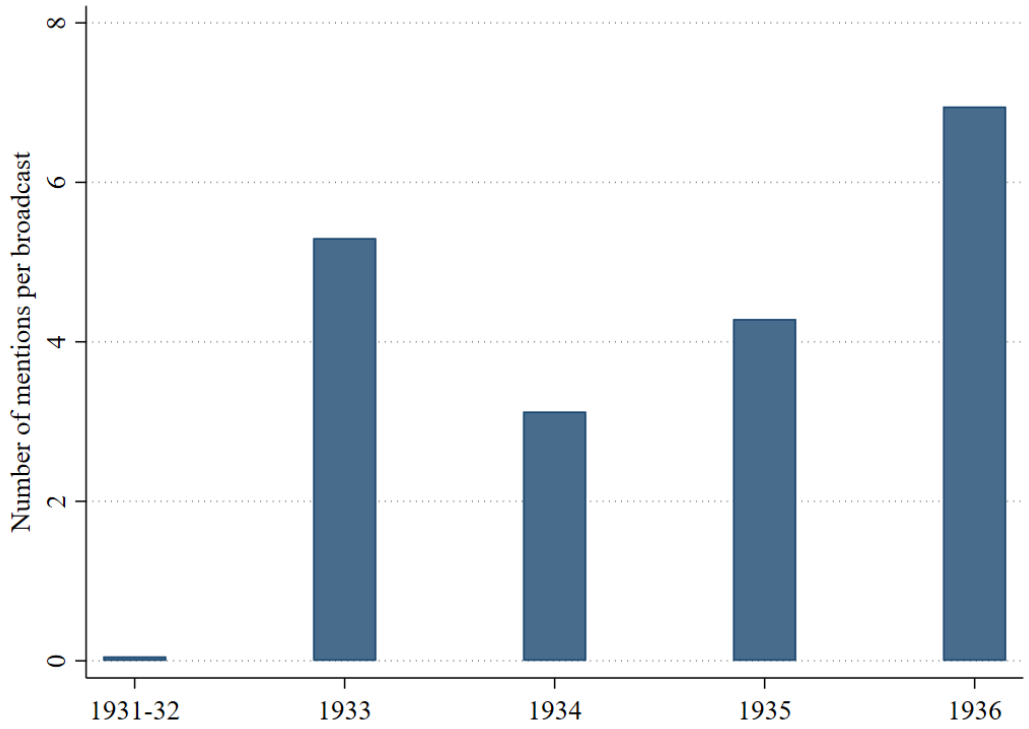
Notes - Data are drawn from the 1936 *Broadcasting Yearbook* (Broadcasting Publications, Inc., 1936).

Figure A7: FDR's Vote Shares (Percentage Points) in the 1936 Presidential Election



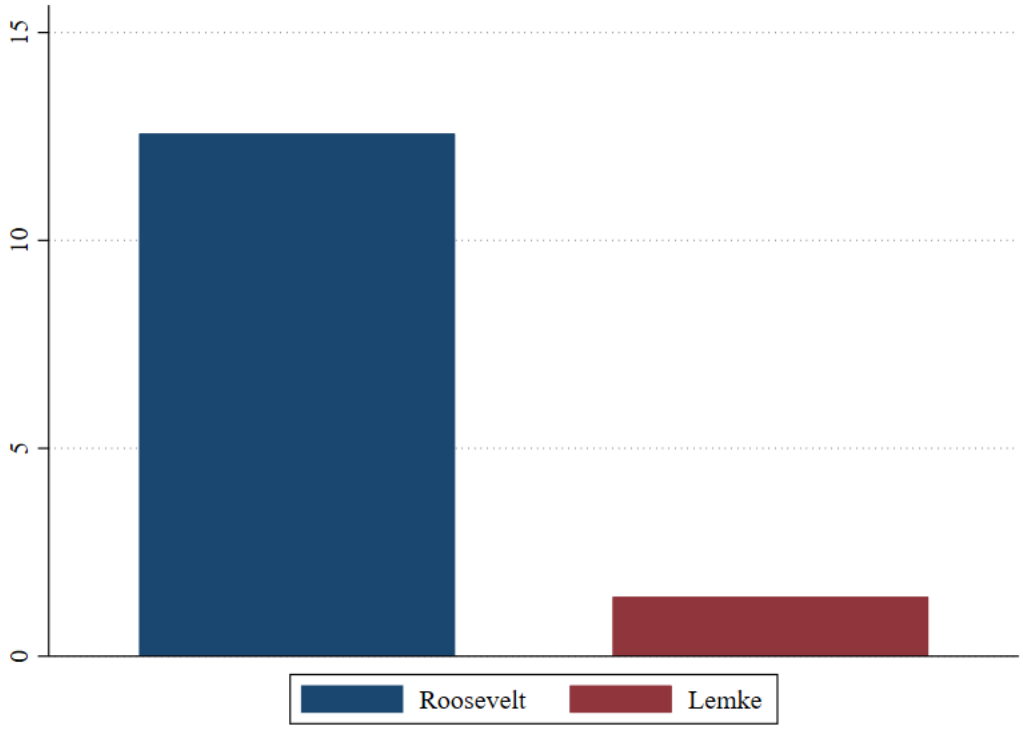
Notes - Data are drawn from the ICPSR 8611 data set (Clubb et al., 2006).

Figure A8: Mentioning of "Roosevelt" in Coughlin's Broadcasts, 1931-1936



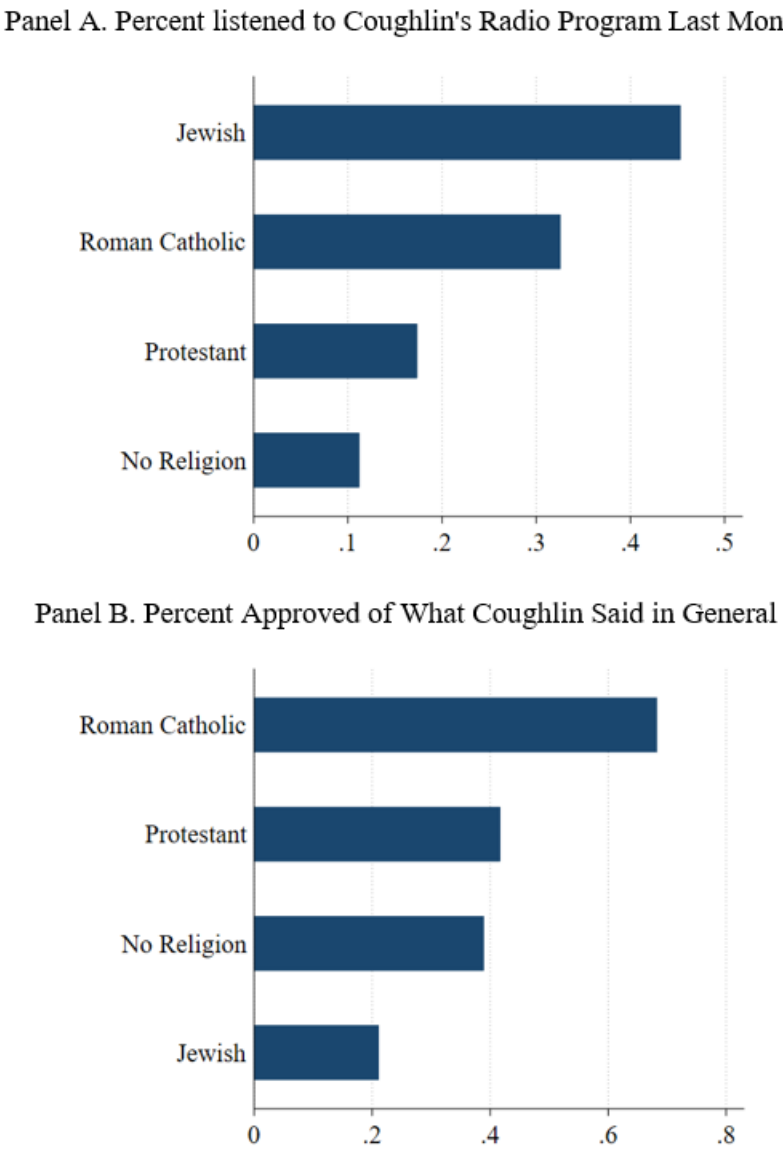
Notes - This figure shows the average number of times Coughlin mentioned the name "Roosevelt" in each broadcast during 1931-1936. Data are drawn from Father Coughlin's radio transcripts (Coughlin, 1936a) accessed from the University of Detroit Mercy Archives.

Figure A9: Mentioning of "Roosevelt" and "Lemke" in Coughlin's Broadcasts, September-October 1936



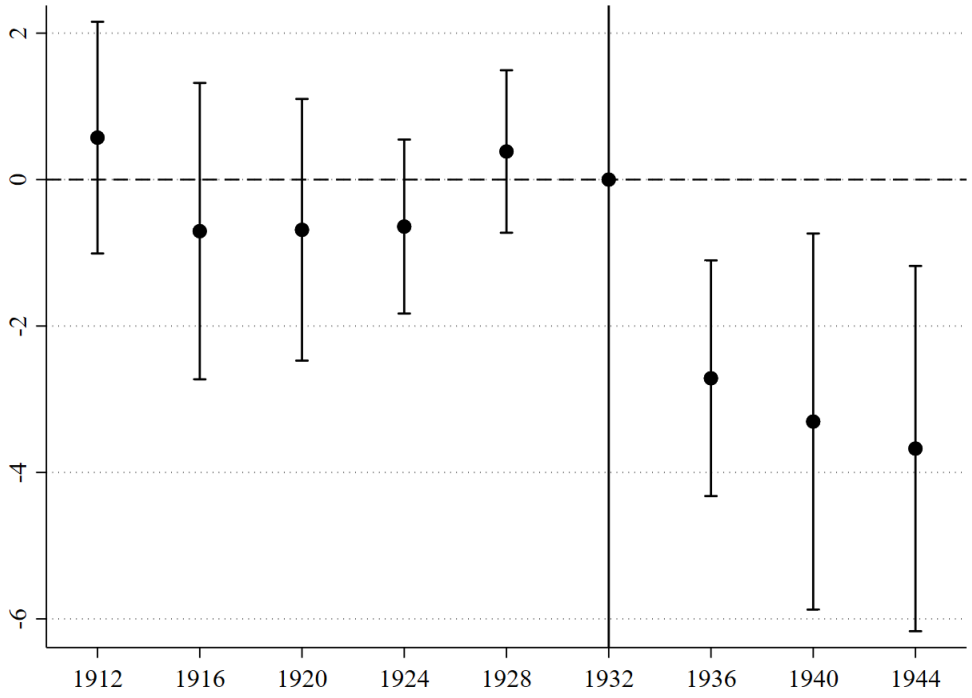
Notes - This figure shows the average number of times Coughlin mentioned the names "Roosevelt" and "Lemke" in each broadcast in the months before the 1936 presidential election. Data are drawn from Father Coughlin's radio transcripts (Coughlin, 1936b) from September 12, 1936, the first broadcast since the Union Party was formed during the summer and Lemke nominated as its candidate, to October 24, 1936, the last recorded broadcast before the 1936 election. The radio transcripts of Father Coughlin are accessed from the University of Detroit Mercy Archive.

Figure A10: Coughlin's Listenership and Approval Ratings by Religious Affiliation, December 1938



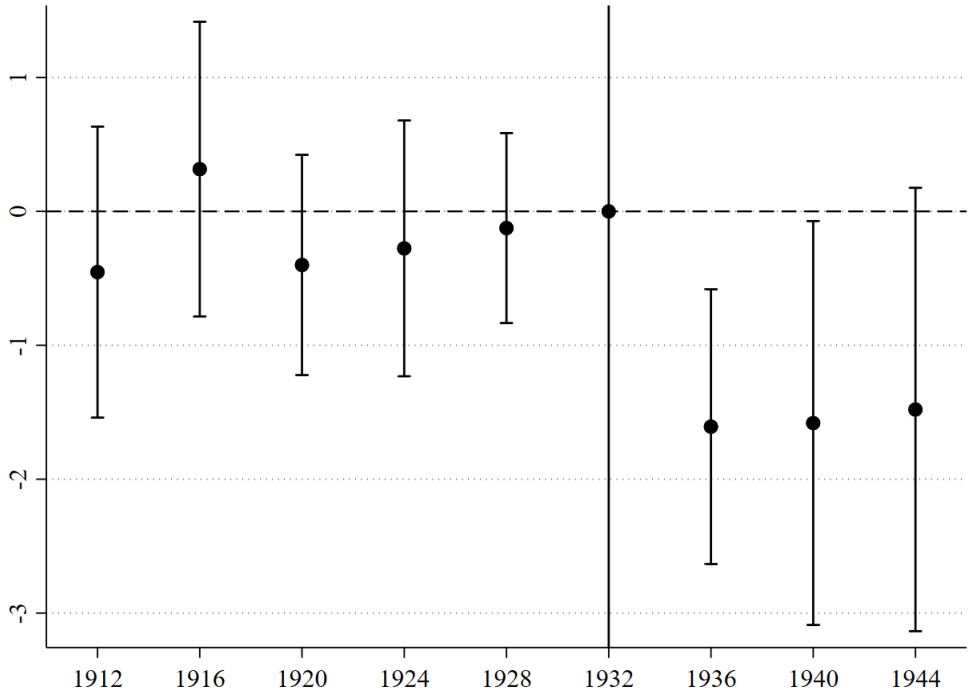
Notes - Data are drawn from the December 1938 Gallup Poll (Gallup Organization, 1938b), accessed from the Roper Center for Public Opinion Research: `https://ropercenter.cornell.edu/`. The approval ratings shown in Panel B are based on all surveyed individuals and not only those who listened to Coughlin last month.

Figure A11: Impact of Coughlin Exposure on Democratic Vote Shares (Event Study)



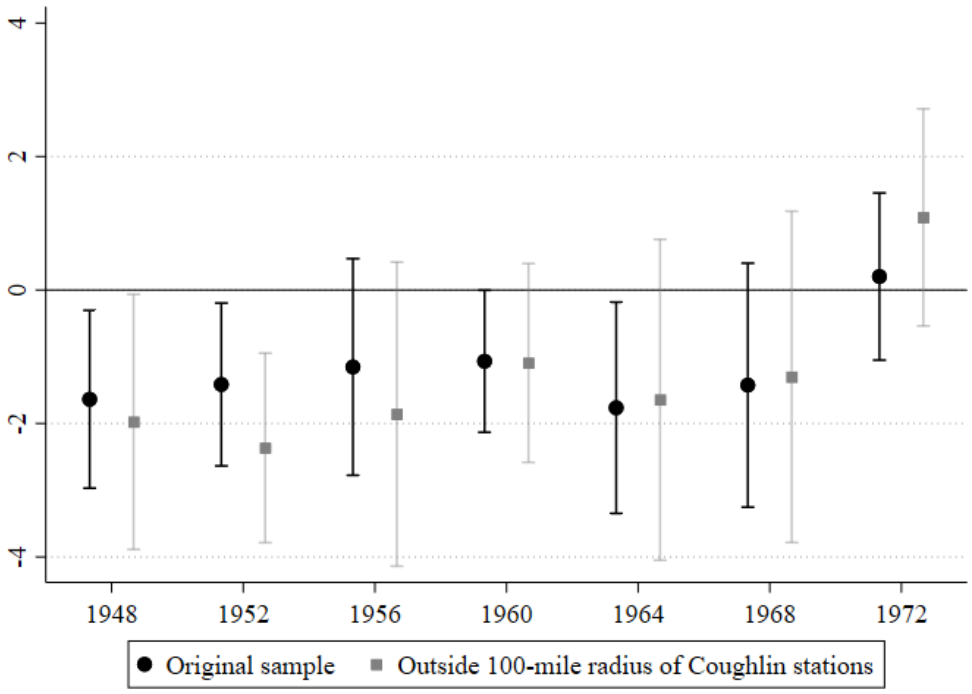
Notes - This figure plots the event study estimates of exposure to Father Coughlin's radio program in 1936 on Democratic vote shares in presidential elections during 1912-1944. The estimates come from a single OLS regression following an alternative version of equation (2), in which $Post_t$ is replaced with year dummies, with the year of 1932 as the omitted category. The sample consists of all counties outside of the geographic South. The outcome variable is the Democratic vote share in each presidential election. The explanatory variables are the signal strength of Coughlin's radio program in 1936 interacted with year dummies. Each regression controls for county fixed effects, state-by-year fixed effects, and baseline county characteristics ($SignalFree$, geographic, socioeconomic, and past voting controls) interacted with year dummies. Standard errors are corrected for clustering at the state level. The dots are the estimated coefficients and the vertical lines represent the 95% confidence intervals.

Figure A12: Impact of Coughlin Exposure on Democratic Vote Shares in Counties with More Catholics (Event Study)



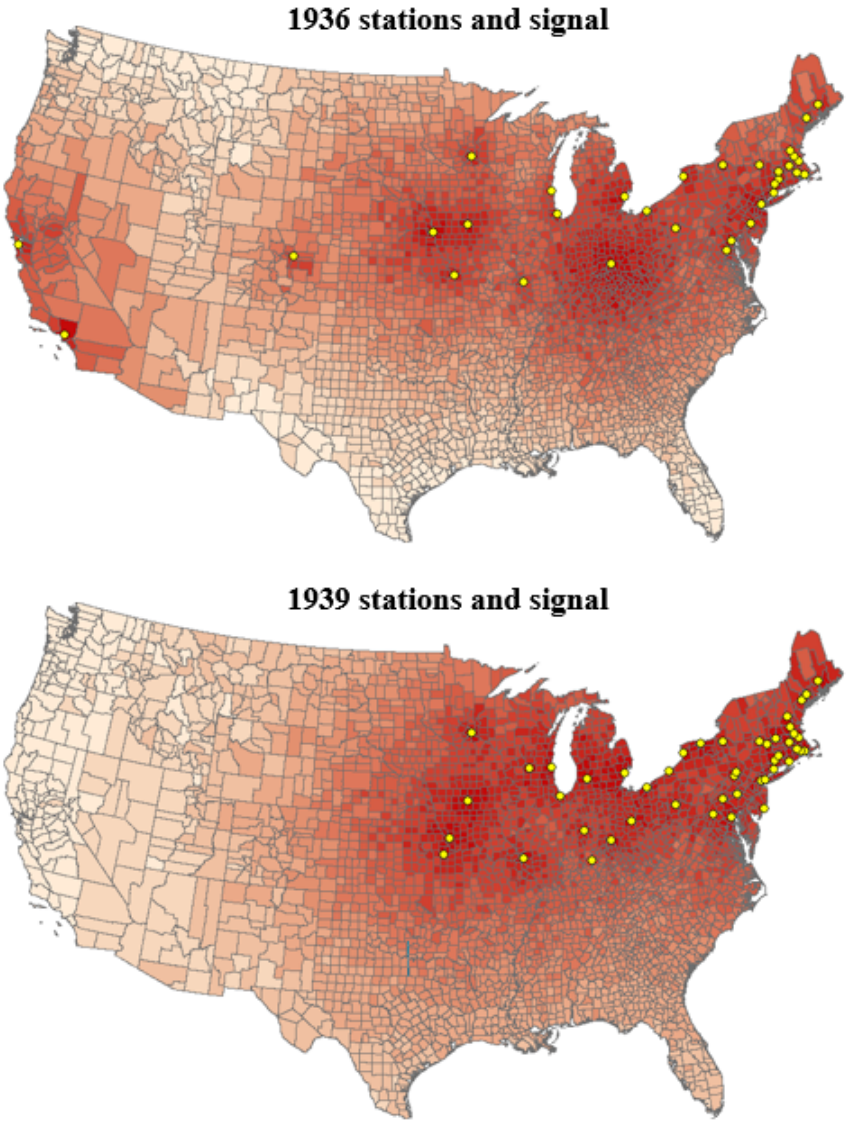
Notes - This figure plots the event study estimates corresponding to the triple-difference specification used in Table A6, where the coefficient on $Signal \times Catholic$ is allowed to vary over time. Specifically, the $Post_t$ dummy in the triple-difference specification is replaced with year dummies, with the year of 1932 as the omitted category. The sample consists of all counties outside of the geographic South. The outcome variable is the Democratic vote share in each presidential election. The explanatory variables are $Signal \times Catholic$ interacted with year dummies. Each regression controls for county fixed effects, state-by-year fixed effects, and baseline county characteristics ($SignalFree$, geographic, socioeconomic, and past voting controls) interacted with year dummies. Standard errors are corrected for clustering at the state level. The dots are the estimated coefficients and the vertical lines represent the 95% confidence intervals.

Figure A13: Long-Run Estimates from the Original Sample and the Subsample of Counties Further Away from Coughlin's Stations



Notes - This figure shows the estimated effects of exposure to Father Coughlin's broadcast in 1936 on Democratic vote shares in each presidential elections between 1948 and 1972. The estimates shown in black are for all counties outside of the geographic South (i.e., the original sample), while the estimates shown in grey are for the subsample of these counties that were more than 100 miles away from any of Coughlin's 1936 radio stations. The estimates come from separate OLS regressions following equation (1) with the Democratic vote share in each presidential election as the outcome variable. The explanatory variable is the signal strength of Coughlin's radio program in 1936. Each regression includes all baseline controls as in column 5 of Table 3. Standard errors are corrected for clustering at the state level. The dots are the estimated coefficients and the vertical lines represent the 95% confidence intervals.

Figure A14: Comparing Exposure to Coughlin in 1936 and 1939



Notes - This figure shows the predicted signal strengths of Father Coughlin's radio program in 1936 and 1939. The dots are the location of Coughlin's radio stations, and darker colors represent stronger signals. Data on Coughlin's radio network in each year are drawn from the *Broadcasting* magazines (the November 1, 1935 issue and the July 1, 1939 issue) and the *Broadcasting Yearbooks* (Broadcasting Publications, Inc., 1936, 1939). Signal strength is calculated based on the Irregular Terrain Model (ITM).

Table A1: Full Baseline Specification Adjusting for Spatial Correlation in Error Terms

	Outcome: FDR's vote share, 1936							
	Spatially-corrected standard errors (Conley, 1999)						Clustering level	
	25km	50km	100km	200km	300km	400km	state	station
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Signal	-2.399	-2.399	-2.399	-2.399	-2.399	-2.399	-2.399	-2.399
	(0.411)	(0.489)	(0.532)	(0.556)	(0.606)	(0.641)	(0.586)	(0.675)
							[0.000]	[0.003]
Number of clusters							37	29
Observations	1,978	1,978	1,978	1,978	1,978	1,978	1,978	1,978

Notes - This table shows the full baseline specification (column 5 of Table 3) with alternative ways of adjusting for spatial correlation in error terms. In columns 1-6, I allowing for spatial correlation in error terms following Conley (1999)'s approach with different distance cutoffs. Column 7 shows the baseline estimate, with the p-value calculated from the wild cluster bootstrap method based on 1,000 replications reported in bracket. Column 8 clusters the standard errors at Coughlin's station level, again with the p-value calculated from the wild cluster bootstrap method based on 1,000 replications reported in bracket.

Table A2: Coughlin Exposure Interacted with a Continuous Measure of Catholic Population

	Vote Shares in 1936 for		
	FDR (Dem.)	Landon (Rep.)	Lemke (Union)
	(1)	(2)	(3)
Signal × Catholic	-0.814	-0.046	0.924
	(0.205)	(0.164)	(0.197)
Signal	-2.223	1.986	0.225
	(0.597)	(0.607)	(0.379)
Catholic	-0.828	0.279	0.772
	(0.292)	(0.172)	(0.247)
Observations	1,978	1,978	1,646
Full baseline controls	Yes	Yes	Yes
R^2	0.820	0.854	0.672
Mean of Dep. Var.	56.95	40.34	2.70
Std. Dev. of Dep. Var.	11.45	11.77	3.71

Notes - This table shows the interactive effect between exposure to Coughlin and the population share of Roman Catholics on voting in the 1936 presidential election. The table follows the same specification as in Panel A of Table 4, except here *Catholic* is a continuous variable (share of population) and has been standardized to have a mean of 0 and a standard deviation of 1.

Table A3: Effects of Coughlin in Counties with More Radio Listeners

	Vote Shares in 1936 for		
	FDR (Dem.)	Landon (Rep.)	Lemke (Union)
	(1)	(2)	(3)
Signal × Radio	-0.923	0.416	0.484
	(0.421)	(0.465)	(0.182)
Signal	-1.845	1.726	0.135
	(0.611)	(0.607)	(0.354)
Radio	0.096	-0.088	-0.000
	(0.036)	(0.036)	(0.012)
Observations	1,978	1,978	1,646
Full baseline controls	Yes	Yes	Yes
R^2	0.819	0.854	0.645
Mean of Dep. Var.	56.95	40.34	2.70
Std. Dev. of Dep. Var.	11.45	11.77	3.71

Notes - This table shows the interactive effect between exposure to Coughlin and radio ownership on voting in the 1936 presidential election. Each column represents the results from a separate OLS regression where each observation is a county. The sample consists of all counties outside of the geographic South. The outcome variables are the 1936 vote shares for FDR (column 1), Landon (column 2), and Lemke (column 3). *Signal* is the signal strength of Coughlin's radio program in 1936. *Radio* is the share of families that owned radio in 1930 and has been standardized to have a mean of 0 and a standard deviation of 1. Each regression controls for all the baseline controls as in column 5 of Table 3. Standard errors, shown in parentheses, are corrected for clustering at the state level.

Table A4: Persuasion Rates from Previous Studies

Paper	Treatment	Outcome	Persuasion Rate
Gerber and Green (2000)	Door-to-door get-out-the-vote (GOTV) canvassing	Congressional election turnout in New Haven, 1998	15.6%*
Gentzkow (2006)	Exposure to television	Congressional election turnout in the U.S. during 1940-1970	4.4%*
DellaVigna and Kaplan (2007)	Availability of Fox News	Republican vote share in U.S. presidential elections, 1996-2000	11.6%*
Gerber et al. (2009)	10-week subscription to the Washington Post	Democratic vote share in the 2005 Virginia governor election	19.5%*
Chiang and Knight (2011)	Surprising endorsement for Al Gore for president by the *Denver Post*	Voters' stated intentions to vote for Gore in the 2000 U.S. presidential election	6.5%*
Gentzkow et al. (2011)	Entry of a newspaper to a county without one	Presidential election turnout in the U.S., 1868-1928	12.8%
Enikolopov et al. (2011)	Exposure to the independent anti-Putin TV station NTV	Vote share of Putin's party in the 1999 Russian parliamentary election	65.4%
Falck et al. (2014)	Internet access	Voter turnout in Germany during 2004-2008	10.9%
DellaVigna et al. (2014)	Exposure to cross-border nationalistic Serbian radio	Vote share of extremely nationlistic parties in the 2007 Croatian parliamentary election	3-4%
Adena et al. (2015)	Exposure to pro-Weimar government radio	Voting against extremist parties in the September 1930 German parliamentary election	36.8%
	Exposure to Nazi radio propaganda	Nazi Party's vote share in the March 1933 German parliamentary election	8.9%
Martin and Yurukoglu (2017)	Exposure to Fox News	Republican vote share in U.S. presidential elections, 2000-2008	58% (2000), 27-28% (2004-2008)
Campante et al. (2018)	Internet access	Voter turnout in national elections in Italy during 1996-2008	18%
Fujiwara et al. (2020)	Availability of Twitter	Democratic vote share in the 2016 U.S. presidential election	8.6%
Xiong (Forthcoming)	Exposure to Ronald Reagan's TV show in the 1950s	Reagan's vote share in the 1980 presidential election	11.8%

Notes - * denotes persuasion rate estimates from DellaVigna and Gentzkow (2010).

Table A5: Exposure to Coughlin and Consumption of Other Media, 1939

	Listen to news broadcasts regularly	Read daily newspapers regularly
	(1)	(2)
Signal	-0.297	-0.148
	(0.066)	(0.068)
Observations	2,460	2,493
SignalFree	Yes	Yes
Individual controls	Yes	Yes
State controls	Yes	Yes
Region FE	Yes	Yes
R^2	0.060	0.126
Mean of Dep. Var.	0.629	0.806
Std. Dev. of Dep. Var.	0.483	0.396

Notes - This table shows the estimated effects of exposure to Father Coughlin's radio program in 1939 on individual consumption of news media based on the Gallup Poll in the week of April 2, 1939. Each column represents the results from a separate OLS regression, where each observation is an individual. The sample consists of all surveyed individuals from outside of the geographic South. The outcome variables are dummy variables that equal 1 if the respondent listened to news broadcasts regularly (column 1) and read daily newspapers regularly (column 2). The explanatory variable is the signal strength of Coughlin's radio program in 1939 at the state-level (averaged across counties with 1930 county population as weights). $SignalFree$ is the "free space" signal at the state-level (averaged across counties with 1930 county population as weights). Region fixed effects are dummies for the Northeast, the Midwest, the South, and the West. Individual controls include gender, race, age and age squared, occupation (dummies for professional, white collar, labor, unemployed, and other), and an indicator for whether the respondent lived in a large city with more than 100,000 people. State controls include the natural log of population, population share of urban, share of Catholics, average elevation, and average ruggedness. Regressions are weighted by individual weights provided in the Gallup Poll data. Standard errors, shown in parentheses, are corrected for clustering at the state level.

Table A6: Estimates from a Triple-Difference Specification, 1932-1936 Panel

	Vote Shares in Presidential Elections for		
	FDR (Dem.)	Rep.	Others
	(1)	(2)	(3)
Signal × Post × Catholic	-1.608	0.356	1.252
	(0.507)	(0.373)	(0.329)
Signal × Post	-2.288	2.195	0.094
	(0.828)	(0.735)	(0.357)
Catholic × Post	-0.338	0.226	0.113
	(0.701)	(0.479)	(0.402)
Observations	3,956	3,956	3,956
County FE	Yes	Yes	Yes
State-by-Year FE	Yes	Yes	Yes
Baseline controls $\times Post$	Yes	Yes	Yes
R^2	0.949	0.965	0.834
Mean of Dep. Var.	57.66	39.85	2.49
Std. Dev. of Dep. Var.	11.36	11.49	3.04

Notes - This table shows the estimates from a triple-difference specification that builds on equation (2), where $Signal \times Post$ is allowed to vary by Catholic population share. Each column represents the results from a separate OLS regression on the 1932-1936 panel, where each observation is a county-year. The sample consists of all counties outside of the geographic South. The outcome variables are the vote shares for FDR (column 1), the Republican Party (column 2), and other parties (column 3) in each year's presidential election. *Signal* is the signal strength of Coughlin's radio program in 1936. *Post* is a dummy variable that equals 1 for the year of 1936 and 0 for the year of 1932. *Catholic* is a dummy variable that equals 1 if the county's population share of Roman Catholics was in the top quartile of the distribution and 0 otherwise. Each regression controls for county fixed effects, state-by-year fixed effects, and the interactions between each of the baseline county characterstics ($SignalFree$, socioeconomic, geographic, and past electoral outcomes) and *Post*. Standard errors, shown in parentheses, are corrected for clustering at the state level.

Table A7: Exposure to Coughlin and the 1936 House Election

	Vote shares in the 1936 House election for		
	Dem.	Rep.	Others
	(1)	(2)	(3)
Signal	-2.290	1.835	0.456
	(0.538)	(0.540)	(0.324)
Observations	1,816	1,816	1,816
Baseline county controls	Yes	Yes	Yes
Congressional district FE	Yes	Yes	Yes
Past House electoral controls	Yes	Yes	Yes
R^2	0.927	0.903	0.977
Mean of Dep. Var.	49.70	43.57	6.74
Std. Dev. of Dep. Var.	17.25	14.67	18.06

Notes - This table shows the estimated effects of exposure to Coughlin on voting in the 1936 House election. Each column represents the results from a separate OLS regression where each observation is a county. The sample consists of all counties outside of the geographic South. The outcome variables are the 1936 vote shares for the Democratic Party (column 1), the Republican Party (column 2), and other parties (column 3). The explanatory variable is the signal strength of Coughlin's radio program in 1936. Each regression controls for all the baseline county controls as in column 5 of Table 3, congressional district fixed effects, and past House election outcomes, which include the average vote shares of the Democratic Party and of the Republican Party as well as average voter turnout in House elections during 1920-1932. Standard errors, shown in parentheses, are corrected for clustering at the congressional district level.

Table A8: Robustness Checks on Baseline Results

	Outcome: FDR's Vote Share in the 1936 Election					
	Binary variable (1)	Drop counties near stations (2)	Control SignalFree flexibly (3)	Control New Deal spending (4)	Whole country (5)	Population weighted (6)
Signal		-2.360	-2.578	-2.122	-1.443	-2.156
		(0.704)	(0.605)	(0.516)	(0.869)	(0.772)
I(Signal $\geq$ median)	-1.428					
	(0.431)					
Observations	1,978	1,198	1,978	1,977	3,024	1,978
R^2	0.816	0.812	0.819	0.826	0.908	0.833
Full baseline controls	Yes	Yes	Yes	Yes	Yes	Yes
Mean of Dep. Var.	56.95	58.88	56.95	56.95	66.15	56.95
Std. Dev. of Dep. Var.	11.45	11.53	11.45	11.45	17.97	11.45

Notes - This table shows the robustness checks on the baseline results. Each column represents the results from a separate OLS regression following equation (1), where each observation is a county. The sample consists of all counties outside of the geographic South, except in column 5. The outcome variable is FDR's vote share in the 1936 presidential election. The explanatory variable is the signal strength of Coughlin's radio program in 1936. In column 1, I measure signal strength using a binary variable, which equals 1 if the signal strength is above median and 0 otherwise. In column 2, I drop counties within 100 miles of any of Coughlin's stations in 1936. In column 3, I also control for the square and the cube of the hypothetical signal strength in free space ($SignalFree$). In column 4, I add controls for county-level per capita New Deal grant, relief, and loans, all measured in natural logs. In column 5, I include counties from the geographic South in the sample. In column 6, I weight the baseline regression with county population. Each regression controls for all the baseline controls as in column 5 of Table 3. Standard errors, shown in parentheses, are corrected for clustering at the state level.

Table A9: Placebo and Robustness Tests on the Effects on Anti-Semitism

	Friends of New Germany, 1934		German-American Bund, 1940	
	(1)	(2)	(3)	(4)
Signal	0.018	0.035	0.117	0.105
	(0.027)	(0.036)	(0.044)	(0.039)
Observations	743	736	736	736
State FE & city controls	Yes	Yes	Yes	Yes
County controls		Yes	Yes	Yes
Friends of New Germany control				Yes
R^2	0.395	0.449	0.413	0.435
Mean of Dep. Var.	0.019	0.019	0.058	0.058
Std. Dev. of Dep. Var.	0.136	0.137	0.235	0.235

Notes - This table provides placebo and robustness tests on Coughlin's effects on anti-Semitism. Each column represents the results from a separate OLS regression following equation (1), where each observation is a city. The sample consists of all identifiable cities in the 1930 Census that were outside of the geographic South and had a population above 10,000. The outcome is a binary variable that equals 1 if a city had a branch of the Friends of New Germany in 1934 for columns 1-2, and it is a binary variable that equals 1 if a city had a branch of German-American Bund in 1940 for columns 3-4. The explanatory variable is the signal strength of Coughlin's radio program in 1939. Each regression controls for state fixed effects, the signal in free space, geographic, and socioeconomic controls as in column 3 of Table 7 (Panel B). County controls are the same baseline county socioeconomic and past electoral characteristics as in column 5 of Table 3. Column 4 further controls for whether a city had a local branch of the Friends of New Germany in 1934. Standard errors, shown in parentheses, are corrected for clustering at the state level.

Table A10: Signal Strength and Coughlin Listenership before the 1936 Election

	Outcome = 1 if Respondent Listened to Coughlin Regularly before 1936 Election			
	(1)	(2)	(3)	(4)
Signal	0.136	0.108	0.108	0.121
	(0.051)	(0.034)	(0.033)	(0.029)
Observations	2,447	2,447	2,447	2,447
SignalFree	Yes	Yes	Yes	Yes
Region fixed effects		Yes	Yes	Yes
Individual controls			Yes	Yes
State controls				Yes
R^2	0.017	0.029	0.065	0.069
Mean of Dep. Var.	0.305	0.305	0.305	0.305
Std. Dev. of Dep. Var.	0.461	0.461	0.461	0.461

Notes - This table shows the estimated effects of Coughlin's radio signal strength on his listenership before the 1936 election. Each column represents the results from a separate OLS regression, where each observation is an individual respondent in the Gallup Poll of April 1938. The sample consists of all respondents outside of the geographic South. The outcome is a binary variable that equals 1 if the respondent listened to Father Coughlin's radio program regularly before the 1936 election and 0 otherwise. The explanatory variable is the signal strength of Coughlin's radio program in 1936 averaged to the state-level with 1930 county population as weights. $SignalFree$ is the "free space" variable averaged to the state-level with 1930 county population as weights. Region fixed effects are dummies for the Northeast, the Midwest, the South, and the West. Individual controls include gender, race, age and age squared, occupation (dummies for professional, white collar, labor, unemployed, and other), and an indicator for whether the respondent lived in a large city with more than 100,000 people. State controls include the natural log of population, population share of urban, share of Catholics, average elevation, and average ruggedness. Regressions are weighted by individual weights provided in the Gallup Poll data. Standard errors, shown in parentheses, are corrected for clustering at the state level.

Table A11: Matching Neighboring County Pairs with Increasingly Similar *SignalFree*

	FDR's vote share in 1936		
	Matching neighbors ($q \geq 0.5$)		
	$\Delta \leq 0.5$	$\Delta \leq 0.25$	$\Delta \leq 0.1$
	(1)	(2)	(3)
Signal	-1.700	-1.532	-2.119
	(0.579)	(0.634)	(0.792)
Observations	586	488	296
Neighbor-pair FE	Yes	Yes	Yes
Geographic controls	Yes	Yes	Yes
Socioeconomic controls	Yes	Yes	Yes
Past electoral controls	Yes	Yes	Yes
R^2	0.941	0.943	0.946
Mean of Dep. Var.	58.46	59.09	59.80
Std. Dev. of Dep. Var.	11.68	11.56	10.99

Notes - This table shows the estimates from comparing pairs of neighboring counties, i and j, such that $\mid Signal_i - Signal_j \mid \geq 0.5$ and $\mid SignalFree_i - SignalFree_j \mid \leq \Delta$ for values of Δ indicated above each column. The sample consists of such neighboring county pairs from the same state outside of the geographic South. Each column represents the results from a separate OLS regression, where each observation is a county. The outcome variable is FDR's vote share in the 1936 presidential election. The explanatory variable is the signal strength of Coughlin's radio program in 1936. Each regression controls for neighbor-pair fixed effects as well as the baseline socioeconomic, geographic, and past electoral controls as in column 5 of Table 3. Standard errors, shown in parentheses, are corrected for clustering at the neighbor-pair level.

Table A12: Balance Tests for Neighboring County Pairs

	(1)	(2)	(3)	(4)
		Matching neighbors		
	Mean	$\Delta \leq 0.5$	$\Delta \leq 0.25$	$\Delta \leq 0.1$
ln(Population)	9.829	-0.132	-0.156	-0.144
	(1.137)	(0.090)	(0.100)	(0.132)
% Male	52.169	0.245	0.117	-0.007
	(2.396)	(0.200)	(0.210)	(0.264)
% Native whites	87.539	0.215	0.411	-0.026
	(11.415)	(0.748)	(0.843)	(1.109)
% Foreign-born whites	6.935	-0.416	-0.660	-1.011
	(6.328)	(0.375)	(0.405)	(0.558)
% Blacks	3.413	-0.433	-0.318	-0.132
	(8.953)	(0.217)	(0.211)	(0.302)
% Urban	24.338	-2.842	-1.861	-3.749
	(27.526)	(2.672)	(2.965)	(3.718)
% Age > 65	6.647	0.272	0.229	-0.062
	(2.139)	(0.151)	(0.159)	(0.184)
% Catholics	10.819	0.910	0.810	1.248
	(12.051)	(1.002)	(1.100)	(1.445)
% Illiterate	2.414	-0.020	0.050	0.373
	(2.804)	(0.215)	(0.231)	(0.283)
% Unemployed	6.686	-1.340	-0.928	-0.427
	(4.929)	(0.580)	(0.609)	(0.634)
Occscore	7.344	-0.032	-0.113	-0.163
	(1.825)	(0.168)	(0.188)	(0.237)
% Radio owners	34.718	1.675	0.874	-0.236
	(15.002)	(0.674)	(0.710)	(0.952)
% Manufacturing workers	12.036	-3.298	-2.879	-1.577
	(12.121)	(0.874)	(0.954)	(1.142)
% Agricultural workers	42.080	3.113	2.754	0.555
	(21.734)	(1.976)	(2.255)	(2.788)
ln(Average farm size)	7.457	0.075	0.070	-0.022
	(0.931)	(0.053)	(0.060)	(0.084)
ln(Land value per acre)	3.528	-0.044	-0.074	0.003
	(0.909)	(0.055)	(0.061)	(0.085)
% Tenant acres	27.561	-1.686	-1.283	-1.525
	(15.493)	(0.747)	(0.850)	(1.027)
% Voted Democrat (past)	33.323	0.736	0.931	0.583
	(13.014)	(0.594)	(0.665)	(0.766)
% Voted Republican (past)	58.406	-0.200	-0.420	0.546
	(10.998)	(0.714)	(0.761)	(0.843)
% Turnout (past)	62.029	0.866	0.793	0.690
	(13.606)	(0.597)	(0.672)	(0.841)

Notes - The table reports the mean of county characteristics (column 1) and their correlation with *Signal* (columns 2-4) for the sample of neighboring county pairs used in Table A11. Specifically, columns 2-4 compare variables between neighboring same-state county pairs whose *Signal* were at least 0.5 standard deviation apart but whose differences in $SignalFree$ were below 0.5, 0.25, and 0.1 standard deviations, respectively. I regress each variable on *Signal*, controlling for neighbor-pair fixed effects and the baseline county geographic characteristics (area, elevation, ruggedness, and their squared terms). Standard errors, shown in parentheses, are corrected for clustering at the neighbor-pair level.

Table A13: Matching Neighboring County Pairs with Increasingly Larger Differences in *Signal*

	FDR's vote share in 1936				
	Matching neighbors ($\Delta \leq 0.1$)				
	$q \geq 0.1$	$q \geq 0.2$	$q \geq 0.3$	$q \geq 0.4$	$q \geq 0.5$
	(1)	(2)	(3)	(4)	(5)
Signal	-1.013	-1.022	-1.107	-1.628	-2.119
	(0.471)	(0.503)	(0.569)	(0.644)	(0.792)
Observations	3,308	2,078	1,172	616	296
Neighbor-pair FE	Yes	Yes	Yes	Yes	Yes
Geographic controls	Yes	Yes	Yes	Yes	Yes
Socioeconomic controls	Yes	Yes	Yes	Yes	Yes
Past electoral controls	Yes	Yes	Yes	Yes	Yes
R^2	0.937	0.934	0.932	0.935	0.946
Mean of Dep. Var.	57.69	58.07	58.28	59.48	59.80
Std. Dev. of Dep. Var.	11.22	11.17	11.30	11.11	10.99

Notes - This table shows the estimates from comparing pairs of neighboring counties, i and j, such that $\mid SignalFree_i - SignalFree_j \mid \leq 0.1$ and $\mid Signal_i - Signal_j \mid \geq q$ for values of q indicated above each column. The sample consists of such neighboring county pairs from the same state outside of the geographic South. Each column represents the results from a separate OLS regression, where each observation is a county. The outcome variable is FDR's vote share in the 1936 presidential election. The explanatory variable is the signal strength of Coughlin's radio program in 1936. Each regression controls for neighbor-pair fixed effects as well as the baseline socioeconomic, geographic, and past electoral controls as in column 5 of Table 3. Standard errors, shown in parentheses, are corrected for clustering at the neighbor-pair level.

2 Appendix B: 16 Principles of the National Union of Social Justice

(Excerpted from Father Coughlin's broadcast on Sunday, November 11, 1934. Source: `https://www.ssa.gov/history/fcspeech.html` *)*

Establishing my principles upon this preamble, namely, that we are all creatures of a beneficent God, made to love and serve Him in this world and to enjoy Him forever in the next; and that all this world's wealth of field and forest, of mine and river has been bestowed upon us by a kind Father, therefore, I believe that wealth as we know it originates from the natural resources and from the labor which the sons of God expend upon these resources. It is all ours except for the harsh, cruel and grasping ways of wicked men who first concentrated wealth into the hands of a few, then dominated states and finally commenced to pit state against state in the frightful catastrophes of commercial warfare.

With this as a preamble, then, these following shall be the principles of social justice towards whose realization we must strive.

1. I believe in the right of liberty of conscience and liberty of education, not permitting the state to dictate either my worship to my God or my chosen avocation in life.

2. I believe that every citizen willing to work and capable of working shall receive a just and living annual wage which will enable him to maintain and educate his family according to the standards of American decency.

3. I believe in nationalizing those public necessities which by their very nature are too important to be held in the control of private individuals. By these I mean banking, credit and currency, power, light, oil and natural gas and our God-given natural resources.

4. I believe in private ownership of all other property.

5. I believe in upholding the right to private property yet in controlling it for the public good.

6. I believe in the abolition of the privately owned Federal Reserve Banking system and in the establishment of a Government-owned Central Bank.

7. I believe in rescuing from the hands of private owners the right to coin and regulate the value of money, which right must be restored to Congress where it belongs.

8. I believe that one of the chief duties of this Government-owned Central Bank is to maintain the cost of living on an even keel and the repayment of dollar debts with equal value dollars.

9. I believe in the cost of production plus a fair profit for the farmer.

10. I believe not only in the right of the laboring man to organize in unions but also in the duty of the Government which that laboring man supports to facilitate and to protect these organizations against the vested interests of wealth and of intellect.

11 . I believe in the recall of all non-productive bonds and thereby in the alleviation of taxation.

12. I believe in the abolition of tax-exempt bonds.

13. I believe in the broadening of the base of taxation founded upon the ownership of wealth and the capacity to pay.

14. I believe in the simplification of government, and the further lifting of crushing taxation from the slender revenues of the laboring class.

15. I believe that in the event of a war for the defense of our nation and its liberties, there shall be a conscription of wealth as well as a conscription of men.

16. I believe in preferring the sanctity of human rights to the sanctity of property rights. I believe that the chief concern of government shall be for the poor because, as it is witnessed, the rich have ample means of their own to care for themselves.

These are my beliefs. These are the fundamentals of the organization which I present to you under the name of the National Union for Social Justice. It is your privilege to reject or accept my beliefs; to follow me or repudiate me.

3 Appendix C: Content Analysis of Father Coughlin's Broadcasts

In this section, I conduct content analysis of Father Coughlin's broadcasts using his radio transcripts (Coughlin, 1936a) collected from the University of Detroit Mercy Archive, which to my knowledge contains the most comprehensive collection of Father Coughlin's radio transcripts. Because the radio transcripts came as scanned images, I used a professional Optical Character Recognition software (Abbyy FineReader) to convert the radio transcripts from PDF to text files to facilitate text analysis.[1]

Coughlin's Attitudes towards FDR, 1933 versus 1936

Previous historical work on Father Coughlin suggests that Coughlin strongly supported FDR during FDR's early presidency but completely switched that position by 1936. To provide supplemental evidence to the historical narratives, I compare the references that Coughlin made to FDR in his 1933 broadcasts with those in 1936. Specifically, I identify all the instances that Coughlin mentioned the name "Roosevelt" and manually classify each reference into one of three categories (positive, negative, or neutral) based on the immediate context of the reference, such as whether Coughlin was praising, criticizing, or simply stating a fact about FDR. I then calculate the share of the references that were positive, negative, and neutral in each year.

Using this approach, Figure A2 shows that in 1933 about 66% of the references that Coughlin made to FDR were positive (with 34% neutral and none negative). In contrast, in 1936, almost 80% of Coughlin's references to FDR were negative (with 20% neutral and none positive). The evidence from Coughlin's radio transcripts is therefore consistent with historical accounts about his changing attitudes towards FDR over time.

In addition, to have a better sense of what Father Coughlin said about

[1] Coughlin's radio transcripts from 1936 onwards were published in his weekly newspaper, *Social Justice*, which have also been digitized by the University of Detroit Mercy Archive. I am grateful to Andy Ferrara for sharing the OCR software.

FDR and the New Deal administration, I also present below a list of quotes from Father Coughlin from 1933 and 1936:

Coughlin's mentioning of FDR and the New Deal in 1933:

- "Therefore, your faith in our President must not be shaken [...] It is not possible to heal the wounds of a nation, to soothe its distracted soul in sixty days. Mr. Roosevelt is not a miracle man. But he is resolute and courageous. He has not forgotten his public vow which pledged him to a sound and an adequate money. He still remembers his sworn promise to drive the money-changers out of the Temple."

- "Roosevelt or ruin! Roosevelt or Morgan! Take your choice! Choose the one man behind whom we will follow to victory!"

- "If a Roosevelt therefore be condemned for seeking a financial method that will clothe the naked, feed the hungry, open the factories, weigh anchor for our ships and cultivate foreign markets, then imprison Galileo, put Columbus in chains, incarcerate Washington, lock Pasteur and Edison in padded cells—away with all the scientific experimentalists of the past and cling to the philosophy of the cave man!"

- "The eyes of the world are watching how you support the first and only President who has had the intestinal fortitude to tell Wall Street to go to the devil!"

- "March 4th, 1933! What a memorable day that was! It was the birthday of the "new deal". On that date a voice went ringing around the world announcing a new Declaration of Independence."

- "Soon, soon, shall the dawnlight of a new morning break upon us—a new morning of resurrection, when we shall rise glorious to triumph with the Prince of Peace. This is the hope of the new day and the "new deal"."

- "...this "new deal" which challenges the concentration of wealth in the hands of a few—the "new deal" which proposes to elevate human rights

above financial rights!"

Coughlin's mentioning of FDR and the New Deal in 1936:

- "Today, Mr. Roosevelt is the supreme lord of the Democratic party. In fact, he is the party."
- "Mr. Roosevelt not only accepts the open support of communists but his Democratic committees appoint them as electors in New York state!"
- "Fully cognizant of Mr. Roosevelt's excursions upon the highway of radicalism together with the communistic tendencies of those with whom he has surrounded himself, I cannot conscientiously proclaim that I am a Democrat of the present vintage."
- "I refer to those identical personages under Mr. Roosevelt's administration who are responsible for recognizing Soviet Russia, for congratulating murderous Mexico, for lending aid and comfort to communistic Spain, for utilizing American gold to sustain socialistic France—the same Roosevelt administration which, contrary to the precepts of sacred scripture, inaugurated a policy of destroy and devastate for the farmers of America, with the hope of producing prosperity therefrom."
- "The issue is not Roosevelt or Landon or Lemke; it is Christianity or chaos; America or communism."
- "The fact of the matter is this, the New Deal was the socialized Old Deal, in so far as it endeavored to bring about recovery without financial reform."
- "In other words, my friends, the new tax suggested by President Roosevelt is nothing more than Santa Claus in the disguise of the big, bad wolf bringing a premature present to his friendly bankers."
- "...I have opposed, I do oppose and I will oppose Mr. Roosevelt's unsound monetary policies and his failure to drive the moneychangers from the temple."

- "You have your choice: Follow the advice given in the editorial of the *Jewish Daily Forward* — the advice given to the socialist and bolsheviki— and vote for Roosevelt; or follow the instincts, the traditions and the precepts of your Americanism and Christianity and support the one platform which includes an annual wage, the restoration to congress of its rignt to coin and regulate the value of money, and the preservation of American democracy."

- "For the above reasons, I cannot reconcile my conscience to be silent. We must vote out of existence a New Deal administration which, pretending to be a friend of the poor, has been a friend to the bankers, professing to be a godsend to the American, has been a gold mine to the foreigner. Roosevelt or ruin has certainly proven itself to be Roosevelt and ruin to all save the international bankers."

- "But which of the presidential candidates will adopt these principles? Unfortunately, only one—the Impoverished leader of the impoverished Union Party. Not Mr. Roosevelt!"

- "George Washington, Thomas Jefferson and other true patriots have warned us against entangling foreign alliances. However, I suppose that the founding fathers of our country are as outmoded in the minds of the New Dealers as is the Constitution."

- "The Issue on November 3 is not between the Old Deal and the New Deal; not between Roosevelt and Landon; not between security for the poor and security for the rich. The real issue is between the international bankers and the American people; between peace and war."

4 Appendix D: Persuasion Rate

To calculate the persuasion rate of Father Coughlin's radio program, I follow previous studies (Enikolopov et al., 2011; DellaVigna et al., 2014; Adena et al., 2015) and use the following formula:

$$f = \frac{1}{-v_0 t_0}(t \cdot \frac{dv}{de} + v \cdot \frac{dt}{de}) = \frac{1}{-v_0 t_0} \cdot \frac{1}{\frac{de}{ds}}(t \cdot \frac{dv}{ds} + v \cdot \frac{dt}{ds}) \tag{1}$$

where v is the vote share of FDR, t is the turnout, and v_0 and t_0 are FDR's vote share and turnout in the absence of Father Coughlin's radio program. $\frac{de}{ds}$ is the effect of Coughlin's radio signal strength on his listenership. $\frac{dv}{ds}$ is the effect of Coughlin's radio signal strength on FDR's vote share (i.e., column 5 of Table 3 in the paper), and $\frac{dt}{ds}$ is the corresponding effect for turnout.

Column 8 of Table 3 suggests that exposure to Coughlin's radio program had little effect on turnout in the 1936 presidential election.[2] Therefore, I follow previous studies (DellaVigna et al., 2014; Adena et al., 2015) by taking $\frac{dt}{ds} = 0$ and setting $t_0 = t$ to calculate the persuasion rate. Hence, the persuasion rate formula is now simplified to become:

$$f = \frac{1}{-v_0 t_0} \cdot \frac{1}{\frac{de}{ds}}(t_0 \cdot \frac{dv}{ds} + v \cdot 0) = \frac{1}{-v_0} \cdot \frac{1}{\frac{de}{ds}}(\frac{dv}{ds}) \tag{2}$$

Next, to estimate $\frac{de}{ds}$, the effect of Coughlin's radio signal strength on his listenership, I combine data on signal strength with individual survey data from the Gallup Poll that measured Coughlin listenership. Specifically, the Gallup Poll of April 1938 asked each respondent whether he or she listened to Father Coughlin's radio program regularly before the 1936 election.[3] I use a binary variable that equals 1 if the respondent listened regularly to Coughlin's radio program before the 1936 election and 0 otherwise to measure listenership. While the Gallup Poll data reports the state for each respondent,

[2] Results are similar when looking at the change in turnout between 1932 and 1936.

[3] I obtain the Gallup Poll data from the Roper Center for Public Opinion Research (https://ropercenter.cornell.edu/). Specifically, the Gallup Poll of April 1938 asked its respondents "Have you listened recently to Father Coughlin's radio talks?", "Do you listen to him regularly?", and "Did you listen to him regularly before the 1936 election?".

the data unfortunately does not contain a county or city identifier, which prevents me from matching individuals to Coughlin's radio signal strength at the county-level. Therefore, to measure signal strengths, I compute them at the state-level, by taking weighted averages of county-level signal strengths (with 1930 county population as the weights). The results are similar if I do not use weight when taking the averages of signal strengths across counties.

Table A10 presents the results from individual-level regressions of Coughlin listenership on the signal strength. Column 1 of the table controls for only the "free space" variable, while in the next few columns I further control for region fixed effects, individual characteristics (gender, race, age and age squared, occupation, and whether the respondent lived in a large city with more than 100,000 people) and state characteristics (natural log of population, population share of urban, share of Catholics, average elevation, and average ruggedness). The estimates are robust and statistically significant across the different specifications. Based on column 4 of the table, which includes all the controls, a one standard deviation increase in Coughlin's radio signal strength increased his listenership by about 12.1 percentage points before the 1936 election. I therefore take $\frac{de}{ds} = 0.121$ to calculate the persuasion rate.

The last piece I need to calculate Father Coughlin's persuasion rate is v_0, which is FDR's vote share in the absence of Coughlin's radio program. To estimate v_0, I set the signal in each county to be the minimum signal strength observed in the sample and predict FDR's vote share following the baseline specification (column 5 of Table 3). Doing so returns a predicted value of $v_0 = 0.707$, suggesting that FDR would have obtained a vote share of 70.7 percent (instead of the observed 58.4 percent for my baseline sample) in 1936 in the absence of Coughlin's radio program.

Finally, combining the above information, I calculate the persuasion rate of Father Coughlin's anti-FDR broadcast in 1936 as:

$$f = \frac{1}{-v_0} \cdot \frac{1}{\frac{de}{ds}}(\frac{dv}{ds}) = \frac{1}{-0.707} \cdot \frac{1}{0.121}(-2.4) = 28.1\% \tag{3}$$

This suggests that about 28 percent of Father Coughlin's listeners were

convinced to vote against FDR in 1936 as a result of exposure to Coughlin's radio program. Moreover, I find that the standard error of the estimated persuasion rate is about 8.9 using the delta method.

Coughlin's Persuastion Rate in Places with More Catholics

While the above persuasion rate reflects Father Coughlin's persuasiveness on average, one may also be curious about his persuastion rate among Catholics. The challenge to calculate the persuasion rate among Catholics, however, is that neither the county-level voting data nor the Gallup Poll data on Coughlin's 1936 listenership contains information by religious denomination. I therefore estimate Coughlin's persuasion rate in predominantly Catholic counties as an alternative.

Specifically, consistent with Panel A of Table 4, I focus on the subset of counties in the top quartile of the distribution of Catholic population share. Similar to the baseline, I find that exposure to Coughlin also had no effect on turnout in this subset of highly Catholic counties. This suggests that I can again use the formula $f = \frac{1}{-v_0} \cdot \frac{1}{\frac{de}{ds}}(\frac{dv}{ds})$ to calculate the persuasion rate in this subset of counties. To obtain v_0, I follow the same steps as above and predict that FDR's 1936 vote share would have been 73.2 percent in this subset of highly Catholic counties had there been no exposure to Coughlin's radio program. I therefore take $v_0 = 0.732$. In addition, I estimate $\frac{de}{ds}$ using the Gallup Poll listenership data. While the listenership data does not contain each respondent's religious affiliation, I find that the effect of radio signal on Coughlin's listenership is not significantly different in states with more Catholics (i.e., by interacting *Signal* with state-level Catholic population share). I therefore use the same value of $\frac{de}{ds}$ from the above (i.e., $\frac{de}{ds} = 0.121$). Lastly, Panel A of Table 4 shows that $\frac{dv}{ds} = -1.34 - 2.05 = -3.39$. I therefore estimate Coughlin's persuasion rate in the subset of highly Catholic counties to be $f = \frac{1}{-0.732} \cdot \frac{1}{0.121}(-3.39) = 38.3\%$. Given this is Coughlin's persuasion rate in this subset of counties on average, the estimate is likely to be a lower bound of Father Coughlin's persuasion rate among Catholics.

5 Appendix E: Exploiting Spatial Discontinuity in Exposure to Father Coughlin

This section reports an empirical exercise to exploit the spatial discontinuity in exposure to Father Coughlin between neighboring county pairs. In particular, I conduct a similar exercise as in Durante et al. (2019) to match pairs of neighboring counties that were observationally similar (including having essentially the same signal strength in free space) but had larger differences in actual exposure to Father Coughlin's radio program.

Specifically, I compare voting outcomes between two neighboring counties, i and j , such that

$$\mid SignalFree_i - SignalFree_j \mid \leq \Delta \text{ and } \mid Signal_i - Signal_j \mid \geq q \quad (4)$$

for different values of Δ and q.[4] Thus, the comparison mimics an ideal experiment of exposing to Father Coughlin only one of two otherwise identical counties.

In Table A11, I focus on the sample of neighboring county pairs whose differences in $Signal$ were at least 0.5 standard deviation apart.[5] From column 1 to column 3 of the table, I gradually restrict the sample to neighboring county pairs with increasingly similar $SignalFree$ (i.e., from $\Delta \leq 0.5$ to $\Delta \leq 0.1$). Conditional on neighbor-pair fixed effects as well as the same set of baseline county geographic, socioeconomic, and pasting voting controls, I find that exposure to Father Coughlin consistently had a negative and statistically significant effect on FDR's vote share in 1936, despite the decreases in sample sizes. The effect size is of similar magnitude as in the baseline estimate, suggesting that a one standard deviation increase in exposure to Coughlin

[4]To be consistent with the rest of the empirical work, here $Signal$ and $SignalFree$ are also measured in standard deviations and the sample consists of only counties outside of the geographic South. I also focus on neighboring county pairs from the same state to make the comparison more similar, although the empirical results below are similar with or without this restriction.

[5]Results based on alternative cutoffs of q are qualitatively similar and available upon request.

reduced FDR's vote share by 1.5-2.1 percentage points.[6]

In Table A13, I instead focus on the sample of neighboring county pairs with little difference in $SignalFree$ ($\Delta \leq 0.1$) and examine the effects when the difference in actual exposure to Coughlin increases (from $q \geq 0.1$ to $q \geq 0.5$).[7] The point estimates suggest that a one standard deviation increase in exposure to Father Coughlin reduced FDR's vote share by about 1-2 percentage points; the effects are more pronounced among neighboring county pairs with larger differences in actual exposure.

Overall, the exercise exploiting spatial discontinuity in $Signal$ between neighboring county pairs provides consistent evidence that exposure to Father Coughin's radio program in 1936 reduced the electorate support for FDR.

[6]Table A12 provides balance tests and shows that the neighboring county pairs are largely balanced across the baseline county socioeconomic and past voting variables, as I restrict the sample to neighbor-pairs with increasingly similar $SignalFree$. For instance, column 4 of the table shows that for neighboring county pairs whose $SignalFree$ were less than 0.1 standard deviation apart, only 1 out of the 20 coefficients (the share of foreign-born whites) was statistically significant (at the 10 percent level), while all the other coefficients were statistically indistinguishable from zero.

[7]Results based on alternative cutoffs of Δ are qualitatively similar and available upon request.

References

Adena, Maja, Ruben Enikolopov, Maria Petrova, Veronica Santarosa, and Ekaterina Zhuravskaya, "Radio and the Rise of the Nazis in Prewar Germany," *The Quarterly Journal of Economics*, 2015, *130* (4), 1885–1939.

Broadcasting Publications, Inc., *Broadcasting 1936 Yearbook*, Washington, D.C.: Broadcasting Publications, Inc., 1936. Accessed from WorldRadioHistory.com. https://worldradiohistory.com/Archive-BC-YB/1936/1936-BC-YB.pdf.

_ , *Broadcasting 1939 Yearbook*, Washington, D.C.: Broadcasting Publications, Inc., 1939. Accessed from WorldRadioHistory.com. https://worldradiohistory.com/Archive-BC-YB/1939/1939-BC-YB.pdf.

_ , *Broadcasting 1939 Yearbook*, Washington, D.C.: Broadcasting Publications, Inc., 1940. Accessed from WorldRadioHistory.com. https://worldradiohistory.com/Archive-BC-YB/1940/1940-BC-YB.pdf.

Campante, Filipe, Ruben Durante, and Francesco Sobbrio, "Politics 2.0: The Multifaceted Effect of Broadband Internet on Political Participation," *Journal of the European Economic Association*, 2018, *16* (4), 1094–1136.

Chiang, Chun-Fang and Brian Knight, "Media Bias and Influence: Evidence from Newspaper Endorsements," *Review of Economic Studies*, 2011, *78* (3), 795–820.

Clubb, Jerome M., William H. Flanigan, and Nancy H. Zingale, "Electoral Data for Counties in the United States: Presidential and Congressional Races, 1840–1972.," 2006. Inter-university Consortium for Political and Social Research [distributor], 2006-11-13. https://doi.org/10.3886/ICPSR08611.v1.

Conley, Timothy G., "GMM Estimation with Cross Sectional Dependence," *Journal of Econometrics*, 1999, *92* (1), 1–45.

Coughlin, Charles E., "An Historical Exploration of Father Charles E. Coughlin's Influence: Broadcast Book Collection (1931-1936)," 1936. University of Detroit Mercy Archives. https://libraries.udmercy.edu/archives/special-collections/index.php?collectionSet=community&collectionCode=coughlin_cou.

_ , "An Historical Exploration of Father Charles E. Coughlin's Influence: Social Justice Collection (September 12–October 24, 1936)," 1936. University of Detroit Mercy Archives. https://libraries.udmercy.edu/archives/special-collections/index.php?collectionSet=community&collectionCode=coughlin_cou.

DellaVigna, Stefano and Ethan Kaplan, "The Fox News Effect: Media Bias and Voting," *The Quarterly Journal of Economics*, 2007, *122* (3), 1187–1234.

_ **and Matthew Gentzkow**, "Persuasion: Empirical Evidence," *Annual Review of Economics*, 2010, *2* (6), 643–669.

_ **, Ruben Enikolopov, Vera Mironova, Maria Petrova, and Ekaterina Zhuravskaya**, "Cross-Border Effects of Foreign Media: Serbian Radio and Nationalism in Croatia," *American Economic Journal: Applied Economics*, 2014, *6* (3), 103–132.

Durante, Ruben, Paolo Pinotti, and Andrea Tesei, "The Political Legacy of Entertainment TV," *American Economic Review*, 2019, *109* (7), 2497–2530.

Enikolopov, Ruben, Maria Petrova, and Ekaterina Zhuravskaya, "Media and Political Persuasion: Evidence from Russia," *American Economic Review*, 2011, *111* (7), 3253–3285.

Falck, Oliver, Robert Gold, and Stephan Heblich, "E-lections: Voting Behavior and the Internet," *American Economic Review*, 2014, *104* (7), 2238–2265.

Fujiwara, Thomas, Karsten Müller, and Carlo Schwarz, "The Effect of Social Media on Elections: Evidence from the United States," *Working Paper*, 2020.

Gallup Organization, "Gallup Poll 1938-0118: Depression/Political Parties/Father Coughlin's Radio Talks/Telephone/Finances, 1938 [Dataset]," 1938. Roper 31087102, Version 3. Gallup Organization [producer]. Cornell University, Ithaca, NY: Roper Center for Public Opinion Research [distributor]. https://doi.roper.center/?doi=10.25940/ROPER-31087102.

_ , "Gallup Poll 1938-0141: Father Coughlin's Radio Talks/World's Fair/Spanish Civil War/Radio, 1938 [Dataset]," 1938. Roper 31087125, Version 3. Gallup Organization [producer]. Cornell University, Ithaca, NY:

Roper Center for Public Opinion Research [distributor]. https://doi.roper.center/?doi=10.25940/ROPER-31087125.

Gentzkow, Matthew, "Television and Voter Turnout," *The Quarterly Journal of Economics*, 2006, *121* (3), 931–972.

_ , Jesse M. Shapiro, and Michael Sinkinson, "The Effect of Newspaper Entry and Exit on Electoral Politics," *American Economic Review*, 2011, *101* (7), 2980—-3018.

Gerber, Alan S. and Donald P. Green, "The Effects of Canvassing, Telephone Calls, and Direct Mail on Voter Turnout: A Field Experiment," *The American Political Science Review*, 2000, *94* (3), 1187–1234.

_ , Dean Karlan, and Daniel Bergan, "Does the Media Matter? A Field Experiment Measuring the Effect of Newspapers on Voting Behavior and Political Opinions," *American Economic Journal: Applied Economics*, 2009, *1* (2), 35–52.

Haines, Michael and ICPSR, "Historical, Demographic, Economic, and Social Data: The United States, 1790–2002," 2010. Inter-university Consortium for Political and Social Research [distributor], 2010-05-21. https://doi.org/10.3886/ICPSR02896.v3.

Martin, Gregory J. and Ali Yurukoglu, "Bias in Cable News: Persuasion and Polarization," *American Economic Review*, 2017, *107* (9), 2565–2599.

Xiong, Heyu, "The Political Premium of Television Stardom," *American Economic Journal: Applied Economics*, Forthcoming.