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The Political Premium of Television Celebrity[†]

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This paper studies the electoral consequences of television stardom through the career of Ronald Reagan. I utilize quasi-experimental variation in television reception to estimate the causal effect of celebrity exposure on political support. I find that Reagan's tenure as the host of a 1950s entertainment television program translated into support for his candidacy, in terms of votes and political donations, nearly two decades after the show's first airing. Placebo checks suggest that this impact is not driven by unobserved heterogeneity or omitted variable bias. The effect was especially pronounced in the 1976 Republican primary elections relative to the general presidential elections and partially dissipated in locations where Reagan was a known political entity. Using the American National Election Studies (ANES) surveys, I provide evidence on possible mechanisms. Consistent with rational updating, nonpolitical media increased voters' assessment of Reagan's character and leadership, personalizing political considerations in elections featuring him. (*JEL* D72, L82, Z13)

Does hosting a popular television program increase an individual's viability for elected office? In 2016, a former host of *The Apprentice* and *The Celebrity Apprentice* became the Republican presidential nominee. Donald Trump would go on to defeat Hillary Clinton in the general election, winning a stunning upset that defied expectations. In the immediate aftermath, some observers credited Trump's unlikely success to his celebrity persona and its surprising political sway.[1]

The question of what influences voters is of long-standing interest to social scientists. It is well established that political communication and media play a prominent role in shaping political attitude and behavior (DellaVigna and Gentzkow 2009). Political campaigns spend millions of dollars designing content for the express

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[1] See https://www.theguardian.com/commentisfree/2016/nov/10/trump-the-apprentice-president-elect-reality-tv for an example.

purpose of political persuasion.[2] Against this backdrop, whether candidate exposure through explicitly nonpolitical content, such as entertainment programming, can affect voting decisions is largely unexplored. Given that the demand for entertainment centrally determines media consumption, the answer is economically meaningful and politically consequential.

Survey evidence, which I collected on the eve of the election in October of 2016, corroborates that political support for Trump's candidacy differed markedly between *The Apprentice* viewers and nonviewers. Individuals who watched the program were significantly more likely to indicate an intent to vote for Trump.[3] Viewers also held more favorable opinions of him generally and discounted negative information that arose throughout the course of the campaign. These compelling correlations, however, do not preclude the possibility that these relationships are driven by omitted variable biases. For example, media habits such as the interest in reality television could be correlated with underlying political preferences. Rigorous causal evidence, therefore, remains elusive. The aim of this paper is to address these empirical difficulties in a historical setting where I can credibly exploit the television broadcast infrastructure as a source of identifying variation.

Specifically, I investigate whether Ronald Reagan's tenure as the host of a popular 1950s television program, *General Electric Theater* (*G.E. Theater*), translated into electoral support during his initial entry into presidential and gubernatorial politics. *G.E. Theater* was an entertainment anthology series that debuted on CBS in 1953. Reagan hosted the program from 1954 until 1962. His role was to appear at the start of each episode to greet the audience and introduce the premise of the day's episode. Crucially, and similar to *The Apprentice*, the show was absent of political content and aired years prior to any public declaration of political aspirations by its host.

The research design utilizes differences in the coverage of the program, generated by the locations and technological limitations of CBS stations in 1954. I examine whether the spatial variation in CBS signal strength predicts the variation in local political support for Reagan during his entries into national and state politics. Following Olken (2009) and Yanagizawa-Drott (2014), I regress political outcomes on CBS signal strength, controlling for the hypothetical signal strength in the absence of geographic or topographic obstacles. The coefficient of interest is identified from the residual variation in signal strength, attributable only to idiosyncratic terrain factors, which I show to be uncorrelated with past electoral outcomes.

The reduced-form results imply that in counties with exogenously better reception of *G.E. Theater*, Reagan's vote share in the 1980 presidential election was significantly higher than in otherwise observationally equivalent counties. The effect

[2] Political communication commands a significant share of investment and resources. Over 100 million Americans were canvassed at their doorstep or contacted over the phone by political organizations during the 2008 electoral campaigns (Nielsen 2012). According to the Center for Responsive Politics, nearly $4 billion was spent to mobilize voters in 2010 US federal elections alone. See http://www.opensecrets.org/news/2010/10/election-2010-to-shatter-spending-r.html. There is also evidence that these attempts occur in an increasingly personalized fashion.

[3] The survey included detailed questions on individuals' planned political choice in the 2016 election as well as their media consumption habits. Using the respondent data, I found a positive and significant association between intent to vote for Trump and whether the respondent was a viewer of *The Apprentice*. The results persist even after controlling for consumption of other media, household demographics, and political affiliation. The online Appendix discusses the survey methodology and analysis in greater detail.

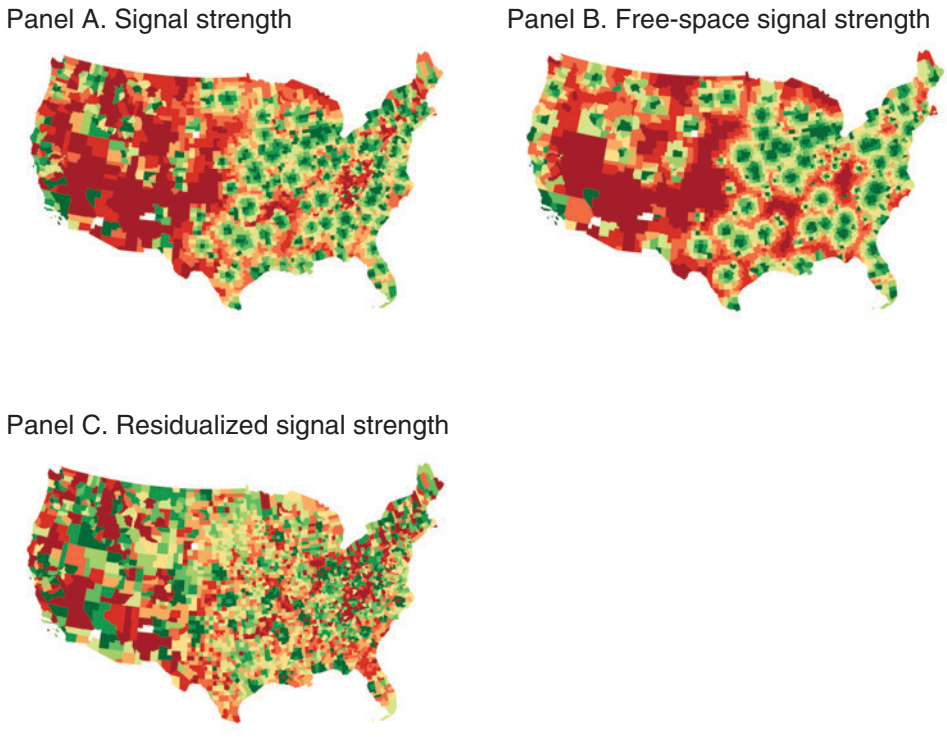

FIGURE 1. SPATIAL DISTRIBUTION OF CBS SIGNAL STRENGTH IN 1955

Note: The maps illustrate the geographic distribution of the simulated intensity of CBS's signal in 1955, under real conditions (panel A), in the absence of geomorphological obstacles (panel B), and the residualized variation after regressing real signal strength on free-space signal controlling for state fixed effects (panel C).

is sizable, corresponding to over a 1 percentage point increase in vote share for Reagan for every standard deviation improvement in signal strength. The implied "persuasion" rate is 11.84 percent, which is comparable to that of standard political advertisements. These results are robust to a number of alternative specifications, including using population weights, controlling for the 1976 Republican presidential vote share, and excluding large metropolitan areas. Notably, the results remain unchanged when controlling for county-level racial views as proxied by support for segregationist presidential candidate George Wallace.

To assess heterogeneity, I compare estimates across elections. I find the effect size did not vary significantly between gubernatorial and presidential elections. However, *G.E. Theater* was significantly more influential in the 1976 Republican primary, the sole election Reagan lost in his political career. In that election, a 1 standard deviation shift in exposure to *G.E. Theater* increased the vote share for Reagan by 2.18 percentage points. The significance of *G.E. Theater* in the primary was mainly driven by its effect in open primary states, where voters not affiliated with the Republican Party can participate and vote. The impact of the program on voting appears to be due, at least in part, to the mobilization of voters who were not traditionally Republican. I also document that the effect weakened in locations where Reagan was a known political entity. In California, where Reagan served as the governor, the effect is insignificant.

Moreover, conditional on the 1980 vote share, the effect completely dissipated nationally in 1984, when Reagan was the incumbent.

The main concern associated with the identification strategy is the possibility that CBS coverage may be correlated with unobserved local characteristics, which could affect Republican political support. To address this, I conduct a number of placebo checks to ensure the identifying assumptions are plausible. I consider, as outcomes, the Republican candidate vote share in a set of comparable elections that did not feature Reagan: e.g., the 1960–1976 presidential elections and the 1956–1960 California gubernatorial elections. I perform the exact same regression as in my main specification with these dependent variables. Across all elections, exposure to *G.E. Theater* explained little to no variation in voting behavior. The coefficient of interest is statistically insignificant, and the point estimates are precisely estimated to be zero. These null findings reinforce the fact that the main results are candidate specific: they reflect electoral support for Reagan, rather than preexisting Republican allegiances in areas with better CBS reception.

A second potential threat to identification is the direct effect of television consumption on political preferences. Perhaps Reagan was better equipped for televised debates and frequent television viewers were more likely to vote for Reagan. If so, the estimates would capture the relationship between the political support for Reagan and overall television consumption rather than the viewership of *G.E. Theater* specifically. To rule this out, I construct the 1955 signal coverage of ABC and NBC stations, which were main competitors to CBS at the time. When included in a "horse race" regression, the coefficient on the CBS signal remains stable, while the ABC and NBC signals have a minimal and insignificant effect. I take the robustness of the findings to controlling for ABC and NBC television coverage to be evidence that the estimates of the CBS signal strength are unlikely to be confounded by the effect of television reception more broadly.

Having established the effect on voting, I turn next to examine another key margin along which celebrity exposure could strengthen political support: campaign contributions. Money is a central factor in American elections: it determines who can run and often who wins. Political donations are an important source of campaign funds, and the donors themselves are nonrandomly selected from the overall voting population. In particular, these individuals are more partisan and politically active than noncontributors (van Straelen 2018). The fact that political success depends disproportionately on this segment of the electorate suggests financial contributions represent a dimension of candidate support that is meaningfully different than voting alone.

Using the same empirical framework as with the voting outcomes, I find exposure to *G.E. Theater* had a positive and significant effect on political donations to the Reagan campaign during the 1980 presidential election. The effect holds both at the extensive and intensive margin. My estimates suggest average contributions in a county increased by at least $1,652 in response to a 1 standard deviation improvement in CBS signal strength. To rule out competing explanations, I show that, in the same election cycle, there is no relationship between CBS signal strength and political contributions to George H.W. Bush, the Republican runner-up. Furthermore, I establish that the effect is absent in concurrent Senate elections, even when

considering a subset of Republican senators who are ideologically close to Reagan. This stands in stark contrast to the Reagan results, lending credibility to the findings.

In the last part of the paper, I utilize micro-data from the American National Election Studies to further validate and unpack the results at the individual level. This analysis combines the geographic variation in CBS access with differences across birth cohorts in terms of their age at the time of the show's introduction. Because *G.E. Theater* was an evening program targeted to adults, individuals who were children (or not yet born) at the introduction of the program would be comparatively unexposed. Utilizing a *difference-in-difference* strategy, I replicate the aggregate-level findings and show that exposure appears to increase the likelihood of voting for Reagan among individuals aged 18 or older in 1955, relative to later cohorts from the same counties.

I then explore whether the effect operates through the *sole* channel of name recognition. I find the significance of name recognition depends on voter characteristics. For individuals with low baseline political knowledge, *G.E. Theater* raised Reagan's name recognition. In this low-information environment, entertainment media acted as a substitute for candidate information. However, this margin is notably absent among the politically informed, for whom name recognition did not vary systematically with exposure. Yet interestingly, for both groups alike, exposure led to favorable attitudes and feelings toward Reagan, the extent of which did not depend on an individual's political knowledge or sophistication.

To shed more light on the underlying channels, I look at stated reasons respondents provided for their voting decision. I find that voters differentially exposed to *G.E. Theater* were more likely to justify their candidate choice on account of Reagan's personal traits such as character or leadership. Exposure did not improve inference of his viability along other dimensions such as experience or acumen. Evidently, *G.E. Theater* conveyed information about Reagan's quality that was orthogonal to policy. These findings suggest noninformative media consumption promotes a type of "candidate-centered politics" (Wattenberg 1991) that is frequently criticized in normative political science.[4] Voters exposed to *G.E. Theater* exhibited arguably less sophistication in their political deliberations and resorted to identity-driven concerns over policy details. Effectively, the television program *personalized* vote considerations in political contests featuring Reagan and crowded out more cognitively challenging processes.

This paper contributes to our understanding of the political impact of media in several ways. Broadly, it studies an increasingly prevalent but understudied phenomenon in which entertainers or media personalities with little to no political experience win elections (Reeves 2015).[5]

[4] For instance, Glasser and Salmon (1995), Hart (1999), Keeter (1987), and McAllister (2007) argue that the personalization of politics contributes to the development of personality cults and can undermine democratic institutions.

[5] High-profile executive cases in the United States include Ronald Reagan, Donald Trump, Jesse Ventura, and Arnold Schwarzenegger. Lesser known domestic examples include Fred Thompson, Jack Kemp, and Bill Bradley. Internationally, the president of Guatemala was a comedian actor before entering politics. The current mayor of Sao Paulo, Brazil hosted Brazil's version of *The Apprentice*. Yet perhaps no example is more salient than the rise of Donald Trump in the 2016 presidential cycle. Trump personifies a perplexing conflation of politics and entertainment where nonpolitical candidates seem credible as political figures. His candidacy is the culmination

The juxtaposition of these conspicuous amateurs against the norm of career politicians poses important questions: Do celebrity candidates bring policy insights or innovations? Or does entertainment media engender political support?[6] This paper establishes direct causal evidence that noninformative celebrity exposure has unintended consequences for candidate support.

The findings in this paper complement recent studies on media persuasion. The existing literature has mainly focused on the effect of biased news or media that is overtly political. For instance, in established democracies, it is well documented that Fox News influences the voting behavior of viewers (DellaVigna and Kaplan 2006). Chiang and Knight (2011) estimate the effect of newspaper endorsements on vote intentions. Durante and Knight (2012) and Barone, D'Acunto, and Narciso (2015) study a media outlet owner's ability to influence votes through ideological news. Gerber, Karlan, and Bergan (2009) analyze the effect of slanted newspapers on electoral decisions. Similarly, in transitional and nondemocracies, Enikolopov, Petrova, and Zhuravskaya (2011) find that access to independent news channels in Russia was associated with lower support for Putin's party in the 1999 parliamentary elections. And Adena et al. (2015) show that Nazi media compromised democratic institutions in the fragile Weimar republic.

This paper differs from the existing literature in examining media content that is decidedly nonpolitical in nature. Additionally, I attempt to disentangle the potential mechanisms that underlie the results by examining not only *who* people voted for but also *why* they voted. Evidence from the ANES suggests that celebrity exposure contributes to the personalization of elections and shifts the criteria upon which electoral decisions are made. This finding is politically significant given an extensive set of studies that have shown affective responses to candidates are often more predictive of vote choice than cognitive factors such as policy positions or even party identification (Glaser and Salovey 1998).

This paper is most closely related to Durante, Pinotti, and Tesei (2015), who study the impact of Mediaset on Berlusconi's political success in Italy. While the contexts are similar, there are some substantive differences. The political results I examine are fundamentally candidate specific, whereas the outcomes considered in Durante, Pinotti, and Tesei (2015) are party-centric. The mechanisms proposed in the two papers also differ. Durante, Pinotti, and Tesei (2015) emphasize the effect of entertainment media on political preferences or susceptibility to populist rhetoric. The authors' explanation is about how entertainment content crowds out news consumption rather than exposure to the candidate through a different medium per se. The distinction between exposure to ideas and exposure to a particular celebrity figure is important.

Few studies have engaged the question of celebrity participation in politics directly. Garthwaite and Moore (2013) document the role of celebrity endorsement in the 2008 presidential election. The authors find Oprah Winfrey's involvement

of a recurring theme in popular democracies, coined "politainment," where politicians behave like entertainers and celebrities often partake in politics (Conley and Schultz 2000; Marsh, 't Hart, and Tindall 2010).

[6] Our capacity to answer this question is complicated by the increasing complexities of the modern media landscape, where it is often difficult to delineate the exact origin of media exposure. Whether a candidate is known because of their appearance on an entertainment or a political program is often difficult to discern.

had a statistically and politically significant effect on political outcomes. Estimates suggest that Winfrey's endorsement of Barack Obama was responsible for upward of 1 million votes.

Furthermore, with notable exceptions, the prior literature has focused exclusively on the contemporaneous effect of media. Because of the time elapsed between Reagan's acting career and his entry into politics, the historical setting is uniquely suited to comment on long-term impact of media exposure on political support. Whereas political communication rarely exhibits long-term effects, the persuasive effect of nonpolitical television in this context is persistent.[7] Through utilizing multiple cross sections of electoral returns from Reagan's repeated forays into politics at differing levels of office, this paper also provides insights into how learning moderates media effects.

The rest of the paper proceeds as follows: Section I provides the relevant background information. Section II describes data construction and the empirical strategy. Section III discusses the empirical results. Section IV explores heterogeneity and effects on political contributions. Section V investigates possible mechanisms using individual-level data. Concluding remarks are offered in Section VI.

I. Historical Background

A. *Ronald Reagan*

By the Left and Right alike, Ronald Reagan is considered a transformative figure in American politics. He rehabilitated conservatism in the aftermath of Nixon's presidency, realigned partisan geography, and built a governing coalition. The figure of Reagan has inspired a legacy of ideological pragmatism, coined Reagan Republicanism, that is still frequently invoked by candidates today.

Reagan's success is often attributed to his clear and effective communication. He is commonly referred to as a true television president as his delivery and mannerism fit the medium of television in both form and content. Reagan cultivated a charismatic leadership style and made mass media an instrument of governance. Despite the centrality of media to his presidency, the degree to which his prior television celebrity affected his presidential candidacy is largely unknown.

In light of his subsequent political legacy, Reagan's Hollywood career is seldom referenced. Reagan was a prolific actor who found consistent work in the Hollywood studio system. Never a top billing star, Reagan nevertheless compiled an extensive filmography of 52 movies from 1937 to 1950. In 1952, Reagan transitioned to television; hosting *General Electric Theater* revitalized his career and propelled him to another plateau of fame and public recognition.

G.E. Theater was a half-hour dramatic anthology series aired by CBS on Sunday evenings from 1953 to 1962. Each weekly episode featured an adaptation of a novel, short story, play, or film. As the host of the program, Reagan's role was to provide continuity for the anthology format. He would appear each week at the start of

[7] Hill et al. (2013) find that American campaign advertisements have a half-life of roughly one week; Gerber et al. (2011) conclude the effect of political advertisement is immediate and declines quickly after consumption.

the episode to introduce the theme and content. Occasionally, Reagan would also act in the episode itself. *G.E. Theater* was financed and produced by the General Electric Company, with little input from CBS. The program was enormously successful. Table 2 provides its Nielsen rating from 1953 to 1961. At its peak, it was the third-most popular show on television and over 25 million households tuned in on a weekly basis.[8]

It is worth mentioning that while *G.E. Theater* was apolitical, Reagan himself was not. Early in his career, Reagan was a New Deal Democrat and also the president of the Screen Actors' Guild. As the president of the actors' union, Reagan famously testified against actors accused of being Communists during the House Un-American Activities Committee's Hollywood blacklist hearings in 1947. However, this predated television news broadcasts. While Reagan's participation in these hearings was publicized, the hearings were covered by print media and newsreel companies. Newsreel footage was typically disseminated through cinemas or theaters. A priori, there is little reason to suspect that knowledge or coverage of Reagan's congressional testimony is correlated with his subsequent exposure through *G.E. Theater*. Accordingly, it is not likely to be a confounder of the results.

B. *History of Television Broadcasting in the United States*

Table 1 summarizes the chronology of Reagan's career and the timing of significant transitions. The period of interest is Reagan's tenure as the host of *G.E. Theater* from 1954 to 1962, during which he became a household name. As described earlier, *G.E. Theater* was a network program produced by CBS and broadcast by its station affiliates.

Television was first licensed for commercial broadcasting in the United States on July 1, 1941. Its growth was halted by an FCC ban on commercial licenses during World War II and only began in earnest during the postwar years. By the 1950s, television coverage was nascent and its penetration was far from uniform.

Compared to today, available television content varied greatly across locations because the decision to carry network programming was made locally at the level of the station owner, and network affiliation carried a substantial fixed cost.[9] Depending on the location of the household and the size of the market, programming ranged from those that were locally produced to content from any, some, or all of the major broadcast networks, including ABC, NBC, and CBS. Per Gentzkow and Shapiro (2006), on the eve of *G.E. Theater*'s debut, less than 50 percent of all US counties received a television signal from any of the networks above. The percentage of households with CBS reception specifically was likely much lower.

During the 1950s and 1960s, television broadcast technology was almost exclusively over-the-air. Content was transmitted via radio frequencies from broadcast towers, and any household with an antenna and a television set would be able to receive the signal through the air. The quality of the signal received was governed by laws

[8] See https://www.ge.com/reports/ronald-reagan-ge/.

[9] This time period predates broadcast syndication; therefore, only affiliated stations were incorporated into the network grid.

Table 1—Chronology of Reagan's Career

1937	Hollywood debut *Love Is on the Air*.
1942	Has appeared in 36 motion pictures and was elected president of SAG.
1944	Concluded his military service.
1954	Hired as host of *General Electric Theater*.
1962	Exited from host duty of *General Electric Theater*.
1966	Campaigned and became the thirty-third Californian governor.
1976	Lost in the Republican presidential primary.
1980	Beat Carter in landslide election to become fortieth US president.

Table 2—Ratings

Year	Nielsen ratings
1953–1954	#27
1954–1955	#17
1955–1956	#11
1956–1957	#3
1957–1958	#7
1958–1959	#26
1959–1960	#23
1960–1961	#20

Note: The numbers indicate *G.E. Theater*'s relative ranking among televised programs in ratings.

Source: The Classic TV Archive

of electromagnetic propagation over distance and modulated by transmission power, broadcast frequency (UHF or VHF), height of towers, and, importantly, the topographical features of the terrain in a line of sight between transmitter and receiver.

Accordingly, a household's access to *G.E. Theater* was a function of proximity to the nearest station and the network affiliation of that station. This observation forms the basis of my empirical strategy.

II. Data and Empirical Strategy

This study combines data from several sources. The general methodological framework relates the variation in CBS television signal to the electoral support for Ronald Reagan in his gubernatorial and presidential bids. I organize my analysis at the county level because counties represent the smallest geographic unit at which I could disaggregate presidential election data for the relevant elections. A critical component of the empirical analysis is the strength of the CBS signal a household was able to receive when the show aired in 1954, which I use as a proxy for the viewership of the program.[10] This is the explanatory variable of interest.

[10]The ideal measure is a location's cumulative exposure to *G.E. Theater* throughout the entirety of Reagan's time as the show's host. The simulated signal intensity is only a cross-sectional snapshot of the differential reception at the start of Reagan's involvement. But to the extent that subsequent variation is determined by technological persistence, this variation is meaningful.

Television Signal.—To measure historical CBS reception, I consult a 1955–1956 issue of the trade magazine *Broadcasting-Telecasting*. The magazine contains a directory of all television stations as of the summer of 1955. In particular, it shows the universe of CBS affiliates along with precise information on their broadcast infrastructure. The exact transmitting specification of each station is recorded and digitized. This includes the latitude and longitude of the broadcast towers along with their respective height, power, and transmitting frequencies.

To compute the quality of the CBS signal, I use a professional engineer-developed software program that simulates signal propagation based on the Longley-Rice Irregular Terrain Model (ITM) algorithm. The ITM algorithm was originally developed by the US government for purposes of frequency-planning and allowed users to accurately predict signal strength across geographical cells (Phillips, Sicker, and Grunwald 2011). The version used in this paper is described in Hufford (2002) and has been previously used by Durante, Pinotti, and Tesei (2015); Olken (2009); Yanagizawa-Drott (2014); Enikolopov, Petrova, and Zhuravskaya (2011); and DellaVigna et al. (2014). The algorithm combines the transmission specifications of broadcast towers with information on curvature and elevation features of the terrain contained in digital topographic maps to predict the signal strength from each transmitter to any given receiver location. To implement the algorithm, I compute the CBS signal intensity at the centroid of each county.

To account for potential endogeneity in the location of transmitters, I simulate the hypothetical signal strength in the absence of any topographical obstacles. This "free-space" signal is the hypothetical television reception assuming the surface of the Earth is completely flat. It is entirely determined by the proximity of a location to broadcast stations and encapsulates the endogenous component of actual signal strength. The spatial distribution of the CBS signal and free-space signal strength across US counties are shown in Figure 1.

The difference between the actual and hypothetical signal intensity within relatively small areas will be driven by idiosyncratic terrain characteristics that are plausibly exogenous to other determinants of voting. This is exactly the type of variation that I exploit in subsequent regressions.[11] To control for the effect of general television access outside of CBS, I replicate the procedure above to construct the 1955 signal coverage for NBC and ABC in an analogous fashion.

Voting.—My analysis focuses on all presidential and gubernatorial elections in which Reagan participated during his political career: the 1966 and 1970 California governor races, the 1976 and 1980 Republican primaries, and the 1980 and 1984 general presidential elections. County-level voting outcomes are compiled from two primary sources.

The first source is a set of data files generously provided by James Snyder, which in turn are based on Clubb, Flanigan, and Zingale (2006) and other public sources. From these files, I obtain vote totals by party and year at the county level for presidential elections from 1960 to 1984 and California gubernatorial elections from 1958 to 1970.

[11] In practice, I divide both signal strength and hypothetical signal strength by their respective standard deviation. This normalizes the signal strength and free-space signal strength.

For the Republican primaries, I turn to a second source of data, David Leip's Atlas of US Presidential Elections. From Leip's website, I obtained county-level data on vote totals by candidate for the 1976 and 1980 Republican primaries. A notable shortcoming, however, is the incomplete data coverage. Specifically, county-level electoral returns for Republican primaries are not available for each state. In order to maintain consistency between election years, I restrict my sample to a set of states for which there are available data in both 1976 and 1980.[12]

Political Contributions.—Data on campaign contributions have been collected by Bonica (2016) and contain federal donations to the Senate and the presidency. The data are from the Federal Election Commission (FEC). The FEC requires recipients of political donations to register with them and provide identifying information on any individual who contributes more than $200 to that recipient during an election cycle, which is defined as the two-year period preceding a House of Representatives election. The dataset contains contribution records from individuals and political action committees (PACs). I acquire information for the 1980 and 1984 election cycles and aggregate data to the county level using the address provided in the contribution records.

Other Variables.—Finally, I gather additional county-level demographic data from population censuses, which I retrieved from the National Historical Geographic Information System (NHGIS). I use data on demographics and socioeconomic characteristics such as population, median household income, and share of African American population, all of which are aggregated at the county level. Table 3 provides descriptive statistics for the main explanatory and outcome variables.

A. *Signal Strength and Program Viewership*

Crucial to the identification strategy is the assumption that the strength of CBS signal affects the viewership of *G.E. Theater*, the latter of which is the latent variable of interest.[13] To assess the viability of this assumption, I use information on *G.E. Theater* viewership obtained from historical Arbitron Television and Radio Audience Reports.

Arbitron Ratings Company was a consumer research company that published market reports for television and radio broadcasts during the 1950s.[14] The company measured ratings of select television markets based on probabilistic samples of households drawn from both urban and rural areas. Sampled households recorded their television program choices at quarter-hour intervals, and these diaries were tabulated to construct television ratings. The ratings represented the average proportion of households in the area that watched a program in any given week.

[12] The states in the final sample are California, Florida, Georgia, Idaho, Indiana, Maryland, Michigan, Montana, Nebraska, New Hampshire, Nevada, Ohio, Oregon, Rhode Island, South Dakota, Tennessee, Vermont, and West Virginia.

[13] In a full structural 2SLS model, this would be expressly developed in a first-stage regression. This approach is problematic due to the poor coverage and availability of the viewership data.

[14] The historical reports are housed in a collection at the University of Georgia library archives.

Table 3—Summary Statistics

Variable	Mean	SD	Observations
Independent variables			
Signal Strength (dB)	−32.68	26.80	3,058
Free-Space Signal (dB)	−0.581	6.62	3,058
Distance (km)	126.4	87.71	3,058
log County Area (m^2)	21.29	0.769	3,058
log Population (1970)	9.969	1.296	3,058
log Household Income (US$1980)	9.536	0.227	3,058
African American Population Share	0.091	0.150	3,058
Dependent variables			
G.E. Theater Household Ratings	28.13	10.01	130
1980 General Reagan Vote Share	0.536	0.116	3,058
1984 General Reagan Vote Share	0.624	0.104	3,058
1976 Primary Reagan Vote Share	0.558	0.149	1,044
1980 Primary Reagan Vote Share	0.730	0.176	1,044
1966 Governor Reagan Vote Share	0.595	0.063	58
1970 Governor Reagan Vote Share	0.546	0.066	58
1980 Reagan Contributions (US$1980)	6,888	114,919	3,058
1984 Reagan Contributions (US$1984)	3,004	20,028	3,058

Note: This table provides the descriptive statistics of the main independent and dependent variables for the county-level analysis.

From September 1955 to May 1956, Arbitron conducted 9 ratings sweeps covering 130 distinct television markets.[15] I digitized these market reports and compiled *G.E. Theater* ratings across the available counties.

As shown in Table 3, *G.E. Theater* had an average rating of 28.13 across all market-months during 1955–1956, indicating slightly more than a quarter of American households tuned in to the program on Sunday nights. Nationally, this implies out of an estimated 34.9 million households with television sets in 1955 (Szymanski and Zimbalist 2005), 10 million watched the program on any given Sunday evening.

To examine whether signal transmission accurately predicts program viewership, I first run a univariate regression of local television ratings on signal strength. Panel A of Figure 2 presents an unconditional bivariate scatterplot of the CBS signal strength (standardized) across counties in 1955 and the corresponding household ratings in the 1955–1956 television season. A quadratic function is parametrically fit to the data and is overlaid on the figure. The quadratic trend indicates that program viewership increased with CBS channel reception. In contrast to some previous studies, I do not observe significant nonlinearity in this relationship.[16]

[15] Ratings in the largest markets are surveyed on continuous basis in each sweep, while some smaller markets will only appear in one sweep.

[16] For instance, Bursztyn and Cantoni (2016) find the actual quality of television broadcast does not vary linearly with the simulated signal strength: above a certain level of signal strength, the quality of reception does not improve substantially with signal strength, and below a certain threshold, where the noise exceeds the signal, no reception is possible at all. This nonlinear relationship has been documented in other settings as well (Bursztyn and Cantoni 2016; Enikolopov, Petrova, and Zhuravskaya 2011; Olken 2009). However, the exact levels of the threshold and the precise shapes of the signal-viewership function depend on the context and are not directly comparable across studies

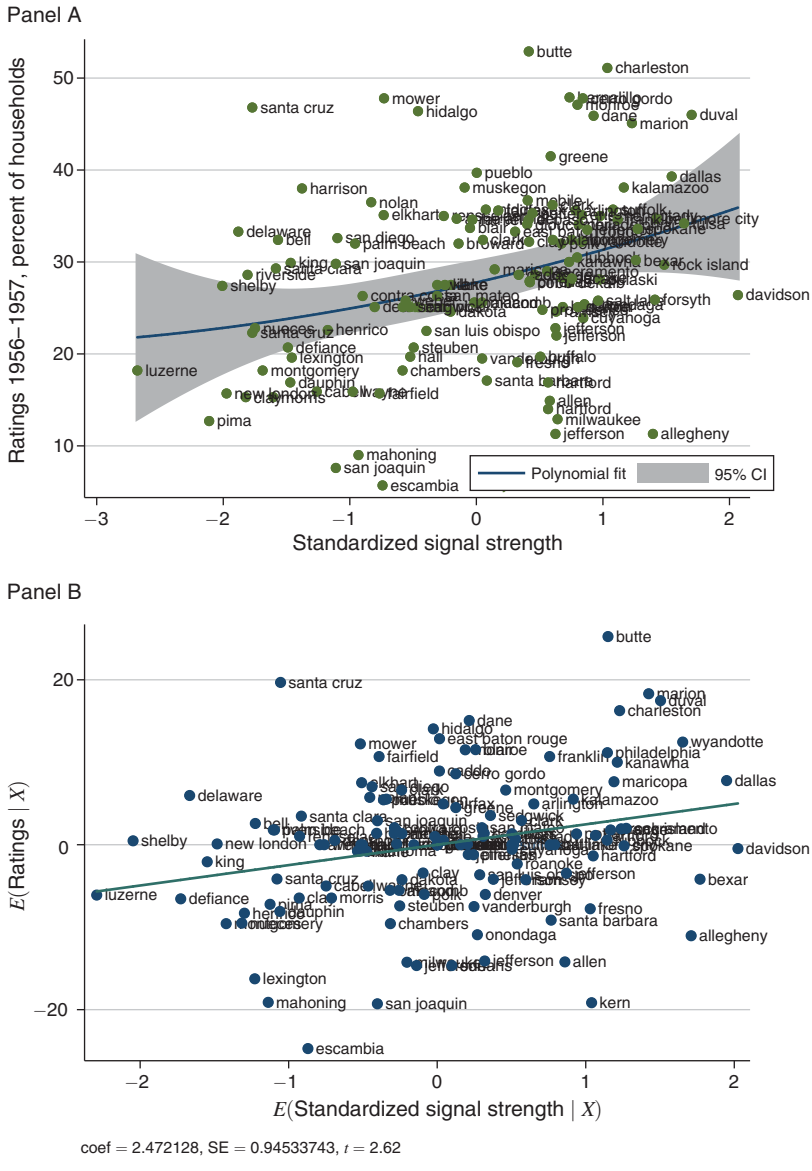

FIGURE 2. VISUALIZATION OF FIRST-STAGE RELATIONSHIP

Notes: The top figure is a scatterplot showing the relationship between ratings and signal strength. The x-axis plots the ITM predicted signal strength based on 1955 distribution of CBS stations, and the y-axis plots the household ratings from the 1955–1956 Arbitron market reports for a set of 130 counties. The bottom figure shows the partial correlation between the two variables after controls.

Panel B of Figure 2 shows the conditional correlation between the two variables after controlling for state fixed effects and television usage as well as weighting by the number of diary entries in each market. There remains a positive and significant relationship between predicted signal strength and the observed program audience size. To interpret magnitudes, a line of best fit is shown in the plot. The slope of

the linear prediction suggests a 1 standard deviation increase in the signal strength is associated with a 2.47 percentage point increase in the share of households that watch the program within the respective location.

B. *Econometric Framework*

I estimate the reduced-form effect of exposure to *G.E. Theater* on electoral outcomes. Following Durante, Pinotti, and Tesei (2015), I regress Reagan's vote shares on the simulated signal intensity (Signal) controlling for hypothetical signal intensity under the flat terrain hypothesis (SignalFree). This approach was also used by Durante, Pinotti, and Tesei (2015) and Yanagizawa-Drott (2014).[17] The following equation summarizes the econometric approach:

$$y_{is}^{t} = \beta Signal_i + \alpha SignalFree_i + \gamma \mathbf{X}_i + \sigma_s + \epsilon_i, \tag{1}$$

where y_{is}^{t} is the share of votes cast for Reagan in county i of state s in election t; $Signal_i$ is the ITM algorithm predicted signal strength, and $SignalFree_i$ is the hypothetical signal strength assuming flat terrain; and $\mathbf{X}_i$ is a vector of geographic and socioeconomic controls. I include a set of state fixed effects σ_s.

The main coefficient of interest, β, captures the "intent-to-treat" effect of potential exposure to *G.E. Theater*. It reflects the relationship between the unobserved viewership of *G.E. Theater* in 1955, for which $Signal_i$ is a proxy, and electoral outcomes in elections that Reagan participated in. The empirical identification of β in equation (1) exploits differences in signal intensity across otherwise comparable counties. The strategy requires that counties with different levels of signal strength were not differentially disposed to vote for Reagan due to reasons other than CBS exposure.

To account for potential endogeneity in the location of the CBS stations, I control for the hypothetical signal intensity in the absence of any geomorphological obstacles, *SignalFree*. Keeping *SignalFree* constant, the β coefficient is identified by the differences between the actual and hypothetical signal intensity within relatively small areas, which is driven by idiosyncratic terrain characteristics. Importantly, the identification assumption requires only that *conditional* on $SignalFree_i$ and other controls, $Signal_i$ is unrelated to other determinants of Reagan support.

The underlying intuition is that the free-space signal strength accounts for the endogenous component of reception explicitly. By flexibly controlling for the proximity to the nearest transmitting site, the remaining variation in reception comes from a household's relative positioning with respect to geographic obstacles in a line of sight from the broadcast tower, e.g., whether one is located to the left or right of a mountain range. This residual variation is assumed to be plausibly exogenous and thereby orthogonal to voting behavior. I show that this is likely to be true with a set of falsification exercises in the next section.

[17] It differs from the empirical strategy in Olken (2009) and Enikolopov, Petrova, and Zhuravskaya (2011), in which signal intensity is an instrument for viewership in a two-staged least squares framework.

Table 4—Reagan Elections 1966–1984

Elections:	Dependent variable: Ronald Reagan Vote Share					
	Presidential: General		Presidential: Primary		California governor	
	1980 (1)	1984 (2)	1976 (3)	1980 (4)	1966 (5)	1970 (6)
Signal strength	0.0127	0.0160	0.0218	0.0098	0.0194	0.0108
	(0.0056)	(0.0052)	(0.0054)	(0.0047)	(0.0101)	(0.0100)
	[0.0050]	[0.0048]	[0.0054]	[0.0041]	[0.0083]	[0.0080]
Free-space signal	Yes	Yes	Yes	Yes	Yes	Yes
Baseline controls	Yes	Yes	Yes	Yes	—	—
State fixed effects	Yes	Yes	Yes	Yes	—	—
Dependent variable mean	0.536	0.624	0.558	0.730	0.595	0.546
Observations	3,058	3,058	1,044	1,044	58	58
R^2	0.546	0.440	0.775	0.898	0.357	0.326

Notes: This table reports OLS estimates of the effect of differential exposure to CBS in 1955 on the vote share of Reagan across six elections. Each observation is a US county. The dependent variable in each election is the percentage of votes for Reagan in the respective election. Signal strength is the simulated intensity of CBS signal in 1955 under real conditions, standardized by the standard deviation. Baseline controls include hypothetical signal in the absence of geomorphological obstacles, log county area, distance to television station, log population, African American population share, log household income, and county latitude and longitude. Robust standard errors are included for the last two columns and standard errors clustered at the state level in parentheses in remaining models. Conley standard errors are also shown in brackets.

III. Main Results

A. *Baseline Estimates*

Table 4 shows the effect of *Signal Strength* on Reagan's electoral performances throughout his political career. The table reports results from the estimation of equation (1) across six separate elections. Columns 1–2 provide estimates for the 1980 and 1984 general presidential elections; columns 3–4 present the 1976 and 1980 Republican primaries; and subsequent columns, 5–6, show results for Reagan's political debut in the California gubernatorial elections.

Across all specifications, I control for the hypothetical signal strength under the free-space scenario. For the national elections in columns 1–4, baseline controls include county population, median household income, percentage of the population that is African American, distance to the nearest CBS station, county size by area, and the county's latitude and longitude.[18] In these specifications, I also include state fixed effects to account for unobserved differences across states.

During the 1980 general presidential election, I find that a 1 standard deviation shift in *Signal Strength* leads to a 1.37 percentage point increase in Reagan's vote share. In terms of magnitude, this is politically meaningful, corresponding to nearly 12 percent of a standard deviation in the dependent variable. Although omitted from the table, nearly all other coefficients consistently obtain the expected

[18] For the California governor elections, I omit the state fixed effects as well as median household income and share of African American population as these data are not available from NHGIS until 1970.

Table 5—Reagan Elections 1966–1984: Weighting and Sample Restrictions

	Dependent variable: Ronald Reagan Vote Share					
Elections:	Presidential: General		Presidential: Primary		California governor	
	1980 (1)	1984 (2)	1976 (3)	1980 (4)	1966 (5)	1970 (6)
Panel A. Population-weighted estimates						
Signal strength	0.0164	0.0208	0.0286	0.0207	0.0404	0.0248
	(0.0073)	(0.0088)	(0.0089)	(0.0073)	(0.0176)	(0.0161)
Observations	3,058	3,058	1,044	1,044	58	58
R^2	0.634	0.669	0.827	0.932	0.714	0.675
Panel B. Excludes largest 1 percent of counties within each state						
Signal strength	0.0128	0.0162	0.0223	0.0098	0.0194	0.0108
	(0.0056)	(0.0052)	(0.0054)	(0.0048)	(0.0102)	(0.0100)
Observations	3,002	3,002	1,027	1,027	57	57
R^2	0.544	0.432	0.773	0.898	0.358	0.322
Panel C. Excludes largest 10 percent of counties within each state						
Signal strength	0.0132	0.0166	0.0243	0.0107	0.0120	0.0035
	(0.0058)	(0.0054)	(0.0058)	(0.0052)	(0.0090)	(0.0091)
Observations	2,731	2,731	936	936	52	52
R^2	0.555	0.431	0.772	0.899	0.287	0.311

Notes: The top panel replicates Table 4 but weights based on the county population. In the middle and bottom panels, the sample excludes, respectively, the largest 1 percent and 10 percent of counties within each state in term of population. The specifications and baseline controls are otherwise the same as in Table 4. Robust standard errors are included for the last two columns and standard errors clustered at the state level in parentheses in other models.

signs: Reagan's vote share tends to be higher in wealthier and more rural counties where Republican political support is typically stronger.

Comparing effect size across each column, the coefficient is positive and statistically significant in all national elections. The impact in governor elections is less precisely estimated, likely due to the smaller sample size. The point estimate is comparable between the gubernatorial and presidential elections; however, it is significantly higher in the 1976 Republican primary, where a 1 standard deviation increase in *Signal Strength* translated to a 2.18 percentage point increase in vote share.

All results are presented both with standard errors clustered at the state level and Conley standard errors with a cutoff window of 100 km to account for arbitrary spatial autocorrelation (Conley 1999). Additionally, I explore the robustness of results to weighting, alternative controls, and sample definitions.

First, to be more representative of the voting population and to address any concern that small counties (in terms of population) drive the findings, I estimate my main models using population-weighted least squares. The results are presented in panel A of Table 5. Overall, weighting improved precision, and the point estimates are somewhat larger.

Next, I exclude the largest counties in terms of population within each state from the sample. This restricts the analysis to more rural areas, which are presumably "ancillary" to the main television markets and thus less subject to concerns about selection bias. In particular, panels B and C of Table 5 exclude the top 1 percent and 10 percent of the most populous counties in each state. The results are qualitatively

Table 6—Reagan Elections 1966–1984: Robustness

	Dependent variable: Ronald Reagan Vote Share							
	Presidential: General				Presidential: Primary			
Elections:	1980 (1)	1980 (2)	1984 (3)	1984 (4)	1976 (5)	1976 (6)	1980 (7)	1980 (8)
Signal strength	0.0137 (0.0028)	0.0142 (0.0055)	0.0169 (0.0030)	0.0148 (0.0052)	0.0222 (0.0053)	0.0166 (0.0040)	0.0098 (0.0047)	0.0074 (0.0047)
Ford 1976 vote share	Yes	—	Yes	—	Yes	—	Yes	—
Wallace 1968 vote share	—	Yes	—	Yes	—	Yes	—	Yes
Observations	3,058	3,057	3,058	3,057	1,044	1,044	1,044	1,044
R^2	0.863	0.552	0.765	0.444	0.775	0.805	0.898	0.903

Notes: This table replicates the analysis from Table 4 with additional controls. Columns 1, 3, 5, and 7 include the Gerald Ford vote share in the 1976 presidential election. Columns 2, 4, 6, and 8 add the George Wallace vote share in the 1968 presidential election. The remaining covariates are the same as in Table 4. Robust standard errors are included for the last two columns and standard errors clustered at the state level in parentheses in subsequent models.

very similar and broadly consistent across the different samples. I interpret this to be compelling evidence that the estimated impacts are not driven by any specific set of cities but rather reflect a general pattern.

Finally, I add controls for political and racial preferences to the baseline specification. Specifically, I use the Republican vote share in the 1976 presidential election and the vote share for George Wallace in the 1968 presidential election. Political support for Wallace serves as a proxy for county-level racial views since he was a third-party candidate who ran on a segregationist platform. In Table 6, I replicate the analysis of national elections, controlling for additional variables. The point estimate is virtually unchanged with either of the controls, suggesting that the positive correlation between the *G.E. Theater* signal strength and Reagan political support is not driven by the fact that counties exposed to the show were particularly susceptible to conservative rhetoric.

B. *Potential Sources of Bias*

The causal interpretation of estimates requires that CBS signal strength in 1955 be otherwise exogenous to political preferences over the period 1968–1984. A key identification concern is that the strength of the CBS signal could be related to unobservables that correlate with Republican political support and potentially bias the results. The historical setting makes this relatively unlikely since CBS was not a partisan station in the 1950s and did not strategically locate their affiliates for political purposes. Nevertheless, to verify that the findings are not driven by spurious correlation between CBS coverage and Republican electoral support, I conduct several placebo checks to ensure the data are consistent with our identifying assumption.

I replicate the exact specification from equation (1) for a set of comparable elections in which Reagan did not participate: the 1958 and 1962 California governor races as well as the 1960, 1964, 1968, 1972, and 1976 general presidential elections. In each election, I construct the dependent variable as the vote share for the

Table 7—Political Falsification Checks

Elections:	Dependent variable: Republican Candidate Vote Share						
	Presidential: General election					California governor	
	1960 (1)	1964 (2)	1968 (3)	1972 (4)	1976 (5)	1958 (6)	1962 (7)
Signal strength	−0.0027	0.0042	−0.0044	0.0078	−0.0012	0.0031	0.0092
	(0.0070)	(0.0068)	(0.0072)	(0.0048)	(0.0060)	(0.0122)	(0.0113)
Baseline controls	Yes	Yes	Yes	Yes	Yes	Yes	Yes
State fixed effects	Yes	Yes	Yes	Yes	Yes	—	—–
Observations	3,051	3,056	3,057	3,056	3,058	58	58
R^2	0.541	0.580	0.716	0.610	0.514	0.363	0.328

Notes: This table shows the relationship between CBS signal and a set of placebo outcomes. Specifically, each column regresses the Republican candidate vote share for the election indicated on the exact same set of explanatory variables as from Table 4. Elections considered are 1958–1962 California governor elections and 1960–1976 presidential elections. Robust standard errors for the last two columns. Standard errors are clustered at state level in parentheses for other columns.

Republican candidate in the corresponding election (i.e., Nixon's vote share in the 1972 presidential election, Ford's vote share in the 1976 presidential election, etc.).

The placebo results are provided in Table 7. Not only are the *Signal Strength* coefficients insignificant across all placebo elections, but the point estimates are also consistently small in magnitude. This provides a compelling argument that outside of the Reagan elections, the 1955 CBS signal strength explains little to no variation in voting behavior. While the cross-sectional variation in CBS signal strength is not random, evidently it did not systematically correlate with political preference, which is the primary threat to identification.

Another possible concern is the effect of television consumption more broadly. Perhaps Reagan was a better television candidate, that is, he performed better in televised debates or coverage of the election. Then frequent television viewers could be more likely to vote for him regardless of whether they specifically watched *G.E. Theater*. To address this possibility, I control for the signal coverage of two other major broadcast networks operating at the time: NBC and ABC.[19]

For this competing story to be valid, ABC or NBC signal strength should also predict Reagan electoral success. I perform a set of "horse race" regressions where I augment the baseline specification by adding ABC and NBC signals along with their respective free-space signals, each calculated via ITM algorithm and normalized by their standard deviation. The results are shown in Table 8. The ABC and NBC estimates are statistically insignificant, small in magnitude, and sometimes take on the opposite sign, while the coefficients on the CBS signal strength remain stable in magnitude. Because the signal strength of the three networks are highly correlated, the estimates of CBS signal become less imprecise in the California elections, where

[19] Similar to CBS, NBC and ABC entered commercial television in 1941. Throughout the 1950s, none of the three major broadcast stations was overtly political. In particular, entertainment programming constituted the entirety of each network's prime-time lineup.

Table 8—ABC and NBC Placebo Tests

Elections:	Dependent variable: Ronald Reagan Vote Share					
	General presidential		Republican primaries		Governor elections	
	1980 (1)	1984 (2)	1976 (3)	1980 (4)	1966 (5)	1970 (6)
CBS signal strength	0.0120	0.0157	0.0180	0.0059	0.0121	0.0045
	(0.0063)	(0.0055)	(0.0055)	(0.0052)	(0.0130)	(0.0126)
ABC signal strength	−0.0084	−0.0052	−0.0034	0.0017	−0.0110	−0.0058
	(0.0056)	(0.0058)	(0.0085)	(0.0057)	(0.0161)	(0.0204)
NBC signal strength	0.0019	0.0003	0.0080	0.0073	0.0183	0.0124
	(0.0051)	(0.0051)	(0.0066)	(0.0048)	(0.0144)	(0.0155)
Baseline controls	Yes	Yes	Yes	Yes	—	—
State fixed effects	Yes	Yes	Yes	Yes	—	—
Observations	3,058	3,058	1,044	1,044	58	58
R^2	0.552	0.444	0.779	0.899	0.382	0.355

Notes: The table displays the "horse-race" regression test between 1955 NBC and ABC signals and CBS signals (all standardized). Each column in this table corresponds to its respective column in Table 4 with the additional signals (along with their respective free-space signals) added to the specification. The regressions include the original set of control variables from Table 4. Robust standard errors for the last two columns and standard errors clustered at the state level in parentheses for remaining models.

I am not sufficiently powered to identify them separately. Overall, controlling for the ABC and NBC signal strengths does not alter the results in a significant way.

The lack of an NBC effect is especially reassuring considering Reagan's role in Goldwater's 1964 presidential campaign. Reagan delivered a famous speech in support of 1968 Republican presidential candidate Barry Goldwater, which helped to launch Reagan's political career. The speech was televised on NBC and provided Reagan national media exposure. Controlling for 1955 NBC signal helps to some extent in disambiguating the effect of the Goldwater speech from that of *G.E. Theater*. Furthermore, broadcast television also became far more widespread by the mid-1960s, meaning the blanket coverage of the Goldwater speech in 1964 is not likely to confound the effects of the 1955 CBS signal strength.

Given these falsification checks, I rule out alternative explanations on the basis of unobserved political preferences or the simultaneous consumption of other television content. The existence of a positive effect that is exclusive to the signal strength of CBS and electoral support for Reagan adds credibility to the research design and is suggestive of a causal relationship.

C. *Persuasion Rates*

To assess the relative "effectiveness" of the *G.E. Theater* treatment in comparison to traditional political media, I compute persuasion rates, i.e., the fraction of the *G.E. Theater* audience who voted for Reagan in response to watching the program (DellaVigna and Kaplan 2006, DellaVigna and Gentzkow 2009). I follow the steps outlined in Adena et al. (2015) and use the method for a continuous measure of media exposure introduced by Enikolopov, Petrova, and Zhuravskaya (2011). This method yields the effect of an infinitesimal change in media exposure taking into

account the effect of turnout and controlling for the fraction of people who could potentially be persuaded. I focus on the 1980 general election and use the following formula:[20]

$$(2) \qquad f = \frac{1}{1 - v_0 t_0}\left(t\frac{\partial v}{\partial e} + v\frac{\partial t}{\partial e}\right) = \frac{1}{1 - v_0 t_0} \cdot \frac{1}{\partial e/\partial s}\left(t \cdot \frac{\partial v}{\partial s} + v \cdot \frac{\partial t}{\partial s}\right),$$

where v is Reagan's vote share in the respective elections, t is turnout, and v_0 and t_0 are Reagan vote share and turnout in the absence of *G.E. Theater*. In order to apply this formula, I proxy the value of v_0 with the mean Reagan vote share for counties below the fifth percentile of signal strength observed in the sample.[21] Note, $\partial v/\partial s$ is the effect of the change in CBS signal strength on Reagan vote share; $\partial t/\partial s$ is the corresponding effect for turnout, which I will assume to be zero since I failed to detect significant results on the extensive margin; and $\partial e/\partial s$ is the effect of the change in television signal on audience share of the program.

The best estimate of $\partial e/\partial s$ is obtained from the first-stage regressions using the Arbitron household ratings, the latter of which measure the fraction of households who watched *G.E. Theater*. However, I must multiply the first-stage coefficient by the average number of potential voters per household. Because household population was 3.33 in 1955, I assume an average of 3.33 eligible voters per household.[22] Under that assumption, the persuasion rate of *G.E. Theater* in the 1980 general presidential election is

$$(3) \qquad f = \frac{1}{1 - 0.590 \cdot 0.528} \cdot \frac{1}{0.0247 \cdot 3.33}(0.528 \cdot 0.0127) = 11.84\%.$$

It is informative to compare the effectiveness of *G.E. Theater* to that of media in other settings. The persuasion rate of *G.E. Theater* is roughly equal to that of Fox News (12 percent) (DellaVigna and Kaplan 2006), local newspapers (12 percent) (Gentzkow, Shapiro, and Sinkinson 2011), and Nazi radio propaganda (5.6–19.6 percent) (Adena et al. 2015). My persuasion estimates are near the median of effect sizes across quasi-experimental studies on media as reported in DellaVigna and Gentzkow (2009)—suggesting the impact of *G.E. Theater* is comparable to those found in the existing literature.

IV. Additional Results

In this section, I provide three additional sets of results. First, I explore political support along the dimension of campaign donations and contributions. Second, I show how the *G.E. Theater* effect evolved across Reagan's repeated interactions

[20] Computing persuasion rates for Republican primaries is complicated due to differences in voter eligibility and problems with calculating turnout due to lack of data on the number of registered Republicans.

[21] The t_0 value is the average turnout in 1980 retrieved from https://www.census.gov/prod/2011pubs/12statab/election.pdf.

[22] Population per household statistics is retrieved from https://www2.census.gov/programs-surveys/demo/tables/families/time-series/households/hh6.xls.

with the electorate. Finally, I investigate which segments of the electorate were most affected by *G.E. Theater* and consider the significance of nomination procedures in moderating its impact.

A. *Campaign Contributions*

While votes fundamentally determine elections, voting is not the only means by which individuals can participate in politics or express their political views. Fundraising is an essential part of any viable political campaign, and politicians depend on supporters for financial contributions or for contributions in-kind (e.g., volunteer work). These forms of participation differ from voting in some important respects. Whereas voting is costless and over 50 percent of eligible voters turn out to vote in any given presidential election, donations are costly and political donors are a small and unrepresentative portion of the overall electorate (Hill and Huber 2017). By some estimates, less than one-half of 1 percent of Americans donated $200 or more to any federal campaign committee during the 2012 election cycle (Barber 2016). Contributions are mostly given by individuals who are particularly politically motivated, and the choice to donate signals a stronger measure of political allegiance (Campante 2011).

Clearly, political donations represent a form of candidate support that is meaningfully different from simply voting. Given this, whether *G.E. Theater* affected campaign contributions to Reagan remains an open and interesting question. To identify the causal effect of *G.E. Theater* on political contributions, I employ the same empirical framework as with voting outcomes. Using data from the 1980 election cycle aggregated to the county level, I test whether exposure affected the decision to donate to Reagan and if so, by how much.

I begin the analysis by relating 1955 CBS signal strength to the countywide probability of donation using the same baseline specification as with voting. The dependent variable is a dummy that takes on the value one if Reagan received any donations from a county. The results are reported in Table 9. On the extensive margin, I find that a 1 standard deviation increase in signal strength increases the likelihood that Reagan received at least 1 donation from the county by over 3 percentage points. This is a sizable effect given the mean donation probability is 30.3 percent.

Next, I regress the total contribution amount in each county on the same explanatory variables. To accommodate zero values, I approximate log contributions using the inverse hyperbolic sine function. As can be seen in column 4, the coefficient of interest is positive and significant at the 5 percent level. I then perform some back-of-the-envelope calculations to interpret the magnitude of the regression. The average donation per county over the election cycle was $6,888 (1980 dollars). Based on this, the regression estimates suggest that a 1 standard deviation improvement in a county's signal strength corresponds to nearly a $1,652 ($6,888 $\times$ 0.240) increase in contributions to Reagan.

The results in columns 1 and 5 of Table 9 show that Reagan was able to raise more money from counties with better CBS reception in 1955. To rule out competing explanations, I follow the same strategy to evaluate the impact of the 1955 CBS signal strength on political donations for a set of comparable candidates. I consider three different comparison groups in the remaining columns of Table 9.

Table 9—Political Contributions: 1980 Election Cycle

Dependent variable:	$\mathbf{1}\{ContrbAmt > 0\}$				log *ContrbAmt*			
Candidate:	Ronald Reagan (1)	George Bush (2)	Republican senators (3)	Similar senators (4)	Ronald Reagan (5)	George Bush (6)	Republican senators (7)	Similar senators (8)
Panel A. Total contributions								
Signal strength	0.0302	−0.0021	0.0086	0.0005	0.2400	−0.0572	0.0953	0.0784
	(0.0134)	(0.0157)	(0.0184)	(0.0137)	(0.1168)	(0.1308)	(0.1428)	(0.1183)
Dependent variable mean	0.303	0.230	0.396	0.222	2.534	1.941	3.341	1.824
R^2	0.359	0.370	0.389	0.419	0.458	0.450	0.492	0.470
Panel B. Individual contributions only								
Signal strength	0.0277	−0.0019	0.0038	−0.0035	0.2140	−0.0549	0.0486	0.0246
	(0.0139)	(0.0155)	(0.0189)	(0.0144)	(0.1220)	(0.1303)	(0.1495)	(0.1189)
Dependent variable mean	0.298	0.229	0.388	0.197	2.469	1.930	3.209	1.579
R^2	0.356	0.370	0.386	0.399	0.451	0.449	0.477	0.427
Free-space signal	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Baseline controls	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
State fixed effects	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Observations	3,058	3,058	3,058	3,058	3,058	3,058	3,058	3,058

Notes: This table explores the effects of CBS signal on the decision to donate and the donation amount. Top panel considers all contributions (individual + organizational), and the bottom panel includes only individual contributions. The dependent variable is the probability of receiving at least one donation to the candidate indicated in columns 1–4, while it is the log contribution amount for the same candidate in columns 5–8. Baseline controls include hypothetical signal in the absence of geomorphological obstacles, county area, distance to television station, log population, Africa American population share, log household income, and county latitude and longitude. Standard errors are clustered at the state level throughout.

First, in columns 2 and 6, I show that during the same election cycle, there was no relationship between CBS signal strength and the probability of donation or the total amount of contributions to George H.W. Bush, who was the Republican runner-up in the primary. Next, I examine political donations to Republican Senate candidates during the same election cycle. Columns 3 and 7 report the estimates for the extensive and intensive margin respectively, and the effects are also insignificant.

Finally, I define a more suitable control based on the ideological positioning of the senators. Using the DW-NOMINATE score framework developed by Poole and Rosenthal (2011), I restrict my analysis to Republican senators who were ideologically similar to Reagan.[23] Specifically, I select senators whose DW-NOMINATE scores were within a standard deviation of Reagan's score. Columns 4 and 8 present the findings for this group. Reassuringly, the coefficient on the CBS signal is not statistically significant, very imprecisely estimated, and quantitatively different from the estimates for Reagan.

In panel B of Table 9, I repeat the analysis above but focus only on campaign donations by *individuals*. I limit my analysis to individuals because contributions from corporate groups or political action committees are more likely to be motivated by strategic concerns or considerations. The estimates for individual donations are broadly comparable to that of total contributions. Put differently, the effect on campaign contributions was driven by the behavior of individual donors. Overall, I find

[23] DW-NOMINATE scores are derived from legislator roll call votes and measure ideology for elected politicians (Poole and Rosenthal 1985).

celebrity exposure increased political contributions to Reagan during the 1980 election cycle, and while I cannot test identifying assumptions directly, placebo checks suggest that unobserved heterogeneity does not drive the results.

B. *Electorate Learning*

There is a substantial "debutante" effect where celebrity exposure seems particularly salient in the first election in which Reagan appears with a given voting base. As shown in Table 4, the effect of *G.E. Theater* is weaker and less precise in the 1970 California governor's race than it was in 1966. Similarly, in the Republican primaries, the effect in 1980 is less than half of what it was in 1976.

To test this hypothesis further, I perform an analysis of the national elections only for California, where Reagan had previously served as governor. This is provided in online Appendix Table A2. Consistent with rational learning, when Reagan was a known political entity, the effect is insignificant. Nationally, the effect disappeared in 1984, after controlling for the 1980 Reagan vote share. Therefore, while there is a cumulative impact through past voting behavior, there is no marginal effect as an incumbent. Subsequent columns of online Appendix Table A2 report the estimates of signal strength on the probability and size of political donation in 1984. Similarly, I find the effect on campaign contributions dissipated in the reelection.

The results indicate the political premium of candidate exposure via entertainment media is partially tied to the voters' lack of prior knowledge of the candidate. The political influence of nonpolitical media declined with the visibility of the candidate as a politician or the availability of actual political performance and record. This evidence is consistent with informational updating on the part of the voters.

C. *Heterogeneous Effects*

To provide additional context for the findings, I explore heterogeneity across states in how primary elections are held. There are substantial differences in rules governing Republican primaries; in closed primaries, only registered Republicans are eligible to vote, whereas participation is unrestricted in open ones. From McGhee et al. (2014), I retrieve voting requirements by state and divide the sample accordingly. Online Appendix Table A3 reports the estimated effect separately for open and closed primary states. For the subsample comprised of open primary states (column 1), the effect of *G.E. Theater* is larger than it is in the entire sample. Furthermore, correspondingly, the coefficient is smaller in closed primaries (column 2).[24] The scope for persuasion appears larger in states having fewer restrictions on who can vote and where voters not affiliated with the Republican Party can participate.

This is supported by evidence from the general election, where I find that the gains from *G.E. Theater* were concentrated in historically more Democrat-leaning counties. Columns 3 and 4 show a stronger effect in counties where the Democratic candidate vote share in the 1976 presidential election was in the upper quartile and

[24] Although the difference between the two estimates is not statistically significant.

a lesser effect in the rest of the sample. While not statistically significant, these differences across comparison groups are broadly consistent with the notion that one possible effect of *G.E. Theater* was to induce traditionally non-Republican voters to vote for Reagan.

V. Individual-Level Data and Mechanisms

In this section, I provide evidence on the underlying mechanisms at work. In particular, I use individual-level data from the American National Election Studies to examine the channels through which *G.E. Theater* facilitated electoral support. The individual-level analysis complements the aggregate-level results in the following respects. First, it allows me to estimate the persuasion effect of *G.E. Theater* accounting for individual characteristics. Second, it affords me the opportunity to test specific margins along which nonpolitical media swayed voters.

The effect of celebrity exposure on political support could stem from the channel of name recognition alone or through persuasion conditional on recognition. In the latter scenario, exposure affects political consideration to a far greater extent than candidate knowledge per se. Accordingly, I find that the effect of *G.E. Theater* on "name recognition" is limited to the politically uninformed. For politically informed voters, exposure to *G.E. Theater* increased the likelihood of justifying their support for Reagan on account of his personal attributes. The results indicate that *G.E. Theater* exposure improved assessments of Reagan's nonpolitical characteristics and shifted the criteria upon which electoral decisions were made through the "personalization" of political contests.

A. *National Election Studies Data*

The American National Election Studies is a series of political surveys that began at the University of Michigan in the 1950s. Despite known issues, the ANES remains one of the most comprehensive sources of American political survey data.[25]

I utilize two waves of ANES surveys from 1980 and 1984, when Reagan was the Republican presidential nominee. The dataset contains presidential vote choices at the individual level, and I observe whether respondents reported voting for Reagan in the election. To understand the margins along which exposure affected vote considerations, the following set of items from the ANES are of additional interest.

The first channel I consider is name recognition. Based on questions about the Republican presidential candidate, which are available in the data, I construct an indicator for nonrecognition if a respondent claims to "not recognize" Reagan when they were asked to give an opinion about him. This is a direct measure of name recognition, which has been used in prior studies (Mann and Wolfinger 1980). However, it is a binary measure that captures only coarse variation on the extensive margin.

[25] There are some well-documented problems with data validity. For example, there is a tendency for respondents to overreport voting. Self-reported responses consistently overestimate voter turnout or participation. However, many scholars have found that, conditional on voter turnout, the distribution of votes in the ANES approximates the population (Burden 2000).

For a more informative measure of candidate recognition or knowledge, I leverage questions regarding justification for supporting or opposing Republican and Democratic presidential candidates. These questions have been consistently included in the ANES since its inception and take the following form: "Now I'd like to ask you about the good and bad points of the major candidates for president. Is there anything in particular about [Ronald Reagan] that might make you want to vote for him?" Respondents are queried about both candidates and are encouraged to name up to five reasons for and against each candidate.

These free responses form the foundation of my exploratory analysis, serving as a measure of the characteristics that were immediately salient to the voter at the time of their decision. The response validity is affirmed by past studies, which have found the responses were "substantively meaningful, stable over time, and add predictive power to vote choice models" (Hayes 2009).

I count the total number of attributes (positive and negative) recalled by a respondent about Reagan as a measure of candidate salience. This index summarizes the cumulative knowledge of Reagan's candidacy that is available to the individual, both in terms of both positive or negative aspects. As a result, it should reflect recognition of the candidate more broadly.

Next, I investigate if celebrity exposure improved attitudes toward Reagan by analyzing the relative frequency of positive to negative traits. Specifically, I compute the difference between the number of positive and negative attributes provided. This constitutes a measure of the respondent's evaluation of the candidate conditional on recognition and should correspond to perceived favorability of Reagan overall.

Lastly, I examine the content of the responses to diagnose the exact margins along which assessment of Reagan's candidacy was affected. The open-ended replies are collapsed into five broad categories: "Personal Characteristics," "Political Ability," "Experience/Network," "Political Philosophy," and "Foreign Policy."

The responses categorized as "Personal Characteristics" concern the personal or leadership qualities of candidates (Hayes 2009). They include comments describing the candidate as "genuine" or having "character." Each of these reflects a personality-based evaluation of the candidate, representing a sort consideration that could have become more prominent through the consumption of *G.E. Theater*.

The other categories capture more cognitive and political-based considerations. "Political Ability" includes discussions of the candidates' perceived political acumen. "Experience/Network" contains references to the candidates' prior political record or relationship to other members of his party. "Political Philosophy" comprises comments about the candidate's party affiliation or ideological positions more broadly. "Foreign Policy" accounts for mentions of any specific foreign issues or policies. Because *G.E. Theater* was broadcast on a particularly intimate medium with politically vacuous content, it likely elevated the perception of some attributes while leaving the perception of other traits unchanged.

B. *Empirical Strategy*

The primary empirical question is whether, and how, the consumption of *G.E. Theater* affected individual political decisions. Namely, I test whether *G.E. Theater*

exposure had an effect on candidate choice, name recognition, candidate evaluation, and stated rationale for vote choice. To fully disentangle all channels present, I pay particular attention to how each effect hinges on individual characteristics and differs between elections. The dependent variables are defined as described in the previous section, and summary statistics for all individuals from the sample years (1980 and 1984) are presented in online Appendix Table A6.

The identification strategy in this section exploits differential exposure to *G.E. Theater* across localities and birth cohorts. I leverage the fact that in the ANES sample for each election year, individuals from different birth cohorts within the same locality varied in the number of cumulative years that they had been exposed to the program. I combine these cohort-level differences with the geographic variation in broadcast signal to construct a county-cohort measure of probabilistic exposure to the program.

To link survey respondents to the respective predicted signal strength, I rely on the location of the individual at the time of the survey, which is identified at the county level. Because the county of birth is unavailable in the data (only the state of birth is given), the county in which the survey was taken represents most precise measure of location.[26]

For the cross-cohort variation in relative propensity to watch the show, I utilize the age of respondents at the introduction of the show. Because *G.E. Theater* was an evening program targeted toward adults, people who were age 18 and older at its introduction in 1955 were more likely to watch the program. This "treated" cohort would, on average, have greater exposure than later cohorts (i.e., those people who were children or infants when the show was first introduced).[27] Moreover, individuals who were born after 1964 (when the show ended) would be completely untreated and serve as a control group.

Conceptually, the empirical framework follows similar logic to that of a generalized difference-in-difference approach (DiD). Specifically, as the first difference, I compare differences in outcomes between cohorts that watched *G.E. Theater* and cohorts that did not. As the second difference, I compare respondents living in areas with a strong broadcast signal with respondents living in poor signal locations.[28] This intuition is formalized in the following regression specification:

$$(4) \quad y_{itc} = \beta\left(Signal_c \times Exposed_t\right) + \alpha Signal_c + \sum_t \delta_t Cohort_t + \gamma \mathbf{X}_i + \sigma_s + \epsilon_i.$$

Here, y_{itc} is the outcome of interest for individual i belonging to cohort t from county c; $Signal_c$ is the ITM-predicted CBS signal strength at county c; $Exposed_t$ is a binary indicator that equals 1 if an individual was born prior to 1937, i.e., reached at least 18 years of age by 1955, and 0 otherwise. A state fixed effect, σ_s, is included

[26] Respondents must have lived in the survey county during the airing of *G.E. Theater* for this to be valid. As a crude control for migration, I exclude observations where the state of birth does not match the state where the survey was taken.

[27] The viewership demographics for the program skewed to the older side. This is revealed in the Arbitron market reports.

[28] In contrast to traditional difference-in-difference strategies, I use a continuous measure of treatment because of signal strength, which captures more variation.

along with a set of birth cohort fixed effects, $Cohort_t$. Note, $Cohort_t$ are dummy variables for ten-year birth cohorts starting in 1905 (before 1905, 1910–1915, 1915–1920, etc.).This strategy accounts for level differences between localities and between cohorts.

The term $\mathbf{X}_i$ is a vector of individual-specific covariates, including gender, race, education, religious affiliation, household income, political identification, partisanship, employment status, and, as a proxy for racial views, support for school integration. The coefficient of interest, β, reflects a comparison of the changes across "treated" and "control" cohorts, between locations with strong and weak signal strength. This identifies the causal effect of *G.E. Theater*, under the assumption that in the absence of the show, the changes in outcomes would not have been systematically different in high and low CBS reception areas.

C. *Results*

Using the framework above, I examine political responses to *G.E. Theater* along multiple margins. Table 10 presents the resulting estimates. To verify the aggregate-level results on voting, I first estimate the relationship between exposure and individual vote choice. The results are shown in columns 1 and 2 for election years 1980 and 1984, respectively. The effect of *G.E. Theater* on the reported decision to vote for Reagan is statistically significant and positive in 1980 but not in 1984.

Next, I study the margins along which exposure swayed voters. First, I investigate its effect on the channel of name recognition specifically. The dependent variables are the two measures of name recognition described in the previous section. Columns 3 and 4 show the effect of watching *G.E. Theater* on recognition of Reagan in 1980 and 1984, respectively; columns 5 and 6 illustrate how knowledge of Reagan's candidacy varied with exposure to *G.E. Theater* in the two election years. Surprisingly, I fail to detect any significant effect on name recognition as proxied by these two measures. Differentially exposed individuals were not more likely to recognize Reagan, and there was not a significant difference in terms of knowledge of Reagan between viewers and nonviewers. A partial explanation for this puzzling nonresult is that presidential elections are highly publicized events with prolonged campaign periods; hence, both major party candidates would be household names, leaving little margin for intervention.

Second, I test whether exposure to *G.E. Theater* led to positive opinions of Reagan as a candidate. Columns 7 and 8 indicate that individuals more likely to watch the program attributed more positive traits to Reagan than those less likely to watch. Owing to the small sample size, the estimates are imprecise and only significant at the 10 percent level. The point estimates are roughly the same across both elections. Taken together, the results in Table 10 suggest *G.E. Theater* viewers evaluated Reagan more favorably than nonviewers and this positive perception translated into electoral support in 1980.

To provide more context for the mechanisms, I assess how the effects vary based on individual characteristics. Specifically, I distinguish between politically informed and uninformed respondents. I utilize surveyor-assessed measures of

Table 10—Individual-Level Results on Reported Vote, Name Recognition, and Attitude

Dependent variable:	Vote choice		Name recognition		Candidate knowledge		Positive perception	
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Born < 1937 × signal strength	0.0399 (0.0202)	−0.0017 (0.0170)	−0.0022 (0.0084)	0.0027 (0.0048)	0.0745 (0.0766)	0.0020 (0.0768)	0.0383 (0.0185)	0.0254 (0.0133)
Baseline controls	X	X	X	X	X	X	X	X
State fixed effects	X	X	X	X	X	X	X	X
Election year	1980	1984	1980	1984	1980	1984	1980	1984
Dependent variable mean	0.299	0.346	0.980	0.986	2.247	2.878	0.453	0.435
Observations	1,022	1,544	1,008	1,533	1,022	1,544	1,022	1,544
R^2	0.326	0.364	0.118	0.091	0.231	0.172	0.300	0.421

Notes: This table shows the effect of CBS exposure on vote choice, name recognition, candidate knowledge, and perception of Reagan. Each observation is an individual response from the 1980 or 1984 ANES surveys. Baseline controls include occupational category, religious affiliation, household income, political status, partisanship, union membership, age, gender, race, education, rural status, and birth cohort. Standard errors are clustered at the state level and presented in parentheses.

political knowledge for this purpose.[29] I identify whether an individual possessed above- or below-average political knowledge. Then I compare the effects on vote choice, name recognition, candidate knowledge, and candidate favorability across the two groups by separately estimating the model for each of the two subsamples. For statistical power, I pool the 1980 and 1984 samples together.

Online Appendix Table A7 presents the DiD coefficients by subgroups. Each column corresponds to the pooled regression (1980 and 1984 election years together) restricted to the sample specified. Overall, some clear patterns emerge. At a baseline, politically uninformed respondents are less likely to vote and have less recognition of Reagan. For those individuals with below-average political knowledge, *G.E. Theater* increased awareness of Reagan's candidacy, both in terms of name recognition and candidate knowledge. Evidently, *G.E. Theater* has a positive effect on name recognition but only for politically uninformed voters, for whom engagement with political information would have been limited.

Interestingly, the effect on favorable evaluation does not vary significantly with a respondent's political disposition. Irrespective of voters' political knowledge or sophistication, exposure to *G.E. Theater* led to a more favorable evaluation of Reagan. This suggests *G.E. Theater* had the capacity to induce a positive assessment of Reagan, independent of name recognition alone.

To decompose what exactly drove this positive perception, I examine more closely what respondents said about Reagan. The results are presented in Table 11. The dependent variable in each column is an indicator for whether the stated justification for supporting Reagan belonged to one of the designated categories (personal characteristics, political ability, experience/network, policy, and political philosophy).

Individuals from treated cohorts living in locations where signal reception was strong were more likely to attribute their decision to vote for Reagan to his personal characteristics and justify their support for Reagan accordingly. There was no

[29] The results are also robust to using self-reported measures of political interest and political engagement.

Table 11—Attributional Categories

Dependent variable:	Personal traits (1)	Political ability (2)	Political philosophy (3)	Foreign policy (4)	Political experience (5)	Other (6)
Born $<$ 1937 $\times$ signal strength	0.0152	−0.0061	0.0025	−0.0030	0.0018	−0.0013
	(0.0072)	(0.0072)	(0.0038)	(0.0072)	(0.0033)	(0.0042)
Baseline controls	X	X	X	X	X	X
State fixed effects	X	X	X	X	X	X
Dependent variable mean	0.039	0.027	0.013	0.035	0.007	0.017
Observations	2,566	2,566	2,566	2,566	2,566	2,566
R^2	0.034	0.042	0.028	0.052	0.029	0.035

Notes: This table reports the results of the difference-in-difference specification with free-response category as outcome. Each observation is an individual respondent from the 1980 and 1984 survey cycles. The dependent variable in column 1 equals one if a respondent identifies the candidates' "personal traits" as attributes he or she liked about Reagan and zero otherwise. In the remaining columns, the dependent variables are binary indicators for if responses belonged to categories "candidate ability," "government philosophy," "foreign policies," "political experience/network," and "other," respectively. The explanatory variable of interest is the interaction of signal strength and having been born before 1937. In each specification, the full set of controls is included. Standard errors are clustered at the state level and presented in parentheses.

change in the assessment of Reagan's command of political policies, political ability, or standing within the party. *G.E. Theater* shifted considerations of Reagan's candidacy in a very distinct way, that is, by improving the perception of his nonpolitical qualities.

To present the evidence visually, I also estimate a fully flexible event study version of the model for each of the five response categories:

$$(5) \qquad y_{itc} = \sum_t \beta_t Signal_c \cdot Cohort_t + \alpha Signal_c + \sum_t \delta_c Cohort_t + \sigma_s + \epsilon_i,$$

where the vector of β_t reflects the differences in responses between individuals living in locations with strong and limited reception for each five-year birth cohort t. All other variables are defined in the same way. I plot these coefficients in Figure 3, where the reference cohort comprises individuals born after 1960 and is omitted from the figure. Panel A shows the point estimates of β_t along with the 90 percent confidence intervals for the personal characteristics category. The remaining four categories are plotted together in panel B.

For the "personal characteristics" response category, I find that earlier birth cohorts in counties with stronger CBS reception were significantly more likely to justify their support for Reagan on account of his personal traits. The relationship decreases successively for later cohorts and reaches zero for cohorts not yet born at the introduction of the program. This pattern is not observed for any of the remaining four response categories, where the relationship is constant across cohorts and small in magnitude throughout. Overall, the revealed patterns are consistent with the idea that *G.E. Theater* contributed to political support for Reagan exclusively along the channel of personalization. I conclude that *G.E. Theater* increased the salience of personal traits and personalized Reagan as a political figure.

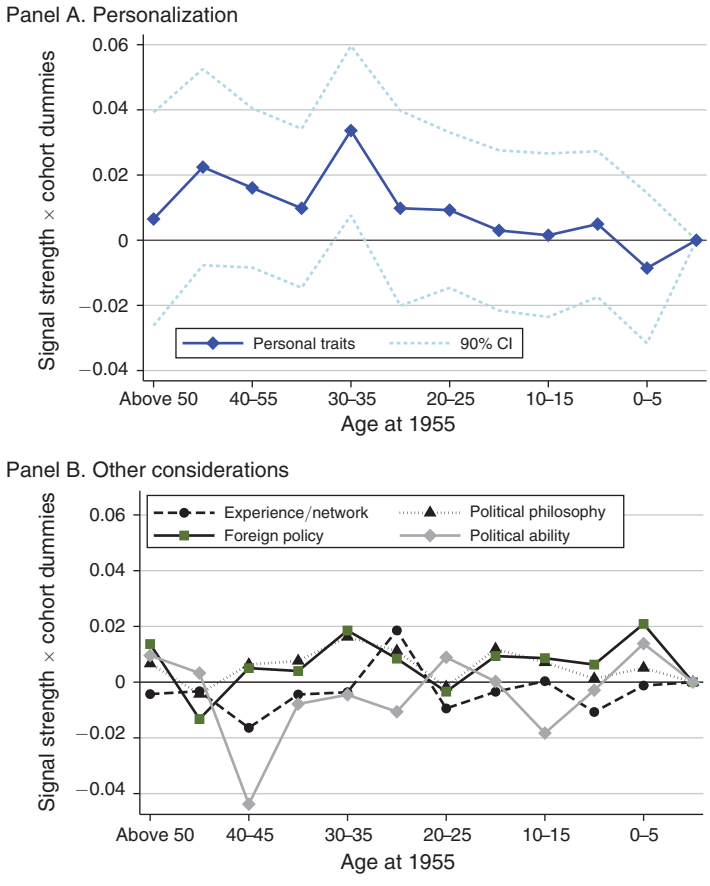

FIGURE 3. EFFECT OF DIFFERENTIAL EXPOSURE TO G.E. THEATER

Notes: This figure plots the dynamic DiD coefficients from the individual-level regressions of response category on the interaction between cohort dummies and CBS signal strength, where the regressions are run separately for each category of reason for voting for Reagan. The first panel shows the figure for personal characteristics. The coefficients from four other categories are plotted together in panel B. Details of the underlying regressions can be found in the text.

VI. Conclusion

In this paper, I study the political consequences of television celebrity. In particular, I document the impact of an entertainment television show on the electoral success of its host, Ronald Reagan, in his subsequent political career. My identification relies on the variation in geographical availability of CBS, the television channel that carried the program. This allows me to isolate exogenous variation in exposure and avoid concerns of joint determination or concomitant bias.

At the aggregate level, I find *G.E. Theater* had a positive and significant effect on electoral support for Reagan across three distinct sets of political elections: the California gubernatorial races, the Republican primaries, and the general presidential elections. A 1 standard deviation shift in the strength of CBS signal increased Reagan's vote share by 1.2 to 2.2 percentage points depending on the election considered. I perform extensive falsification analysis to rule out competing explanations. I provide

evidence that the effect of *G.E. Theater* varied based on the underlying composition of voters. The scope for persuasion is greater in areas with fewer voting restrictions and partially dissipates in localities where Reagan was a known political entity.

Based on these estimates as well as the results linking CBS signal to audience size, I calculate the persuasion rate and find that 11.84 percent of *G.E. Theater* viewers, otherwise not predisposed to voting Republican, voted for Reagan in the 1980 general presidential election. The implied persuasion rate is toward the higher end of that found in the media literature.

At the individual level, I shed light on the underlying channels through which *G.E. Theater* affected vote choice using the ANES surveys. I provide evidence that entertainment media altered electoral deliberation in a very specific way. Namely, voters differentially exposed to the *G.E. Theater* were substantially more likely to vote for Reagan on account of his personal characteristics. Evidently, *G.E. Theater* conveyed information only about his personal qualities. Assessment of his candidacy along other dimensions remained unchanged.

This link between media consumption and political personalization is novel. Personalized political culture, along with the candidate-centric politics associated with it, is often criticized in normative political science as a threat to democratic institutions. My study shows that mass media contributes to the personalization of politics in a presidential setting, even in an established democracy characterized by robust democratic traditions.

Fundamentally, the results contribute to extant knowledge of the vote decision process. Understanding what types of candidate information are pertinent and how that information is processed is key to understanding the selection of elected officials and, subsequently, the policies those elected officials enact. The economic theory of electoral competition is traditionally situated in the framework of the policy-oriented voter. Even without the assertion of full rationality, voters are, at the very least, presumed to be voting in order to advance a policy position or to express a *political* preference. While this preoccupation is not misplaced, the results of this paper suggest that candidates' personal characteristics unrelated to policy objectives constitute a significant, if substandard, criterion for vote choice.

Taken altogether, my results suggest that *nonpolitical* media appears especially effective as a vehicle for candidate advertisement. Because personal characteristics of candidates play an important role in voting outcomes and voters infer these qualities from observing candidates in a completely apolitical context, the political influence of even entertainment media is vastly underestimated.

In the current media landscape, celebrities are highly visible in politics, both indirectly through endorsements and directly through participation. Similarly, politicians appear frequently in nonpolitical settings, if not becoming celebrities outright. Thus, the line between celebrities and politicians is becoming blurred, and celebrity exposure is increasingly pertinent. The results of this paper suggest that one possible implication of this development is that political contests will hinge more on considerations of a personal nature as opposed to a political one. Consequently, candidates can possibly substitute substantive policy platforms with an investment in a strong personal brand or presence. This has potential implications for the entry and selection of political candidates.

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