

The Birth of a Nation: Media and Racial Hate

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Abstract

This paper documents the short- and long-run impacts of popular media on racial hate. I do so in the context of the first American blockbuster: the 1915 film “The Birth of a Nation,” a racist retelling of the Civil War and Reconstruction lionizing the then-defunct Ku Klux Klan. Exploiting the staggered distribution of the film’s “road show”, I find a sharp increase in lynchings coinciding with the movie’s arrival in a county. To examine long-run effects, I instrument for whether the film was shown in an area using information on the historical stock of movie theaters. I find that treated areas were significantly more likely to participate in the rebirth of the KKK during the 1920s. These areas continue to experience higher prevalence of hate crimes and hate groups nearly a century later.

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I Introduction

In recent years, the proliferation of hate speech and racially-incendiary media has generated significant controversy and raised concerns about its consequences on violent or discriminatory behavior. As one tragic anecdote, Dylann Roof attributed white supremacist websites and media coverage of George Zimmerman’s killing of Trayvon Martin with his decision to murder nine black parishioners at a Methodist church in Charleston. More broadly, policymakers from both sides of the aisle have implicated violent media in rising rates of hate crimes and mass shootings. Senator Bernie Sanders tweeted “Mr. President: stop your racist, hateful and anti-immigrant rhetoric. Your language creates a climate which emboldens violent extremists,” while Senator Chuck Grassley posited “You see all these films about everybody being blown up. Well, just think of the impact that makes on young people.”

Nonetheless, evidence of the effects of media exposure on violent behavior is limited. Most existing work relies on laboratory experiments examining changes in aggression (Anderson et al., 2003; Calvert et al., 2017), which may not translate to violence in the field, or correlational analysis of self-reported media consumption and behavior (Johnson et al., 2002), which may suffer from concerns of endogeneity and reporting bias. The nearest causal evidence on real-world violence likely comes from Dahl and DellaVigna (2009), who exploit the timing of modern film releases. In contrast to the laboratory and survey evidence, they find that violent movies reduce same-day assaults. However, their estimates are necessarily short-term and leave unanswered important questions about longer-run implications. Furthermore, they provide limited insight into the specific consequences of racially-charged media, an increasingly pressing policy concern.

A more fundamental question also remains. Research examining modern settings is only able to identify marginal effects on audiences who have already experienced significant media exposure throughout their lives. In 1993, researchers estimated that the average American witnessed nearly 200,000 violent acts on television by the time they turned 18 (on *Violence and Youth*, 1993). This number has likely only increased with the exponential growth of the internet and social media. Given evidence of desensitization and habituation to media (Fanti et al., 2009; Krahe et al., 2011), it becomes increasingly difficult to understand the aggregate impact of media on human behavior by examining marginal exposures today.

However, history provides a unique opportunity not only to trace out the short- and long-run impacts of media on racial hate but to do so at the advent of the American blockbuster: the 1915 movie *The Birth of a Nation* (BON). A fictional portrayal of the founding of the Ku Klux Klan during Reconstruction filled with racist depictions of African-Americans, the film is widely credited with the resurgence of the KKK (Simcovitch, 1972). Though it

had disbanded in the late 19th century, the Klan was revived six months after the movie's premiere and grew to include nearly 10% of adult white male population by 1924 (Fryer and Levitt, 2012).

At the same time, *The Birth of a Nation* was a cinematic spectacle the likes of which had never been seen before, one that historians have noted “would bring about a revolution in American moviegoing” (Stokes, 2007). The movie's production, marketing, and viewership had far more in common with modern big-budget movies than the short silent films of its era. An estimated 10 million Americans – roughly one-fifth of the adult white population – turned out to see movie in its first two years, paying as much as \$2 a ticket, forty times the going rate of other motion pictures. *The Birth of a Nation* was the first film ever screened at the White House and remains the third highest-grossing movie of all time (Stokes, 2007).

Unlike movies today, which are released simultaneously in theaters throughout the country, *The Birth of a Nation* premiered at a time when the movie theater industry was still in its infancy. Fewer than 60% of counties had a theater in 1915 and many of those were too small to house the elaborate projection equipment and orchestra needed to screen the three-hour epic. As a result, many people who wanted to see *The Birth of a Nation* had no way of doing so. Even those who lived close to a theater often had to wait months or years before being able to. This was because the film was disseminated via an extended road show lasting over four years, during which time the movie traveled from town to town for limited (and generally sold-out) theatrical runs.

The film's staggered and incomplete distribution provide an ideal setting to examine the consequences of media. By exploiting the timing of the film's arrival in different areas, I am able to identify its short-run impact on local acts of racial violence. I am then able to estimate long-run effects by comparing across areas that did and did not receive the film using the historical stock of local theaters as an instrument. Combined with widespread demand for the movie and the dearth of contemporaneous substitutes, this allows me to cleanly identify its impact without many of the concerns about media displacement and selection into exposure that complicate research in more media-saturated environments.

In the short-run, I find that the film triggered sharp spikes in racial violence. Using newly-collected information drawn from historical newspapers and trade magazines, I employ an event study design exploiting spatial and temporal variation from the film's road show. I observe a significant increase in lynchings coinciding with the movie's arrival in a county. In the month of the movie's premiere, counties were five times more likely to experience a lynching. In addition to extrajudicial killings, I find suggestive evidence that the film helped incite race riots.

To examine long-run effects, I instrument for whether a county received the movie based

on whether it had a movie theater in 1914, the year before the film’s release. My IV estimates reveal *The Birth of a Nation*’s lasting legacy on racial hate. In corroboration of historical accounts of the KKK, areas that screened the movie were significantly more likely to participate in the Klan’s rebirth than areas that did not. The IV estimates suggest that screenings of the film increased the likelihood of having a KKK chapter (“Klavern”) in 1930 by 60 percentage points, a 200% increase over the sample mean. Consistent with both the film and the Klan’s widespread appeal during this era (Fryer and Levitt, 2012), I find that significant effects on Klavern formation in a diverse range of areas – not simply those that were the most racist historically.

These effects persist to modern iterations of white supremacy. Using data on the presence of racial hate in the 21st century, I find that treated counties are not only significantly more likely to house a chapter of the KKK or other white supremacist groups in recent years but also continue to experience higher rates of hate crimes.

I provide several pieces of evidence supporting the validity of my findings and the exogeneity of the theater instrument. First, I show that whether a county had a theater in 1914 is orthogonal to historical measures of racial prejudice but predicts contemporaneous increases in lynchings and race riots that corroborate the event study analysis. Second, I exploit variation in the timing of theater openings and find that theaters constructed before the end of BON’s road show – but not after it – are correlated with Klavern formation. Third, I show that in counties where *The Birth of a Nation* was banned, historical theater stock is conditionally uncorrelated with future Klan presence. Together, these results reinforce the causal impact of the film on the institutionalization of hate-based ideologies and the commission of racial violence.

But what drives these effects? As insight into mechanisms, I examine changes in Democratic vote share and newly-collected data on hate speech. I find little evidence that the movie affected local Democratic support in the short- or long-run or that it sparked contemporaneous increases in newspaper mentions of the “n-word.” While only suggestive, these results indicate that the film’s impact on the underlying racial preferences of its viewers may have been limited. Though data constraints prevent me from further disentangling channels, this suggests that the film may have served primarily to aid in the coordination or revelation of local racists (Bursztyrn et al., 2017), which then facilitated group-based activities like lynchings or the formation of hate organizations.

These findings make several contributions. In examining one of the most widely-viewed films in American history, this paper adds to a large literature on the social impacts of entertainment media. Much of this work explores the effects of television on family decisions and find significant evidence that media exposure influences individual behavior – particularly

in ways that align with Western social norms (such as, gender equality or reduced fertility) (Jensen and Oster, 2009; Chong and Ferrara, 2009; La Ferrara et al., 2012; Banerjee et al., 2019; Kearney and Levine, 2015) or consumption habits (Bursztyn and Cantoni, 2015). Far less work has explored the role of entertainment media on fueling socially-harmful behaviors, with the notable exceptions of Dahl and DellaVigna (2009) and Card and Dahl (2011), who examine changes in violent behavior attributable to film violence and football games, respectively.¹ However, in contrast to this paper, those studies provide limited insight into long-run consequences or whether effects are driven by intertemporal substitution beyond the relatively short horizons they are able to examine.

This paper also serves to bridge two separate but related literatures around culture and identity. A growing body of work explores effects of radio propaganda (DellaVigna et al., 2014; Adena et al., 2015; Blouin and Mukand, 2019) and slanted news (Strömberg, 2004; Gentzkow, 2006; DellaVigna and Kaplan, 2007; Gentzkow et al., 2011; Martin and Yurukoglu, 2017; Philippe and Ouss, 2018) on racist, nationalist or political sentiments. An important distinction between those studies and this one is that the social impacts of popular film are likely a by-product of the audience’s desire for entertainment as opposed to their demand for information or ideological validation (DellaVigna and La Ferrara, 2015). With the exception of Yanagizawa-Drott (2014), who examine role of government radio broadcasts on the precipitation of Tutsi killings during the Rwandan genocide, another critical difference is that these studies primarily examine effects on attitudes, not extreme behaviors like violence. In focusing on contemporaneous outcomes, these studies are also unable to explore the persistence of attitudinal changes over time.

In contrast, a separate strand of research explores the deep roots of social norms and attitudes. These studies show that fixed historical characteristics such as agricultural practices (Alesina et al., 2013), plague-era pogroms (Voigtländer and Voth, 2012) and frontier geography (Bazzi et al., 2017) predict gender norms, anti-Semitism and “rugged individualism” centuries later. However, these studies leave open important questions about causality and provided limited insight into the determinants of the underlying historical features. In bridging these literatures, this paper makes use of historical data and a plausibly exogenous shock, which I am able to exploit to examine contemporaneous effects on racial violence. I am then able to trace these effects through time to understand their long-run persistence. This allows for me to tie the modern day prevalence of racial hate back to its causal origins, an important contribution for understanding the future ramifications of media consumption

¹Bhuller et al. (2013) examine how the roll-out of broadband internet in Norway affected sex crimes. They find that internet usage leads to increases in rape and child sex abuses, and posit that this is due to the direct effect of pornography consumption, a far different channel and medium than the one explored here.

today.

The remainder of this paper is organized as follows. Section II provides background information about *The Birth of a Nation*, Section III describes the data, Section IV presents my event study model and contemporaneous effects on racial violence, Section V describes the instrumental variables strategy and results on historical KKK formation, Section VI discusses mechanisms, Section VII examines present-day effects on hate crimes and hate groups, and Section VIII concludes.

II Background

A *The Birth of a Nation*

Adapted from the 1905 novel “The Clansman”, *The Birth of a Nation* was hailed by critics as “the greatest picture yet produced” (Stokes, 2007). The film premiered at a time when the industry was dominated by short, slapstick comedies that aired at local nickelodeons – converted storefronts that catered to working-class audiences with five cent tickets. In stark contrast to other pictures of the era, *The Birth of a Nation* was over three hours long and boasted high production values, modern editing techniques (such as cross-cutting), and violent action scenes. Combined with its “red-blooded tale of true American spirit,” the film captured the attention of audiences around the country.

The film tells the story of two families – the Northern Stonemans and the Southern Camerons – and the plight of their star-crossed children throughout the Civil War and Reconstruction. After the tragic deaths of several Stoneman and Cameron children in the war, the central arc of the plot follows the attempts of the elder Austin Stoneman, an abolitionist and the speaker of the House of Representatives, to punish the South and the heroic efforts of Ben Cameron to fight back by forming the Ku Klux Klan.

Throughout the film, African-Americans are portrayed as lustful, uncivilized criminals. In one infamous scene, Gus, a freedman played by a white man in blackface, chases Flora Cameron through a forest while professing his desire for marriage. To escape his clutches, Flora commits suicide by leaping off a cliff. In another scene, black legislators are shown propping their bare feet up on desks and eating fried chicken. Simultaneously, the film eulogized the then-defunct Ku Klux Klan. Klan members are depicted as fearless saviors fighting an unjust government. The climax of the film occurs when Ben Cameron leads a group of Klansmen to rescue Elsie Stoneman, who had been kidnapped by a mixed race man named Silas Lynch.

Despite numerous, unsuccessful efforts by the NAACP to ban or censor the film, its

reception far surpassed anything else in cinematic history. As Stokes (2007) writes, “*The Birth of a Nation* was the first American made film to be seen by a heterogeneous (if largely white) national audience.” Newspaper reports from the period suggest that nearly 50% of adults in Boston, Baltimore and New Orleans saw the film (Stokes, 2007). While exact ticket sales are unknown, the film is predicted to have grossed between \$20 and \$100 million during its initial run (Monaco and Lindroth, 2000). Adjusted for inflation, the upper end of that range would place the film as the third highest-grossing of all time – behind only *Avatar* and *Avengers: Endgame*.

Contemporaneous accounts indicate that regard for the film, in addition to viewership, was near universal (at least among whites). The Baltimore Reporter wrote “the movie possessed a peculiar sway over the emotions of all classes and degrees of men,” while Billboard Magazine went so far as to claim “there is absolutely nothing in the film that a sane mind can object to.” In summarizing these accounts, Stokes (2007) claims “wherever the film was shown observers agree that storms of applause greeted the climax of the film - the Klan rides” and that “in reality, Northern spectators cheered the Klan on just as enthusiastically as Southerners did.”

Such overwhelming praise would follow the film for decades. The movie’s director, D.W. Griffith, would go on to be called “the father of film” and “teacher of us all” by iconic stars like Charlie Chaplin, while Mary Pickford, co-founder of the Motion Picture Academy, would claim *The Birth of a Nation* was “the first picture that really made people take the motion picture industry seriously” (National Public Radio, 2015). More recently, the American Film Institute listed the movie as the 44th best film of the past century, while even modern critics conceded “the worst thing about [the film] is how good it is” (Brody, 2013).

B Distribution and Reception

The film’s eventual acclaim was foretold by early praise from advance screenings in Los Angeles, New York and Washington, DC. In February 1915, *The Birth of a Nation* became the first film ever screened at the White House. After seeing the picture, President Woodrow Wilson is reported as saying “It is like writing history with lightning. My only regret is that it is all so terribly true.”² The next day, the film was “cheered and applauded throughout” at a private screening attended by numerous members of Congress and the Supreme Court, including Chief Justice Edward White, a former Klansman himself. Similarly, *The Moving Picture World*, a prominent trade magazine, reported that “the drama critics of all of the New York newspapers attended the premiere and in almost every instance the picture was

²Some have questioned the veracity of this quote.

reported at length and in glowing terms.”

While little national media existed at the time, the hype generated by initial reviews and by exaggerated claims of the film’s \$500,000 production budget led to widespread demand throughout the country. Advertisements pitched the film as “the mightiest spectacle ever produced” and a “colossal production” (Stokes, 2007) (p.116). In order to accommodate the film’s “two projecting machines”, “various other pieces of electrical equipment [that] need to be installed at the correct distance from the screen” and “the stage and orchestra pit [which need to be] rearranged to accommodate the apparatus necessary to produce realistic battle and other sound effects,” Epoch Producing Company, the film’s primary distributor, targeted newer, upscale movie theaters as well as large, traditional playhouses and opera theaters. The best seats sold for as much as \$2, comparable to tickets for live theater performances and equivalent to nearly \$50 in 2020 dollars.

Given the nascent state of the movie theater industry, Epoch decided that the most profitable way of distributing the film to eagerly-awaiting audiences was through a massive road show, the scale of which had never been undertaken before. While Epoch managed the road show in select major cities, distribution rights and profit-sharing agreements were sold to road show companies in other parts of the country. Each company consisted of between fifty and a hundred people including its own manager, projectionist and technicians as well as a full orchestra, which performed the film’s musical score live.

Despite the number of distributors, it took several years for *The Birth of a Nation* to tour the country. As one newspaper explained to its anxious readers, “the elaborateness of the mounting and accessories forbids its multitudinous reproduction” (Stokes, 2007). This impacted not only where the film could be screened but also how long each screening took. The process of installing all this equipment often lasted several days, slowing the film’s dissemination. As a result, local newspapers often lamented the “long, slow, tedious and tiresome time” awaiting the film’s arrival (Stokes, 2007) and the film’s road show would not conclude until 1919, nearly four years after its premiere.

Once *The Birth of a Nation* arrived in an area, tickets sold out quickly and often in advance. Newspapers described the film as a “once-in-a-lifetime” experience and often reported on the notable luminaries and out-of-towners who attended nearby showings. In many cases, local demand remained unsated by the time the film moved on to the next town. Newspaper advertisements would count down the number of remaining showings, urging readers to view the spectacle while they could, and distributors frequently brought the film back to the same theater months or years after its initial run for sold-out return showings.

C Historical Legacy

In addition to its enduring cinematic legacy, *The Birth of a Nation* is often linked to the rebirth of the Ku Klux Klan. At the time of the movie’s release, the KKK did not exist. The Reconstruction-era Klan depicted in the film was founded by former Confederate soldiers as an insurgent movement targeting black political leaders and white sympathizers. However, that version of the Klan dissolved not long after the passage of the Enforcement Acts in 1871, which outlawed many of its intimidation tactics.

Six months after *The Birth of a Nation*’s premiere, William J. Simmons founded the second Ku Klux Klan atop Stone Mountain, Georgia. Inspired by the recent lynching of Leo Frank, a Jewish man convicted of murdering a 13 year-old girl, as well as newspaper stories about the film, the Methodist preacher declared himself Imperial Wizard of the Invisible Empire on Thanksgiving Day 1915 (Stokes, 2007). Simmons chose the day strategically in anticipation of the film’s opening in Atlanta the next week. He placed newspaper ads next to movie showtimes recruiting for “a high class order for men of intelligence and character” and marched to the premiere with his fellow Klansmen in tow. Though Simmons’ Klan stagnated until the end of the film’s roadshow, it began to grow rapidly in 1920, reaching a peak of over 4 million members in 1925.

In addition to inspiring the rebirth of the KKK, *The Birth of a Nation* is credited with inventing many of its later practices. After Flora Cameron’s suicide, the film depicts Klan members burning a cross drenched in her blood before lynching her pursuer. By all historical accounts, the first KKK never burned crosses. Similarly, the film’s Klansmen are adorned in matching white robes and hoods. While some members of the first KKK wore white hoods (usually over black robes), there was no standard uniform and many others wore animal horns, wizards caps, or even flour sacks (Kinney, 2016).

Nonetheless, these cinematic flourishes would become synonymous with the KKK. When Simmons founded the second Ku Klux Klan, he commemorated the occasion by burning a cross – an act he viewed as symbolic of “a service of love and sacrifice to our age and generation” (Simmons, 1923). Simmons would similarly ascribe historic significance to the white robes depicted in the film and adopted by his Klansmen, claiming that their purpose “was to keep in grateful remembrance the intrepid men who preserved Anglo-Saxon supremacy in the South during Reconstruction” (Simmons, 1923). Both practices continue to this day. As does the *The Birth of a Nation*’s central prominence in Klan ideology. David Duke, former Grand Wizard of the KKK, was known to screen the film for new initiates, while histories of the Klan claim “sooner or later just about every Klansman worthy of his robe sees the silent film classic” (Center, 2011).

III Data

A Movie Screenings

To determine where and when *The Birth of a Nation* was screened, I collected data on newspaper advertisements for showings of the movie. I searched three online repositories containing digitized historical newspapers: newspapers.com, newspaperarchive.com and the Library of Congress’ Historic American Newspapers database. Together, the databases contain information on over 30,000 unique newspapers and over half a billion digitized pages. In each database, I searched for the phrase “Birth of a Nation” in articles dated from 1914 to 1919 – the end of the film’s road show – and downloaded all search results. This resulted in over 100,000 hits.

A pair of research assistants visually inspected each document to determine if it contained an advertisement for a showing of the film.³ Because most of the film’s marketing was handled by Epoch Producing Co. and small number of other road show companies, the vast majority of ads included an easily recognizable logo: a black circle with the words “Birth of a Nation” inscribed within. In a small share of cases, advertisements took a different form. In total, the research assistants identified 6,231 ads.

[Figure I about here.]

Figure I contains an example advertisement. It is worth noting that the advertisements made no mention of the racial undertones of the film. Instead they focused on the movie’s large (and exaggerated) production, which “cost \$500,000”, “took 8 months to produce” and involved “3,000 horses”, as well as its “gripping heart interest and soul stirring emotions.” From each ad, research assistants captured information on the name and location of the theater as well as the screening dates. To supplement the newspaper data, research assistants also searched for “Birth of a Nation” in digitized copies of *The Moving Picture World* from 1915 to 1919. *The Moving Picture World* was an influential quarterly trade magazine for the film industry, which included reporting on the distribution of films around the country. This process recovered an additional 361 local film screenings.

[Figure II about here.]

Combining the two datasets, I identified the date that *The Birth of a Nation* was first shown in a county. Figure II displays this information in map form. Importantly, the film’s

³The remainder of the articles were more general news items about the movie or its actors, or spurious hits related to other topics

road show was not limited to former Confederate states, but spanned counties across the U.S. Additionally, there does not appear to be any clear regional pattern with regards to the timing of the film’s arrival in different parts of the country. As I will discuss later, demographic factors such as population size, distance to major cities and theater capacity more strongly predict receipt of the film than do measures of historical racism.

B Movie Theaters

To examine long-run effects, I exploit the extensive margin of treatment comparing counties that received the film during its road show to those that did not. I instrument for whether a county received the film using information on the historical stock of theaters prior to BON’s release. Geocoded information on the location of movie theaters in 1910 comes from data compiled by Jeffrey Klenotic from digitized copies of *Billboard Magazine* and displayed on mappingmovies.unh.edu. To supplement this data, I also gathered information from cinematreasures.com, an online compendium containing data on over 35,000 open and closed movie theaters drawn from archival research and crowd-sourced information. I scraped information for all U.S. listings, which captures the name and address of each theater. For over 90% of theaters, years of operation and seating capacity are also listed. From the two datasets, I create a variable indicating whether a county had ever opened a theater by 1914, the year before *The Birth of a Nation* premiered.

C KKK Chapters

County-level data on the historical Ku Klux Klan presence comes from the “Mapping the Second Ku Klux Klan” initiative at Virginia Commonwealth University. This information was drawn from a variety of sources including newspapers and publications sponsored by or sympathetic to the Klan and compiled by Kneebone and Torres (2015). The data contains the county of location as well as the date that each Klan chapter (“Klavern”) was first mentioned in a publication. While this provides an upper-bound on when a Klavern was formed, the data does not contain information on the years a Klavern was active, its date of dissolution, or its membership levels. I use this information to create an indicator variable for whether a Klavern of the second KKK had ever been formed in a county by 1930.

To examine Klan presence in later years, I draw on two sources of data regarding the third Ku Klux Klan, which originated in the 1950s and persists today. Data on the location of Klaverns in the 1960s come from Mazumder (2018), who compiled data from contemporaneous House Un-American Activities Committee reports. Data on the location of active Klaverns and other hate groups from 2000 to 2019 come from the Southern Poverty Law

Center’s Hate Map.

D Racial Violence

To examine effects on acts of racial violence, I leverage information from several different sources. Data on the timing and location of lynchings comes from the Historical American Lynching Data Collection Project (“Project HAL”), which in turn are drawn from archival work by Tolnay and Beck (1995). Because this data focuses primarily on lynchings in the South while *The Birth of a Nation* was shown nationwide, I supplement the data with newly-uncovered information from Seguin and Rigby (2019) on lynchings in other parts of the country. Data on the timing and location of historical race riots comes from archival research gathered by Gilje (1996) and by the Red Summer Archive (visualizingtheredsummer.com). While comprehensive historical data on less extreme forms of racial violence does not exist, information on the prevalence of hate crimes in recent decades is available from FBI Uniform Crime Reports. I examine data from 2000-2018 cleaned and compiled by Kaplan (2020).

IV Contemporaneous Effects on Racial Violence

A Empirical Strategy

To estimate short-run effects on local lynchings and race riots, I exploit the staggered distribution of the *The Birth of a Nation*’s distribution during its roadshow from 1915 to 1919. Specifically, I employ an event study model to examine changes in the months leading up to and following the movie’s arrival in a county. I focus only on the film’s first showing in a county, as the timing and location of return showings may be more likely to influenced by issues of endogeneity.

Given widespread demand for *The Birth of a Nation* across the country, whether and when the film was first shown in a county was determined more by geography and theater capacity than differences in local demand or sympathy for racist media. As an anecdotal example, consider one Denver newspaper’s lament that “With New York 1,934 miles to the east of us...it seems probable the \$2 admission price will have a long, slow, tedious and tiresome time reaching Denver” (Stokes, 2007).

[Table I about here.]

As descriptive evidence, Table I presents summary statistics comparing counties that did and did not receive the film. Notably, I find little evidence that treatment areas were

observably more racist than control areas.⁴ Rather, the main differences between groups lie in population, density and newspaper penetration, suggesting that market size and demand for media were likely primary predictors of the road show’s path.⁵

Nonetheless, it is important to note that the event study design used to examine short-run effects does not require unobserved factors correlated with racism to be uncorrelated with treatment. The model instead relies on a parallel trends assumption and accounts for level differences between treatment and control areas by examining changes in acts of racial hate before and after the film’s arrival. In particular, I estimate the following equation on monthly panel data from 1914 to 1921 for all counties outside of Alaska:

$$(1) \quad y_{c,t} = \delta_c + \lambda_{s,t} + \sum_{\tau=-6}^6 \beta_{\tau} Show_{\tau} + \epsilon_{c,t}.$$

Here, $y_{c,t}$ is an indicator for whether a lynching (race riot) occurred in county c at month t . To account for level differences between areas, I include county fixed effects (δ_c). $\lambda_{s,t}$ are state-month fixed effects that flexibly control for state-wide trends in racial hate. The coefficients of interest (β_{τ}) are on a vector of indicators set to 1 if time t is τ months from the first showing of *The Birth of a Nation* in county c . The omitted period is the last month before the movie’s arrival in a county and $Show_6$ ($Shot_{-6}$) is set to 1 for periods more than 6 months after (before) a showing. Standard errors are clustered by state.

B Lynchings

Results from estimation of Equation 1 on lynchings are presented in Panel A of Figure III. I find that the movie’s premiere coincides with a statistically significant increase in lynchings. The validity of these findings is supported by the flat trend in lynchings prior to treatment. In the six months prior to film’s arrival, the 616 treatment counties experienced two lynchings combined and none within two months of the film’s arrival. In the month of the film’s arrival, treated areas experienced a five-fold increase in the rate of lynchings.

[Figure III about here.]

⁴While treated areas were slightly more likely to have a Confederate monument prior to the movie’s release, these areas had similar numbers of historical lynchings and similar black and foreign-born population shares. Furthermore, treated counties were in fact less likely to be located in the Deep South or to support Woodrow Wilson in the 1912 presidential election.

⁵Section V provides empirical corroboration for this claim with respect to the extensive margin of treatment (whether a county received BON). Meanwhile, Appendix Figure A.I provides support regarding the intensive margin of treatment and shows that when the film arrived in a county is strongly predicted by fixed demographic and geographic factors such as population size, distance to major cities and theater capacity.

It is worth noting that these effects are driven by a handful of events. From 1914 to 1921, there were about 80 lynchings per year across the entire nation. However, while rare, lynchings are perhaps the most extreme and heinous expressions of racial hate and have deleterious spillovers on innovation and economic growth (Cook, 2014). Furthermore, given that lynchings likely comprised only a minuscule share of all racial violence during this period, these effects are likely a far lower bound of the total impact of BON on racial hate. Examining historical archives from the early 1900s, Tolnay and Beck (2018) identify as many incidents of threatened lynchings as actualized lynchings. This ignores incidents of racial prejudice from speech to violence, fatal or non-fatal, performed by individuals rather than mobs. Unfortunately, comprehensive historical data on violent crimes (much less racially-driven ones) does not exist.

C Race Riots

Panel B of Figure III examines the effect of BON’s arrival on race riots. The point estimates indicate a sharp increase in the likelihood of a county experiencing a race riot in the three months following the movie’s premiere. These estimates correspond to a five-fold increase in the likelihood of experiencing a riot. While effects are not statistically significant, this is likely due in part to the scarcity of riots. From 1915 to 1921, a period spanning the Red Summer and the peak of race riots in the U.S., there were roughly 20 race riots per year nationwide (Cook, 2014).

Combined with the lynchings analysis, the findings suggest that *The Birth of a Nation*’s arrival in a county sparked increases in racial violence. One explanation for these effects is that the film had a direct impact on the racial preferences of its viewers. This is consistent with reports of the emotional sway the film held over its audience as well as an oft-repeated anecdote about a white moviegoer in Indiana who shot a 15-year-old black high school student after leaving the theater (Lynskey, 2015).

Alternatively, by bringing hundreds of audience members into a room together, the film may have served to facilitate the coordination of local racists or to erode social norms that prevented individuals from acting on their prejudice (Bursztyn et al., 2017). Given that both lynchings and race riots are perpetrated by mobs, this explanation is consistent with the data analysis at hand.

D Robustness

The Appendix contains additional analysis demonstrating robustness of the short-run estimates. Figure A.II estimates Equation 1 using alternative samples. To improve compa-

rability between the treatment and control groups, the first restricts the control group to counties neighboring treated counties. The second drops all control counties, restricting the analysis to treated counties only. While pure event study models may suffer from issues of under-identification (Borusyak and Jaravel, 2016), this helps address any lingering concerns about demand effects by exploiting only variation in treatment timing. As shown, results are highly similar to those from the full sample. This suggests that the observed effects are not driven by underlying time trends in the surrounding area or nationally. That historical measures of racial hate and tension were parallel in trend and similar in level between treatment and control counties supports the validity of cross-group comparisons, which I will leverage to examine long-run outcomes on hate group formation in the next section.

To test whether the documented effects are specific to the timing of the movie’s arrival, I run a series of permutation tests. In each regression, I randomly assign each county a placebo treatment date drawn (without replacement) from the distribution of actual treatment dates. I then estimate Equation 1 using the placebo arrival dates. Figure A.III presents the histogram of coefficients for $\tau = 0$ and $\tau > 0$ (coinciding to the month of the movie’s arrival and the months afterwards, respectively) from a series of 250 tests. Panel A examines lynchings and shows that zero (one) of the placebo estimates for $\tau = 0$ ($\tau > 0$) exceeds the true effect at $\tau = 0$ (0.007). Examining race riots, Panel B shows that 14 out of 250 (6.4%) placebo estimates for $\tau = 0$ and 78 out of 1500 (7.3%) of placebo estimates for $1 \leq \tau \leq 6$ exceed the true effect at $\tau = 0$ (0.0018).

V Historical Effects on the Second Ku Klux Klan

A Empirical Strategy

I next examine longer-run effects on hate group formation. While the event study design allows for valid estimation of short-run effects, the parallel trends assumption may be less plausible over longer horizons. More practically, there is no pre-period data to estimate a difference-in-differences as the second Ku Klux Klan did not exist until after *The Birth of a Nation* premiered and did not gain wide prominence until the early 1920s.

Instead, I leverage an instrumental variables strategy to assess the film’s long-run impact on KKK formation. Here, I exploit cross-sectional variation between counties that received the film during its roadshow and those that did not. Using cross-sectional data, the primary relationship of interest is:

$$(2) \quad KKK_c = \lambda_s + \beta Screened_c + X'_c \Gamma + u,$$

where KKK_c is an indicator for whether county c had a Klavern by 1930, $Screened_c$ is an indicator for whether the county screened *The Birth of a Nation* from 1915 to 1919, and X'_c is a vector of exogenous controls. The concern is that OLS estimates of β would be biased by the potential endogeneity of where the film was screened. The direction of this bias is *ex ante* ambiguous. If areas with higher levels of latent racial prejudice were both more likely to air the film and more likely to form KKK chapters, my estimates would be biased upwards. On the other hand, given the high ticket prices and widespread demand, distributors may have targeted the film towards wealthier areas where Klaverns were less likely to form.

To address this potential endogeneity, I instrument for whether BON aired in a county using the historical presence of theaters prior to the movie's release. Specifically, I estimate the linear probability model:

$$(3) \quad Screened_c = \delta_s + \gamma Theater_c + X'_c \Lambda + v,$$

where δ_s are state fixed effects and $Theater_c$ is an indicator for whether county c had opened a theater by 1914.⁶ In robustness analysis, I demonstrate similar effects using alternative instruments based on the relative prevalence, maximum seating capacity and year of construction of historical theaters. As before, standard errors are clustered by state.

For this strategy to yield valid causal estimates of the impact of BON on KKK formation, $Theater_c$ must be both relevant and exogenous. The first is obvious, as having a theater is a necessary condition to airing the film. The key concern then is whether my instrument is exogenous to omitted factors correlated with KKK formation.

[Figure IV about here.]

While I am unable to directly test the exogeneity assumption, I show that theater stock in 1914 is conditionally uncorrelated with historical measures of discrimination and prejudice. Figure IV displays results from estimation of Equation 3 on the number or severity of race riots from 1900 to 1914, Democratic vote share in prior Congressional elections, and the

⁶Basu et al. (2017) show 2SLS produces consistent estimates of local average treatment effect (LATE) in settings with binary outcomes and binary treatments, regardless of the rarity of those variables. Angrist and Krueger (2001) argue that LPM are preferable to probit or logit estimation of first-stage regression.

number or share of slaves in a county during the antebellum period. Across all outcomes, estimates are precise zeroes, with magnitudes that never exceed 0.05 standard deviations.

B First-Stage Results

The first-stage effects of theater stock on BON screenings are shown in Table II under several specifications. Column 1 tests the bivariate relationship between receiving the film and having a theater in 1914 and yields a large significant coefficient. Per Andrews and Stock (2005), I report Kleibergen-Paap F-statistics, which far exceed the 16.38 benchmark for maximal 10% bias in all cases.⁷

[Table II about here.]

Column 2 demonstrates that this relationship remains highly significant, if slightly attenuated in magnitude, after including a host of county demographic and location controls. Specifically, I control for a quadratic of 1910 population, black population share, U.S. born population share, urban population share, illiteracy rate, the share of individuals who would have been draft eligible during World War I, and average occupational income score. I also include quadratics for a county’s distance to each of the three nearest major cities (i.e., those with the 10 largest populations in 1910).

In Column 3, I further control for proxies of local demand for media. Specifically, I control for per capita newspaper circulation and the number of media markets in a county in 1912 using data from Gentzkow et al. (2011). The coefficient of interest shrinks slightly but remains statistically significant after including these controls.

In Column 4, I add controls for observable measures of racial prejudice in Column 4. These include the number of lynchings in a county from 1900 to 1905, Democratic vote share and turnout in the 1912 Presidential election (when Democrats were the less racially-progressive party), and the number of Confederate monuments in 1914. Notably, including these controls has no impact on the estimated relationship between theater presence and BON screenings. Both the coefficient of interest and the R-squared remain virtually unchanged. This is consistent with anecdotal evidence highlighting widespread demand for the film. In line with DellaVigna and La Ferrara (2015)’s assertion that “consumer demand for media content is largely due to demand for entertainment...[rather than] preference for particular economic outcomes,” I find that market factors, rather than racial prejudice, dictated where the film played.

[Figure V about here.]

⁷Kleibergen-Paap F-statistics are equivalent to Olea-Pflueger (2013) in $k = 1$ situations.

As a visual representation, Figure V presents a binned scatterplot of the relationship between actual treatment ($Screened_c$) and predicted treatment ($\widehat{Screened}_c$), where the latter is derived from the fully-controlled specification in Column 4 of Table II. As shown, the predicted likelihood of receiving the film is highly correlated with the actual likelihood.

C IV Estimates

Correspondence to Event Study Estimates

To validate the IV strategy against the event study model, I first estimate Equation 2 on lynchings and race riots, instrumenting for screenings using theater stock in 1914. These results are shown in Figure VI.

[Figure VI about here.]

In Panel A, each point represents the 2SLS estimate from a separate regression of the number of lynchings in a county over a five-year period on whether the county was part of the film’s roadshow. In support of exogeneity, I find insignificant, near-zero estimates for periods prior to the film’s release (i.e., the five-year periods spanning 1900-1904, 1905-1909 and 1910-1914). However, consistent with the event study analysis, I find evidence of a contemporaneous increases in lynchings (i.e., from 1915 to 1919) coinciding with the film’s arrival in treatment counties. This effect continues into the period spanning 1920-1924 before converging to zero from 1925 to 1939, when the United States averaged fewer than 10 lynchings per year.

Panel B of Figure VI replicates the analysis examining race riots. I again find little evidence that historical racial tensions are correlated with areas predicted to receive the film in later years. Consistent with the event study analysis, I also find a large, if insignificant, spike in race riots from 1915-1919, the period spanning the movie’s initial run.

Klavern Formation

I next examine the impact of *The Birth of a Nation* on the formation of Klaverns during the Second Ku Klux Klan. While the second KKK was founded shortly after the premiere of the film, it did not achieve wide prominence until several years later. Data from Kneebone and Torres (2015) note only five Klaverns with founding dates before the end of 1919. Due in part to mass recruitment efforts launched in 1920, Klan membership exploded over the following years (Fryer and Levitt, 2012). The Kneebone data includes 1,047 Klaverns founded by 1925, when researchers estimate membership peaked between 1.5 and 4 million members

(Jackson, 1992).⁸ Because the data only includes information on the year a Klavern was first chartered and not the years it was active, I define the outcome of interest as whether a Klavern had ever been established in a county by the end of 1930, when KKK membership had dwindled to 30,000 individuals nationwide.

[Table III about here.]

Table III tests the relationship between the BON screenings and Klavern formation. Instrumenting for screenings using the presence of a theater in 1914, I find that counties that aired the film were 60 percentage points more likely to have a Klavern by 1930, a 200% increase over the mean (0.32).

Columns 2 through 4 of Table III present results from restricted samples. In Column 2, I restrict the control group to counties neighboring treatment counties in order to increase comparability between groups. To account for the possibility that areas with theaters differed on unobservables from those without theaters, Column 3 restricts the sample to counties that had at least one movie theater by 1930. Finally, because the location of BON screenings and Klavern foundings were both partly drawn from historical newspapers, selection concerns due to incomplete historical newspaper archives may bias the estimates upwards. To account for this, Column 4 restricts the sample to those counties where digitized pages exist for at least one local newspaper from 1915. In all cases, I continue to find large, significant effects on Klavern formation.

Across models, the 2SLS estimates are larger than the OLS estimates. One potential explanation is the fact that distributors of the film targeted the “highest quality theaters... at prices charged for the best theatrical attractions” (Stokes, 2007). Thus, the movie was steered towards areas with large enough populations of well-heeled individuals able to afford the \$2 price of admission.⁹ In contrast, MacLean (1995) notes that Klan members were “not the ‘best people,’” but rather “the good, solid middle class citizens”. Another potential explanation for the discrepancy between OLS and 2SLS estimates is that screenings of BON were delayed or cancelled in many cities due to local NAACP protests against the film. If Klaverns formed in part to counter the rise of civil rights organizations, this would also bias OLS estimates towards zero.

⁸As a visual representation, Appendix Figure A.IV plots the number of Klaverns over time.

⁹Historians have credited the film with transforming the movie-going audience from patrons of nickelodeons – one-reel, store-front theaters frequented by lower-class workers – to a more affluent theatergoer set (Stokes, 2007). As one theater critic of *the New York Times* noted in reference to BON’s New York premiere, “if anyone had told me two years ago that the time would come when the finest looking people in town would be going to see the biggest and newest theater on Broadway for the purpose of seeing motion pictures, I would have sent them down to...Bellevue Hospital” (Koszarski, 1994).

The IV estimates indicate the significant role that *The Birth of a Nation* played in the rise of the second Ku Klux Klan. But where did the film catalyze the formation of hate groups and what local conditions helped facilitate this effect? To explore these questions, I estimate heterogeneous effects across various county sub-samples in Figure VII. Strikingly, I find evidence of significant, positive effects on historical KKK formation regardless of demographic, geographic or cultural conditions. 2SLS estimates are similar for counties with high and low black population shares, population density, Democratic vote share, and illiteracy rates. They are also quite similar when comparing between counties that were close or far from major cities and when comparing between areas inside and outside of the Deep South.

[Figure VII about here.]

These findings suggest that *The Birth of a Nation* inspired the formation of hate groups across a diverse set of areas, not just those where racial prejudice and minority presence was highest or where educational attainment and population density was lowest. While it is possible that the intensity of KKK activity according to these factors in ways that I am unable to observe given data constraints, the pattern of effects is consistent with the overwhelming praise the film received across the country. It is also consistent with work by Fryer and Levitt (2012) on the broad historical appeal of the second Ku Klux Klan. In contrast to modern perceptions of Klansmen as uneducated conservatives living in the rural South, they find that a large share of members were well-educated professionals and lived in demographically-similar areas as non-members.

Robustness

Alternative Instruments

As evidence of robustness, Appendix Table A.I presents results from Estimation of Equation 2 using alternative instruments. Rather than leveraging the extensive margin of historical theater stock (i.e., whether a county had a theater in 1914), Column 2 leverages variation in the intensive margin: instrumenting for BON screenings using the number of theaters per 1,000 residents. Because the film's distributors targeted larger theaters in order to maximize attendance and revenue, Column 3 instead uses the seating capacity of a county's largest theater. Column 4 uses this same seating capacity instrument but restricts the analysis to those counties for which seating capacity information was available from cinematreasures.com. In Columns 5, I instead exploit variation in the timing of theater construction and instrument for treatment using the year a county's first theater was opened. Column 6 uses the same

instrument but restricts to counties with at least one theater by 1930. Across specifications, I find evidence of large, positive effects of *The Birth of a Nation* on Klavern formation. F-statistics demonstrate high relevance between the instruments and treatment, and IV estimates are statistically significant at the 5% level in all cases but one (which is significant at the 10% level).

Exogeneity

One potential threat to identification is that counties with movie theaters may have received films other than *The Birth of a Nation* that also affected KKK formation. This would violate the exogeneity assumption. While it is impossible to disprove, I provide two pieces of evidence that suggest this concern is unlikely.

First, I leverage the fact that BON was banned in the state of Kansas until the mid-1920s by Governor Arthur Capper, who feared the film would “excite racial prejudice” against African-Americans. While the ban was clearly not random, attempts to ban or censor the film were not unique to Kansas.¹⁰ Furthermore, Governor Capper’s decision was widely opposed even within the state. The Topeka State Journal called it “a ploy for Negro votes” and the Independence Daily Reporter “a serious mistake.”¹¹ However, because the ban applied to all counties in Kansas, it was likely orthogonal to county-level demand for the film or other local conditions. This allows for a unique test of the exclusion restriction: whether having a theater in 1914 is exogeneous to KKK formation in later decades, absent *The Birth of a Nation*.

In Figure A.VI, I estimate reduced form regressions between Klavern formation in 1930 and theater presence in 1914, separately for counties in Kansas and those in all other states. As shown, I find a significant positive relationship between historical theater stock and KKK formation in areas where BON was not banned (Panel B). However, in Kansas, this relationship is insignificant and negative (Panel A). This is not due to Kansas being a particularly racially progressive state or an area that the second KKK failed to penetrate. In fact, Jackson (1992) estimates that per capita Klan membership during the 1920s was 50-100% higher in Kansas than in neighboring states of Nebraska and Missouri. Thus, the null relationship between theater presence and KKK formation in Kansas provides suggestive evidence that historical demand for media and potential exposure to other films are not positively correlated with latent racial animus.

¹⁰Local citizens, primarily African-Americans, protested the film in Ohio, Chicago, Boston, and West Virginia among other places. However, in contrast to Kansas, protests served only to briefly delay the film’s arrival in those areas.

¹¹<https://www.cjonline.com/article/20150215/NEWS/302159787>

As a second test of exogeneity, I exploit the timing of theater openings across counties. If theater presence affects KKK formation through some channel other than *The Birth of a Nation* – such as its correlation with unobservable racial preferences or by facilitating exposure to non-BON films – then I would expect to observe similar effects on KKK formation for theaters constructed before and after the film’s road show. However, if this relationship is mediated only by BON, theaters constructed after the film’s road show should have no impact on KKK formation.

To test this, I estimate the reduced form relationship between KKK presence and the timing of theater construction in a county. Specifically, I regress an indicator for whether a county had a Klavern by 1930 on a vector of indicator variables corresponding to the period during which a county’s first theater was opened. The indicator for 1909 corresponds to all counties with theaters opened before the end of 1909, while the indicator for 1912 corresponds to counties with theaters first opened between 1910 and 1912, and so on. The omitted category are counties that did not have a theater by 1930.

As shown in Figure A.VII, I find that counties with theaters opened prior to 1918 are significantly more likely to have a Klavern by 1930, but counties with theaters opened after 1918 are not. This aligns with the timing of BON’s initial road show, which concluded in 1919, and provides further evidence that the relationship between historical theater stock and long-run KKK formation is driven by screenings of BON and not other correlated factors - such as latent preferences for racism or exposure to other films.

VI Mechanisms

There are multiple potential mechanisms that could explain the effects on racial violence and Klan formation. One set of mechanisms involves the film’s indirect effect on the coordination of audience members. That is, the film could have served as an organizing point for individuals interested in perpetrating racial hate or helped to reveal racist types by eroding social norms (Bursztyrn et al., 2017). This set of mechanisms is broadly consistent with the observed effects on group activities like mob-related lynchings and riots or the formation of hate groups.

Another set of mechanisms involves the film’s direct effect on the racial preferences or attitudes of its audience members. That is, the film may have caused viewers to become more racially-biased or to enter emotional “hot states” that facilitated acts of racial hate (Loewenstein, 1996). This is consistent with anecdotal accounts of the film’s visceral impact.¹² As

¹²It is also consistent with work by Card and Dahl (2011) showing that unexpected football upsets increase rates of domestic violence in the losing teams market.

Stokes (2007) summarizes, “people who saw Birth became sufficiently emotionally engaged with the story as to lose their natural inhibitions.” This mechanism is also consistent with findings from the 1931 Payne Fund study, one of the earliest social science experiments examining the impact of media (Peterson and Thurstone, 1933). There, 434 schoolchildren from an all-white town in Illinois were surveyed on their feelings towards blacks before and after seeing *The Birth of a Nation*. Researchers found increased anti-black prejudice that persisted for several months. These channels are not mutually exclusive nor are they exhaustive. Nonetheless, they provide a broad framework for considering the effects of media more generally.

Thus, to shed light on how the film may have impacted the racial preferences of its viewers, I examine changes in Democratic vote share. Given that historical survey data on racial attitudes does not exist, this is likely the nearest consistently measured proxy available at the county-level. Prior to the New Deal, Democrats were the less racially-progressive party. In 1914, President Wilson, a Democrat, told the *New York Times* “if the colored people made a mistake in voting for me, they ought to correct it.” Nathan Bedford Forrest, the grand wizard of the Reconstruction-era KKK, spoke at the 1868 Democratic National Convention and several Democratic politicians of the era were members of the either the first or second KKK.

[Figure VIII about here.]

Figure VIII presents 2SLS estimates from regressions of Democratic vote share in each Congressional election from 1900 to 1930. I find little evidence that the film influenced party support. Estimates are insignificant in all cases and demonstrate no clear directional trend. This provides suggestive evidence that the Klan effects are not driven by changes in the racial preferences of BON viewers, at least as reflected in ballot choice of voters, an admittedly small share of the local population.¹³

As corroboration, Appendix Figure A.V leverages the event study design to examine contemporaneous effects on anti-black hate speech. This comes from scraping historical newspapers for mentions of the “n”-word and its variants. I find little impact of the film’s arrival in a county on use of derogatory words in local newspapers. As with the vote share analysis, these are noisy measures of racial preferences drawn from a small sub-population – newspaper reporters. Nonetheless, given that newspapers tend to reflect the preferences and leanings of their readers (Gentzkow and Shapiro, 2010), these findings are consistent with null effects on Democratic support.

¹³For example, estimates suggest the U.S. population consisted of 95 million people in 1912. That year, roughly 15 million ballots were cast in the presidential election.

Taken together, I find limited evidence that *The Birth of a Nation* changed the racial preferences of local viewers. While this does not rule out a direct impact on viewer attitudes, it suggests that any persuasion effects may have been limited.

VII Long-Run Effects on Racial Hate

A Third Ku Klux Klan

To better understand long-run persistence, I examine the *The Birth of a Nation*'s impact on the presence of later iterations of the Ku Klux Klan. While embodying similar rhetoric, the Klan that exists today is an entirely separate organization from the second KKK, which dissolved by 1940, and emerged in opposition to civil rights and desegregation efforts in the 1950s. In contrast to the centrally-organized nature of the William Simmons' Klan, the third Ku Klux Klan is comprised of isolated, local branches and is far smaller in scale with estimates suggesting a peak of 10,000 members during the early 1980s (Bullard, 1998).

Figure IX shows 2SLS estimates on Klavern formation over time. In reading the figure, note that while data on the second KKK captures whether a Klavern had ever been established in a county by a given year, data on the third KKK captures whether an *active* Klavern existed at a given point in time.

[Figure IX about here.]

Consistent with the results presented in Table III, counties that received BON were significantly more likely to have a chapter of the second KKK, particularly after 1920 when the KKK began expanding rapidly (Fryer and Levitt, 2012). Notably, screenings of *the Birth of a Nation* are also associated with Klavern presence several decades later. The 2SLS estimates indicate that treatment counties were 15 percentage points more likely to have a Klavern of the third KKK in 1965. While only significant at the 10%-level, I also find that treatment counties were 17 percentage points more likely to have a Klavern after 2000. These results suggest the large and persistent impact of *The Birth of a Nation* on the long-run presence of hate groups. Counties that received the film before 1920 were 2.5 times more likely to have a Klavern in 1965 (mean = 10%) and nearly twice as likely to have a Klavern after 2000 (mean = 18.5%).

Returning to the heterogeneity analysis, I explore how the long-run effects differ across county sub-samples in the right panel of Figure VII. In contrast to the second KKK results, I find evidence that the film's impact on the third KKK differs greatly by historical conditions. 2SLS estimates are near zero for counties outside the Deep South, counties far from major

cities and counties with low black population shares, low population density or low levels of Democratic support in 1912. In contrast, I continue to find evidence of large impacts on Klavern formation in denser and more central areas as well as those with higher rates of historical prejudice (i.e., those located in the South and with higher Democratic vote shares).

Some of this difference is likely attributable to the relative geographic concentration of the third Ku Klux Klan. While only one-third of Klaverns in the second KKK were located in the Deep South, roughly 60% of Klaverns in the third KKK were located in that region. Nonetheless, the findings help to shed light on *The Birth of a Nation's* role in the Klan's development. While the film initially inspired the creation of Klaverns across the nation, whether these effects endured over time depended on the specific conditions in an area. Similar to work by Jha (2013) and Voigtländer and Voth (2012), I find suggestive evidence of the mediating role that historical racial attitudes and geographic isolation may have had on long-run persistence.

B Modern Hate Groups and Crimes

To what extent do these effects reflect enduring changes in racist ideology or coordination as opposed to the institutional persistence of the Ku Klux Klan specifically? To examine this, I estimate the film's impact on the modern prevalence of other hate groups using data from the Southern Poverty Law Center. These results are displayed in Table IV.

[Table IV about here.]

As shown in Panel A, areas that screened *The Birth of a Nation* are significantly more likely to have a hate group in recent years. The estimated 2SLS effect of 36.2 percentage points is equivalent to a nearly 100% increase over the sample mean of 0.39. Disaggregating these results by type of hate group, I find that most of the effect is coming from non-KKK white supremacist organizations. While the estimated treatment effect on KKK chapters is 16.8 percentage points and marginally significant, the estimated effect on other white supremacist organizations is 27.4 percentage points and highly significant. These effects hold even limiting the control group to neighboring counties. I find no significant impact on the existence of non-white supremacist groups, such as radical Catholics or male supremacists.

Panel B presents results from estimation of my IV regression on the present-day rates of hate crimes. Using data from the FBI's Uniform Crime Reports, I find that BON screenings led to significant increases in total hate crimes. The 2SLS estimate of 0.74 hate crimes per 100,000 people represents a 50% increase over the average annual rate. Disaggregated by victim race, I find large, significant increases in anti-black hate crimes of 0.395 crimes per

100,000 (85% of the sample mean). Notably, I also find evidence of increased hate crimes directed towards other racial, religious and sexual minorities. Though this estimate is only significant at the 10% level, it represents an increase of over 50% of the mean. I find no effect on anti-white hate crimes, with insignificant, near-zero point estimates.

The hate crime effects are consistent with the official rhetoric of the second and third KKK, which targeted not only African-Americans but also Catholics, Jews, immigrants and other minority groups. Although *The Birth of a Nation* primarily vilified blacks, future iterations of the KKK responded to changing demographic and immigration trends by finding other groups to antagonize (Baker, 2011; Pegram, 2011). This suggests that part of the mechanism by which the *The Birth of a Nation* affects modern-day hate crimes may have been through the seeding of institutions of hate that persisted over time. Regardless of the mediating channel, the results make clear the lasting impact of *The Birth of a Nation* on the prevalence of racial hate nearly a century later.

VIII Conclusion

The Birth of a Nation remains one of the most influential films in cinema history (Lehr, 2014). The movie was a phenomenon that swept the nation, one seen by an estimated 200 million people over the past century (Stokes, 2007). It was also an incredibly virulent piece of media that lionized the Ku Klux Klan and glorified lynchings of blacks. And while its story exploited racist stereotypes rooted in American history, as a work of cinema, *The Birth of a Nation* was far ahead of its time. Decades after its release, scholars would claim that it “propelled film into a new artistic level” from a “cheap show for cheap people” to a medium “regarded seriously by many intellectuals and sophisticated stage patrons” (Jacobs, 1939; Hampton, 1970).

These same hallmarks allow for an ideal case study of the economic consequences of popular media. As a big-budget blockbuster in an era of shoe-string shorts, *The Birth of a Nation* premiered before the necessary infrastructure to show it existed in many towns. Even areas with large enough theaters to house the film’s elaborate projection equipment had to wait months or years as road shows travelled from city to city.

Exploiting this historical accident, I find that the movie’s cinematic legacy may be rivaled only by its lasting impact on racial hate. In many counties, the film was greeted not only by sold-out crowds but also with spikes of racial violence. I find that lynchings and race riots increased by five-fold in the month of the film’s premiere. Given the extreme nature of these events and the scarcity of historical data on other forms of racial hate, these effects likely underestimate the movie’s total impact on racial violence.

In addition to short-term increases in violence, my findings corroborate historical accounts of the film’s role in the re-birth of the Ku Klux Klan under William Simmons. Instrumenting for screenings using measures of theater capacity prior to the film’s release, I find that areas that screened *The Birth of a Nation* became fertile ground for the second KKK. My estimates suggest that treated counties were nearly twice as likely to have a Klavern of the second KKK in 1930 and of the third KKK in the 1960s. As evidence of the long-run persistence seeded by the film, I find that historical showings of *The Birth of a Nation* continue to predict the presence of white supremacist groups and the prevalence of anti-minority hate crimes in recent years.

These results stand in contrast to those of Dahl and DellaVigna (2009), who find little evidence that modern violent films increase crime in the short-run. One explanation for the divergent effects is the desensitization of audiences to movie violence as such depictions become more commonplace (Krahé et al., 2011). Given the rapid growth of media content and exposure in recent years, my results highlight the potential limitations of examining modern settings to assess the aggregate economic impacts of media.

The long-run consequences documented here suggest that media may serve not only to incite acts of violence but also to facilitate the coordination and organization of extremist ideologies. That these effects emerge from exposure to popular entertainment in a mass audience setting stands in contrast to recent conversations around “echo chambers” and “filter bubbles” (Sunstein, 2001a,b, 2018; Pariser, 2011). Thus, my findings stress the importance of future research examining not only high-choice media environments like the internet but also more traditional media like film and television. Given recent increases in racial hate and mass killings (Levin and Reitzel, 2018; Peterson and Densley, 2019), such efforts may be critical to the development of policies aimed at protecting ethnic, religious and sexual minorities.

More generally, history is rife with examples of mass media shocks that scholars have linked to racial prejudice and violence – from the anti-Semitic radio broadcasts of Father Coughlin and studio-era classics like *Gone with the Wind* in the 1930s to the incendiary tweets of President Trump in recent years. Nonetheless, the very seminal nature of these events makes it near impossible to identify an unexposed audience from which to construct a valid counterfactual and estimate causal effects. Thus, this paper may help to shed rare light on the lasting racial implications of some of the most culturally significant moments in media history.

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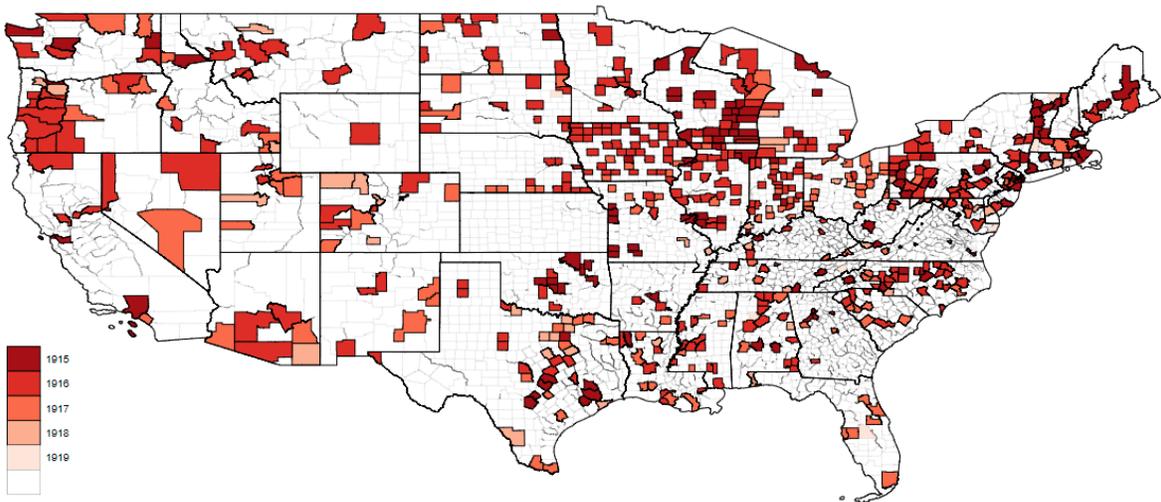
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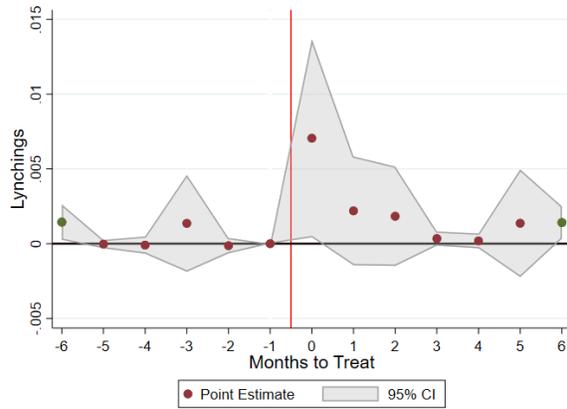
Figure II: *Birth of a Nation* Roadshow



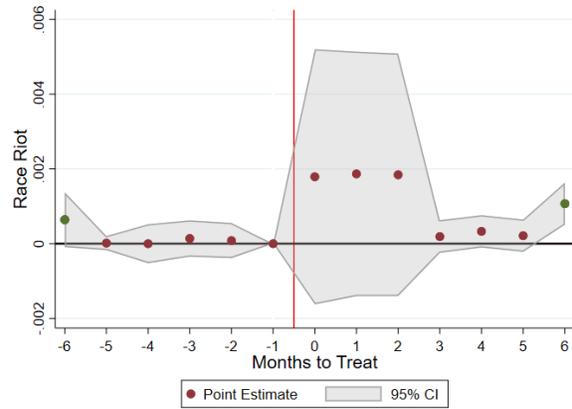
Notes: Map shows year that *The Birth of a Nation* was first shown in each county during its roadshow from 1915 to 1919.

Figure III: Contemporaneous Effects on Lynchings and Race Riots

Panel A: Lynchings

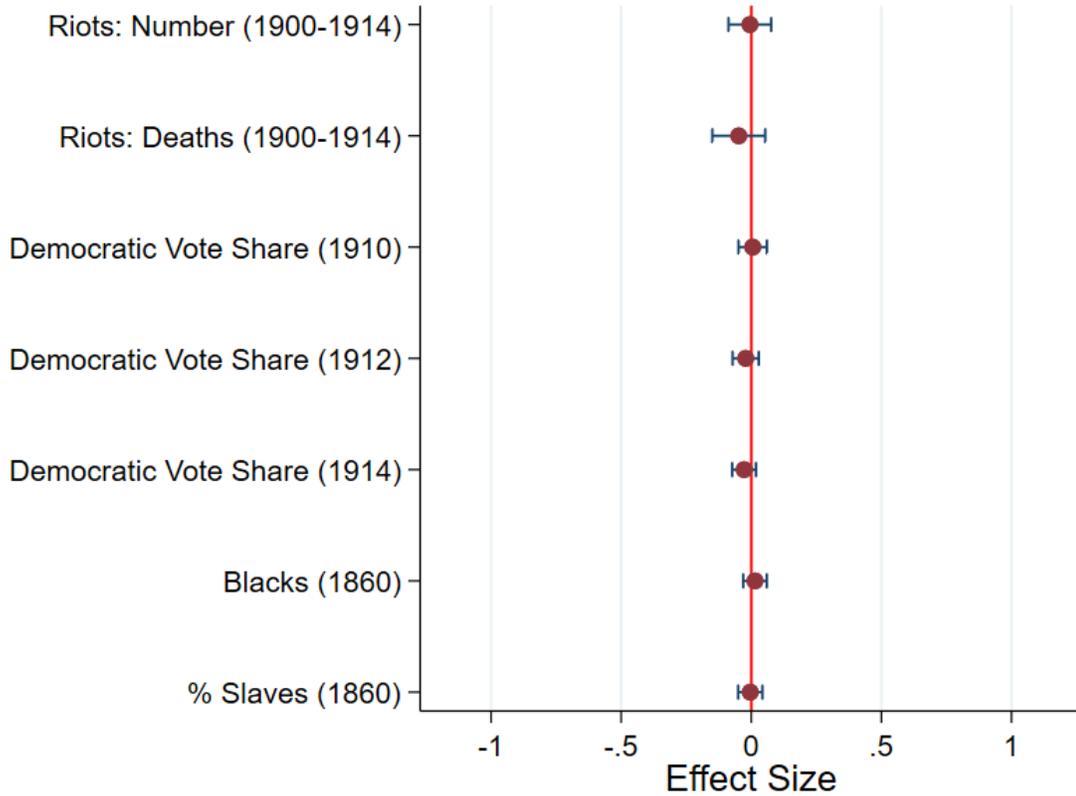


Panel B: Race Riots



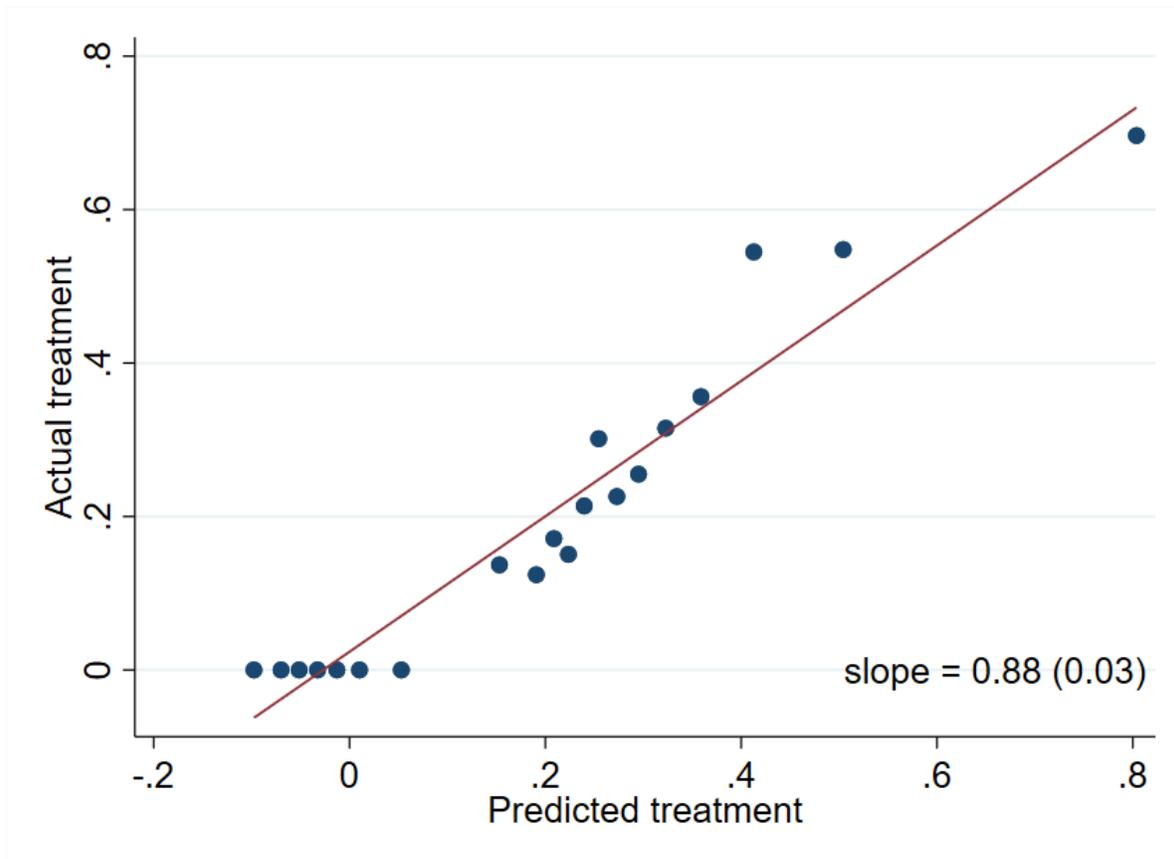
Notes: Figure shows DD estimates for estimation of Equation 1 on lynchings (mean = 0.0012) and race riots (mean = 0.0004). Unit of observation is county-month. Sample spans January 1914 to December 1921. Standard errors clustered by state.

Figure IV: Exogeneity Tests



Notes: Figure shows results from series of exogeneity tests regressing alternative outcomes on my instrument: whether a county had a theater in 1914. Outcomes include: the number of race riots in a county from 1900 to 1914, the number of deaths from race riots from 1900 to 1914, the share of votes cast for Democratic candidates in Congressional elections in 1910, 1912 and 1914, and the number of blacks and share of blacks who were slaves in 1860. All outcomes are standardized to mean = 0 and standard deviation = 1. Regressions include demographic, media and racism controls. Unit of observation is the county. Standard errors clustered by state.

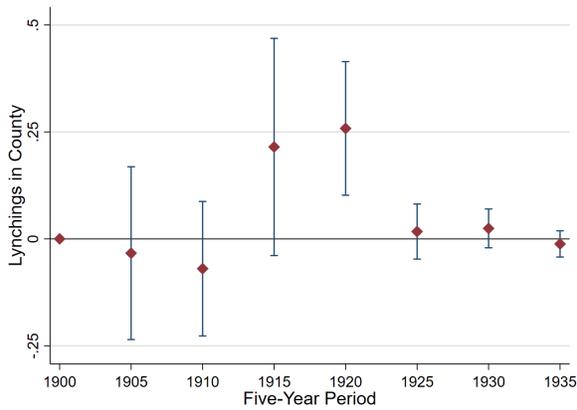
Figure V: Relationship between Predicted and Actual Showings



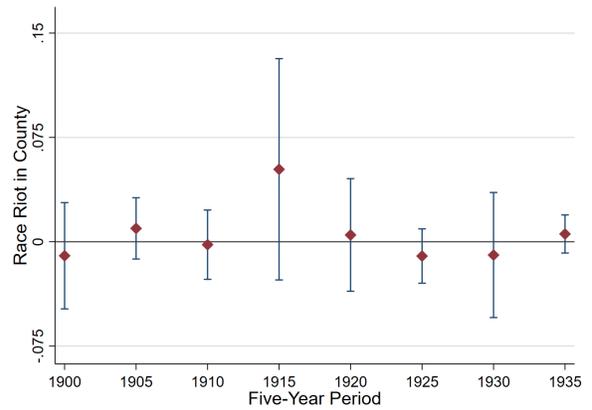
Notes: Panel A shows a binscatter of predicted likelihood of screening *The Birth of a Nation* and actual likelihood of screening the film for all counties. Includes demographic, media and racism controls. Each dot represents 5% of the sample.

Figure VI: Medium-Run Effects on Lynchings and Race Riots (IV)

Panel A: Lynchings

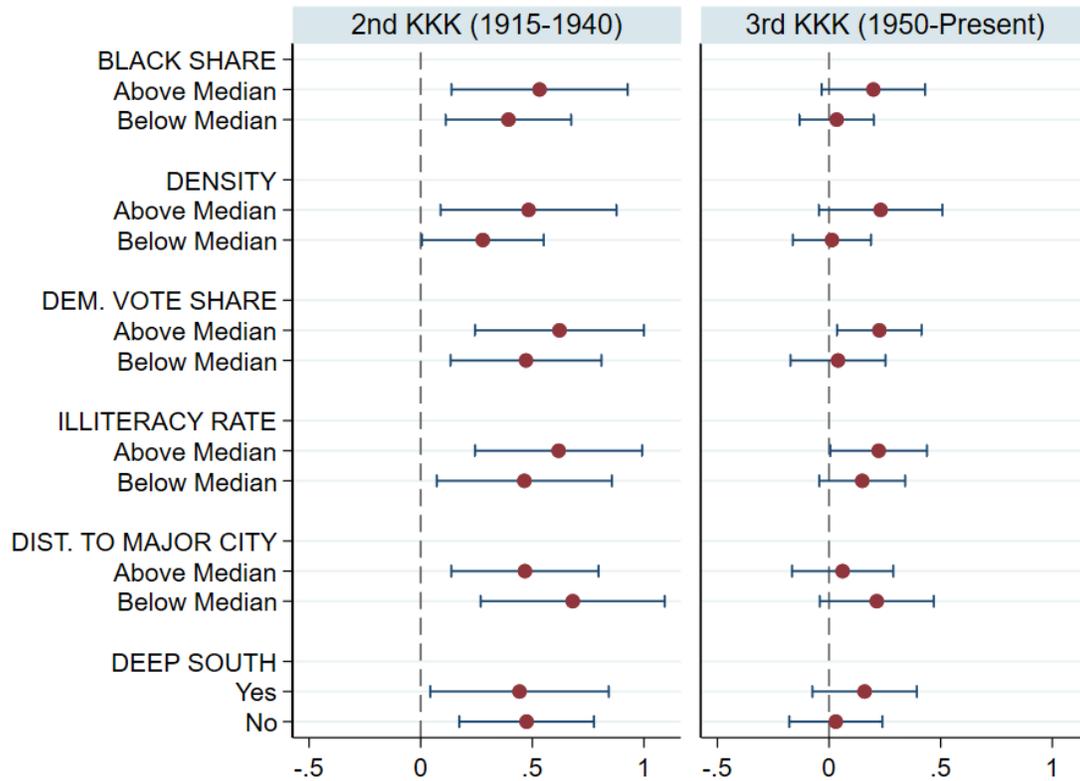


Panel B: Race Riots



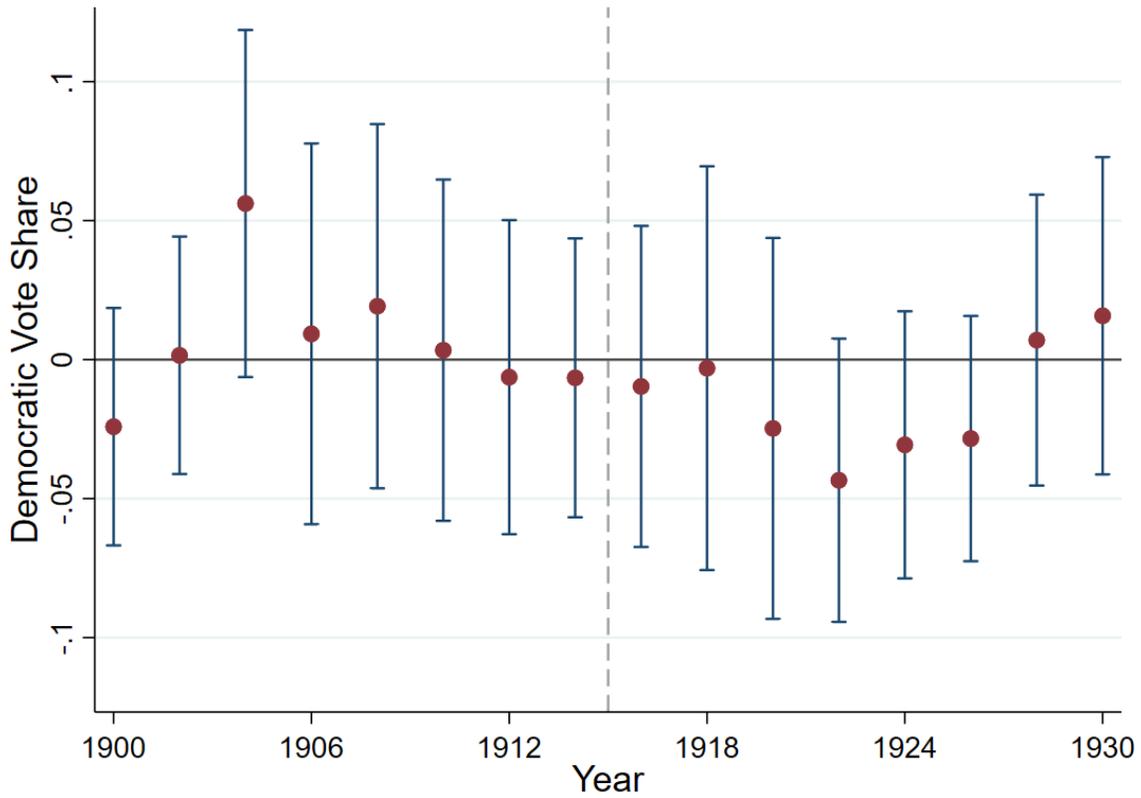
Notes: Figures show 2SLS coefficients and 95% confidence intervals from estimation of Equation 2 on lynchings (Panel A) and race riots (Panel B). Each dot represents a separate regression. The outcomes of interest are the number of lynchings in a county during the corresponding five-year window and a dummy for whether a race riot occurred in a county during the five-year period. For example, the dot at 1915 in Panel A represents the effect of BON screenings on the number of lynchings in a county from January 1915 to December 1919. Unit of observation is the county. Standard errors are clustered by state.

Figure VII: Heterogeneous Effects on KKK Formation (IV)



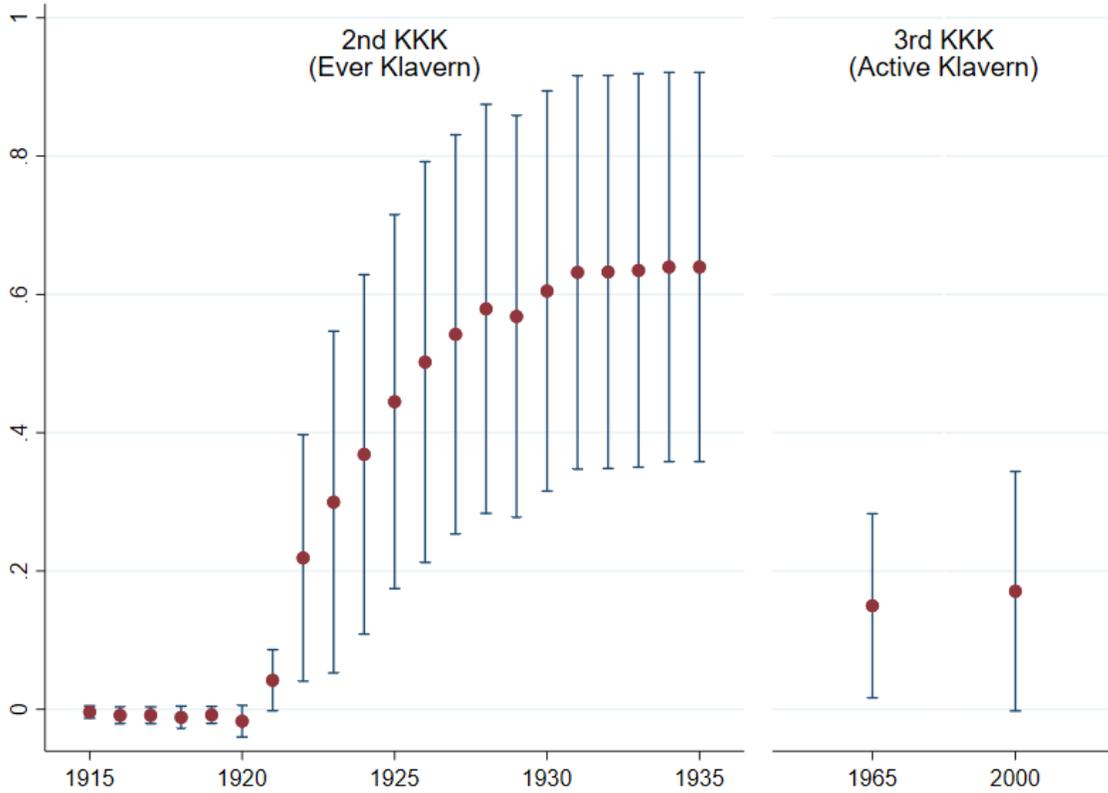
Notes: Figure shows 2SLS coefficients and 95% confidence intervals from estimation of Equation 2 on various sub-samples. Unit of observation is the county. Standard errors are clustered by state. In the left panel, the outcome of interest is whether a county had a Klavern of the second KKK by 1930. In the right panel, the outcome of interest is whether a county had a Klavern of the third KKK in the 1960s or 2000s. Black population share, population density, and illiteracy rate come from the 1910 Census. Railroad distance to nearest major city in 1910 comes from Atack (2017). Dem. vote share refers to the share of votes cast for Woodrow Wilson in 1912. Deep South refers to counties in AL, AR, FL, GA, LA, MS, NC, SC, TN and TX.

Figure VIII: Effects on Democratic Vote Share (IV)



Notes: Figure shows 2SLS coefficients and 95% confidence intervals from estimation of Equation 2 on Democratic vote share. Each dot represents a separate regression. The outcome of interest is the share of major party ballots cast for Democratic candidates in Congressional elections. Unit of observation is the county. Standard errors are clustered by state.

Figure IX: Long-Run Effects on KKK Formation (IV)



Notes: Figure shows 2SLS coefficients and 95% confidence intervals from estimation of Equation 2 on KKK formation. Each dot represents a separate regression. For years up to 1935, the outcome of interest is whether a Klavern of the Second KKK had ever been founded in that county by that year. For the estimate at 1965, the outcome of interest is whether a Klavern of the Third KKK was active in that county, based on contemporaneous reports from the House Un-American Activities Committee. For the estimate at 2000, the outcome of interest is whether a Klavern of the Third KKK was active in that county at any point from 2000 to 2019, based on reporting from the Southern Poverty Law Center. Unit of observation is the county. Standard errors are clustered by state.

Table I: Summary Statistics

	Treatment		Control	
<i>Demographics</i>				
Population (000s)	73.17	(188.25)	19.64	(22.03)
Density (mi)	447.99	(2493.39)	55.81	(372.53)
Dist. to major city (mi)	513.91	(534.76)	519.46	(481.99)
Occupation score	6.98	(1.35)	5.92	(1.32)
% Black	10.87	(18.96)	12.18	(20.58)
% Foreign born	86.76	(12.83)	86.26	(21.78)
% Illiterate	5.52	(6.21)	6.88	(6.81)
% Urban	14.71	(29.01)	1.43	(9.49)
% Draft eligible	10.09	(0.90)	10.32	(0.99)
<i>Newspapers</i>				
Circulation per cap. (1912)	0.17	(0.23)	0.03	(0.08)
Markets (1912)	1.30	(1.72)	0.47	(0.84)
<i>Racism</i>				
% Turnout (1912)	17.67	(11.14)	16.58	(10.36)
% Democrat (1912)	48.30	(19.47)	51.92	(20.47)
Confed. Monument (1914)	0.17	(0.38)	0.13	(0.34)
Lynchings (1900-1905)	0.18	(0.77)	0.15	(0.56)
% Deep South	24.67	(43.15)	34.43	(47.52)
Counties	608		2,495	

Table presents summary statistics for counties that screened *Birth of a Nation* (treatment) and counties that did not (control). Demographic variables come from 1910 Census. Newspaper variables come from Gentzkow et al. (2011).

Table II: First-Stage Effect of Theater Stock on *Birth of a Nation* Screenings

	DV = Screened in County			
	(1)	(2)	(3)	(4)
Theater	0.328*** (0.028)	0.251*** (0.028)	0.225*** (0.028)	0.223*** (0.027)
Mean	0.202	0.202	0.202	0.202
Demographics		✓	✓	✓
Media			✓	✓
Racism				✓
F-Stat	140.26	78.23	65.79	67.38
Obs.	2,913	2,913	2,913	2,913
R-sq (adj.)	0.203	0.289	0.309	0.308

Table shows first-stage estimates of theater stock in 1914 on *Birth of a Nation* screenings during its roadshow. The outcome of interest is a dummy for whether BON aired in a county from 1915 to 1919. *Theater* is a dummy for whether a county had at least one theater by the end of 1914. Demographic controls include a quadratic of 1910 population, black population share, U.S. born population share, urban population share, illiteracy rate, the share of individuals who would have been draft eligible during World War I, and average occupational income score as well as quadratics for each county's distance to the three nearest large cities (i.e., cities with the ten 10 largest populations in 1910). Media controls include per capita newspaper circulation and the number of media markets in a county in 1912. Racism controls include the number of historical lynchings in a county from 1900 to 1905, Democratic vote share and turnout in the 1912 Presidential election and the number of Confederate monuments in 1914. Unit of observation is the county. Standard errors clustered by state. Kleibergen-Paap F-statistics are reported.

Table III: Effects on Historical KKK Formation

<u>DV = Klavern in 1930</u>				
	(1)	(2)	(3)	(4)
<i>Ordinary Least Squares</i>				
Screened	0.083*** (0.022)	0.094*** (0.025)	0.075*** (0.020)	0.101*** (0.026)
<i>Reduced Form</i>				
Theater	0.135*** (0.027)	0.131*** (0.033)	0.113*** (0.030)	0.160*** (0.035)
<i>Two-Stage Least Squares</i>				
$\widehat{\text{Screened}}$	0.605*** (0.144)	0.396*** (0.100)	0.494*** (0.138)	0.417*** (0.100)
Mean	0.322	0.365	0.382	0.422
Controls	✓	✓	✓	✓
F-Stat	67.38	170.12	76.48	31.74
Counties	All	Neighbors	Thtr by 1930	Paper in 1915
Obs	2,913	1,988	2,233	1,334

Table shows OLS, reduced form and 2SLS estimates from estimation of Equation 2 on KKK formation. The outcome of interest is whether a Klavern of the Second KKK had formed in a county by 1930. Screened is a dummy for whether BON aired in a county from 1915 to 1919. Theater is a dummy for whether a county had at least one theater by the end of 1914. All regressions include demographic, media and racism controls. Unit of observation is the county. Standard errors clustered by state. Kleibergen-Paap F-statistics are reported. Column 1 includes all counties in the country. Column 2 restricts to the control group to counties neighboring treatment counties. Column 3 restricts to counties that had at least one theater by 1930. Column 4 restricts to counties with at least one digitized local newspaper from 1915.

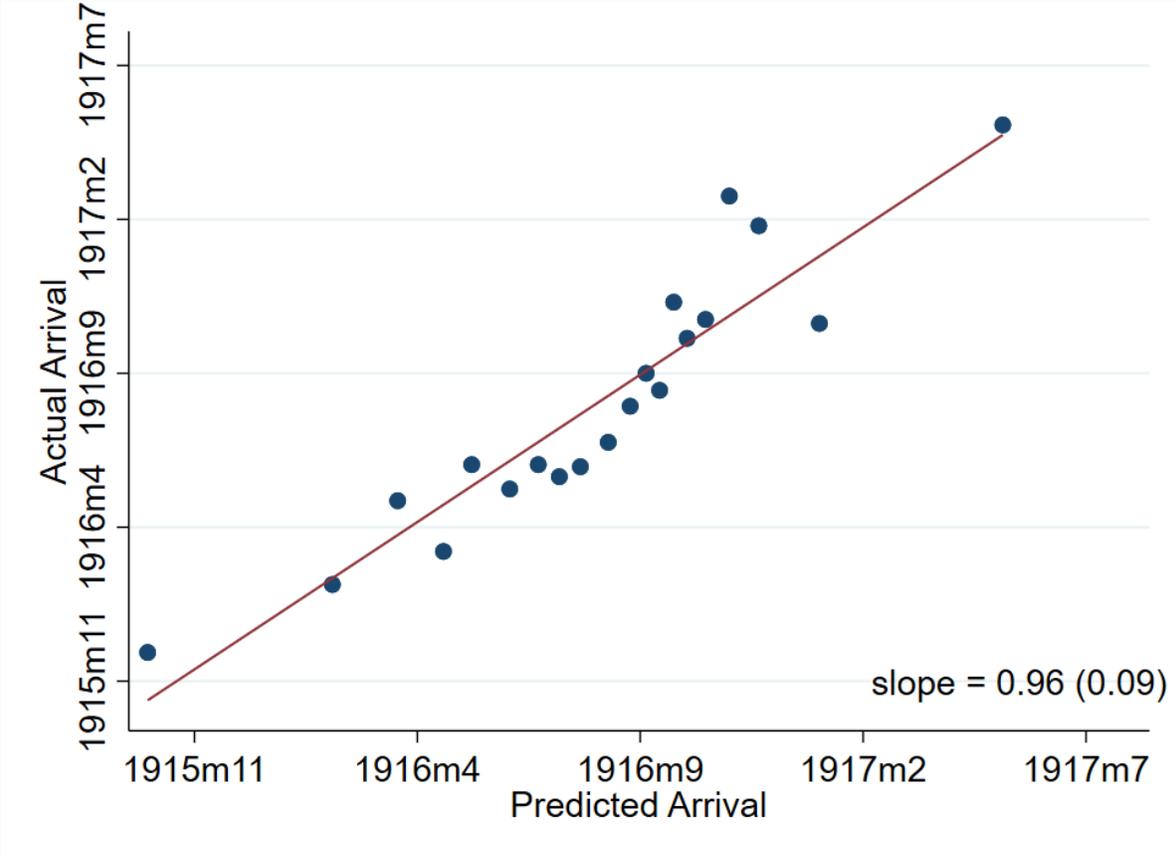
Table IV: Effects on Modern Hate Groups and Hate Crimes

Panel A: Hate Group in County (2000-2019)								
	<i>Any</i>	<i>KKK</i>	<i>White Suprm.</i>	<i>Other</i>				
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
$\widehat{Screened}$	0.362*** (0.104)	0.258*** (0.075)	0.171* (0.086)	0.087 (0.053)	0.274*** (0.086)	0.207*** (0.067)	-0.018 (0.040)	0.008 (0.034)
Mean	0.393	0.421	0.193	0.210	0.291	0.320	0.059	0.068
Panel B: Hate Crimes per 100k Pop. (2000-2018)								
	<i>All</i>	<i>Anti-Black</i>	<i>Anti-Other</i>	<i>Anti-White</i>				
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
$\widehat{Screened}$	0.739** (0.331)	0.575* (0.296)	0.395** (0.151)	0.228* (0.124)	0.369* (0.193)	0.331** (0.154)	-0.026 (0.180)	0.015 (0.135)
Mean	1.352	1.381	0.466	0.479	0.666	0.699	0.220	0.203
Counties	All	Neighbors	All	Neighbors	All	Neighbors	All	Neighbors
Controls	✓	✓	✓	✓	✓	✓	✓	✓
Obs.	2,913	1,988	2,913	1,988	2,913	1,988	2,913	1,988

Table shows 2SLS estimates from estimation of Equation 2 on modern hate groups (Panel A) and hate crimes (Panel B). For hate groups, the outcome of interest is whether a hate group was active in a county any time from 2000 to 2018, based on reporting from the Southern Poverty Law Center. KKK refers to Klaverns of the Third KKK, White Supremacists refers to other white supremacist groups (i.e., white nationalists, racist skinheads, neo-Volkischs, neo-Nazis, neo-Confederates, Holocaust deniers, Christian identity, Anti-Muslim and Anti-LGBTQ), *Other* refers to non-white supremacist hate groups (i.e., radical Catholicism, male supremacy, hate music and general hate). For hate crimes, the outcome of interest is the average annual number of hate crimes per 100,000 residents from 2000 to 2018 and comes from FBI Uniform Crime Reports. Anti-Black refers to hate crimes against blacks, Anti-White are hate crimes against whites and Anti-Other are hate crimes against other racial, sexual or religious minority groups. All regressions include demographic, media and racism controls. The unit of observation is the county. Standard errors are clustered by state.

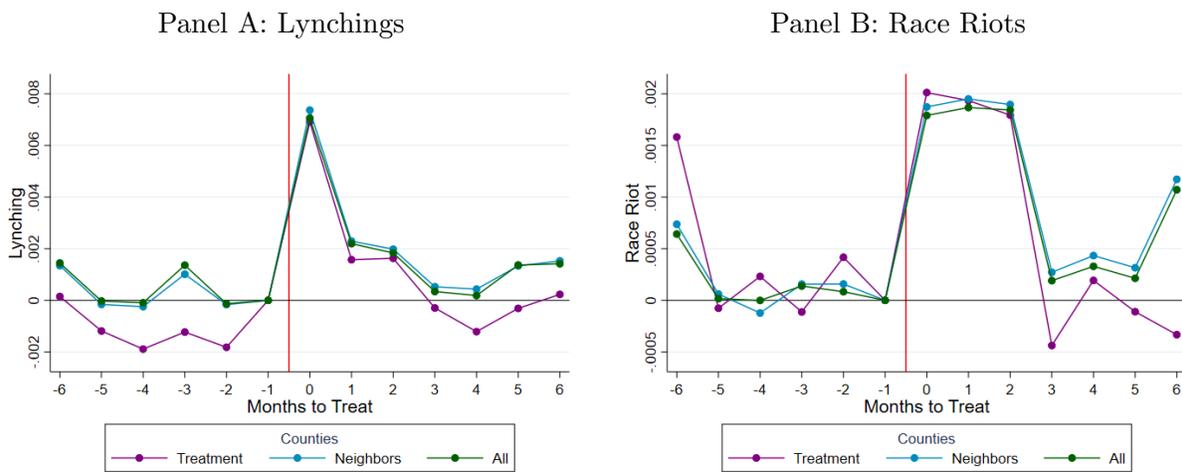
Appendix: Supplementary figures and tables noted in text

Figure A.I: Relationship between Predicted and Actual Arrival Date



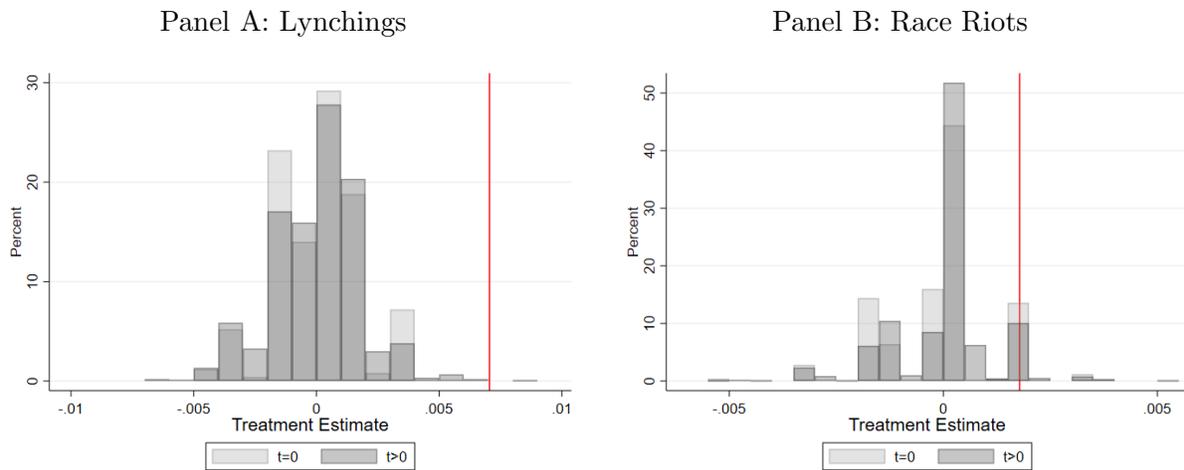
Notes: Figure shows binscatter of predicted arrival date of *The Birth of a Nation* and actual arrival date for treatment counties. Includes demographic, media and racism controls, region fixed effects and controls for the arrival date at the three nearest large cities (i.e. those in the top 10 in population in 1910). Each dot represents 5% of the sample.

Figure A.II: Event Study on Lynchings and Race Riots: Alternative Specifications



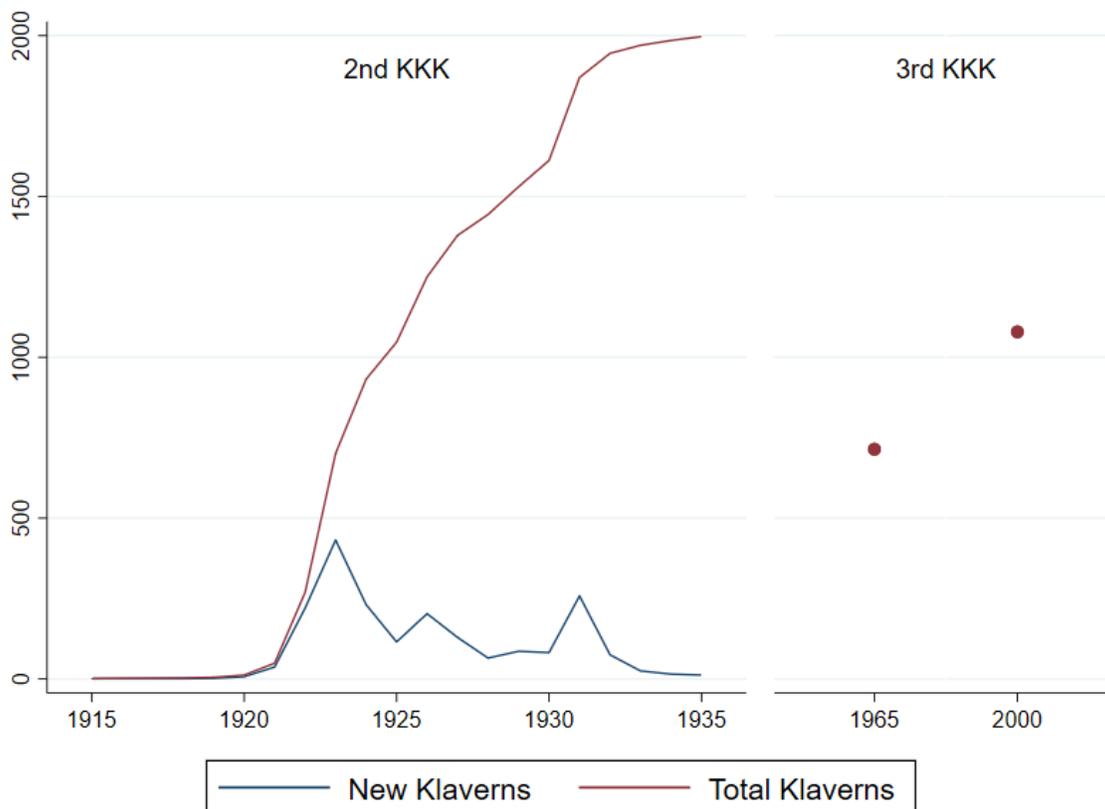
Notes: Figure shows DD estimates for estimation of Equation 1 on lynchings (Panel A) and race riots (Panel B) under alternative sample specifications. The purple line restricts sample to counties that screened BON during its initial road show (1915 to 1919). The blue line includes control counties that did not receive the film and are adjacent to a treatment county. The green line includes all counties.

Figure A.III: Event Study on Lynchings and Race Riots: Permutation Tests



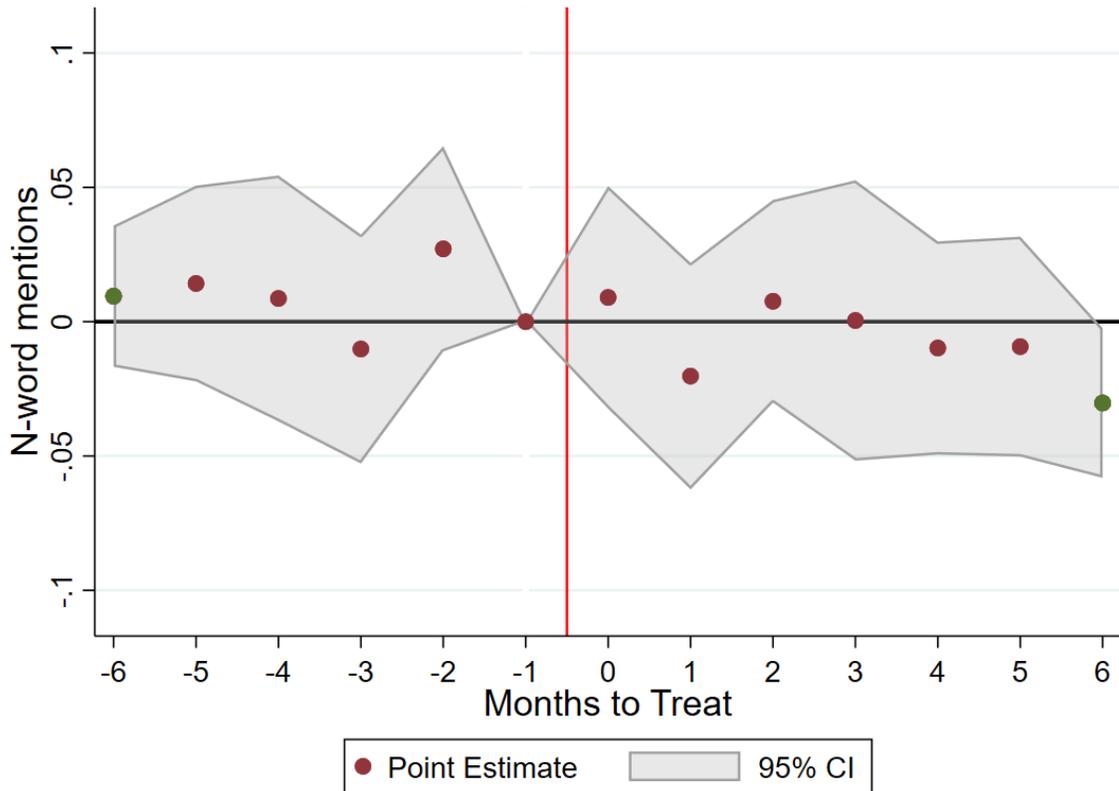
Notes: Figures show histogram of DD estimates from series of 250 placebo regressions on lynchings (Panel A) and race riots (Panel B). In each regression, I randomly assign the movie arrival dates to counties (drawing on the actual distribution of arrival dates without replacement) and estimate Equation 1 using the placebo treatment dates. Light gray bars indicate distribution of placebo treatment estimates for $t = 0$ (i.e., β_0), dark gray bars indicate distribution of placebo treatment estimates for $t > 0$ (i.e., β_1 to β_6). Red vertical line represents the true treatment estimates for $t = 0$, as shown in Figure III. Unit of observation is the county-month and the sample period spans January 1914 to December 1921.

Figure A.IV: KKK Presence over Time



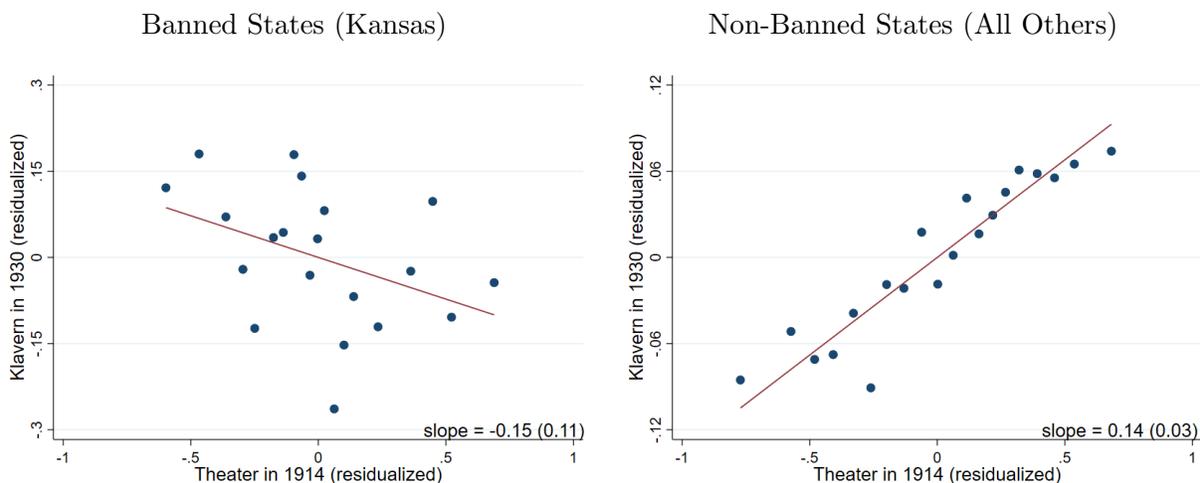
Notes: Figure shows number of Ku Klux Klan chapters (“Klaverns”) over time. Red line represents number of total Klaverns of the second KKK founded by a given year. Blue line represents number of new Klaverns of the second KKK founded in a given year. Red dots represent total number of active Klaverns of the third KKK in the 1960s and 2000s, respectively. Data on the second KKK come from Kneebone and Torres (2015). Data on the third KKK in the 1960s comes from Mazumder (2018). Data on the third KKK in the 2000s comes from the Southern Poverty Law Center.

Figure A.V: Contemporaneous Effects on Hate Speech



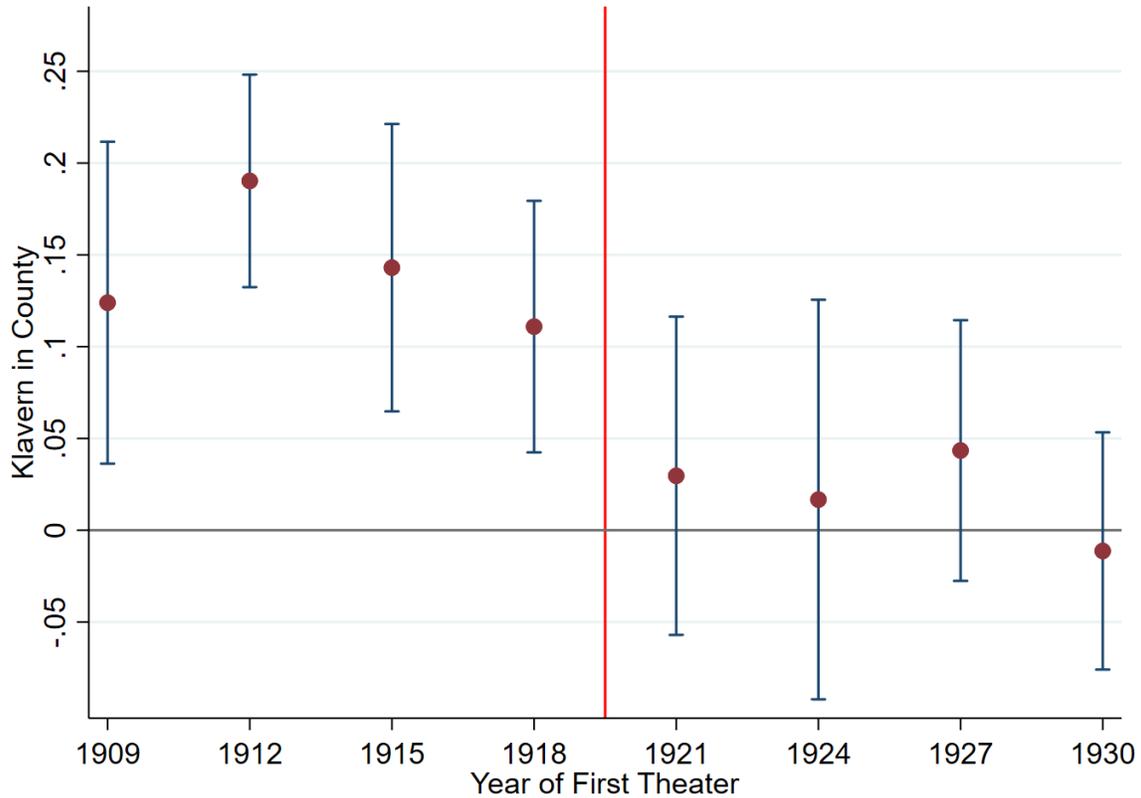
Notes: Figure shows DD estimates for estimation of Equation 1 on newspaper mentions of the “n-word”. Unit of observation is county-month. The outcome of interest is whether the “n-word” was mentioned in a local newspaper in that month (mean=0.15). Data comes from searches of the “n-word” and its variants in newspapers.com, newspaperarchives.com and chroniclingamerica.loc.gov. Sample spans January 1914 to December 1921. Standard errors clustered by state.

Figure A.VI: Relationship between KKK Formation and Historical Theaters: Banned vs. Non-Banned States



Notes: Figures depict relationship between theater stock in 1914 and Klavern formation in 1930. The outcome of interest is a dummy for whether a county had a Klavern by 1930. Left panel examines counties in Kansas where BON was banned statewide until the mid-1920s. Right panel examines counties in all other states, where BON was not banned. Each panel shows regression coefficient from reduced form estimation of Equation 2 as well as binned scatterplot of the residualized outcome and right-hand side variables. Each dot represents 5 percent of the sample and the unit of the observation is the county. Heteroskedasticity-robust standard errors included in Panel A, state-clustered standard errors included in Panel B.

Figure A.VII: Relationship between KKK Formation and Year of First Theater



Notes: Figure displays coefficients and confidence intervals from a regression of county KKK formation on a set of mutually-exclusive indicator variables corresponding to the year each county first opened a movie theater. The outcome of interest is a dummy for whether a county had a Klavern by 1930. The coefficient for 1909 represents counties that first opened a theater prior to the end of 1909, the coefficient for 1912 represents counties that first opened a theater between 1910 and the end of 1912, and so on. The omitted group are counties that had not opened a theater by 1930. Regression includes demographic, media and racism controls per Equation 2. Red vertical line corresponds to the end of *the Birth of Nation's* initial roadshow. Unit of observation is the county. Standard errors clustered by state.

Table A.I: Alternative Instruments

		<u>DV = Klavern in 1930</u>					
		(1)	(2)	(3)	(4)	(5)	(6)
<i>Screened</i>		0.605*** (0.144)	0.474* (0.280)	0.470*** (0.174)	0.550** (0.256)	0.441*** (0.107)	0.303*** (0.098)
Mean		0.322	0.322	0.322	0.465	0.322	0.382
Instrument	Thtrs > 0	Thtrs > 0	Thtrs per 1k pop.	Max thtr capacity	Max thtr capacity	First thtr year	First thtr year
Counties	All	All	All	Max > 0	All	Year ≤ 1930	
Controls	✓	✓	✓	✓	✓	✓	✓
F-Stat	67.38	19.89	29.28	18.03	17.64	24.21	
Obs.	2,913	2,913	2,913	1,181	2,913	2,265	

Table shows 2SLS estimates from estimation of Equation 2 on KKK formation using alternative instruments. All instruments are based on the historical stock of theaters in 1914. The outcome of interest is whether a Klavern of the Second KKK had formed in a county by 1930. Screened is a dummy for whether BON aired in a county during the film's roadshow. All regressions include demographic, media and racism controls. Unit of observation is the county. Standard errors clustered by state. Kleibergen-Paap F-statistics are reported. Column 1 is my preferred instrument: an indicator for whether a county had a theater. Column 2 uses the number of theaters per 1,000 residents. Column 3 uses the number of seats available in a county's largest theater- imputting zeroes for counties where this information is not available. Column 4 uses the same instrument but restricted to the sample of counties for which seating capacity information is available. Column 5 uses the year a county's first theater was opened. Column 6 restricts to county's where a theater was opened by 1930.