

Mass Media and Racial Protests: Evidence from the United States

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Abstract

Do mass media affect protests? And how? I address these questions studying racial protests in the United States between 1954 and 1970. I first exploit the exogenous variation in timing of television introduction caused by the Federal Communications Commission "freeze" in order to estimate the causal effect of TV on protest outbreak. I then complement the analysis with variation in over-the-air signal strength due to topography and climate, as an additional source of exogeneity. I find a positive and significant effect of TV on the probability of protest outbreak and on the likelihood that protest is initiated by African Americans. Finally, I extend the analysis disentangling the channels through which television has influenced demonstrations. I find that TV served as a means to overcome a collective action problem but also that African American role models depicted in TV series are likely to have influenced demonstrators' ambitions.

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1 Introduction

The return of African American after World War II with a renewed sense of equality, their mass migration from the South to the North, and the rise of independent states in the third world have all been conducive to the emergence of the mass movement for civil rights (Foner, 2006). Demonstrations by African Americans centered on the quest for equal political and economic opportunities were accompanied by Caucasians protests, strongly opposing desegregation and sustaining the "Separate but Equal" argument¹. Meanwhile, as WWII ended the television industry exploded. The TV replaced newspapers as the most common source of information about public events and political topics (Gentzkow, 2006) and TV watching became the nation's leading leisure activity. Indeed, by 1960 87 percent of American household had at least one television set (Sterling and Kittross, 2001) and watched an average of five and a half hours of television per day. Hence the question: did television affect racial protests in the United States? And if yes, which are the mechanisms underlying this effect?

In order to estimate the causal effect of television I use two different sources of exogenous variation.

Firstly, I exploit the exogeneity in television introduction caused by the Federal Communications Commission (FCC) "freeze" of broadcasting licenses between 1948 and 1952. Announced because of the need to solve interference problems and intended to last a few months, the freeze eventually ended four years later due to arising technical issues and disruptions in the political arena².

My first set of results relates to the estimated effect of television introduction on the political outcomes of interest. I find that having an operating television antenna before the FCC freeze is associated with an increase in the probability of protest outbreak by 5.8 percentage point and an increase in the probability of having African Americans initiators by 6 percentage points.

Secondly, I use the Irregular Terrain Model of radio propagation to estimate the signal strength in each Standard Metropolitan Area. Conditional on geographic, demographic and economic characteristics, the irregularity of the terrain between a receiving and a transmitter antenna generates plausibly exogenous variation. I then use the calculated signal to instrument television penetration and isolate its causal effect on protests.

¹Established by the *Plessy v Ferguson* case of 1896, "Separate but Equal" was a legal doctrine according to which racial segregation did not violate the fourteenth amendment of the U.S. Constitution which provides equal treatment before the law for all American citizens.

²For example the War in Korea seem to have been an important determinant of the slow pace of the FCC in this situation (Sterling and Kittross, 2001).

Using this method the results confirm the ones previously estimated. Indeed, I find that a 1 percent increase in television ownership increases the probability of protest outbreak by 1.1 percentage points. I furthermore find, again, that a one-standard deviation increase in TV ownership increases the probability of having a black-initiated conflict by 12 percentage points. Taken together these two sets of results suggest that television has indeed increased the probability of protest outbreak. However, they are not informative about the channels through which it could have influenced beliefs and behaviors that, eventually, might give rise to protests.

Following Enikolopov et al. (2015), I identify two separate mechanisms through which television may influence conflict.

Firstly, television delivers information on the fundamental causes of grievance. In particular, TV in the 1950s and 1960s covered mainly national news providing viewers with information previously available only in newspapers like the *New York Times*.

Secondly, television may help overcoming collective-action problems. In fact, not only through the news viewers could get a sense of the number of dissatisfied individuals and groups around the country, but they also got to know under which circumstances an organized protest will take place.

In addition, I identify a further channel that might have affected individuals' beliefs, in particular the beliefs of African Americans: social influence. The continuous exposure of viewers to a white middle-class lifestyle, characterizing television in the 50s (and first half of the 60s), may have triggered relative deprivation feelings among African American viewers who, on average, were less affluent than Caucasians. Furthermore, the introduction, in the second half of 1960s, of successful TV series starring black actors, in non-stereotyped roles, might have positively influenced African American ambitions.

In order to test whether these three channels are conducive to the estimated effect of television I estimate heterogeneous treatment effects.

First, to test the information channel, I interact the percentage of households having a television with the average newspaper readership in the Standard Metropolitan Area. The idea is to test whether in areas with higher newspaper readership, hence more informed individuals, television had less of an effect.

Then, in order to isolate the collective action channel, I interact the percentage of TV owners with the percentage of Protestants in the SMSA. The idea here is to exploit the organizational role that the church had during the civil rights and post-civil rights period and test whether the

presence of Protestants decreased the effect of television.

Finally, to analyze whether the portrayal of minorities in TV series had an impact on individual behavior I exploit the fact that in the mid 1960s NBC was the only network able to produce two successful TV series starring African American actors in non-stereotyped roles.

My results suggest that the TV did not influence protests providing individuals with novel information on pivotal topics, but, if anything, decreased their political awareness. I instead find that both the collective action channel and the educational entertainment channel might be the ones driving the effect of TV on protests. In particular, it seems that the mechanism linking protests and entertainment is the rise of individuals ambitions due to positive, black, role models represented in TV series.

The remainder of this thesis develops as follow: Section 2 provides a literature review, Section 3 provides the historical context, Section 4 deals with technical characteristics and content of TV programs, Section 5 describes the data. Section 6 presents the empirical strategy, Section 7 contains the results and Section 8 concludes.

2 Literature Review

My research pertains to the literature that studies the effects of the media on political outcomes. Stromberg (2004) studies the impact of the radio on political accountability. His hypothesis is that, mass media make their consumer more responsive to campaign promises and more likely to vote. This induces politician to target mass media consumers. After having developed a voting model he finds that governors allocated more reliefs funds in areas with a larger share of radio owners.

Gentzkow (2006) estimates the impact of television on voters turnout. He uses data of the United States and the FCC freeze to identify exogenous variation in television introduction. Interestingly he finds that voters turnout decreased in those areas in which the TV entered first. He argues that the news provided by television are of lower quality with respect to the news contained in the newspaper. Providing evidences that the TV did actually replaced newspapers, he explains that the TV leads to a higher level of political misinformation and consequent detachment from political issues.

Another milestone research studying the link between political outcomes and television is DellaVigna and Kaplan (2007). In this paper the authors analyze the impact of Fox News entry in the U.S. cable market on voting patterns. Their idea is to estimate whether a conservative media

bias has shifted voters preferences toward the Republican party. They find a positive effect of media bias on the republican votes shares.

Finally, Eisensee and Stromberg (2007) analyze the influence of mass median on U.S. government responsiveness to natural disasters occurring between 1968 and 2002. In order to estimate the causal effects they use trends in the news reported by mass media. The idea is that, news coverage of disastrous events depends on whether they happened in concurrence with particularly popular events, such as sports finals. They find evidence that news coverage influences in turn the government response to these calamities.

My research relates to the strand of literature assessing the impact of media on ethnic conflict. Among others, DellaVigna et al. (2014) estimate the effect of Serbian radio reception in Croatia on animosity toward Serbs. They find that the exposure to public Serbian radio induced Croatians to vote to ultra-nationalist parties and increased the probability of ethnically offensive graffiti. Additionally, Yanagizawa-Drott (2014) exploits the exogenous variation in broadcast radio signal to estimate its effect on violent behaviors during the Rwandan genocide. The author present a model of collective violence where, mass media have the potential to increase participation in a conflict by facilitating collective action. Additionally, he finds a positive effect of radio signal on the participation in killings.

Furthermore, my work concerns the effect of media coverage on protests. Enikolopov et al. (2015) focus on the effect of VK, a Russian social network, on the protests against the regime and find that VK penetration increases both the probability of a protest outbreak and the number of participants.

Recently, Acemoglu et al. (2014) study the impact of social media on coordination mechanisms during the Arab Spring. They find that social media played an important organizational role during these turmoils.

My study, together with Della Vigna et al. DellaVigna et al. (2014), would be one of the few instances of research examining the impact of media on racial animosity in a developed country. Finally, as the analysis on the entertainment channel is concerned I rely on the literature studying the impact of media on individual's economic outcomes. A particularly influential study on the topic has been LaFerrara et al. (2012). The authors argue that the model of woman portrayed in Brazilian telenovelas influenced the fertility decisions of brazilian women. In addition, Gentzkow and Shapiro (2004) find that, in predominantly Muslim countries, Al-Jazeera viewers tend to express more Anti-American feelings.

3 Historical Background of Racial Protest

3.1 "Separate but Equal"

Starting from the second half of the 1950s the United States of America witnessed a period of strong ethnic confrontation. By the 1950s African Americans, especially in the South, were economically, politically and personally oppressed (Morris, 1986).

Economic oppression emerged from systematic employment of black workers in lowest-paying jobs. Morris (1986) reports that, in a typical Southern city in the 50s at least 75% of black men were employed in unskilled jobs. This implied that, not only African Americans earned a lower salary than the average white man, but also that, being at the bottom of the hierarchy in the working place, they were controlled by whites.

Political oppression means that African Americans were persistently excluded from the political process. The disenfranchisement of African Americans as a group happened both formally and informally. Informally, since the end of the 19th century intimidation and fraud were routinely used in order to prevent the country from "falling back into the control of the inferior race" (Klarman, 2004). Formally, through a series of clauses and provisions with the objective of extensive exclusion of blacks from the political process. The most diffused practices in the South were a poll-tax and a literacy test. As if the literacy test was not enough to exclude blacks, given their lower literacy rates, most southern states introduced the "Grandfather clause", a provision exempting from literacy tests all those individuals whose ancestors were allowed to vote before 1867, year in which blacks were enfranchised.

Finally, personal oppression derived from the everyday deprivation suffered by African Americans denied freedoms commonly enjoyed by whites. Blacks were obliged to use different toilets, drink from different fountains, go to different schools as well as to sit on the back of public transportation and eat in reserved areas of restaurants, if available. Furthermore blacks had to address whites with reference using formal titles, black men could not look white women in the eyes or talk to them without risking public lynching³. While in the Southern states there was complete *de iure* segregation regulated by the Jim Crow laws, in the Northern and Western states segregation was mainly *de facto*. The principle of *Separate but Equal* applied throughout the national territory.

It is in this situation that the Civil Rights Movement grew stronger and the white supremacist

³As in the case of Emmet Till.

movements arose.

3.2 The 1950s, the Beginning of a Movement

In 1951, black students attending the segregated school Moton High, Virginia, strove against the unfair condition in their school. Initially discouraged by the NAACP⁴, the students and the association's lawyers sponsored a lawsuit directly attacking segregation. This lawsuit, together with other four consolidated cases, became what we know today as the *Brown vs. Board of Education* case. In 1954 the Supreme Court, established that school segregation was unconstitutional and so were the cases that established it⁵ (Klarman, 2004). This achievement is by most identified as the beginning of the Civil Rights Movement since it overturned the doctrine of "Separate but Equal". To be fair, the document was not revolutionary, in that it addressed solely de iure segregation in public schools without ordering immediate implementation. However it encouraged a wave of optimism that granted a re-emerging movement the support of the federal court (Foner, 2006).

Another milestone of the first steps of the Civil Rights Movement is represented by the Montgomery bus boycott of 1955. On December the 1st, 1955 Rosa Parks, the secretary of the NAACP chapter in Montgomery, refused to give up her seat to a white bus rider upon explicit request⁶. Parks is most remembered as a tired seamstress on her way back from work was actually much more than that. Rosa Parks was a veteran of black politics and one of the few black women in Montgomery who acquired the right to vote (passing the literacy test). In her own words "People always say that I didn't give up my seat because I was tired, but that isn't true. (...) No, the only tired I was, was tired of giving in." ⁷, i.e. of surrendering to an unfair system. She protested and got arrested. This episode determines the beginning of one of the most long-lasting boycotts of Civil Rights history (381 days), the launch of a non-violent movement for racial justice and the debut on the political scenes of a young Reverend Martin Luther King Jr. whose speeches and actions got national coverage given the interest raised by the long protest. The Montgomery bus boycott ended in triumph on November 1956 as a federal court ordered Montgomery's buses desegregation.

⁴National Association for the Advancement of Colored People

⁵*Plessy vs Ferguson (1896) and Cumming v. Richmond County Board of Education (1899)*.

⁶She was not the only woman who fought bus segregation in Montgomery (AL). That same year Claudette Colvin was arrested as she refused to give up her seat driving back home. Rosa Parks was supporting Claudette Colvin during her trial.

⁷Rosa Parks: My Story, p. 116, Rosa Parks and James Haskins (1992).

A further important episode that signed the early Civil Rights Movement was the enactment of the Blossom plan that disciplined school desegregation in Arkansas. In 1957, with the help of NAACP a group of 9 African American high-school students, selected on excellent academic results, managed to enroll in Little Rock Central High, a previously all-whites school. On September the 4th, 1957, the first day of school, a whit mob gathered in front of the High School to protest against desegregation. In support of the mob the Arkansas Governor, Orval Faubus, deployed the national guard to prevent black students from entering in the school. NAACP filed a suit against the Governor's action and won, so that on the 27th of September 1957 the students managed to enter the school escorted by Army's troops sent by Eisenhower. This demonstrated to all that, on a last stance, the government would not allow violations of court orders. At the end of the school year Ernest Green became the first African American to graduate from a desegregated school.

The legal success following these events instilled faith in African Americans in the power of mass demonstrations.

3.3 1960-1965, The Civil Rights Act and the Voting Act

The 1960s were characterized by intense and diffused disruptions. Between February and April 1960 college students were involved in lunch counters sit-ins, attacking segregated lunch counters of most department stores in approximately 70 southern cities (Klarman, 2004). Encouraged by the youth initiatives that characterized the Civil Right Movements in its early stages on February 1, 1960 four students sat in at the Woolworth's lunch counter in Greensboro and refused to move when asked. This action was followed by hundreds of fellow student of North Carolina and other southern states that joined the sit-in in a six-months protest. Their commitment led to the final desegregation of Woolworth's lunch counters in July 25, 1960. The optimism transmitted by the success of this initiative spurred a wave of sit-in and "wade-ins" aimed at desegregating public facilities and public beaches in which, it is estimated (Foner, 2006), around 70,000 demonstrators took part until December 1960.

In 1961 CORE⁸ gripped the public attention through the "Freedom Ride" initiative aimed at testing whether or not buses and terminal facilities throughout the country were, in effect, desegregated. The mixed-race group planned to travel from Washington D.C. to New Orleans on a Greyhound bus and a Trailways bus. The activists were ferociously attacked as they entered

⁸ Congress of Racial Equality (CORE), founded in 1942, CORE was one of the "Big Four" civil rights organizations, along with the SCLC, the SNCC, and the NAACP

Alabama, in Birmingham. They had been so badly beaten that CORE leaders decided to stop the ride, which was nonetheless continued by the SNCC⁹, SCLC¹⁰ and NCLC¹¹. The "riders" encountered again segregationist confrontations in Anniston, Alabama, as a mob blocked one of the buses, firebombed it and tried to keep its doors shut so as to burn the de-segregationists alive. Fortunately, the mob retired, but the police showed no intention to prevent the "riders" from being lynched (Foner, 2006). Despite the life threats and dangers encountered the freedom rides continued. This time however, the buses were this time escorted to Montgomery, Alabama, upon Attorney General Kennedy's orders. Unfortunately the "riders" never managed to reach New Orleans given the drivers refusal to drive toward other angry mobs. At the end of the journey many freedom riders were arrested and were reporting severe injuries. However, their action led the Interstate Commerce Commission to order effective and immediate bus and terminal desegregation.

The apogee of mass demonstrations was reached in 1963, year in which hundreds of demonstrations took place in towns and cities across the South expressing black discontent over education, employment and housing. The most dramatic events happened in Birmingham, Alabama, city known for being highly segregated. In May of that year, King decided to let school children march for the first time into the city's street (Morris, 1986). The police chief Eugene O'Connor, deployed his armed forces against the young marchers who were assaulted regardless of their age. As Foner (2006) says "The images, broadcast on television, of children being assaulted with nightsticks, high-pressure fire hoses, and attack dogs produced a wave of revulsion throughout the world." On August 1963 black and white Americans flowed into Washington in the most participated march in the history of the United States. The demonstration called for the passage of a Civil Rights bill that had been pending for years as well as for enhancement of workers' conditions. In this occasion white liberals and blacks reached the highest moment of cooperation in support of racial and economic justice. This march, together with the Birmingham events, lead president Kennedy to call, on national television, for the passage of a law banning racial discrimination in all public places.

As Johnson became president in 1964, after Kennedy's assassination, he called on congress to enact the Civil Rights bill in memory of his predecessor. In 1964 the congress passed the Civil Rights Act that prohibited discrimination based on race, color, religion, sex or nation of origin,

⁹The Student Nonviolent Coordinating Committee, founded by Ella Baker.

¹⁰The Southern Christian Leadership Conference.

¹¹National Christian Leadership Conference.

officially ending *de iure* segregation. The greatest problem entailed by this Act, however, was the fact that it did not address one of the milestones of the Movement's campaign: the right to vote. As a consequence, right after the passing of the Civil Rights Act African American activists started a new campaign to promote the enfranchisement of African American as a group. That summer, named Freedom Summer, a coalition of civil rights activists launched a voters registration campaign in Mississippi causing extremely violent reactions¹² of white supremacist. The attempted march from Selma¹³, Alabama, to Washington was one of the actions resulting from the voting rights campaign. As, once again, images of police officers hardly beating nonviolent demonstrators were broadcast throughout the world (Foner, 2006) the federal government endorsed the movement's action and, in 1965 passed the Voting Rights Act, prohibiting racial discrimination in voting.

3.4 1965-1970, A Changing Movement

After its great legal success, the Civil Rights Movement started addressing *de facto* segregation, much more diffused in the North of the country, i.e. the profound economic divide between African Americans and other Americans. In 1964 King called for a "Bill of Rights for the Disadvantaged" addressing economic deprivation and poverty for all American citizens. Two years later King launched the Chicago Freedom Movement demanding the end of discrimination in employment and housing. Unfortunately the nonviolent tactics that proved so effective in the previous years did not work in the northern states where *de facto* discrimination was less pervasive but still entrenched in the society. The non violent crusade that characterized the movement till that time failed and violent riots outbreaks signed the beginning of a new era drawing attention on the economic issues (Foner, 2006). The first riot erupted in Harlem in 1964, but it was in 1965, a few days after the signature of the Voting Right Act that a far larger uprising occurred. In Watts, a neighborhood of Los Angeles, for six days around 8,000 participants took part in the riots fighting against police officers and firemen (Olzak and Shanahan, 1996). The so-called "Watts rebellion" stopped only after the deployment of the national guard. The riots costed 35 men their lives while 874 people were injured. In 1967 it was the turn of Newark and Detroit in which riots more than 60 people lost their lives (Olzak and Shanahan, 1996). This second phase of the movement also witnessed the emergence of new movements upholding the cause of African

¹²During summer 1964, civil rights activist have been repeatedly beaten by white supremacists, thirty-five bombs exploded, two white and a black student were kidnapped and killed arousing public attention.

¹³City in Alabama where only 335 out of 15,000 African American were actually allowed to vote (Foner, 2006).

American enhancement with philosophies opposite to King's one. A well-known instance of alternative leader is represented by Malcolm X¹⁴, who sustained that blacks should control their political and economic resources instead of depending on a system entirely controlled by whites. Malcolm X was the intellectual father of the "Black Power" slogan, aimed at the achievement of African American self-determination as well as emphasizing racial pride ("Black is beautiful") and rejecting white norms. Among the many groups born on the lines of this thinking the most famous, but not more numerous, was probably the Black Panther Party, whose members advocated armed self defense in response to police brutality and wore military clothes. Despite running health clinics, schools and children's breakfast programs, the party was targeted by both the Police departments and the FBI, which left several leaders killed in shootouts and destroyed the organization.

1968 was another year of intense political turmoil. While the Vietnam war captured most people's attention, the struggle for civil rights continued quietly. On April 4th 1968, Martin Luther King Jr. traveled to Memphis, Tennessee, to support a strike of the city's garbage collector demonstrating against the life threatening job conditions. It is in that occasion that Rev. King Jr. was shot to death by a white assassin. King's death spurred a diffused wave of violence across the country which settled only after the congress passed the last major civil rights bill: the Open Housing Act, forbidding discrimination in the sale and rentals of homes and apartments.

4 The Boom of Television

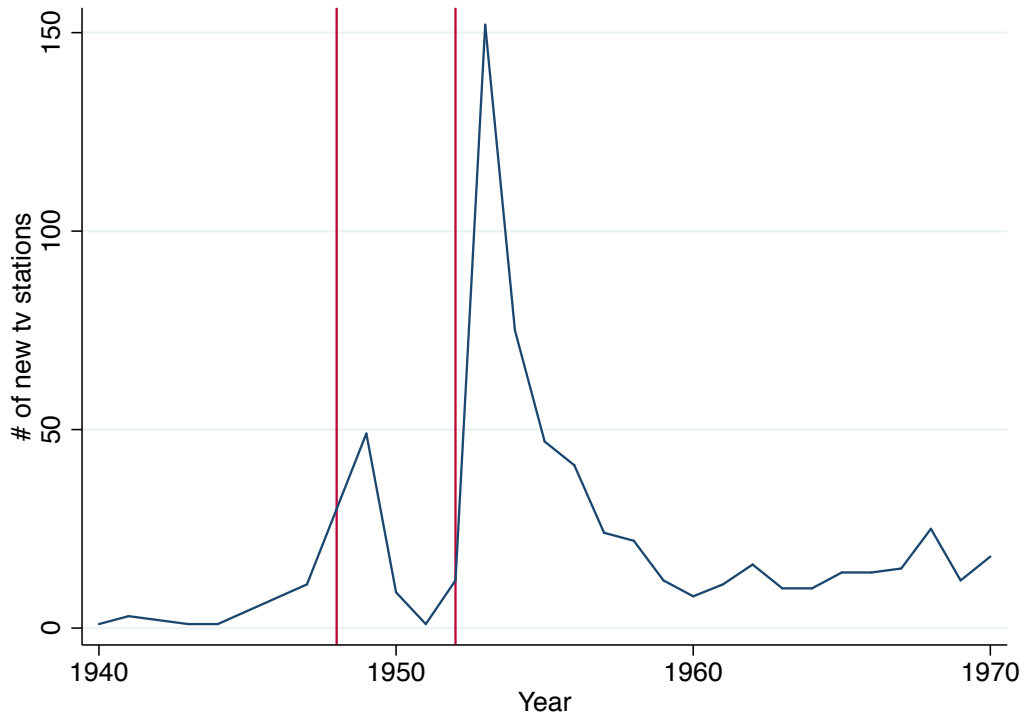
4.1 Technical History of Television

Even if television technology had already been developed by 1930s, the adoption of this new technology in the United States was slowed down by World War II. The first technical standards in the TV industry were approved in 1941 but, as the war was ongoing, only a few television stations opened. As the post-war period begun, only six television stations were airing in the most rich and populous areas of the country¹⁵, and the additional investment entailed by television initially scared investors away. It was between 1945 and 1952 that the television system really developed and the broadcasting industry moved from a system mainly dominated by the radio

¹⁴Born Malcolm Little in 1925, abandoned his slave surname in favor of X, symbolizing blacks separation from their African ancestors.

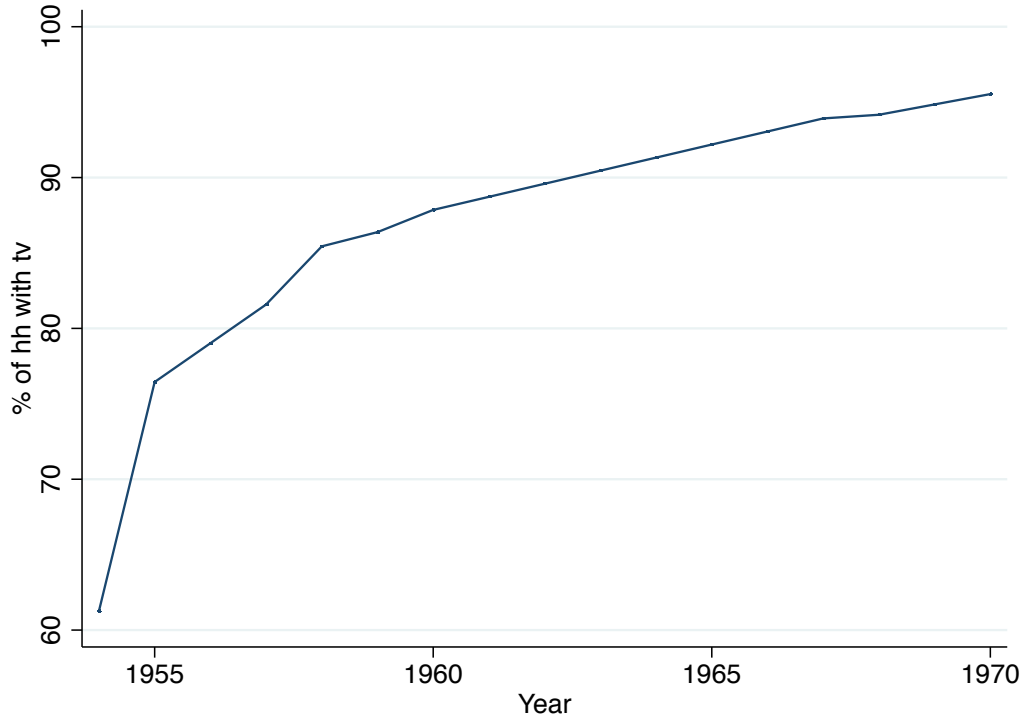
¹⁵In New York, Washington, Schenectady, Chicago, Philadelphia, and Los Angeles

Figure 1: Number of New Television Stations



to a system almost exclusively dominated by the television. Hundreds of stations applied to the Federal Communications Committee (FCC) in order to obtain a license to start operating. As a consequence, on September 30th 1948 the FCC abruptly stopped issuing new licenses due to the inability of solving major technical issues. The freeze, initially intended to last a few months, eventually ended four years after its issuing due to technical and political reasons. The stations already holding a permission could begin broadcasting, all the others instead had to wait until 1952, when the "freeze" ended. In fact, the FCC allowed stations holding construction permits to go on the air, implying that 20,000 television holders already in possession of a television set enjoyed expanded TV programming (Gentzkow, 2006). Those who instead did not have a close enough transmitter to receive the signal had to wait until the end of the freeze, as did potential licensee. On the contrary, the 106 television stations that obtained their license before 1948 tried to keep the freeze on hold so to prevent the competition from entering the market. Despite this, on the 14th of April 1952 the FCC commission declared the end of the freeze after having solved interference problems, set color television standards and spectrum location for additional channels, reserved broadcasting space for educational television channels and, finally, determined city-by-city assignments of channels (Sterling and Kittross, 2001). As soon as the

Figure 2: Households with Television set



freeze ended the FCC was submerged by new license applications and, between 1952 and 1953, 164 new television stations started their operations (see Figure 1). The number of television sets increased dramatically between 1950 and 1960 (see Figure 2) and continued steadily, in a less extreme fashion, until 1970. As Sterling and Kittross (2001) highlight, even if this figure seems to plateau during the 60s the number of TV set per-capita did not. Indeed the number of households with multiple TV sets more than tripled during these decades. This suggests that using the percentage of households having a television as the independent variable would not capture the intensity of TV diffusion, especially after the 1960. Unfortunately, measures of television viewership are difficult to obtain for these years.

I use the FCC freeze as my first source of exogenous variation in the timing of television introduction. Throughout the 50s and 60s television was mainly broadcasted, indeed, cable television became popular only during the 70s. This allows me to exploit a further source of exogeneity, over-the-air signal attenuation. The diffusion of a signal is in fact influenced by topography; in particular it is affected by climate, winds and terrain's irregularities. Following Olken (2009) I calculate the predicted signal loss with Hufford (2002) Irregular Terrain Model and use the predicted received signal as an additional exogenous variable.

4.2 The Content of Television

Trying to assess the impact of television on racial protests it is determinant to understand which programs were transmitted. During the 1950s television entertainment was mainly dominated by soap-operas, anthology dramas, situation comedies and westerns. Soap operas were transmitted during daytime, targeted housewives and were usually characterized by an intriguing and romantic plot. Anthology dramas were weekly programs with a continuously changing cast and plot such that, each episode was completely separated from the previous and subsequent one. Situation Comedies were instead built on a fixed set of characters (usually a family) involved in a series of funny situations. Finally, in the late 1950s Western TV series became the most popular TV drama occupying most of the prime time space. All these entertainment forms were characterized by a complete absence of political themes and by the lack of minorities depiction in non-stereotypical roles (Sterling and Kittross, 2001).

At the beginning of the 1960s NBC started a new trend broadcasting fairly recent movies in prime time. As ABC and CBS followed through the number of available movies was rapidly exhausted. NBC, once again, set the lead and started producing movies conceived explicitly for TV audience. This new form of entertainment replaced most of the previous prime time entertainment besides Situation Comedies which remained particularly diffused. During this decade we see that increased public awareness of the problems faced by racial minorities reflected on the feelings toward television. More and more complaints were filed against racially homogeneous casts in the television and the demeaning depiction of minorities. Among the many examples, we have the famous TV series *Untouchable* which was canceled for its unfair portrayal of Italian Americans and *Frito Bandito*, a commercial cartoon character that created concerns among Mexican Americans. The same discourse applied for African Americans. Even if some shows starred black actors, they usually did so in strongly stereotypical roles, or else they were soon canceled. This trend was interrupted in 1965 by *I Spy*, the action series starring Bill Cosby (black) and Robert Culp (white) as undercover agents. The first series starring one black actor has instead been *Julia*, featuring a divorced black nurse (Miller and Macdonald, 1984).

The evolution of news reporting on the TV occurred more slowly than that of the entertainment industry. In particular, in the 50s the format did not suffer particular changes. The basic format consisted in a 15 minutes early evening round-up communicating the most important events nationwide, including sports (Sterling and Kittross, 2001) ¹⁶. National politics coverage

¹⁶Exceptions to this format are few and represented by 1953 Queen Elizabeth II coronation, 1955-1956 Eisen-

was scarce till the 1960 presidential elections which saw senator John F. Kennedy opposing vice-president Richard Nixon. During this campaign there were four televised confrontations, today referred to as "Great Debates".

It is only in 1963 that NBC and CBS, then followed by ABC and other networks, extended the news format to 30 minutes. In this period the independence of TV journalism grew and, with it, the daytime space dedicated to news coverage. As the political climate in the 1960s heated, television journalism became predominantly important. Events like John F. Kennedy's assassination, Martin Luther King Jr., the Los Angeles riots and the Civil Rights Movement struggle were abundantly covered (Sterling and Kittross, 2001) and impacted individuals' ideas through the strength of the images they were delivering.

The entertainment and the news projected by television might have affected racial protests in different ways, I will try to disentangle their potential effect in a second part of my analysis.

5 The Data

This study focuses on 316 Standard Metropolitan Statistical Areas (SMSA)¹⁷. SMSAs are defined by the Census Bureau as urban areas characterized by high population density and frequent economic interaction. They are usually centered on one, or two, big and influential cities and comprise a small number of counties around them. This analysis covers a time span of seventeen years, from 1954 to 1970 included. This allows me to have a panel of 5,372 observations.

5.1 Racial Protests Data

Racial protest and collective action data come from the ICPSR study conducted by Susan Olzak's "Ethnic Collective Action in Contemporary Urban United States"¹⁸. The primary source of data is the *New York Times* which the author used in order to identify potential events. She then searched for further information about each event different reports. The original study collects data on ethnic protest from 1954 to 1992. The total number of events listed between 1954 and 1970 is 1,851. Among these 1,212 were initiated by African Americans and 1,108 were coded as nonviolent. An event is included in the study only if it pertained to at least one of the 316

lower illness, 1956 Hungarian uprising and, finally, 1959 Nikita Khrushchev visit to the United States.

¹⁷Borders are as in June 1980 and Puerto Rico, Hawaii and Alaska are excluded from the sample.

¹⁸Olzak, Susan. Ethnic Collective Action in Contemporary Urban United States – Data on Conflicts and Protests, 1954-1992. ICPSR34341-v1. Ann Arbor, MI: Inter-university Consortium for Political and Social Research [distributor], 2015-03-04. <http://doi.org/10.3886/ICPSR34341.v1>

SMSAs. Rural protests were rare and are not coded in the data. Most of the events (729) were meeting and rallies, meaning a pre-arranged gathering that requires a minimal degree of organization but excludes regularly scheduled activities. Other diffused event forms were pickets, spontaneous disruption and riots. By picket it is intended a formal protest outside a business (or an organization), usually with banners, aimed at focusing the public attention on a specific target about which they have ethnic claims. Between 1954 and 1970 there were 315 pickets. An example is given by the "Freedom Stayout" day in Boston public schools that took place on the 26th of February 1964. In that occasion over 20,000 pupils skipped school in order to "protest *de facto* segregation and express the pains it inflicts" (Ryan, 1959-1988). Further important protest forms in the sample are spontaneous disruptions and riots. By spontaneous disruption we mean unplanned and unorganized public disruption of daily activities with a small number of participants (usually less than a hundred). The Memphis (TN) sanitation workers strike (1968) following the death of two black garbage collectors due to a malfunctioning truck and preceding the death of Martin Luther King Jr. is considered a spontaneous disruption. Finally, by riots we mean large-scale hostile crowd actions characterized by the presence of weapons and long duration. Among the riots we surely have the Watts Rebellion that started the 11th of August 1965 in the neighborhood of Watts, Los Angeles, as a reaction to police abuse against African Americans. In my analysis I will use all these measures of protest combining them into a single dependent variable. Finally, as Table 1 shows, the average probability of having a black-initiated protest is 9.1%, while the average probability of having a white-initiated protest is 3.9%. This reflects the fact that, while African Americans demonstrations were more diffused, also Caucasians demonstrations were common.

5.2 Television Data

Data on television coverage and network affiliation were collected using the "Station Volume" of the 1979 "Television Factbook". This is a yearly data book containing all stations operating on United States soil, as well as those that operated in the past. It provides detailed technical information for every single station. Among the data I digitized there is the precise geographical location in which each antenna is placed, the frequency and power of transmission, its altitude above the ground and above the sea level, the channel it is assigned to and its network affiliation. A total of 644 TV stations were operative in 1970.

I use GIS to locate antennas in each county. I then construct a panel spanning the years 1954

to 1970 included. For each year I have information on which county has an operating television station, how many transmitting station it has and finally for how many years has a station been transmitting in that county. I use the geographical location of antennas to determine which county had a transmitting television station in every given year. I finally aggregate all the data at the SMSA level. Of the 316 SMSAs, only 31 had an operating television in 1948, when the FCC freeze started, 138 had it in 1953, one year after the freeze ended. Finally, in 1970 199 SMSAs, more than a half of the total, had an operating television station. From figure 1 you can see how the number of new TV stations dropped in 1950 and substantially increased in 1953, as the freeze ended.

In some cases, however, counties without an antenna station are nonetheless able to receive a signal. This is due to factors such as proximity to a county that has a television antenna, the altitude and the irregularity of the terrain that lies between the transmitting antenna and the receiving county. I account for this in a second step of my analysis using the Irregular Terrain Model developed by Longley and Rice (1968) in the 1960s and enhanced by Hufford (2002). Based on electromagnetic physics theory it predicts the long-run median transmission loss of a radio signal over irregular terrain. I use the technical details as input in the Irregular Terrain Model together with surface and air characteristics. Once all inputs are provided, the ITM uses the "Global Land One-kilometer Base Elevation", a digital elevation model at a latitude-longitude grid space of 30 arc-seconds (Hastings, 1998), to calculate the terrain pattern between the transmitter and the receiver. I then obtain the signal received by each county from every antenna in the sample and keep the average of the signals received. Finally I aggregate information at the SMSA level so to obtain the average signal received in the Metropolitan Area for each given year.

The data on the percentage of households having a television set in each Standard Metropolitan Area are taken from Gentzkow's dataset (Gentzkow, 2006) for the period between 1954 and 1960, included. I have then digitized the information contained in the "Television Factbooks" of 1967, 1968 and 1970 that list the total number of household, as well as the number of households having a television set, for every county. For those years in which the information is however missing, I have predicted the data points using linear interpolation. As Figure 2 shows, the percentage of household having a television in 1954 was slightly above 60%, however, this figure spikes above 90% in the second half of the 60s, supporting the claim that, between 1954 and 1970 the extent of television diffusion was substantial. As you can see from Table 1 on average

87% of the households had a TV set during the years considered.

5.3 Economic and Demographic Data

Economic and demographic characteristics are taken from the Census of Population and Housing of 1950¹⁹, being it the most recent data on the population collected before 1954, the starting year of my panel. As you can see from Table 1 in my sample of analysis, the total population was on average 362,205 and the average income was around 6,500\$²⁰. Non-whites median family income is, in the Southern states, 1200\$. On average 9% of the population is black, slightly less than the average percentage of African Americans on the United States territory, which in 1950 was around 10% (U.S.Census Bureau). The unemployment rate is on average 5%, against the 5.3% rate on the national territory, and the average years of schooling are 6.3. Finally, table 1 also shows that one fourth of the population were aged between 14 and 29, figure that is slightly higher than the mean on the overall American population, in which 23.9% of the people is in that age range. These figures suggest that my sample may not be fully representative of the United States population as a whole. Indeed, Metropolitan areas seem to have on average a more educated population as well as less unemployed and less African Americans. As a control variable of my regressions I will also use the percentage of protestant population taken from the Census of Religious Bodies of 1952²¹. Controlling for this variables is particularly important given that around 78% of African Amricans were protestants in 1950 and that the protestant church has been a powerful organizational platform for the Civil Rights Movement.

6 Empirical Strategy

Identifying the causal effect of television has commonly proved difficult given the endogeneity of its diffusion. Firstly, following Gentzkow (2006) I exploit the Federal Communications Commission freeze that started in 1948 and ended four years later, producing exogenous variation in the

¹⁹Haines, Michael R., and Inter-university Consortium for Political and Social Research. *Historical, Demographic, Economic, and Social Data: The United States, 1790-2002*. ICPSR02896-v3. Ann Arbor, MI: Inter-university Consortium for Political and Social Research [distributor], 2010-05-21.

²⁰The variable is coded. A value of 6 corresponds to an income ranging between 5,000\$ and 5,999\$, a value of 7 corresponds to an family income ranging between 6,000\$ and 6,999\$.

²¹U.S. Dept. of Commerce, Bureau of the Census. CENSUSES OF RELIGIOUS BODIES, 1906-1936. ICPSR ed. Ann Arbor, MI: Inter-university Consortium for Political and Social Research [producer and distributor], 1980.

Table 1: Summary Statistics

<i>Variable</i>	<i>Mean</i>	<i>Standard Deviation</i>	<i>N.Obs</i>
Panel A: Outcomes			
Racial Protest	0.116	0.320	5376
Racial Confrontation	0.068	0.251	5376
Black Initiators	0.091	0.287	5376
White Initiators	0.039	0.193	5376
Some non local	0.016	0.125	5376
Organized participants	0.058	0.233	5376
Some violence	0.074	0.261	5376
Property damage	0.038	0.192	5376
Lethal weapons	0.059	0.236	5376
Some injured	0.045	0.207	5376
Killed	0.010	0.102	5376
Police force	0.066	0.249	5376
Panel B: Independent Variable and Instrument			
% hh with tv	87.163	12.614	5372
Signal	-129.288	28.114	5372
The smsa receives NBC signal	0.368	0.482	5376
Panel C: Controls			
Total population 1950	362205.969	755288.625	5372
Median family income (coded)	6.478	1.208	5338
Share of black people	0.092	0.115	5372
Share of population aged 14-29	0.253	0.036	5372
Unemployment rate	0.046	0.021	5372
Average years of schooling	6.299	0.643	5372
% urban population (coded)	5.081	1.799	5338
% protestants	29.435	12.615	5372
Nonwhite population 1-4 years of college	439.366	1569.019	5372
Nonwhite median family income	1196.944	258.650	1938
Share of professionals	0.082	0.023	5372
Share of farmers	0.055	0.046	5372
Free space signal	-2680.544	1085.533	5372
Average elevation	319.457	370.820	5372
Coastal smsa	0.256	0.437	5372

Note: the unit of the Standard Metropolitan Statistical Area as measured in 1981. The panel data spans from 1954 to 1970 included. The data sources are described in Section 5.

timing of television introduction. Secondly, along the lines of Olken (2009) I use television signal reception, calculated with the ITM model of radio propagation, to instrument the percentage of households having a television set and estimate its effect on racial protests.

6.1 FCC Freeze

In order to exploit the exogenous variation in television introduction caused by the FCC freeze I estimate a the following regression

$$y_{m,t} = \alpha + \beta TV_{m,t} + \delta X_m + \gamma G_m + \phi_s + \mu_t + \varepsilon_{m,t} \quad (1)$$

where $y_{m,t}$ is the outcome of interest in SMSA m and year t , ϕ_s are state fixed effects, μ_t years fixed effects, G_m are geographic controls (average altitude and a dummy for coastal SMSA) and $\varepsilon_{m,t}$ is the error term. I cluster standard errors at the state level. The observable characteristics included as controls, X_m , are demographic and economic characteristics measured in 1950: the total population, median family income, the share of black people, the share of young people, the unemployment rate, the average years of schooling, the percentage of urban population and the percentage of protestants in 1952. $TV_{m,t}$ is a variable capturing the presence of a television antenna in SMSA m at time t . The first television variable I use is $TV_{m,t} = 1(\text{TV introduced in } m \text{ before } 1952)$, it is a dummy equal to one if the SMSA had an active television station prior 1952, meaning that the station obtained the license before the freeze, and 0 otherwise. I then use as independent variable the number of years a SMSA had a television antenna, measured by $TV_{m,t} = 1(t \geq \tau_m)(t - \tau_m)$ where τ_m is the year in which television was introduced in the SMSA m . β will be the coefficient of interest in this analysis.

Even if the freeze provided an exogenous change in the timing of television introduction it might not have affected the ordering of license obtainment. Indeed, it is reasonable to expect that investors found it more profitable to apply for a license and start broadcasting earlier in more populous and wealthier regions. In order to reduce selection in my sample I restrict the analysis to those SMSAs that had their first operating TV station between 1948 and 1953, i.e. those SMSAs whose stations are more likely to have obtained the license right before the freeze, in 1948 and right after it, in 1952. The idea is that, the closest to the freeze the stations obtained their license, the less I expect this obtainment to be driven by socio-economic characteristics. I try then to identify the main drivers of television introduction using SMSA's observable characteristics. I

Table 2: Determinants of Television Introduction

Dependent variable: year TV entry in the SMSA	
Total population 1950	-0.000** (0.000)
Median family income	-0.389 (0.423)
Share of black people	-2.404 (4.653)
Share of population aged 14-29	5.842 (5.270)
Unemployment rate	5.588 (14.524)
Average years of schooling	-0.762 (0.872)
% urban population	0.056 (0.238)
% protestants	0.014 (0.032)
Nonwhite population, 1-4 years of college	-0.001** (0.000)
Share of people working as professionals	-2.819 (10.011)
Share of people working as farmers	0.576 (9.417)
Average elevation	-0.001 (0.001)
Coastal smsa	-1.929** (0.822)
Constant	1,958.195*** (6.412)
Observations	126
R-squared	0.675
State	yes
Mean of Dep. Var.	1951

Robust standard errors in parentheses

*** p<0.01, ** p<0.05, * p<0.1

Note: I control for socio-economic variables, state fixed effects and year fixed effects. I use an Ordinary Least Squares estimator. Standard errors in parentheses are robust to cluster correlation at the state level. Significance levels indicated by *** if p<0.01, ** if p<0.05, * if p<0.1 .

estimate the determinants of television introduction with a cross-sectional regression

$$\text{year}_m = \alpha + \beta X_m + \phi_s + \varepsilon_m$$

where year_m is the year in which an operating TV station was introduced in the SMSA, X_m is a set of observable characteristics, ϕ_s are state fixed effects and ε_m is the error term. I cluster standard errors at the state level. The results are reported in Table 2. As you can see, the total population, the number of African Americans with more than 1 year of college and the location on the coast seem to be the major determinants of television introduction, the R^2 of this regression is 0.68. In particular, television stations seem to have opened firstly in the most populous and well-educated Standard Metropolitan Areas, as conjectured. Following Gentzkow (2006) I will assume that controlling for these variables will eliminate the spurious correlation, since, once you control for these variables none of the other socio-economic characteristics seem to be significant at the 10% level.

To further validate my estimation strategy I check whether selection in TV introduction is uncorrelated with previous measures of racial protests following the strategy proposed by LaFerrara

Table 3: Placebo Regressions

Dependent variable =1 if first station at time t			
Number of events	0.001 (0.004)		
Δ # Protests (t,t-1)		0.001 (0.003)	
Δ # Protests (t-1,t-2)			0.002 (0.002)
Observations	2,652	2,496	2,340
R-squared	0.041	0.039	0.035
Controls	Yes	Yes	Yes
Year FE	Yes	Yes	No
State FE	Yes	Yes	No

Robust standard errors in parentheses

*** p<0.01, ** p<0.05, * p<0.1

Note: " Δ # of protests (t,t-1)" is the difference between the number of protests at time t and the number of protests at time $t - 1$; " Δ # of protests (t-1,t-2)" is the difference between the number of protests at $t - 1$ and the number of protests at $t - 1$. The variable "first station" is a dummy taking value one if the SMSA had the first TV station installed in year t . I control for socio-economic variables, state fixed effects and year fixed effects. I use an Ordinary Least Squares estimator. Standard errors in parentheses are robust to cluster correlation at the state level. Significance levels indicated by *** if p<0.01, ** if p<0.05, * if p<0.1 .

et al. (2012). I run the following regressions

$$\text{first}_{m,t} = \alpha + \beta \text{events}_{m,t-1} + \delta X_m + \phi_s + \mu_t + \varepsilon_{m,t}$$

$$\text{first}_{m,t} = \alpha + \beta \Delta \text{events}_{m,(t-1,t)} + \delta X_m + \phi_s + \mu_t + \varepsilon_{m,t}$$

$$\text{first}_{m,t} = \alpha + \beta \Delta \text{events}_{m,(t-2,t-1)} + \delta X_m + \phi_s + \mu_t + \varepsilon_{m,t}$$

where $\text{first}_{m,t}$ is a dummy taking value one if the SMSA had its first TV station installed in year t , $\text{events}_{m,t-1}$ is the number of racial protest that took place in SMSA m in year $t - 1$, $\Delta \text{events}_{m,(t,t-1)}$ is the change in the number of events in SMSA m from $t - 1$ to t and $\Delta \text{events}_{m,(t-1,t-2)}$ is the change in the number of events in SMSA m from $t - 2$ to $t - 1$. By means of this three different specifications I am able to test whether the selection in TV introduction is correlated with past racial protests as well as with the change this variable has undertaken over time²². As one can see from Table 3, in none of the three cases the coefficient β is statistically significant. This result provides further confidence in the proposed estimation strategy.

6.2 Irregular Terrain Model

I test the robustness of my analysis using a second source of exogenous variation. In order to identify the causal effect of television on protests I instrument the percentage of households having a television set with the received TV signal in the SMSA. As previously explained, I follow Olken (2009) and calculate the signal using the Irregular Terrain Model of radio propagation that computes the loss a signal suffers due to the diffraction caused by the objects interposed between the transmitter and the receiver. Conditional on some demographic characteristics and regions fixed effects, the model allows me to have exogenous variation in the strength of the TV signal, hence a suitable instrument. Furthermore, the exclusion restriction is a plausible assumption once we control for the SMSA geographic characteristics. Being the signal strength influenced by topography, it might influence racial protests not only through television but also through, for instance, isolation. It could indeed be the case that in mountainous regions the signal strength is weaker but also that movements are made arduous by the irregular terrain, preventing individuals to join a protest. In order address this potential violation of the exclusion restriction I control for geographic characteristics of the SMSAs. The first stage of the two stage least squares estimator is

²²Given data limitations I am able to run this test only for the sub-sample of SMSA in which television was introduced after 1954. The assumption is that, if the selection in TV introduction is uncorrelated with past number of demonstrations between 1954 and 1970, it was so even before.

$$\text{pctv}_{m,t} = \alpha + \beta \text{signal}_{m,t} + \gamma \text{free}_{m,t} + \delta X_m + \sigma G_m + \phi_r + \mu_t + \varepsilon_{m,t} \quad (2)$$

where $\text{pctv}_{m,t}$ is the percentage of households owning a television set in the SMSA m at time t . Also, X_m are the economic and demographic characteristics as defined in 2.2, G_m are geographic characteristics (average elevation and a dummy for coastal SMSA). $\text{Signal}_{m,t}$ is the predicted average signal strength in SMSA m in year t , and $\text{free}_{m,t}$ is the predicted free-space signal strength i.e. the strength at which the signal would have reached the SMSA m in case of "free space" between the receiver and each transmitter. This latter variable is particularly useful for the analysis in that it captures the extent to which an SMSA is isolated. Furthermore I add census region fixed effects, year fixed effects and cluster the standard errors at the state level²³. As one can see from Table 4, the effect of TV signal on the TV penetration is positive and significant at the 1% level. I estimate the impact on racial protests using the instrumented $\text{pctv}_{m,t}$ variable. The second stage will then be

$$y_{m,t} = \psi + \lambda \widehat{\text{pctv}}_{m,t} + \theta \text{free}_{m,t} + \zeta X_m + \kappa G_m + \phi_r + \mu_t + u_{m,t} \quad (3)$$

Here, $y_{m,t}$ is the outcome of interest: a measure of racial protest in the United States. The coefficient of interest is β .

A first condition that must be satisfied in order to have valid instrument is its exogeneity. Given that my model is exactly identified, i.e. a model in which the number of instruments is exactly equal to the number of endogenous variables I can not test for exogeneity using the Sargan-Hansen test for overidentifying restrictions²⁴ It is however reasonable to assume that the instrument is exogenous. Indeed, once we control for geographic characteristics that might have influenced the decision on antenna locations, the power loss that the signal suffer depends on the refraction of the waves. The refraction is in turn influenced by the altitude of the objects interposed between the transmitter and the receiver antenna and by tropospheric conditions, all measures that can be assumed to be exogenous.

A second necessary condition for instruments validity is their relevance, or strength, i.e. the extent to which the instrument is correlated with the instrumented variable. As stressed by

²³I cannot use state fixed effects for the following reason. Using the Two Stage Least Square estimator it is not possible to estimate the variance co-variance matrix if there is a dummy which is 1 for one observation and 0 for the remaining N-1. In the used dataset there are six states having one SMSA, hence forbidding me to estimate the variance co-variance matrix properly. In order to obviate this problem I control for census region fixed effects.

²⁴Developed by Sargan (1958) it tests the joint null hypothesis that the excluded instruments are valid, conditional for at least one of them being valid and under the assumption of conditional homoskedasticity.

Table 4: First Stage

	(1) <i>% hh with tv</i>
Signal	0.085*** (0.019)
Free space signal	-0.001*** (0.000)
Average elevation	0.002 (0.001)
Coastal smsa	1.320* (0.669)
Total population 1950	0.000 (0.000)
Median family income	1.311*** (0.447)
Share of black people	0.489 (4.360)
Share of population aged 14-29	-11.490 (7.704)
Unemployment rate	-3.778 (15.209)
Average years of schooling	1.578 (1.200)
% urban population	-0.021 (0.214)
% protestants	0.039 (0.037)
Nonwhite population, 1-4 years of college	0.001** (0.000)
Share of people working as professionals	-40.152*** (14.098)
Share of people working as farmers	-35.338*** (10.171)
Constant	88.967*** (8.781)
Observations	5,338
R-squared	0.615
Region FE	Yes
Year FE	Yes
Mean of Dep. Var.	87.20
F-statistics on the excluded instrument	21.385

Note: "Signal" is the average signal strength that reaches the SMSA "free space signal" is the signal that would have reached the SMSA with no refraction suffered. I control for census region fixed effects and year fixed effects. Standard errors in parentheses are robust to cluster correlation at the state level. Significance levels indicated by *** if $p < 0.01$, ** if $p < 0.05$, * if $p < 0.1$.

Stock and Yogo (2002) the relevance of the instruments matters in that formally, it plays a role akin to the sample size in IV regression statistics. In order to test for instrument weakness they propose to use the first stage F-statistics and provide critical thresholds it has to overcome according to the number of instruments and endogenous variables a models has. Their test however holds conditionally on the errors being homoskedastic and serially uncorrelated, which is not an assumption of my model. In order to test whether or not my instrument is weak I use the Olea et al. (2014) effective F-statistics, that accounts for cluster correlation corrected standard errors. The null hypothesis of weak instruments is rejected if the F-statistics exceeds, in my particular case, the critical value of 37.418. Unfortunately, in my basic specification, the effective F-statistics is 21.385, which poses a certain concern on instruments' weakness.

Following Stock et al. (2002) I address this issue using a Jackknife estimator as proposed by Angrist et al. (1995). This estimator uses a re-sampling method aimed at the construction of an instrument independent of the disturbance in the regression. In particular, it eliminates the correlation between the first-stage fitted values and the error by subtracting from the sample one observation at a time and recalculating the first-stage. Then it uses an evaluation equation to estimate the effect obtained when each observation is left out so to calculate the interested effect as an average treatment effect. The Jackknife has finite sample properties superior to the Two-Stage Least Squares, is consistent in the presence of cluster correlation (Chao et al. (2011)) and has lower weak-instrument thresholds thus being more robust to weak instruments than the Two-Stage Least Squares.

6.3 Channels of Television Influence

Information

In order to isolate the information channel I use Gentzkow et al. (2014) data on newspapers in 1956, 1960, 1964, 1968.

The idea is to test whether, those SMSAs with larger newspaper circulation, i.e. average number of newspapers per-capita, will have citizens more informed on national issues hence learning relatively less from TV news. If this were true, we would expect the effect of television on racial protests to be smaller in those SMSAs where newspapers are most diffused. In order to test this conjecture I estimate a heterogeneous treatment effect interacting the percentage of households having a television set with the average newspaper circulation in the SMSA:

$$y_{m,t} = \alpha + \beta \text{pctv}_{m,t} + \lambda \text{circ}_{m,t-1} + \gamma (\text{pctv}_{m,t} * \text{circ}_{m,t-1}) + \delta X_m + \phi_r + \mu_t + \varepsilon_{m,t}$$

where $\text{circ}_{m,t-1}$ is the average per-capita circulation of newspaper calculated as in Gentzkow et al. (2011), in $t-1$ ²⁵, X_m are the socio-economic characteristics, ϕ_r census region fixed effects, μ_t time fixed effects and $\varepsilon_{m,t}$ is the error term. The standard errors are clustered at the state level. γ is the coefficient of interest and it is expected to be negative if television influences protests through the information channel. Each interaction of television with another variable are instrumented by the interaction of the signal with that same variable. I then estimate coefficients and standard errors using a Jackknife (JIVE) estimator.

Collective Action problem

Another possible channel through which television might influence protests is by helping participants overcome a collective action problem. Threshold models of collective action (Granovetter, 1978; Lohmann, 1993, 1994) suggest that there may be a need for a critical number of individual willing to undertake a costly action in order for it to actually happen. It is not only important to have a certain number of prospective participants but also, that they have an accurate conjecture of the number of people willing to participate (Lohmann, 1993) as well as correct information on the timing and location of the event to participate in. Television provided information on events happening throughout the country and gave individuals the chance to join the protest or to organize another protest, in solidarity, if unable to join.

In order to test whether TV influence might be due to collective action I exploit the fact that the church acted as an organizing platform throughout the Civil Rights Movement period. The church was not only important because it provided a local organizational base but also because, thanks to religious gatherings like the National Baptist Convention, religious leaders were able to coordinate their political actions on a national scale. Furthermore, the NAACP was closely tied to the black church, especially in the South. Indeed, not only NAACP leaders were usually southern clergymen but churches provided an optimal location for meetings, being them independent of the white power structure (Hine and Morris, 1985). An instance of the church role as an organizational platform is represented by the initial phases of the Montgomery, (AL), bus boycott in 1955. The boycott was initially organized by the Women's Political Council and intended to

²⁵Newspapers variables are determined in $t-1$ so to assure that they are not influenced by television diffusion in t

last one day, however it escalated in a year-long boycott after thousands of members of the African American community met at Holt Street Baptist Church and decided to continue protesting until the achievement of complete bus desegregation (Weisenfeld, 2015). In addition, it is estimated that 78% of the African-American are of protestant faith²⁶.

To test the collective action channel I estimate a heterogeneous treatment effect interacting the percentage of Protestants in an SMSA with the percentage of household having a TV.

$$y_{m,t} = \alpha + \beta \text{pctv}_{m,t} + \psi \text{protestants}_m + \gamma (\text{pctv}_{m,t} * \text{protestants}_m) + \delta X_m + \epsilon_{m,t}$$

The coefficient γ on the interaction term is expected to be negative if television acted as an organizational device.

Educational Entertainment

In this last part of the analysis I exploit the lack of variation in the depiction of African Americans on national television before the second half of the 1960s. As the 50s and 60s were years of intense racial turmoil in the United States and, the principle of "Separate but Equal" was collapsing it was threatening for a national network to be associated with black actors. African American actors were tolerated in sit-coms in which they played ridiculed stereotyped roles as singers, dancers, maids and handymen, but they could hardly access unconventional roles. Moreover, whenever a producer tried to break the color line and employed African Americans in different roles, they were harshly criticized by white viewers and consequently threatened by sponsors²⁷. In October 1962, the Committee of Integration of the New York Study for Ethical Culture found that, over a two weeks period of TV in New York City blacks were scarcely visible and mainly covering demeaning roles. They concluded that, such a limited and stereotyped exposure was "psychologically damaging" to the image of African Americans (Miller and Macdonald, 1984). This finding closely relates to most recent literature regarding the impact of entertainment on individual outcomes. In particular, the literature has paid increasing attention to how, television series or radio content can shape individuals beliefs and expectations (LaFerrara et al., 2012; DellaVigna et al., 2014; DellaVigna and Kaplan, 2007). The extent to which individuals can identify with the character played on the screen might be conducive to imitating behaviors or

²⁶Pew Research Center, U.S. Religious Landscape Survey (2007)

²⁷In 1963 an episode of *Perry Mason* starred a black judge. In 1964 General Motors threatened to withdraw the money should an episode of *Bonanza* star black actors.

hopes shaped by her/him. This hypothesis has been formalized and adopted as a development tool in the 1970s by Miguel Sabido, a Mexican TV producer. Sabido collaborated with the government of Mexico on educational entertainment through telenovelas promoting family planning (Singhal et al., 2003). Also, LaFerrara et al. (2012) find that, in Brazil, fertility rate dropped because female viewers identified with the emancipated and empowered women who were *novelas* protagonists.

According to this literature, we might expect that, as soon as African American started been showed on the screen in unconventional roles, the expectations of black viewers rose and, with those, their probability of participating in a protest.

In order to test this hypothesis I exploit the fact that in the the 1960s, as the political climate heated, the television industry started converging toward a less biased depiction of minorities. In 1962 CBS and NBC announced their adherence to policies of "no discrimination because of race, creed, religion or national origin" and smaller networks followed through. By the second half of the 1960s several were the TV series featuring black actors in leading, or supporting roles. Most of them achieved limited success and were quickly canceled but some survived and became very successful. This was the case for two series in particular: *I Spy* and *Julia*, both produced by NBC. The former was launched in 1965 and featured Bill Cosby as a police detective who was as competent and successful as his white partner. The latter starred Diahanna Carroll in the role of *Julia*, an empowered, educated, middle-class nurse who lived in a very integrated environment. For my analysis, I exploit the fact that NBC produced the two first successful TV series starring black actors to isolate the social influence channel. I calculate a heterogeneous treatment effect interacting the percentage of households having a television set with mid60s, a dummy that takes value one if t is after 1964, and NBC, a dummy that takes value one if the SMSA receives the signal from a station affiliated with the NBC network and 0 otherwise. In particular I claim that an SMSA receives NBC if the average signal received by NBC is larger than that received by non NBC stations. As shown in Table 1, the 37% of SMSA receive the signal from a station affiliated with NBC.

$$y_{m,t} = \alpha + \beta \text{pctv}_{m,t} + \psi \text{NBC}_{m,t} + \sigma(\text{pctv}_{m,t} * \text{NBC}_{m,t}) + \mu(\text{pctv}_{m,t} * \text{mid60s}) \\ + \gamma(\text{pctv}_{m,t} * \text{NBC}_{m,t} * \text{mid60s}) + \psi(\text{NBC}_{m,t} * \text{mid60s}) + \delta X_m + \phi_r + \mu_t \epsilon_{m,t}$$

A positive γ would provide evidence for the "raising expectations" explanation.

Interestingly, while NBC distinguished itself in its entertainment programs it did not do so in

the news and documentaries. By the early 1960s all three major broadcasting companies (ABC, CBS, NBC) had produced documentaries on the Civil Rights issues focusing on the negative effects of racism²⁸. At the same time the news in the most important TV networks were not overlooking the racial issue, which was presented without systematic bias in each network. This allows me to plausibly attribute differences between NBC and other channels in the late 60s to the educational entertainment channel.

7 Results: Main Effects

7.1 FCC Freeze

Table 5 Panel A illustrates the results obtained estimating equation (1), where the outcomes are measures of racial protests and the independent variable of interest is a dummy that takes value one if the SMSA had an operating television station before the "freeze" ended and 0 otherwise. I find a positive and significant effect of the TV dummy on the probability of a protest outbreak. In particular, if the SMSA had television before the freeze ended, the probability that it will experience a protest increases by 5.8 percentage points, which is almost one fourth of the mean of the dependent variable. The coefficient is significant at a 5% level. I also find that having the TV before the freeze increases the probability of racial confrontations, i.e., those protests which had as an objective a specific racial target, by 3.3 percentage points, an effect that is almost one fourth of the mean. The coefficient is significant at the 10% level. Interestingly, I do not find effects on the probability of having a protest initiated by Caucasians, while the effect of TV is positive and significant on the probability of having a protest initiated by African Americans. Having an operating television station prior to 1952 increases the probability of having a black-initiated protest by 6 percentage points, a 50% increase if compared to the mean of the dependent variable.

Finally, from this first set of results it seems that having television did not influence the probability of having non local demonstrators joining the protest as well as the probability of having demonstrators organized, either formally or informally²⁹.

In Table 5 Panel B, I use as independent variable the number of years in which an SMSA had an

²⁸In 1963 ABC produced the five-part documentary *Crucial Summer*, NBC *The American Revolution of '63* and CBS *The Press and the Race Issue*.

²⁹Non local demonstrator are demonstrators who are originally from a SMSA different from that in which the protest happened.

Table 5: FCC Freeze

	(1) <i>Racial Protest</i>	(2) <i>Racial Confrontation</i>	(3) <i>Black Initiators</i>	(4) <i>White Initiators</i>	(5) <i>Some non local</i>	(6) <i>Organized participants</i>
Panel A: Dummy variable						
TV before freeze	0.058** (0.028)	0.033* (0.019)	0.060** (0.029)	0.020 (0.014)	0.009 (0.007)	0.030 (0.024)
Observations	2,142	2,142	2,142	2,142	2,142	2,142
R-squared	0.236	0.171	0.206	0.189	0.101	0.183
Controls	Yes	Yes	Yes	Yes	Yes	Yes
Year FE	Yes	Yes	Yes	Yes	Yes	Yes
State FE	Yes	Yes	Yes	Yes	Yes	Yes
Mean of Dep. Var.	0.148	0.0868	0.111	0.0509	0.0168	0.0724
Panel A: Continuous variable						
N. years TV	0.012* (0.007)	0.005 (0.005)	0.012* (0.007)	0.004 (0.003)	0.003 (0.002)	0.007 (0.005)
Observations	2,142	2,142	2,142	2,142	2,142	2,142
R-squared	0.235	0.171	0.205	0.188	0.101	0.183
Controls	Yes	Yes	Yes	Yes	Yes	Yes
Year FE	Yes	Yes	Yes	Yes	Yes	Yes
State FE	Yes	Yes	Yes	Yes	Yes	Yes
Mean of Dep. Var.	0.148	0.0868	0.111	0.0509	0.0168	0.0724

The estimation sample include SMSA that had their fist operative TV station between 1948 and 1953 (included). The variable "TV before freeze" is a dummy that takes value one if the SMSA had an operating TV station before the FCC freeze. The variable "N. years TV" measures the number of years an SMSA had the television. Total population, median family income, share of African Americans, share of population between 14 and 29 years old, unemployment rate, percentage of urban population, nonwhites that attended college and job market composition measured in 1950 are included in the regression as socio-economic controls. I further control for state fixed effects and year fixed effects. I use an Ordinary Least Squares estimator. Standard errors in parentheses are robust to cluster correlation at the state level. Significance levels indicated by *** if $p < 0.01$, ** if $p < 0.05$, * if $p < 0.1$.

Table 6: Ordinary Least Squares

	(1) <i>Racial Protest</i>	(2) <i>Racial Confrontation</i>	(3) <i>Black Initiators</i>	(4) <i>White Initiators</i>	(5) <i>Some non local</i>	(6) <i>Organized participants</i>
% hh with tv	-0.0013** (0.0006)	-0.0012** (0.0005)	-0.0016*** (0.0005)	-0.0003 (0.0003)	-0.0004** (0.0002)	-0.0009** (0.0004)
Observations	5,338	5,338	5,338	5,338	5,338	5,338
R-squared	0.2323	0.1567	0.2103	0.1429	0.1490	0.1894
Region FE	Yes	Yes	Yes	Yes	Yes	Yes
Year FE	Yes	Yes	Yes	Yes	Yes	Yes
Mean	0.116	0.0680	0.0910	0.0388	0.0159	0.0577

Note: Total population, median family income, share of African Americans, share of population between 14 and 29 years old, unemployment rate, percentage of urban population, nonwhites that attended college and job market composition measured in 1950 are included in the regression as socio-economic controls. I further control for the free space strength, census region fixed effects and year fixed effects. I use an Ordinary Least Squares estimator. Standard errors in parentheses are robust to cluster correlation at the state level. Significance levels indicated by *** if $p < 0.01$, ** if $p < 0.05$, * if $p < 0.1$.

operating television station. These results confirm the previous findings. I find a positive effect on the probability of protest outbreak and on the probability of having a protest initiated by African Americans. An additional year of television increases the probability of protest outbreak by 1.2 percentage points and the probability of having a protest initiated by blacks by 1.2 percentage points. The coefficients are respectively 8% and 11% of the mean of the dependent variables and they are significant at the 10% level³⁰.

7.2 Irregular Terrain Model

The results I find exploiting the exogenous variation of the broadcast TV signal confirm the effects found above.

Table 6 reports the Ordinary Least Squares estimates for specification (3). The estimated coefficients are negative and statistically significant at the 5% level for all the variables considered, except the one associated with the effect of TV on the probability of having a white initiated protest.

³⁰Looking at this particular set of results it is important to keep in mind that they have been estimated on a sub sample of the whole population. As explained in section 6.1, the estimation sample includes the SMSA that had their first TV station transmitting after 1947 and before 1954.

Table 7: Instrumental Variable

	(1)	(2)	(3)	(4)	(5)	(6)
	<i>Racial Protest</i>	<i>Racial Confrontation</i>	<i>Black Initiators</i>	<i>White Initiators</i>	<i>Some non local</i>	<i>Organized participants</i>
Panel A: Two-Stage Least Squares						
% hh with tv	0.006* (0.004)	0.002 (0.004)	0.006** (0.003)	-0.002 (0.002)	0.001 (0.001)	0.001 (0.002)
Observations	5,338	5,338	5,338	5,338	5,338	5,338
R-squared	0.196	0.149	0.170	0.139	0.140	0.184
Controls	Yes	Yes	Yes	Yes	Yes	Yes
Region FE	Yes	Yes	Yes	Yes	Yes	Yes
Year FE	Yes	Yes	Yes	Yes	Yes	Yes
Mean of Dep. Var.	0.116	0.0680	0.0910	0.0388	0.0159	0.0577
F-Statistics	21.39	21.39	21.39	21.39	21.39	21.39
Panel B: Jackknife						
% hh with tv	0.011* (0.006)	0.003 (0.004)	0.010** (0.005)	-0.003 (0.003)	0.003 (0.002)	0.003 (0.004)
Observations	5,338	5,338	5,338	5,338	5,338	5,338
R-squared	0.137	0.132	0.099	0.135	0.107	0.171
Controls	Yes	Yes	Yes	Yes	Yes	Yes
Region FE	Yes	Yes	Yes	Yes	Yes	Yes
Year FE	Yes	Yes	Yes	Yes	Yes	Yes
Mean of Dep. Var.	0.116	0.0680	0.0910	0.0388	0.0159	0.0577

Note: Total population, median family income, share of African Americans, share of population between 14 and 29 years old, unemployment rate, percentage of urban population, nonwhites that attended college and job market composition measured in 1950 are included in the regression as socio-economic controls. I further control for the free space strength, census region fixed effects and year fixed effects. I use a jackknife estimator. Standard errors in parentheses are robust to cluster correlation and heteroskedasticity. Significance levels indicated by *** if $p < 0.01$, ** if $p < 0.05$, * if $p < 0.1$.

Table 7 Panel A reports the Two-Stage Least Squares the estimates of specification (3), in this case I find that the television had a positive, and significant at the 10% level, effect on the probability of a racial protest outbreak and on the probability of having a protest initiated by blacks (columns 1 and 3). These findings suggest a downward bias of the OLS that might be due to two main factors: attenuation bias due to measurement error and omitted variable bias. Attenuation bias arises when the independent variable of which we are considering the coefficient is noisy. In my particular case, I am using the percentage of households having a television station as the variable of interest, and the data on this variable are taken from different television Factbooks. The data however are not available for all the years in the sample, hence I impute the values of the missing data points using linear interpolation. This however is likely not to reflect the exact figures of the variable I am interested in but a noisier variable.

An omitted variable bias might also be a cause of concern in this estimation. Consider for instance the role of economic inequality. This variable is likely to be negatively correlated with my independent variable since the higher the inequality the lower will be the number of households buying a TV station³¹. At the same time, inequality is likely to positively affect racial protests, as a more unequal environment may be conducive to a higher level of resentment and possibly unrest. Due to data limitations I cannot control for income inequality.

As explained in 6.2 the signal is a weak instrument. this causes Instrumental Variables estimates to be biased toward the OLS estimates (Chao and Swanson, 2005). As shown in Table 6, the coefficients of interest estimated using Ordinary Least Squares are mainly negative. This implies that my Two-Stage Least Squares estimates of the TV effect are going to be downward biased, hence a lower bound of the true treatment effect.

In order to solve the weak instrument problem I follow Angrist et al. (1996) and use a Jackknife estimator that, estimating the specification N times leaving out one observation at a time, provides estimate robust to weak instrument generated issues. Hence, if the JIVE corrects the 2SLS bias toward the OLS estimates I expect the coefficients obtained with this latter estimator to be larger than those obtained with the Two-Stage Least Squares.

As you can see in table 7 Panel B, this is exactly what happens. Column 1 shows that having a 1% increase in the percentage of households with a television set leads to a 1.1 percentage point increase in the probability of protest outbreak and to a 1 percentage point increase in the probability of having a protest initiated by blacks. Both coefficients are significant at the

³¹Assuming that there is an upper bound in the number of television a rich individual will buy.

10% level and are, respectively, 10% and 11% of the mean of the dependent variable. From Table 1 the standard deviation of the independent variable of interest is 12.6, this means that a one-standard deviation increase in the percentage of TV owners the probability of having a racial protest increases by 13.9 percentage points, i.e. it more than doubles if compared to the mean. Again, no effect is found on the probability of having a protest initiated by Caucasians as well as having non local, or organized, participants. Overall the results in Table 7 confirm what previously found using the exogenous variation in timing caused by the FCC freeze. This is encouraging since the significance and magnitude estimates do not change substantially with two completely different estimation strategy.

Overall, these two sets of results suggest that television did in fact influence racial protests and that this effect was driven by protests initiated by African Americans. In light of these results, it is important to stress that the lack of effects on white-initiated protests should not be attributed to the rarity of these events. As one can see from Table 1, white-initiated protests were frequent. In the next Section I will try to disentangle the role played by information, collective action and educational entertainment channel in generating these effects.

7.3 Channels of TV Influence

Information

As explained in section 6.3, in order to isolate the information channel I estimate a heterogeneous treatment effect interacting the percentage of households having a television station with the average newspaper circulation. The idea is that, in SMSAs where newspaper readership is higher individuals will learn relatively less from the news provided by television.

As it can be seen in Table 8 the interaction is significant for the specification reported in column 1, in which the dependent variable is a dummy for racial protests. In this specific case the percentage of television owners is not significant as a standalone term. On the contrary, the coefficient of Newspaper circulation is positive and significant at the 10% level. When the average circulation is one, i.e. the average number of newspapers read per person is one, if television ownership increases by one standard deviation the probability of racial protest outbreak decreases by 11 percentage points, 80% of the mean of the dependent variable in this sample³². Given that the television substituted newspaper to a certain extent (Gentzkow, 2006), these results suggest

³²Newspaper data are available for four years only, 1956, 1960, 1964 and 1968

that television actually might have worsened viewers' levels of information, hence decreasing the probability of protesting when newspapers are substituted by television. This is consistent with the fact that, in the decades considered the information provided by television was particularly scarce. In the 1950s, news programs lasted no more than 15 minutes and focused on delivering powerful protests images without deepening the reasons why that same protest was happening (Sterling and Kittross, 2001). This result is consistent with Gentzkow (2006) who finds that, as television entered a market, individuals' political awareness decreased and, consequently, voters turnout³³.

Collective Action Problem

In Table 9 I test whether the television had an effect on racial protests because it allowed the overcoming of a collective action problem. Even if individuals did not learn about the underlying reasons of racial protests, they might have learned about where and when a protest was planned to happen. In this case they could have decided to join the protest or, else to start another protest in solidarity. The idea here is to exploit the organizational role of the black (Protestant) church and to see whether, in those areas with a higher percentage of Protestants, the effect of television was smaller. As one can see from table 9, column 1, the coefficient on the interaction is -0.0005 and is significant at the 1% level. This means that in a SMSA with an average number of television owners (see Table 1) a 1% increase in the percentage of Protestants decreased the effect of television of 4.4 percentage points, 30% of the mean of the dependent variable. A similar effect is found when one considers black initiated protests (column 3).

The net estimated effect of TV is still positive and statistically significant. Indeed, in an SMSA with the average percentage of Protestants, a 1 percent increase in TV ownership increases the probability of protest outbreak by 0.3 percentage points. A test on the null hypothesis that the net effect is equal to zero rejects the null with a p-value of 0.000 for both the specifications of column 1 and 3.

As far as the other dependent variables are concerned, it seems that television did not have an effect in the first place. Considering this test, is important to keep in mind that the percentage of Protestants might not only capture a potential for collective action but also ideals and values that might, per se, positively affect racial protests. Unfortunately with this estimation strategy it is not possible to understand whether the effect is driven by the collective action problem

³³Analyzing these results it is important to keep in mind that newspaper readership is an endogenous variable and that coefficients are likely to be biased. However I follow Gentzkow (2006) and proceed in the analysis.

component or by other unobservables related to the protestant faith. However, if we assume that black Protestants and white protestants are a similar religious group, we can consider the lack of any heterogeneous treatment effect on the probability of having a white-initiated protests as an element in favor of my hypothesis.

Educational Entertainment

Finally, I test whether TV might have affected racial protests through its depiction of minorities in TV series. In this latter case the intuition relies on the edutainment literature that models the influence of role models on viewers' behaviors (LaFerrara et al., 2012). Exploiting the fact that NBC television series in the mid 1960s featured non stereotyped African American actors, I estimate a heterogeneous treatment effect. As one can see from table 10, column 1, a 1 percent increase in television owners in a SMSA receiving NBC between 1965 and 1970 leads to an increase in the probability of protests outbreak of 8 percentage points (the coefficient is significant at the 1% level) A similar effect is found in column 3, as the probability of having a black initiated protest increases by 7.8 percentage points if TV ownership increases of 1% in an SMSA receiving NBC in the second half of 1960s. Again the coefficient is significant at the 1% level.

The net effect of TV ownership on racial protests is positive and statistically significant in SMSAs receiving NBC in the late 1960s. The null hypothesis of a net effect equal to 0 is rejected at the 1% level.

Interestingly no effect is found on the probability of having a protest initiated by whites. This provides strength to my hypothesis that it is the way in which minorities were portrayed in TV series that influenced their decision to engage in protests, and not entertainment in general. In light of this results it seem plausible to think that, as African Americans debuted the TV screen as nurses or detectives, black viewers aspirations changed and with them the propensity to protest for the achievement of better socio-economic conditions.

7.4 Robustness Checks

In order to test the robustness of my analysis to the econometric specification I run a series of robustness checks.

First, I check whether my results are driven by outliers observations, i.e. observations point distant from other observations (Grubbs, 1969), of the explanatory variable of interest. In order

to do it I winsorise the percentage of households with a television set as suggested by Barnett and Lewis (1964)³⁴. In table 7.4 I report the results obtained when the observations below the 5th percentile and those above the 95th percentile of the percentage of TV owners are winsorised. The magnitude of the coefficients does not change substantially besides column 4 in which the coefficient changes sign but remains not significant. Furthermore, the winsorised TV penetration seem to have a positive effect on the probability of having a racial confrontations as well as on the probability of having some non local participants joining the protest. Second, I use state fixed effects rather than census region fixed effects. For this purpose I have to exclude from the sample six states that have only one SMSA ³⁵. As you can see from Table 12 the results of Table 7 are confirmed. However, the magnitude is not similar since the coefficient halves using this latter specification. This is to be expected, given that state FE soak up a significant amount of variation.

In conclusion, the main effects found in section 7 are preserved across specifications.

³⁴Winsorising is a statistical method of data censoring that substitutes the extreme values (above and below a chosen percentile) with the inward value counting inwards from the extremes (Tukey, 1962).

³⁵Idaho, North Dakota, Rhode Island, South Dakota, Vermont, Wyoming

Table 8: Television and Information: Newspapers Circulation

	(1)	(2)	(3)	(4)	(5)	(6)
	<i>Racial Protest</i>	<i>Racial Confrontation</i>	<i>Black Initiators</i>	<i>White Initiators</i>	<i>Some non local</i>	<i>Organized participants</i>
% hh with tv * News. Circ.	-0.009* (0.005)	-0.005 (0.004)	-0.007 (0.005)	0.004 (0.003)	0.000 (0.002)	-0.004 (0.004)
% hh with tv	0.031 (0.020)	0.019 (0.015)	0.029 (0.018)	-0.014 (0.012)	0.001 (0.009)	0.014 (0.014)
Newspaper Circulation (t-1)	0.798* (0.461)	0.454 (0.357)	0.634 (0.422)	-0.386 (0.293)	-0.046 (0.222)	0.305 (0.342)
Observations	1,212	1,212	1,212	1,212	1,212	1,212
R-squared	-0.093	-0.063	-0.137	-0.210	-0.662	-0.132
Region FE	Yes	Yes	Yes	Yes	Yes	Yes
Year FE	Yes	Yes	Yes	Yes	Yes	Yes
Mean of Dep. Var.	0.139	0.0759	0.102	0.0528	0.0314	0.0817

Note: Average newspaper circulation is calculated as in Gentzkow et al. (2011) and defined for 1956, 1960, 1964 and 1968. The estimation sample is hence composed by the years 1957, 1961, 1965 and 1969. Total population, median family income, share of African Americans, share of population between 14 and 29 years old, unemployment rate, percentage of urban population, nonwhites that attended college and job market composition measured in 1950 are included in the regression as socio-economic controls. I further control for the free space strength, census region fixed effects and year fixed effects. I use a jackknife estimator. Standard errors in parentheses are robust to cluster correlation and heteroskedasticity. Significance levels indicated by *** if $p < 0.01$, ** if $p < 0.05$, * if $p < 0.1$.

Table 9: Television and Collective Action: Protestants.

	(1)	(2)	(3)	(4)	(5)	(6)
	<i>Racial</i>	<i>Racial</i>	<i>Black</i>	<i>White</i>	<i>Some non</i>	<i>Organized</i>
	<i>Protest</i>	<i>Confrontation</i>	<i>Initiators</i>	<i>Initiators</i>	<i>local</i>	<i>participants</i>
% hh with tv * % protestants	-0.0005*** (0.0002)	-0.0002* (0.0001)	-0.0004*** (0.0001)	-0.0001 (0.0001)	-0.0001** (0.0001)	-0.0003** (0.0001)
% hh with tv	0.0182** (0.0077)	0.0068 (0.0062)	0.0168** (0.0070)	-0.0020 (0.0049)	0.0049 (0.0031)	0.0066 (0.0056)
% protestants	0.0400*** (0.0141)	0.0186 (0.0113)	0.0327** (0.0129)	0.0094 (0.0089)	0.0123** (0.0057)	0.0225** (0.0104)
Observations	5,338	5,338	5,338	5,338	5,338	5,338
R-squared	0.1706	0.1391	0.1408	0.0965	0.1118	0.1616
Region FE	Yes	Yes	Yes	Yes	Yes	Yes
Year FE	Yes	Yes	Yes	Yes	Yes	Yes
Mean of Dep. Var.	0.116	0.0680	0.0910	0.0388	0.0159	0.0577

Note: as explained in section 5 the percentage of protestant is measured in 1952 (census of religious bodies). Total population, median family income, share of African Americans, share of population between 14 and 29 years old, unemployment rate, percentage of urban population, nonwhites that attended college and job market composition measured in 1950 are included in the regression as socio-economic controls. I further control for the free space strength, census region fixed effects and year fixed effects. I use a jackknife estimator. Standard errors in parentheses are robust to cluster correlation and heteroskedasticity. Significance levels indicated by *** if $p < 0.01$, ** if $p < 0.05$, * if $p < 0.1$.

Table 10: Television and Educational Entertainment

	(1)	(2)	(3)	(4)	(5)	(6)
	<i>Racial Protest</i>	<i>Racial Confrontation</i>	<i>Black Initiators</i>	<i>White Initiators</i>	<i>Some non local</i>	<i>Organized participants</i>
NBC* % hh with tv* 1(1964<year)	0.080*** (0.029)	0.062*** (0.020)	0.078*** (0.027)	0.005 (0.012)	0.008 (0.009)	0.028* (0.016)
% hh with tv* 1(1964<year)	0.095* (0.056)	0.056 (0.038)	0.087* (0.052)	-0.014 (0.024)	0.021 (0.017)	0.041 (0.031)
NBC*1(1964<year)	-7.431*** (2.714)	-5.823*** (1.851)	-7.270*** (2.541)	-0.463 (1.150)	-0.735 (0.841)	-2.607* (1.508)
NBC* % hh with tv	-0.012 (0.008)	-0.007 (0.006)	-0.012 (0.008)	0.002 (0.004)	-0.002 (0.003)	-0.004 (0.005)
% hh with tv	0.033* (0.020)	0.017 (0.014)	0.032* (0.019)	-0.006 (0.008)	0.007 (0.006)	0.011 (0.011)
NBC	0.999 (0.707)	0.573 (0.482)	0.985 (0.661)	-0.182 (0.300)	0.213 (0.219)	0.354 (0.393)
Observations	5,338	5,338	5,338	5,338	5,338	5,338
R-squared	-0.885	-0.421	-1.048	0.072	-0.191	-0.096
Region FE	Yes	Yes	Yes	Yes	Yes	Yes
Year FE	Yes	Yes	Yes	Yes	Yes	Yes
Mean of Dep. Var.	0.116	0.0680	0.0910	0.0388	0.0159	0.0577

Note: "NBC" is a dummy that takes value 1 if the average signal transmitted by the NBC stations is higher than the average signal received by non NBC stations. "1(1964<year)" is a dummy that takes value one if the year is between 1965 and 1970 included. Total population, median family income, share of African Americans, share of population between 14 and 29 years old, unemployment rate, percentage of urban population, nonwhites that attended college and job market composition measured in 1950 are included in the regression as socio-economic controls. I further control for the free space strength, census region fixed effects and year fixed effects. I use a jackknife estimator. Standard errors in parentheses are robust to cluster correlation and heteroskedasticity. Significance levels indicated by *** if $p < 0.01$, ** if $p < 0.05$, * if $p < 0.1$.

Table 11: Jackknife and Winsorized TV variable

	(1)	(2)	(3)	(4)	(5)	(6)
	<i>Racial Protest</i>	<i>Racial Confrontation</i>	<i>Black Initiators</i>	<i>White Initiators</i>	<i>Some non local</i>	<i>Organized participants</i>
% hh with tv	0.009*** (0.002)	0.005** (0.002)	0.007*** (0.002)	0.002 (0.002)	0.002* (0.001)	0.003 (0.002)
Observations	5,338	5,338	5,338	5,338	5,338	5,338
R-squared	0.158	0.109	0.154	0.128	0.123	0.163
Controls	Yes	Yes	Yes	Yes	Yes	Yes
Region FE	Yes	Yes	Yes	Yes	Yes	Yes
Year FE	Yes	Yes	Yes	Yes	Yes	Yes
Mean of Dep. Var.	0.116	0.0680	0.0910	0.0388	0.0159	0.0577

Note: In this regression the percentage of households having a television set is winsorised. In order to assess the robustness of the analysis to the presence of outliers I winsorise the independent variable replacing the observations below the 5th percentile and above the 95th percentile with the next value counting inwards from the extremes as discussed in Tukey (1962). Total population, median family income, share of African Americans, share of population between 14 and 29 years old, unemployment rate, percentage of urban population, nonwhites that attended college and sectorial composition measured in 1950 are included in the regression as socio-economic controls. I further control for the free space strength, census region fixed effects and year fixed effects. Standard errors in parentheses are robust to cluster correlation and heteroskedasticity. Significance levels indicated by *** if $p < 0.01$, ** if $p < 0.05$, * if $p < 0.1$.

Table 12: Jackknife with State Fixed Effects

	(1) <i>Racial Protest</i>	(2) <i>Racial Confrontation</i>	(3) <i>Black Initiators</i>	(4) <i>White Initiators</i>	(5) <i>Some non local</i>	(6) <i>Organized participants</i>
% hh with tv	0.005* (0.003)	0.006** (0.002)	0.005* (0.003)	-0.001 (0.002)	-0.001 (0.001)	0.000 (0.002)
Observations	5,236	5,236	5,236	5,236	5,236	5,236
R-squared	0.201	0.090	0.166	0.131	0.139	0.175
Controls	Yes	Yes	Yes	Yes	Yes	Yes
State FE	Yes	Yes	Yes	Yes	Yes	Yes
Year FE	Yes	Yes	Yes	Yes	Yes	Yes
Mean of Dep. Var.	0.117	0.0686	0.0919	0.0393	0.0162	0.0583

Note: results estimated excluding from the sample Idaho, North Dakota, Rhode Island, South Dakota, Vermont, Wyoming. Fixed effects are at the state level. Total population, median family income, share of African Americans, share of population between 14 and 29 years old, unemployment rate, percentage of urban population, nonwhites that attended college and sectorial composition measured in 1950 are included in the regression as socio-economic controls. I further control for the free space strength and year fixed effects. Standard errors in parentheses are robust to cluster correlation and heteroskedasticity. Significance levels indicated by *** if $p < 0.01$, ** if $p < 0.05$, * if $p < 0.1$.

8 Conclusions

In this thesis I have studied the impact of television diffusion on racial protests in the United States between 1954 and 1970. I first exploit the exogenous variation in TV entry due to the FCC "freeze" that blocked licenses distribution between 1948 and 1952. Then I use the Irregular Terrain model that predicts the signal received by a given area correcting for the topography of the terrain, using signal strength as an instrument for TV penetration. With both empirical strategies I find positive and significant effects of the percentage of television owners on racial protests outbreak. In particular, the effect seems to be driven by the protests initiated by African Americans since no effect is found on the probability of having a protest initiated by Caucasians. My results suggest that the main channels of influence of TV on racial protests are the resolution of a collective action problem and the impact of TV role models. Regarding the former I find that the positive effect of television is attenuated when the percentage of protestants increases. This may be due to the important role that the protestant church had in the organization of African American protests but also possibly to other unobservables related with being black and of protestant faith. It seems unlikely to be linked to being Protestant per se, since I do not find any similar pattern when I consider white-initiated protests. As I try to assess whether the content of entertainment as a possible channel of television influence I find interesting results. The impact of television ownership increases in areas that received NBC in the second half of the 1960s. I interpret this heterogeneous treatment effect as role model influence on individuals aspirations. In the second half of the 1960s NBC was the only network broadcasting successful TV series starring black actors in non stereotyped roles. These could have helped individuals rising their aspirations on their socio-economic conditions. This finding is consistent with similar findings on the effect of role models on individual outcomes (LaFerrara et al., 2012) .

Finally I find no effect of the information received from the TV news as a possible channel of TV influence. On the contrary, using newspaper circulation I find evidence suggestive of a worsening of individuals political awareness as the percentage of households owning a TV set increases. This is consistent with previous studies (Gentzkow, 2006) who find that TV decreased individuals' interest in politics, becoming the primary source of news information but being substantially less informative than newspapers.

In conclusion, my analysis sheds light on how mass media have historically influenced racial protests, facilitating coordination and raising individuals ambitions. These results could suggest that it would be interesting to assess the causal effect of social media on today's protests. The

intrinsic endogeneity entailed by the social network structure complicates the task of estimating their causal effect. However, my results point out that it is a relationship that is worthy to be analyzed.

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