Firearms and Violence Under Jim Crow[*]

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Abstract

We assess firearm access in the U.S. South across the 20th century by measuring the fraction of suicides committed with firearms. Black residents of the Jim Crow South were disarmed during the 1920's, failing to reach firearm parity until re-arming themselves during the Civil-Rights Movement of the 1950's. Firearms offered an effective means of Black self-defense in the Jim Crow South. Lynchings decreased with greater Black firearm access. During the Civil Rights Movement Black firearm access had no effect on Black deaths from homicide, but rather decreased Black deaths registered as firearm accidents, corroborating accounts of frequent misclassification of homicides as accidents in that era. These results are robust to multiple identification strategies, including identification through variation in firearm prices and law enforcement manpower.

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"I had already determined to sell my life as dearly as possible if attacked. I felt if I could take one lyncher with me, this would even up the score a little bit." - Ida B. Wells-Barnett, Black anti-lynching activist, 1918 [1]

1 Introduction

The impact of firearm access on violence has proven challenging to adjudicate. There are difficulties in both measuring access and inferring the direction of any causal relationship with violence (Duggan, 2001; Kleck, 2004, 2015; Manski and Pepper, 2018). Most studies focus on contemporary data, framing debates over firearm rights and policies in the context of strong institutions. The impact of firearms on individual and public safety, however, depends on the institutional and historical context, particularly when considering arguments that individual rights to firearm ownership can serve as a bulwark against a tyrannical government. At the same time, the historic and continuing consequences of unchecked racial violence are difficult to overstate (Beck and Tolnay, 1992; Cook, 2014; Cook et al., 2018a; Jones et al., 2017; King et al., 2009; Messner et al., 2005; Williams, 2019), and the relationship between violence and firearm ownership might be very different in a regime where the formal institutions of law are not equally available to a substantial share of the population. Such a context is, perhaps, one in which the argument for firearms as a bulwark is most attractive but has been least subject to empirical investigation. Towards this end, we consider the historical context of Black Americans who lived under the tyranny of the Jim Crow South.

In this paper, we investigate the relationship between firearm access and violence in the Jim Crow South, where Black citizens were subject to state and local governments that were rarely more than indifferent to their safety and, at their worst, actively supportive of terrorist violence targeting them (Adler, 2019; Johnson, 2014; Wright, 1996). The balance of benefit and cost to owning a firearm stands to be far different for groups who lack political power, face the prospect of violent mobs, and for whom calling the police may very well only bring greater threat. Whether firearms served to aid Black residents in defending themselves in the Jim Crow South is an open question, both in its narrow application to African-American history and its broader relevance to firearms policy.

The costs and benefits of private firearm ownership have been assessed within myriad research contexts, including their relationship to criminal deterrence (Duggan, 2001; Kleck, 2015; Lang, 2016; Manski and Pepper, 2018), self-defense (Cheng and Hoekstra, 2012; Kovandzic et al., 2013; McClellan and Tekin, 2017), homicide and suicide rates (Edwards et al., 2018; Riddell et al., 2018; Siegel et al., 2013), and broadly defined social costs (Cook and

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[1] "Crusade for Justice: The Autobiography of Ida B. Wells", 1970

Ludwig, 2006), all in the context of contemporary, highly institutionalized justice systems. Self-defense effects may be difficult to ascertain because of omitted variable bias concerns, but it is also possible that the relatively safe conditions of the modern developed world render self-defense effects too small to precisely identify. Physical safety was in far greater question in the recent past, however, in particular for Black southerners (Adler, 2008). It stands to reason that self-defense effects may be far larger for Black residents of the Jim Crow South than in the present day.

Historical measures of firearm ownership or access have proven difficult to obtain (Brennan et al. 1993), especially in periods when groups might have their ownership restricted by either law, practice, or broader social norms. Surveys, for instance, are unreliable if firearm ownership is restricted, particularly for members of groups where firearms restrictions are being strongly or unevenly applied. We need a proxy measure of ownership where disclosure of ownership is not endogenous to political power or social standing. The fraction of suicides that were committed with a firearm can serve as such a proxy. The percentage of suicides committed with a firearm, compared to a variety of other broadly available proxies, has been repeatedly found to be the best cross-sectional measure of firearm ownership rates (Cerqueira et al., 2019; Cook, 1991; Cook and Ludwig, 2006, 2019). Recent research has continued to apply and validate this measure as applied to a variety of data and contexts since the 1970s (Azrael et al., 2004; Cook, 1983; Briggs and Tabarrok, 2014; Hemenway and Miller, 2000; Miller et al., 2002; Nagin, 2020), including in panel settings (Cerqueira et al., 2019).[2]

The fraction of suicides employing a firearm is a particularly attractive proxy for firearm access in our setting. It is available, by race and geography, from the early twentieth century.[3] Our data allow us to examine the correlation between White and Black firearm access and violent deaths between 1913 and 1999. No other proxy of firearm access is available for nearly that long of a panel. It is a grim fact that those who kill themselves have, in large part, placed themselves beyond the threat of further consequences meted out by the government, removing a potential source of bias. The preferences of the families, friends, or communities of those who commit suicide, and the sensitivity of authorities to their preferences, may

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[2]Kleck (2004) claims that percentage of suicides committed with a firearm (PSF) is "virtually perfect" as a cross-sectional proxy, but fails as an cross-temporal proxy. This claim, however, is based on the Pearson correlation coefficient between PSFs across years within the GSS, without controlling for the cross-sectional variation across states. Once cross-sectional variation is included in the estimation (in our case, as a within-state estimation), PSF performs far better as a cross-temporal proxy (Cerqueira et al., 2019; Cook and Ludwig, 2006, 2002).

[3]The early to mid 20th century vital statistics records we use in our analysis, up through the Civil Rights Movement, identifies individuals as White or "colored", the latter referring to all non-White individuals. Given our emphasis on the former Confederate states up through the end of the Civil Rights Movement, the overwhelming majority of non-White individuals are African-American former slaves or their descendants, who we will uniformly refer to as "Black" throughout this paper.

vary by race. This could bias the fraction of events recorded *as* suicides, but it seems to us unlikely that this would bias the recorded method by which the suicide was accomplished i.e. whether a firearm was employed. Thus, compared to other proxies for firearm access, it seems that differential "reporting" as a function of firearms restrictions presents a relatively modest concern.

Using hand-coded data from 1913 to 1958, combined with data from the National Center for Health Statistics afterwards, we separately calculate the percent of suicides committed with a firearm for White and Black individuals in each state that reported the necessary vital statistics. We first analyze the relationship between firearm access and number of historiographically identified Black lynching deaths (Beck and Tolnay, 2019). We then extend the analysis to separately measured White and Black per capita rates of violent deaths, estimating the effects of firearm ownership before, during, and after the civil rights era, which we bookend with the historic Brown v Board judicial case in 1953 and the Civil Rights Act of 1968. We also look at the rates of firearm deaths identified as "accidental" in the vital statistics records. The classification of cause of death by southern coroners are known to be dubious during the Civil Rights Movement, particularly when the deceased individual was Black (Balko and Carrington, 2018), so tracking violence in that period must include an investigation of these deaths, as well.

Even with new reliable measures of firearm access, caution is still warranted in interpreting conditional correlations as unbiased causal relationships.[4] Reverse causality is a common concern when analyzing the relationship between firearms and violence—violent victimization may lead individuals to seek out firearms, biasing the observed effect of firearms upward. In this historical setting there is the potential for an additional omitted-variable bias in the other direction—states in which firearm access by Black residents is particularly restricted may also be states with otherwise higher levels of violence against their Black citizens. Attenuation is also a concern, as our measure of firearm access is certainly noisy. To address these potential biases, we use instrumental variables within a control function approach, with two very different shifts in the availability of firearms– one based on White law enforcement manpower as a shift of the costs of maintaining access to a firearm for Black residents and one based on a using a handcoded set of firearm prices interacted with race-specific wages to build a shift-share style instrument for the real cost of firearm access. These IV results allow us to both correct for the bias in the basic results and sign it.

Prior data has not been sufficient to assess whether the Black community better armed itself during the Civil Rights Movement and, if so, whether these tools served to better their de-

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[4]In their survey of 41 papers examining the effect of firearm ownership on crime, Kleck (2015) found three papers employed a causal inference strategy to address endogeneity.

fense against criminal violence, mobs, and the institutions of White supremacy that enabled them. We find evidence to support hypotheses, previously anecdotal, of Black rearmament. Using records of lynchings from 1913 to 1950, we find evidence that the number of Black lynchings decreased with greater Black firearm access, and that the basic (non-instrumented) results *understate* this effect. Extending the analysis to violent deaths recorded in the vital statistics records from 1913 until 1999 tells a mixed story. During the earliest period in our data (1913-1952), Black firearm access leads to *more* Black and White homicides, but *fewer* Black fatal firearm "accidents". During the height of the Civil Rights Movement (1953 to 1968), this negative impact of Black firearm access on "accidental death by firearm" became event larger, a result which corroborates historical anecdotes of frequent misclassification of Black homicides, including lynchings, as accidents or of causes unknown (Balko and Carrington, 2018). Again, OLS understates these effects. In the post-Civil Rights Movement window (1969-1999), these relationships are no longer observed, replaced instead by homicide rate differences that increase with greater relative firearm access. Our results support the hypothesis that firearms served as effective deterrent of lynchings under Jim Crow and other violence during the Civil Rights movement.

1.1 Black Disarmament, Lynching, and Self-Defense

In the decades preceding the Civil War, southern states passed a variety of limitations on the rights of both free Black individuals and slaves to own or use firearms (Cottrol and Diamond, 1991; Tahmassebi, 1991). This approach continued after the Civil War, albeit with greater dependence on uneven *de facto* enforcement to produce the intended outcome (Cottrol and Diamond, 1994). Black disarmament was of primary importance to White southerners during Reconstruction and was heavily featured in the "Black codes" (Cottrol and Diamond, 1991; Burkett, 2008; Cramer, 1994).

If the first question is whether Black households were disarmed by Jim Crow, then the natural, and perhaps more important, next question is whether access to firearms mattered. In *United States v. Cruikshank*, 1875, the Court held the federal government had no authority to punish members of the Ku Klux Klan for confiscating the firearms of two Black men, setting a precedent that effectively delegated the defense of constitutional rights to state government, including the rights to peaceably assemble and bear arms. For Black residents of the Jim Crow south, the message was clear: they were on their own.

In their discussion of the role of firearms in African-American history, Cottrol and Diamond (1991) recount numerous descriptions of Black citizen forming armed *ad hoc* militias to deter lynchings. Dr. Ossian Sweet's 1925 armed stand in his Detroit home against a

violent White mob and subsequent legal plea of self-defense sparked an outpouring of pride and proved to be a seminal moment in the call to armed self-defense within Black newspapers across the country (Boyle, 2007; Johnson, 2014). In his recounting of his experience as an attorney serving the Civil Rights Movement, Donald B. Kates made note of the broad endorsement of firearm possession within the movement and "attributed the relative quiescence of the Klan to the fact that the Black community was so heavily armed" (Kates, 1979). Cobb (2014), from his point of view as a former field secretary for the SNCC Student Nonviolent Coordinating Committee (SNCC) in Mississippi, makes a compelling case that the acceptance of armed self-defense was an existential necessity for activists throughout the broader movement.

Beyond their role as terrorism, lynchings also illustrate a fundamental lack of access to protection from the state. Describing the situation facing the Black residents of a post-reconstruction New Orleans, Adler (2019, p. 25) asserts that "violence was so endemic during the early 1920s, and legal institutions were so indifferent toward such crime, especially African American intraracial homicide, that self-help, even violent self-help, became a survival mechanism." Intra-racial violence, however, was not the only threat. Within early 20th century New Orleans, Adler (2008) finds that about a quarter of White killers targeted Black residents, while a tenth of Black killers targeted White residents.

Even categorizations of deaths as homicides may not be entirely reliable given the institutions of justice in the Jim Crow south. In their investigation of forensic pathology in Mississippi, Balko and Carrington (2018, p. 56) note that "...the coroner system wasn't the cause of the hundreds of lynchings that stained America in the late 19th and early 20th centuries... but the system certainly facilitated them."[5] Balko and Carrington observe consistent indifference to Black deaths from Mississippi coroners, for whom it was "less hassle and required fewer resources to simply decide that the death was an accident, a suicide, or from natural causes."

2   Data and Sample Statistics

Our data on causes of death come from tables compiled in the *Mortality Statistics Annual Report* (Bureau of the Census, 1959). These statistics were gathered from reports submitted by physicians and coroners from an increasing number of "registration states". By 1910, over half the population of the U.S resided in a registration state and the first former Confederate

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[5]A coroner's jury was unable to determine if Harold Jackson's death, having been dragged from jail and hanged from a bridge, had been accidental or coerced (Butler, 1931). Similarly, the murder of Reverend George Lee with two shotgun blasts to his head was deemed an "odd accident" (Clarion-Ledger, 1955).

state (NC) began reporting. By 1920, over 80% of the population was in a registration state, including 7 former Confederate states that reported statistics broken down by race. In 1928, all but one confederate state (Texas) reported, which joined in 1933. States without substantial Black populations did not report by race in early years, but beginning in 1937 all states (and DC) began fully reporting by race. We coded data by hand from the reports on cause of death by race and state from 1910 to 1958. We complete these series from 1959 onward from the Multiple Cause of Death micro-data, released by the National Center for Health Statistics, and compiled by the NBER (2018).

The categorization schema for cause of death changes numerous times, but our six key variables track consistently: deaths by homicide, accident, and suicide, both overall and from firearms.[6] Other than a gap from 1946-1948 for all states and one year (1945) for Arkansas during which firearm-related suicides were not separately reported, these cause-of-death outcomes are consistently reported for all former Confederate states, once the enter the panel.

2.1 Estimates of Firearm Ownership and Violent Deaths: 1913-1999

From these vital statistics, we create several key independent and dependent variables. First, we calculate our metric of firearm possession, by race, which is the fraction of suicides that are the result of self-inflicted firearm injuries. This statistic has been shown to be a good proxy for household firearm possession across cities (Cook, 1983), states (Miller et al., 2002), countries (Hemenway and Miller, 2000; Killias, 1993), and within states over time (Azrael et al., 2004; Cerqueira et al., 2019).

While the percent of suicides by firearm has proven the most reliable proxy for firearm access in contemporary contexts, it remains untested further into the past. As a validation, Figure 1 presents binned scatter plots and linear estimates of the relationship between our proxy, PSF_{st}, and the per-capita rate of all non-suicide deaths involving a firearm. These statistics are calculated for the entire population and are highly correlated, regardless of region or time period. In the three periods (Pre-WW2, Civil Rights, and Contemporary) and two regions (Former Confederacy and Non-Confederacy) of our analysis, the relationship of firearm deaths to PSF_{st} is positive and significant ($p < 0.05$). If places with more firearms have more firearm-related deaths, as seems natural, this provides some validation for our proxy for firearm access.

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[6]In some early years, firearms deaths are pooled with deaths from explosives. In later years, when explosives deaths are broken out, they are quite rare.

The capture of the institutions of justice by one race might lead to differential miscoding of homicides as suicides or accidents. If this miscoding differentially occurs for firearm deaths, it could affect this proxy for firearm access. In particular, if places and times where the institutions are more captured have more miscoding of Black firearm homicides as suicides, we will overstate the rate of Black firearm access in those places and times. Of course, if they miscode many Black non-firearm homicides as suicides, we will understate Black firearm access. Even if there is unbiased reporting, this proxy will always suffer from significant measurement error, as idiosyncratic shocks and random chance for a small number of observed suicides introduce noise. Either form of measurement error provides a good reason to pursue an instrumental-variable strategy for our impact estimates.

Panel (a) of Figure 2 displays a time series of PSF_{st} for White and Black suicides, with locally linear population-weighted mean percentage for all former Confederate states bounded by 95% confidence intervals. States are included in the mean as they enter the sample that report cause of death by race.[7]

The time series presented in Figure 2a and the history presented in Section 1.1 suggest that former Confederate states had some success in disarming Black citizens in the Jim Crow era.[8] Prior to 1920, Black firearm access outpaced White access. That ordering was reestablished after WW2, up to the mid 1970s. But from 1920 to 1940, White firearm access increased substantially alongside a decline in Black firearm access. The increase in White firearm access is, perhaps, a product of soldiers returning home from World War I with weapons or increased experience with and interest in firearms. The coinciding decrease in Black firearm possession suggests that Jim Crow era efforts to disarm Black people were effective, but this gap is closed by 1940. It isn't until after the Gun Control Act of 1968, which eliminated most lower cost handguns from the market, and the migration of many Black families to urban areas of the 1980s, that we again observe the persisting higher rates of White access to firearms.[9]

2.2 Homicides and Accidents

We also use the vital statistics records to calculate firearm-related accidental mortality and homicide rates by race. To normalize these mortality counts, we estimate White and Black

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[7]Figure A.5 presents the same statistic for all other states. The inclusions of states as they enter the sample that report cause of death by race leads to a substantial increase in the White average in 1937 that is mostly compositional, as a number of high PSF states that are overwhelmingly White join the panel. Their addition has little impact on the Black estimated means.

[8]For maps of PSF by state and era, see Appendix Section A.5.

[9]The disarmament of southern Black citizens in the 1920s and their subsequent rearming during the 60s do not appear in the non-Confederacy (see Appendix A.4). For comparison, a replication of the primary analysis for non-Confederate states is included in Appendix Table A.8.

state populations by linearly interpolating White and Black shares from the decennial census and combining those with annual population estimates from the Census Bureau. Figures 2b and 2c present these mortality rates. Each panel includes both smoothed (locally linear) overall averages by race and 95-percent confidence intervals.[10]

These measures tell a story of violence that waxes and wanes, varying by race and era. Accident and homicide rates at the turn of the century are quite low for both racial groups. While these estimates are based on relatively few registration states, the pattern remains true if we pool the races for the additional states that report overall counts but do not subdivide by race. In the inter-war period, both Black and White homicide rates grew, but the change for Black homicides is more dramatic, negatively tracking the Black-White firearm gap. The homicide patterns in the civil rights and contemporary eras also broadly trend together, with pronounced peaks in the early 70s and late 80s for Black Americans. Fatal firearm accident rates mostly trend downward after 1920, with the exception of a spike in the early 1920s and 1970s that coincide with the spikes in homicides, which suggests that there may be some fungibility in the classification of accidents and homicides, at least for Black Americans.

2.3   Lynching

Records of lynching are the product of decades of arduous research (Bailey and Tolnay, 2015; Beck and Tolnay, 2019, 1990). Using quantitative and qualitative rubrics for designating a murder as a lynching, the count of lynchings within a state in a given year is as much a barometer for the ambient level of violence leveled a Black citizens every day as it is a historical measure of terrorist events (Tolnay and Beck, 1995).[11]

Our analysis of the lynching records from the Beck-Tolnay lynching data (Beck and Tolnay, 2019) uses a sample of 335 state-years from former states of the Confederacy, 1913-1950.[12] Our sample includes a mean of 2.16 lynching deaths per year, with 41% of state-years experiencing at least one Black lynching death and a maximum of 13 in Georgia in 1922.[13] Lynching deaths per state capita steadily decrease through our window, with upticks in 1919 and 1933. For more on lynching rates in the south, see Beck and Tolnay (1990).

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[10]Figure A.5 presents these statistics for the non-Confederate states.

[11]Previous research has demonstrated that lynchings correlated with segregation (Cook et al., 2018a,b), Black migration (Tolnay and Beck, 1992b), the size of the Black population (Tolnay and Beck, 1992a; Christian, 2017), cotton prices (Beck and Tolnay, 1990), and local politics (Beck et al., 2016).

[12]As of July 15, 2020, the lynching database does not include Black lynchings from Texas, so we exclude it from our analysis of lynchings.

[13]There are 21 recorded lynchings in Georgia in 1919, but we do not have sufficient data for Georgia until 1922.

2.4 Covariate Controls and Excluded Instruments

Our covariate controls include the logged estimated population and the percent of the population that is Black recorded in the Census, linearly interpolated within decades. All regressions include log mean Black and White wages as reported to or imputed from the U.S. Census (Ruggles et al., 2021), and interpolated between census years. For the years 1910 to 1940, we impute these using the share of marginal output received by workers and reported decennially by state and industry in Turner et al. (2007) and Tamura et al. (2016).[14] To control for availability of services to the Black community that are relevant to violent and accidental death outcomes, we include the number of Black firemen and Black physicians per Black capita reported in each decennial Census, linearly interpolated within decades. Given their reliance on imputed wage estimates based on worker output, all regressions using data prior to 1940 also include estimates of physical capital stocks within the farming, manufacturing, and service industries (Tamura et al., 2016; Turner et al., 2007). All control variables are summarized in Appendix Table A.2.

To implement our control-function approach (see Section 3.2) we use excluded instruments for each era of analysis. The first identification strategy, applied in estimating the impact of firearm access on lynching (1913 -1950) and violent death in the Pre-Brown Era (1913 -1952), uses the number of White law enforcement officers per 1000 Black residents, law_{st}^{White}, measured as the number of police, sheriffs, sheriff's deputies, and constables reported in the decennial census between 1910 and 1950 (intervening years are linearly interpolated). While numerous laws were passed to grant local law enforcement the discretion to confiscate firearms, disproportionately from Black residents, the act of confiscation nonetheless requires sufficient manpower to accomplish the task—ambitions of disarming of Black individuals were conditional on local state capacity. Further, while there is some evidence that White law enforcement officers did participate in lynchings, their most common complicity was to not intervene in any way. The ability of law enforcement to ignore violence against Black men and women should not correlate with their labor force size as doing nothing is rarely labor intensive. Figure A.3 displays the average value of this metric over time for former Confederate states. As a caution against possible reverse causality in communities that experience the violent theater of lynchings, we estimate otherwise identical specifications using 1- and 2-year lagged measures of law_{st}^{White}.

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[14]We calculate the real ratio of mean earnings reported in the 1940 Census, by state, race and industry, to nominal output per worker by state and industry. We then apply this ratio to the nominal output per worker in each decennial census between 1910 and 1940, backing out imputed average Black and White wages, linearly interpolating mean Black and White wages in the intervening years. For use in our two-stage regressions, we separately impute farm- and non-farm wages. A similar procedure was employed in Choquette (2020).

Our second identification strategy, applied in estimating the impact of firearm access on violent death outcomes during the Civil Rights Movement (1953 -1968) uses the interaction of the price of firearms with Black and White wages to identify exogenous variation in Black firearm access in a manner similar to common *shift-share* identification strategies employed by Bartik (Goldsmith-Pinkham et al., 2020). Specifically, we leverage variation in the national price of firearms and its interaction with changes in disposable income. To maximize the price elasticity of firearms access in our restricted variable, we include separate measures of farm and non-farm wages, both independently and interacted with firearm prices. For farmers, firearms were essential tools. As such, non-farmers' demand can be expected to be more price elastic, providing the larger amount of variation needed for a strong instrumental variable. Using data collected by hand from archived Sears-Roebuck catalogs, we recorded the lowest price of a 12 gauge double barrel shotgun each year between 1913 and 1968, validating these prices, when possible, using records from the US Department of Agriculture Yearbook. Shotgun prices varied considerably year to year, as presented in Figure 3. In our two-stage estimation of Black firearms access, the interaction between Black non-farmer wages and recorded shotgun price will serve as our first-stage restricted variable, while wages by race and occupation (farm and non-farm) and the remaining interactions will be included as unrestricted control covariates. The argument is that omitted factors that might be correlated with the instrument and violent deaths should be jointly captured by the direct wage effects, the other-race same-occupation interaction, and the same-race other-occupation interaction.

3   Estimating the Impact of Firearms on Violent Deaths

Insight into to the value of firearms to Black men and women living in the Jim Crow South presents several challenges to producing high-quality estimates of the impact of firearm access on violent deaths. In addition to challenges of measuring firearm access, which we address with a set of previously discussed proxies, our estimation specification and identification strategy must also address non-linear outcome variables and the potential for omitted variable bias and reverse causality.

3.1   State Panel Regressions

Our raw dependent variables are all counts of different types of deaths by race. Homicide and accidental deaths by firearm are sufficiently numerous, with no records of zero deaths observed, that they are best analyzed in logged per capita rates using linear fixed-effect

regressions or the IV analogue (2-stage least squares). The records of Black lynching deaths, however, are count data characterized by significant over-dispersion, with zero recorded Black lynching victims accounting for more than half of the state-year observations in the sample (51.6%). Following Wooldridge (1999), in this panel setting, we estimate fixed-effect Poisson regression models of state-year panel lynching counts. Given the significant overdispersion of the data, we also include conditional negative binomial regressions for reference and comparison. As Wooldridge points out, these estimates depend on a number of fairly strong assumptions. While overdispersion may be inflating the standard errors of our Poisson estimation, we will build our core estimation of lynching outcomes using the Poisson estimation with two-way fixed effects.

To identify the relationship between firearm access and violent outcomes, we first estimate models of the form

$$Y_{st} = \alpha + \beta_1 \mathbf{PSF_{st}} + \beta_3 \mathbf{X_{st}} + \gamma_s^0 + \gamma_s t + \delta_t + \epsilon_{st}, \tag{1}$$

where Y_{st} is the outcome variable of interest in state s during year t, such as lynching counts or homicide rates, $\mathbf{PSF_{st}}$ is one of several variations using race-specific percent of suicides with a firearm as a proxy for firearm access, $\mathbf{X_{st}}$ is a vector of control variables, γ_s^0 are state-specific intercepts, γ_s are state-specific time trends, and δ_t are year-specific intercepts. Variations of the proxy include separate and parallel inclusion of PSF_{st}^{Black} and PSF_{st}^{White}. Our primary variable of interest is PSF_{st}^{Black} in our analysis of both lynchings and homicides. It is, however, reasonable to consider the broader class of homicides less as terrorist theater by mobs, and more as outcomes borne of individual conflict, which elevates the importance of PSF_{st}^{White}.

To accommodate the unavailability of data in the three years following World War II, PSF_{st} is carried back from 1950 to account for 1946 to 1948.[15] All OLS regression models report standard errors clustered at the state level. All negative binomial regression models of lynching are scaled by the size of the Black population within the state and year. $\mathbf{X}$ includes measures of within-state and within-year variation in economic conditions and demographics. To account for both time invariant state characteristics, particularly differing state cultures of racial acrimony, and broad national variation across time, all specifications include state and year fixed effects. All specifications include state-specific time trends.

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[15]Using linearly interpolated values between 1945 and 1950 produces similar results and of greater estimated precision, but the estimates of PSF_{st} in 1950 are likely to be a more accurate proxy for firearm ownership between 1946-1948 than estimates during or at the close of World War II.

3.2 Instrumental variables: Poisson control function and two-stage least squares estimates

To address the potential for bias in our estimates we implement an instrumental-variable strategy using a control-function approach. In the first stage, we estimate a two-way fixed-effect OLS model of Black firearm access on year (δ_{t1}) fixed effects, state-specific interceptions and year trends ($\gamma_{s1}^0 + \gamma_{s1}t$) and, covariate controls ($\mathbf{X_{st}}$), and one or more restricted variables ($\mathbf{R_{st}}$). In the second stage, for lynchings, we estimate a Poisson two-way fixed-effects model of the count of lynchings over the same set of control variables, the endogenous variable of interest (PSF_{st}^{Black}), and the estimated first-stage residual ($\hat{\epsilon}_{st1}$) as a control function (Lin and Wooldridge, 2019). For other homicide and accidental firearm deaths, the second stage is simply another fixed-effects linear model. Formally, our joint model is given by variants of

$$\text{(1st Stage) } PSF_{st}^{Black} = \lambda_0 + \lambda_1 \mathbf{R_{st}} + \lambda_2 \mathbf{X_{st}} + \gamma_{s1}^0 + \gamma_{s1}t + \delta_{t1} + \epsilon_{st1} \tag{2}$$

$$\text{(2nd Stage) } Y_{st} = \beta_0 + \beta_1 PSF_{st}^{Black} + \beta_2 \epsilon_{st1} + \beta_3 \mathbf{X_{st}} + \gamma_{s2}^0 + \gamma_{s2}t + \delta_{t2} + \epsilon_{st2}, \tag{3}$$

where the exact contents of $\mathbf{R}$ and $\mathbf{X}$ depend on the era and the dependent variable.

4 Results

4.1 Lynching

Table 2 includes four count models of Black lynching deaths, within all of which we observe negative relationships between our proxy for Black firearm access (PSF_{st}^{Black}) and Black lynching deaths. The coefficients on White firearms are also negative, but slightly smaller not statistically different from zero. Historical anecdotes of Black resistance offer at least one explanation: when it comes to the mob, there's little question whether members were armed or who would eventually win if the conflict turned violent. The only question was whether or not the cost of a lynching would include White lives, and the answer depended on *Black* firearms.

In columns 1 and 2, we estimate a Poisson panel estimator with robust standard errors, state and year fixed effects, our full set of control covariates, and state-specific linear time trends. The Poisson estimator has the benefit of making weak assumptions about the relationship between the variance and the mean of the outcome variable, but our negative (but not statistically significant results) may be biased towards zero because of overdisper-

sion. These results represent a conservative, even minimalist, estimation, but they are being attenuated towards zero by both overdispersion and the endogeneity concerns laid out in section 3.2. In columns 3 and 4 we estimate a conditional negative binomial model over the same specification. These results are in the same direction, slightly larger, and more precise ($p < 0.05$) results. In these estimates the attenuation from overdispersion is mitigated, but the results depend on a very strong assumption of the relationship between overdispersion and the conditional mean, and concerns over endogenity remain.

In Table 3, we present the first and second-stage results of our IV specifications, including the coefficients on the control function (ϵ_{st1}) in the second stages. These specifications all have the Poisson functional form and use White officers per Black resident as the excluded instrument, and vary only to the extent to which that variable is lagged. In all three estimation strategy variants, the estimated negative effect of Black firearm access on lynchings is quite large and statistically significant ($p < 0.01$). A one s.d. (0.16) increase in our Black firearm access proxy decreases expected number of Black lynchings by between 0.8 and 1.4 lynchings per year. The coefficient on ϵ_{st1} in the 2nd stage are large and positive in all specifications, indicating the simple panel regressions suffer from positive bias in the estimated relationship between Black firearm access and lynchings. The consistency of estimated coefficient on the excluded variable across the lagged variants demonstrates the robustness of the restricted variable to concerns of event-driven reverse causality.

4.1.1 Lynching Discussion

Taken together, these results tell a consistent story about how Black access to firearms can shift the lynching risk that Black residents of the Jim Crow South faced. Simple panel correlations show a small negative relationship between Black firearm access and lynchings, but those estimates are confounded by some mixture of reverse causality, omitted variable bias, and bias in the measure of firearm access, whereby places and times where lynchings are more likely otherwise have greater measured Black gun access. A very plausible story, consistent with the historical record, is one in which Blacks residents in fear of lynchings seek out firearms to protect themselves. But in places and times where there were more White law enforcement officers per Black resident, Black residents had less access to firearms, perhaps due to the increased enforcement of disarmament laws targeting Black residents. That reduction in access led to more lynching victims, as Black residents were not able to protect themselves or rely on the institutions of law enforcement to protect them.

4.2 Homicides and "Accidents"

Table 4 presents estimates from two-way fixed effects models of our state-year panel of log violent deaths per (White or Black) capita between 1913 and 1999. We divide the panel into three separate eras anchored around the core years of the Civil Rights Movement, which we mark from the Brown v. Board supreme court case (1953-54) and the Civil Rights Act of 1968. All specifications control for covariates similar to those in our analysis of lynching (See Table A.2 for summary statistics by window).[16] In the first two columns, we estimate the relationship between firearm access and Black homicide and fatal firearm accidents, while last two columns present the same estimates for White homicides and fatal firearm accidents.

The relationship between firearm access and violent deaths varies across eras. In the Pre-Brown era, we find no statistically significant relationships between observed firearm access and either type of violent death (Table 4). There is no discernable pattern in fatal firearm accidents during this period, either. During the Civil Rights Movement, we see a marginally significant relationship between higher Black firearm access and lower violent Black death rates. Specifically we observe a negative relationship between Black firearms and Black firearm deaths recorded as "accidents". As an independent measure, a one standard-deviation increase in PSF^{Black} correlates with a 2.5% decrease in Black accidental deaths per capita that is statistically distinguishable from zero ($p = .054$). There is also a small negative correlation between Black firearms access and Black homicide deaths, but it is not statistically different from zero at traditional levels.

The relationships change considerably in the contemporary era (1969-1999). There are consistently positive relationships between firearm access and same-race violent death, consistent with much of the epidemiological literature (Edwards et al., 2018; Riddell et al., 2018; Siegel et al., 2013). Black firearm access rates, in particular, strongly positively relate to Black homicide rates. This pattern is consistent with the rise in drug-related violent crime in this era Evans et al. (2018). There is also a weakly positive and relationship between firearm access and fatal firearm accident rates.

Table 5 presents the results of the 2SLS models of these same violent death outcomes, for the first two eras. The top panel presents results for the earlier (Pre-Brown) era. The first-stage relationship between White law enforcement and Black firearm access, presented in the first column, is strong and moves in the expected direction. States with 1 s.d. higher White law officers per Black capita have 1.2 s.d. lower rates of Black firearm access, with a Kleibergen-Paap F-stat of nearly 12. Places and times with more Black firearm access, because of lower White law-enforcement per capita, access experience higher levels of Black

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[16]In the Civil Rights and post-Civil Rights windows, wages do not need to be imputed, so estimations are not augmented with capital stocks.

and White homicide deaths. Places with a 1 s.d. increase in Black firearm access experience a 10 percent increase in Black homicide deaths, or about 3 more homicide deaths per 100k, and a 13 percent increase in White homicide deaths, or about 1 more homicide death per 100k.[17] There is also some suggestive evidence that more Black firearm access actually reduces the number of Black deaths coded as fatal firearm accidents, but the relationship is not statistically significant.

The second panel of this table presents the results for the later (Civil Rights) era. The first-stage relationship between the interaction of firearm prices and Black non-farmer wages, presented in the first column, is strong and moves in the expected direction. When firearm prices rise, Black firearm access declines, particularly in states with low Black non-farmer wages, and the relationship is strongly statistically significant, with a Kleibergen-Paap F-stat above 30. Neither the Black farmer interaction nor the White non-farmer interaction is significantly related to Black firearm access, while the relationship with the non-interacted Black non-farmer wage moves in the expected direction if firearms are normal goods. The coefficient on the interaction of Black non-farmer wages with shotgun prices reveals an underlying price elasticity of demand for non-farmers such that a 1 s.d. increase in shotgun prices counter balances 56% of the observed positive income effect for the mean Black non-farmer (see Table A.3. Places and times with more Black firearm access, because of lower firearm prices relative to Black non-farmer wages, experience similar Black and White homicide deaths but much fewer recorded Black deaths from firearm accidents alongside more recorded White deaths from firearm accidents. Places with a 1 s.d. increase in Black firearm access experience about a 20 percent decrease in Black accidental firearm deaths, or about 0.6 fewer accidental firearm deaths per 100k, and a 23-percent increase in White accidental firearm deaths, or about 0.5 more accidental firearm deaths per 100k.

4.2.1 Violent Death Discussion

The OLS and IV analysis of homicides and accidental firearm deaths fit within a complex historical narrative revolving around the interaction of oppressive institutions and violence. While our lynching results tell a story of explicit self-defense, the homicide results from the Pre-Brown era suggests that places and times with exogenously better-armed Black residents have more homicidal deaths for both races. When there are more guns in the mix, violent

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[17]Given that we are examining two different outcome variables and splitting our sample over two eras, there is a reasonable concern of "false positives" born of multiple inference from our principal variable of interest, PSF^{Black}. To address this, we estimate False Discovery Rate q values (Anderson, 2008). Both of the siginificant coefficients on PSF^{Black} ($p = 0.03$) in Table 4 are characterized by sharpened $q = 0.08$. These values can be described as marginally significant, but given the conservatism of the test relative to our setting, we believe these estimates speak well for the reliability of our results.

conflict becomes deadlier, both within and across races. This pattern in consistent with the data on violent homicides in New Orleans from Adler (2019), where cheap handguns turned knife fights into gun fights and assaults into murders. If this is interpretation is correct, more generally, more easily accessible firearms for Black residents meant protection from both violent mobs and aggressive White individuals, but at the cost of deadlier general violence within communities. We certainly lack the detailed data you would need to evaluate that trade-off, here, but it is interesting how it mirrors the tradeoff often discussed in the contemporary policy debate.

These results also support the narrative of politically compromised southern coroners during the Civil Rights Movement. When violence turned deadly, the classification of the event depended on who was dead. Perhaps, in the event of a White death from a Black firearm it was more likely to be ruled homicide, in the event of a Black death from a White firearm, it was more likely ruled an accident. And while Balko and Carrington (2018) detail the incentives Southern coroners had to classify the murder of Black men and women as accidents, there is also noteworthy anecdotes of the reluctance of White public officials and news media to enter White deaths resultant of Black firearms into the official record. Johnson (2014) notes first-person accounts by historian John Hope Franklin[18] and other observers who argued that during the White mob's burning of Black residences of Tulsa in 1921 "...the fifteen to three body count was the "white" record of the violence. Among the local black folk, the accounting was different. Years later, those who lived through it said that body count was closer to even." Our results conform to these anecdotes from times of high racial conflict in the Jim Crow South, such as the peak of the Civil Rights Movement. With monolithic White control over the institutions adjudicating deadly outcomes, Black deaths at the hands of Whites were more likely to be judged to be accidents, while at the same time White deaths at the hands of Black firearms might similarly be recorded as accidents, each act of coroner discretion in service of maintaining White dominance. The veracity of anecdotes contradicting official records are hard to verify, and our results certainly provide no conclusive evidence in toward these ends, but our results should not be dismissed out of hand, either. Black firearms lead to fewer violent Black deaths and more White violent deaths during the Civil Rights Movement, regardless of any coroner's recorded classification.

4.3   Additional robustness checks

A range of alternative specifications and robustness checks are presented in the appendix. We address concerns regarding the changing rates of suicide over time, including potential

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[18]From Franklin's discussion of the observer accounts of the Tulsa Race Riots in his Foreward to **?**.

trends in misclassification of suicides as accidents, in part due to changing social norms and stigma surrounding suicide. If, over time, institutional and bureaucratic oversight serve to mitigate misclassification, there may be a concurrent increase in observed suicides and decrease in accidents. If firearm accidents were misclassified at rates different than suicide by other means, this could bias the results. Such concerns are, at least partially, allayed by the shared trends in firearm suicides across White and Black decedents over time (Figure A.4). Table A.5 replicates Table 4, but with the addition of total firearm possession, estimated by percent suicide via firearm within the state each year, as an additional covariate.

Given the strong correlation between White and Black firearm possession, we estimate homicides and firearm accidents on the Black minus White differential of proxied firearm access ($PSF_{st}^{Black} - PSF_{st}^{White}$) as the primary regressor. Estimated coefficients on $PSF^{Black} - White^{PSF}$ remain consistent across all specifications (Table A.6). Table A.7 separates homicides involving a firearm from those that did not, yielding predictably larger coefficients in the pre-Civil Rights era. Concerns over sample while sample selection in our lynching results are similarly allayed by results reported in Table A.9. Restricting the analysis to smaller, earlier, samples when rates of lynching were higher yield similar, and slightly stronger.

5 Conclusion

Drawing on historical vital statistics, we find evidence that efforts to disarm Black residents under Jim Crow were successful, as the intra-war period was characterized by a significant relative decline in Black residents' access to firearms. This decline may have had substantial consequences in a world in which formal institutions of law would not protect Black citizens' lives and property. Using suicide records as a proxy for firearm access, we find a negative relationship between Black firearm access and the number of recorded lynchings. A similar relationship persisted into the Civil Rights Era, during which relative Black firearm access was negatively correlated with relative Black homicide and "accidental" firearm deaths, a relationship that reverses after 1970.

Our analysis is limited by both its reliance on a proxy for firearm access and the coarseness of the data. Interpretation of the results is also limited by the reasonable expectation of reverse causality—that individuals acquired firearms in response to violence in their communities. While we employ instrumental variables strategies to mitigate this positive bias, and produce results that reinforce our observation of self-defense value in firearms in the Black community during early- and mid-20th century, comparisons across eras remain difficult.

The history of the Jim Crow South abounds with anecdotal accounts of the Black community making effective use of firearms to defend themselves. These accounts are easily

reconciled with the view that effective policing and public safety were not made available to the Black community, and that firearms made both self-defense and community-defense possible. Charles Sims, president of the Deacons for Defense, stated it plainly:"We decided since we didn't have protection from the law, by the law, we should organize a group to protect our peoples in the neighborhood"[19]. Our results suggest that Sims and the Deacons were both correct in their assessment and successful in their mission.

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[19]Quoted from pg. 7 of Cobb (2014).

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Table 1: Summary Statistics: Characteristics of Sample of Former Confederate States

Pre-*Brown* (1913-1952)

	Black				White			
	mean	sd	min	max	mean	sd	min	max
Black Lynchings (n=317)	1.31	2.28	0.00	13.00				
Suicides	17.98	8.52	3.00	58.00	195.12	139.12	24.00	1016.00
PSF^{Black}	0.55	0.16	0.00	0.92	0.58	0.09	0.18	0.80
Homicides	252.88	99.37	45.00	527.00	121.07	72.86	18.00	500.00
- Per Capita	33.93	14.14	5.90	110.77	6.89	2.80	1.11	21.65
Accidental FA Deaths	43.27	21.30	3.00	127.00	55.33	34.24	13.00	221.00
- Per Capita	5.72	2.54	0.72	16.83	3.11	1.04	0.80	9.27
Observations		323				323		

Civil Rights Movement (1953 - 1968)

	Black				White			
	mean	sd	min	max	mean	sd	min	max
Suicides	29.20	12.56	6.00	64.00	348.30	223.96	92.00	1050.00
PSF^{Black}	0.68	0.11	0.29	0.90	0.70	0.08	0.45	0.85
Homicides	239.64	105.03	65.00	629.00	132.61	105.12	32.00	671.00
- Per Capita	26.12	6.80	11.15	49.51	4.13	0.85	2.26	7.09
Accidental FA Deaths	27.06	11.88	6.00	73.00	61.65	36.50	22.00	222.00
- Per Capita	3.07	1.23	1.02	9.08	2.18	0.72	0.89	4.58
Observations		176				176		

Contemporary Era (1969 - 1999)

	Black				White			
	mean	sd	min	max	mean	sd	min	max
Suicides	61.99	31.76	8.00	164.00	648.50	492.11	133.00	2129.00
PSF^{Black}	0.70	0.09	0.48	1.00	0.75	0.07	0.53	0.87
Homicides	366.48	189.96	86.00	974.00	339.56	345.93	59.00	1777.00
- Per Capita	32.14	8.21	17.84	57.91	6.99	1.67	3.66	13.37
Accidental FA Deaths	25.57	15.56	2.00	81.00	76.20	44.75	21.00	252.00
- Per Capita	2.56	1.75	0.18	7.95	2.08	0.98	0.41	4.77
Observations		242				242		

Table 2: Black Lynching Deaths in Former Confederate States, 1913-1950

	Black Lynching Count			
PSF^{Black}	-1.002	-0.993	-1.244**	-1.246**
	(0.925)	(0.924)	(0.579)	(0.571)
PSF^{White}		-0.659		-1.048
		(0.885)		(1.146)
Model	Poisson	Poisson	Negative Binomial	Negative Binomial
State + Year FE	Yes	Yes	Yes	Yes
Controls	Yes	Yes	Yes	Yes
Time Trend	Yes	Yes	Yes	Yes
N	317	317	317	317

Note: All specifications estimate a model for the count of Black lynching deaths within a state and year, using the specified functional-form. All models are conditional on state and year fixed effects, state-specific linear time trends, and include the following covariates: log mean Black wages, log mean White wages, log total population, population percent Black, Black Doctors per Black capita, Black Firemen per Black capita, and real capital per worker, both as totals and separately estimated within farming, manufacturing, and service sectors. See Table A.2 for covariate summary statistics. Includes all member states from the Confederacy except Texas (insufficient data).

Table 3: Control Function Poisson w/ Instrumental Variables: Black Lynching Deaths in Former Confederate States, 1913-1950

	1st Stage	2nd Stage	1st Stage	2nd Stage	1st Stage	2nd Stage
$\text{Law}^{\text{White}}_{st}/Pop^{Black}_{st}$	-0.086^{***}		-0.078^{***}		-0.059^{***}	
	(0.013)		(0.016)		(0.017)	
PSF^{Black}		-8.807^{***}		-8.516^{***}		-5.141^{***}
		(2.535)		(1.720)		(1.622)
$\epsilon_{st1}(control\,func.)$		7.925^{***}		7.862^{***}		4.290^{*}
		(2.035)		(1.989)		(2.317)
PSF^{White}	-0.012	-0.488	0.011	-0.649	0.037	-0.756
	(0.102)	(0.837)	(0.096)	(0.831)	(0.094)	(0.874)
IV	$Law^{\text{White}}_{t=0}$	$Law^{\text{White}}_{t=0}$	$Law^{\text{White}}_{t=-1}$	$Law^{\text{White}}_{t=-1}$	$Law^{\text{White}}_{t=-2}$	$Law^{\text{White}}_{t=-2}$
F	44.97		24.18		12.14	
$Trend$	Yes	Yes	Yes	Yes	Yes	Yes
$StateFE$	Yes	Yes	Yes	Yes	Yes	Yes
$YearFE$	Yes	Yes	Yes	Yes	Yes	Yes
$Controls$	Yes	Yes	Yes	Yes	Yes	Yes
N	317	317	317	317	317	317

Note: First- and second-stage results from instrumental variables estimation of the effect of the Percent of Black Suicides from Firearms (PSF^{Black}) on Black lynching deaths. In all specifications, the number of White law-enforcers per Black capita ($\text{Law}^{\text{White}}_{st}/Pop^{Black}_{st}$) is the restricted variable, either contemporaneously or lagged. The second stage is an Poisson maximum-likelihood estimated regression which includes the first state error estimate (ϵ_{st1}) as a control function. Each model reports F statistics for the restricted variable reported in the first stage. All models are conditional on state and year fixed effects, state-specific linear time trends, and include the following covariates: log mean Black wages, log mean White wages, log total population, population percent Black, Black Doctors per Black capita, Black Firemen per Black capita, and real capital per worker, both as totals and separately estimated within farming, manufacturing, and service sectors. See Table A.2 for covariate summary statistics. Includes all member states from the Confederacy except Texas (insufficient data).

Table 4: Log Homicides and Accidents Per Capita in Former Confederate States Across Eras

| | Black Deaths | | White Deaths | |
	Homicides	Firearm Accidents	Homicides	Firearm Accidents
	Pre-Brown, 1913 - 1952 (N = 323)			
PSF^{Black}	0.080	0.064	0.126	0.023
	(0.096)	(0.105)	(0.074)	(0.049)
PSF^{White}	−0.106	0.230	0.084	−0.106
	(0.136)	(0.215)	(0.160)	(0.138)
	Civil Rights Movement, 1953-1968 (N = 176)			
PSF^{Black}	−0.144	−0.225*	0.094	−0.057
	(0.091)	(0.103)	(0.053)	(0.122)
PSF^{White}	−0.211	0.195	−0.231	−0.484
	(0.374)	(0.549)	(0.300)	(0.395)
	Contemporary, 1969-1999 (N = 319)			
PSF^{Black}	0.154**	0.190	−0.005	0.066
	(0.056)	(0.194)	(0.082)	(0.064)
PSF^{White}	0.300	0.764	0.611	0.130
	(0.309)	(1.196)	(0.393)	(0.434)

Note: The relationship between percent suicides from firearms (PSF) and log of Black and White deaths per 100k. All columns report results from an OLS regression panel with state and year fixed effects, state-specific linear time trends, and various additional control variables vary by era. See Table A.2 for covariate summary statistics. The Early era (1913-1952) excludes the years of World War II (1940-1945).

Table 5: Two Stage Least Squares: Log Homicides and Accidents per Capita in Former Confederate States Across Eras

| | First | Black Deaths | | White Deaths | |
	PSF^{Black}	Homicides	Firearm Accidents	Homicides	Firearm Accidents
		Pre-*Brown*, 1913 - 1952 (N = 323)			
$\mathrm{Law}_{st}^{\mathrm{White}}/Pop_{st}^{Black}$	−0.047***				
	(0.013)				
PSF^{Black}		0.655**	−0.586	0.827*	0.151
		(0.254)	(0.865)	(0.420)	(0.377)
PSF^{White}	0.019	−0.118	0.244	0.069	−0.109
	(0.070)	(0.154)	(0.230)	(0.190)	(0.140)
F	11.98	11.98	11.98	11.98	11.98
N		323	323	323	323
		Civil Rights Movement, 1953 - 1968 (N = 176)			
$wage_{st}^{\mathrm{Black}} \times price_t^{SG}$	−0.034***				
	(0.006)				
PSF^{Black}		0.066	−1.973**	0.020	2.109**
		(0.430)	(0.768)	(0.310)	(0.749)
PSF^{White}	0.001	−0.058	0.044	−0.271	−0.427
	(0.233)	(0.422)	(0.867)	(0.324)	(0.573)
F	30.26	30.26	30.26	30.26	30.26
N		176	176	176	176

Note: First- and second-stage results from instrumental variables estimation of the effect of the Percent of Black Suicides from Firearms (PSF^{Black}) on log deaths per 100k. The Pre-*Brown* era estimates include the number of White law-enforcers per Black capita ($\mathrm{Law}_{st}^{\mathrm{White}}/Pop_{st}^{Black}$) as the restricted variable. The Civil-Rights Era includes separate controls for farmer and non-farmer wages by race and their interaction with shot-gun prices, with that Black non-farmer interaction $wage_{non-farm,st}^{\mathrm{Black}} \times \mathrm{price}_t^{SG}$ serving as the restricted variable. All regressions include state and year fixed effects and state-specific linear time trends. Additional control variables vary by era. See table A.3 for covariates and their summary statistics. Kleibergen-Paap F statistics for first-stage restriction reported in the table. The Pre-Brown era (1913-1952) excludes the years of World War II (1940-1945).
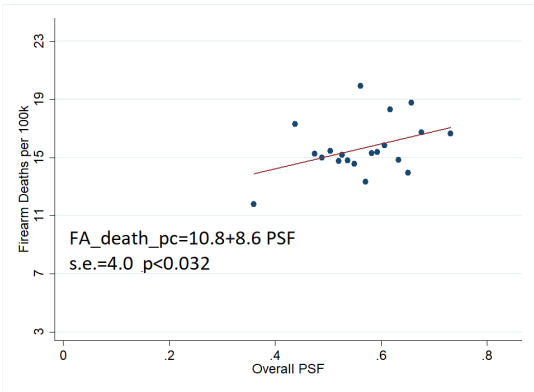
(a) Pre-*WW2*, Former Confed.
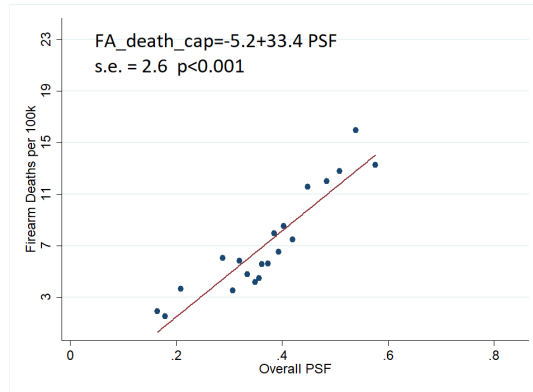
(b) Pre-*WW2*, Non-Confed.
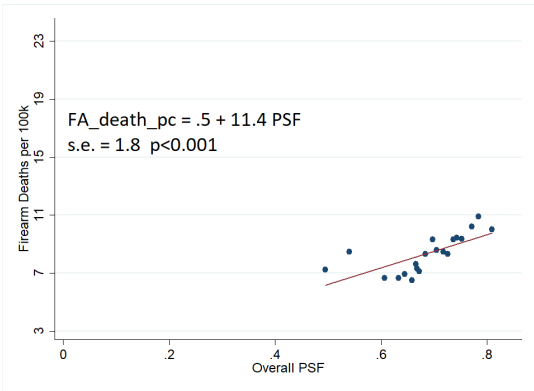
(c) Civil Rights, Former Confed.
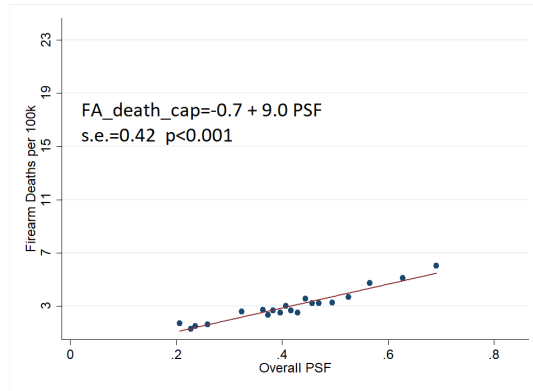
(d) Civil Rights, Non-Confed.
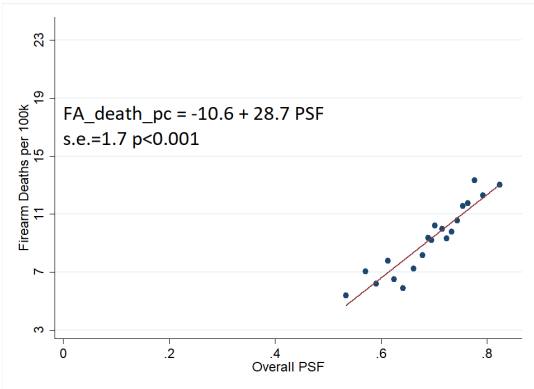
(e) Contemp., Former Confed.
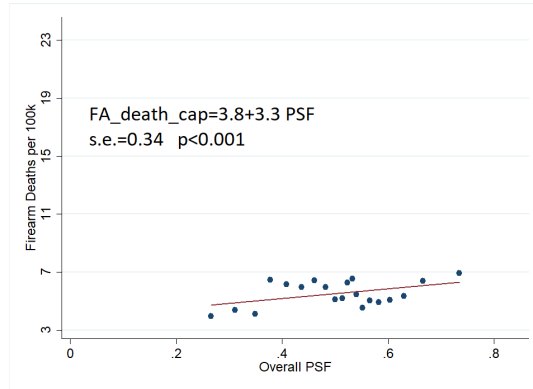
(f) Contemp., Non-Confed.

Figure 1: Population-Weighted Binned Scatterplots of Relationship between Percent Suicide by Firearms and Non-Suicide Firearm Deaths per Capita by Region and Era with Estimates for Underlying Bivariate Regression.
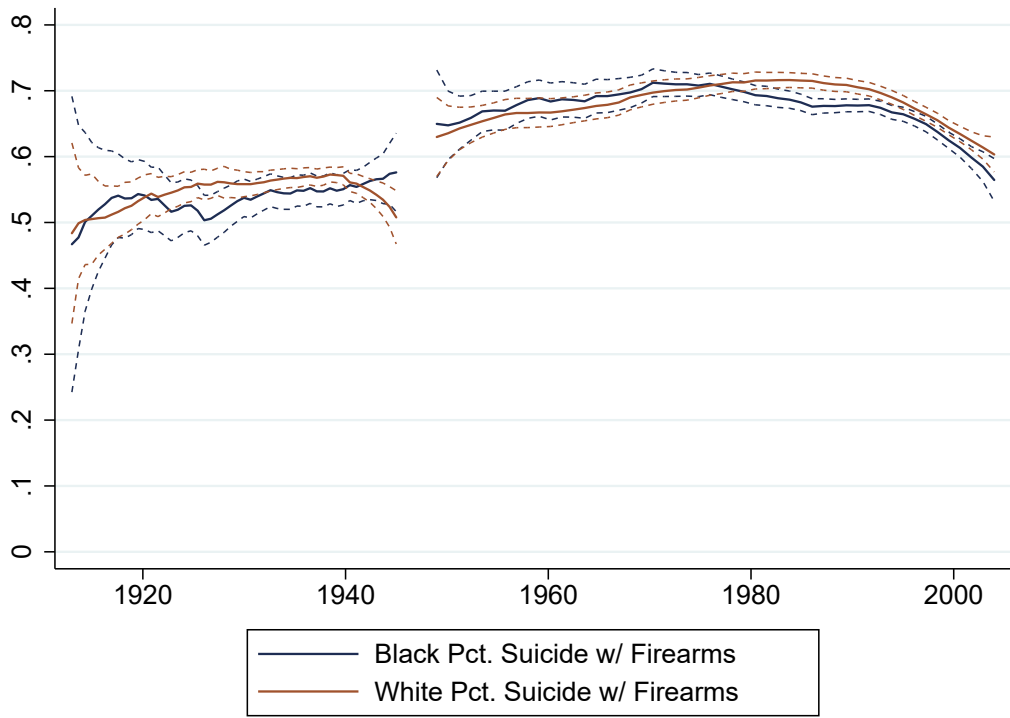
(a) Percent Suicide by Firearm by Race
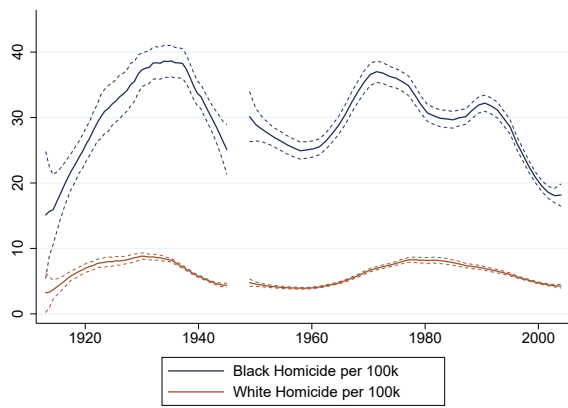
(b) Homicide by Race
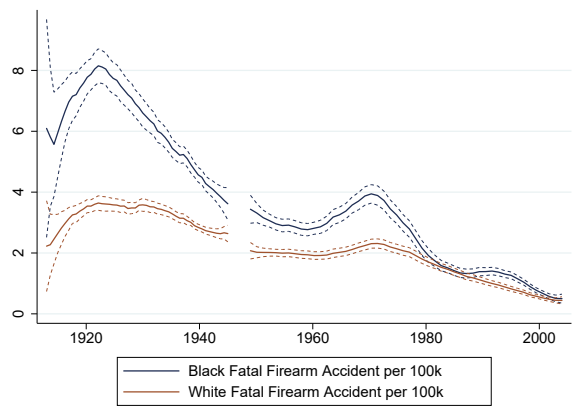
(c) Fatal Firearm Accident by Race

Figure 2: Percent Suicide from Firearm and Homicide and Firearm Accidental Death Rates per 100k Residents by Race, Former Confederacy

Figure 3: Annual Shotgun Prices as Reported by Department of Agriculture and the Sears-Roebuck Catalogue, 1900-1960

A Appendix

A.1 Mortal Statistics Data

Figure A.1: Example of Mortality Data from 1938 Vital Statitsics of the U.S.

TABLE 18.—DEATHS FROM EACH CAUSE, BY RACE AND SEX:

[Exclusive of

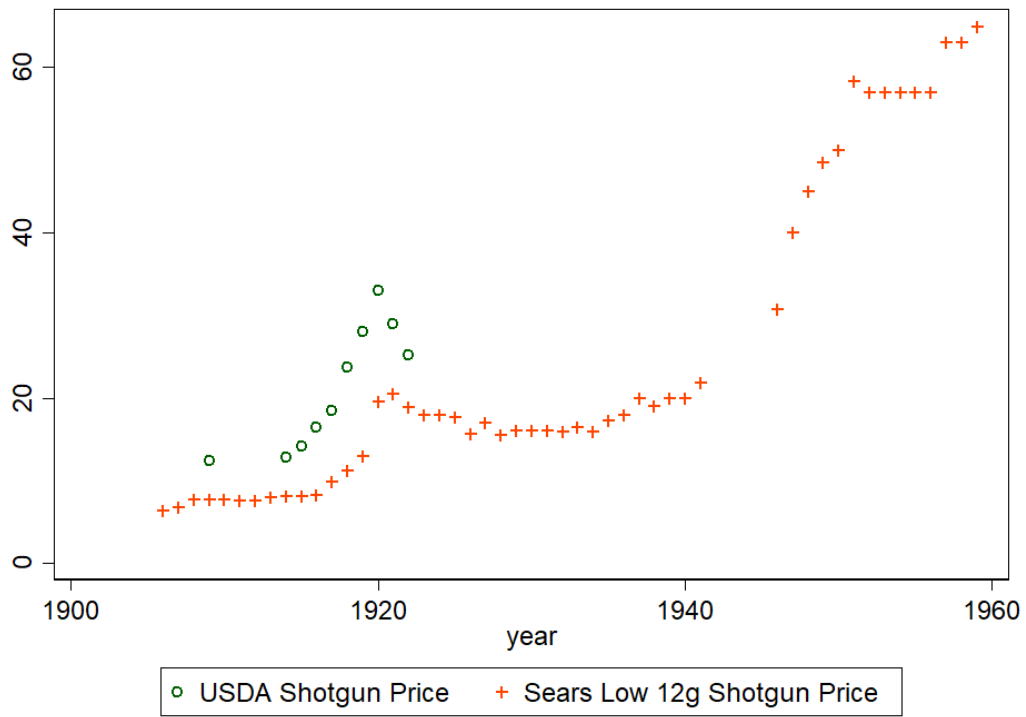| List No.	CAUSE OF DEATH	MAINE					MARYLAND				
		Total deaths	White M	White F	All other M	All other F	Total deaths	White M	White F	All other M	All other F
	XVII.—Violent and accidental deaths	783	551	228	4	—	1,584	869	375	261	79
163-171	Suicide	152	125	27	—	—	276	204	60	10	2
163	Suicide by solid or liquid poisons, etc.*	8	3	5	—	—	22	8	14	—	—
164	Suicide by poisonous gas	14	11	3	—	—	68	56	12	—	—
165	Suicide by hanging or strangulation	31	25	6	—	—	48	35	13	—	—
166	Suicide by drowning	16	9	7	—	—	18	11	3	3	1
167	Suicide by firearms	74	70	4	—	—	92	76	10	6	—
168	Suicide by cutting or piercing instruments	9	7	2	—	—	10	8	2	—	—
169	Suicide by jumping from high places	—	—	—	—	—	14	10	2	1	1
170	Suicide by crushing	—	—	—	—	—	1	—	1	—	—
171	Suicide by other means	—	—	—	—	—	3	—	3	—	—
172-175	Homicide	13	9	4	—	—	114	30	9	61	14
173	Homicide by firearms	7	4	3	—	—	59	13	3	37	6
174	Homicide by cutting or piercing instruments	—	—	—	—	—	27	4	1	19	3
175	Homicide by other means	6	5	1	—	—	28	13	5	5	5
176-198	Accidental, other, or undefined	618	417	197	4	—	1,194	635	306	190	63
176	Attack by venomous animals	—	—	—	—	—	—	—	—	—	—
177	Poisoning by food	1	1	—	—	—	11	3	4	3	1
178	Accidental absorption of poisonous gas	5	4	1	—	—	18	14	4	—	—
	Not associated with symbols 201-214	5	4	1	—	—	18	14	4	—	—
	Associated with symbols 201-214	—	—	—	—	—	—	—	—	—	—
179	Other acute accidental poisonings (except gas)	6	4	2	—	—	17	8	4	4	1
180	Conflagration	22	8	14	—	—	25	13	3	5	4
181	Accidental burns (except conflagration)	33	19	14	—	—	78	15	36	12	15
	Not associated with symbols 201-214	32	19	13	—	—	71	15	34	11	11
	Associated with symbols 201-214	1	—	1	—	—	7	—	2	1	4
182	Accidental mechanical suffocation	7	4	3	—	—	28	13	5	4	6
	Not associated with symbols 201-214	7	4	3	—	—	26	11	5	4	6
	Associated with symbols 201-214	—	—	—	—	—	2	2	—	—	—
183	Accidental drowning	100	78	20	2	—	144	99	8	34	3
	Not associated with symbols 201-214	65	48	15	2	—	101	70	3	27	1
	Associated with symbols 201-214	35	30	5	—	—	43	29	5	7	2
184	Traumatism by firearms	19	18	1	—	—	16	9	2	3	2
185	Traumatism by cutting or piercing instruments	7	5	2	—	—	9	5	3	1	—
	Not associated with symbols 201-214	6	4	2	—	—	4	2	1	1	—
	Associated with symbols 201-214	1	1	—	—	—	5	3	2	—	—
186a	Traumatism by fall	175	86	89	—	—	349	148	163	28	10

A.2   Firearms Catalog Pricing

Double Barrel Shotguns

KIND OF GAME	12 GUAGE DRAMS	OZ. SHOT	16 GUAGE DRAMS	OZ. SHOT	20 GUAGE DRAMS	OZ. SHOT	SHOT SIZES ALL GUAGES
SMALL DUCKS PIGEONS	3¼	1⅛	2½	1	2¼	⅞	7½
QUAIL SNIPE WOODCOCK SHORE BIRDS	3	1 OR 1⅛	2½	1	2¼	⅞	8
REED BIRDS	3	1	2½	1	2¼	⅞	10

Double Barrel Hammerless Shotgun.

This American Shotgun is manufactured for us by a well known Eastern firm of fire arm manufacturers.
BARRELS—Blued steel, matted top rib, left barrel full choke, right barrel slightly modified; positive extractor. Locking lug is solid extension from barrel.
ACTION—Hammerless, snap top lever; automatic thumb safety and casehardened frame.
STOCK—Pistol grip, nicely checkered; rubber butt plate; length, 14 inches; drop, 3 to 3¼ inches; snap fore-end checkered. Packed for shipment, 14 pounds.
6N110¼—12-gauge, 30 or 32-inch barrels. State length of barrels wanted. Weight, 7½ to 8¾ pounds $19.45
6N111¼—16-gauge, 30-inch barrels only. Weight, 7¼ to 7¾ pounds 19.50
6N112¼—20-gauge, 28-inch barrels only. Weight, 7 to 7¼ pounds 19.55

410-Caliber Double Barrel Hammerless Gun.
BARRELS—Blued finish, 26 inches long. Chambered for both 44 XL shot cartridges and the 410 smokeless powder loaded shells. Positive extractor.
STOCK—Pistol, checkered grip. Snap checkered fore-end. A good grade, light weight gun, very effective for squirrels, rabbits and small game. Weight, about 6 lbs. Shipping wt., 10 lbs.
6N119¼ $23.78

Ithaca Hammerless Field Grade Shotgun.

BARRELS—Blued steel, choke bored. Raised matted rib. Positive extractor.
FRAME—Steel box frame, mottled finish. Crossbite extension rib; top lever automatic safety; full reinforced breech.
STOCK—Selected walnut, pistol grip, highly polished and checkered. Fore-end of walnut finely checkered. State length of barrels wanted.
Weight, packed for shipment, 20-gauge, 11 pounds; 10, 12 and 16-gauge, 14 pounds.
6N74¼—12-gauge, 30 or 32-inch barrels. Weight, 7¼ to 8 pounds $36.18
6N75¼—20-gauge, 26 or 28-inch barrels. Weight, 5¼ to 6 pounds 36.18
6N76¼—16-gauge, 28 or 30-inch barrels. Weight, 6 to 7 pounds 36.18
6N77¼—10-gauge, 32-inch barrels. Weight, 9 to 9¾ pounds 36.18

Lefever Nitro Special Double Barrel Hammerless Shotgun.

The well-known Lefever gun now at a price within reach of all. Barrels of tested nitro steel, left full choke and right slightly modified. Checkered pistol grip, walnut stock, securely fastened to frame with bolt running through entire length of stock. Nonbreakable coil mainsprings. Weight, 7½ pounds. Shipping weight, 13 pounds.
6N73¼—12-gauge, 30-inch barrels only......................... $27.85

L. C. Smith Hammerless Guns.

BARRELS—Full choke bored. Tapered matted rib. Positive extractor.
FRAME—Solid steel, casehardened. Compensating extension rib; patent safety slide and top lever.
STOCK—Selected walnut, full pistol grip, finely checkered and highly polished. Checkered walnut fore-end.
State length of barrels. Weight, packed for shipment, 14 pounds.
6N26¼—12-gauge, Field grade, 30 or 32-in. barrels. Weight, 7½ to 8 pounds $45.60
6N28¼—16-gauge, Field grade, 28 or 30-in. barrels. Weight, 6 to 7 pounds 45.60
6N32¼—12-gauge, Ideal grade, 30 or 32-in. barrels. Weight, 7½ to 8 pounds 54.90

L. C. Smith Hammer Gun.

BARRELS—Full choke bored, for black or smokeless powder. 12-gauge, 30 or 32 inches. Raised matted rib. Positive extractor.
ACTION—Patent Crossbolt lock, top snap, compensating fore-end, rebounding bar lock, circular hammers.
FRAME—Solid steel, casehardened, mottled finish. The breech is made strong and substantial.
STOCK—American walnut, one-half pistol grip, finely checkered and finished. Checkered walnut fore-end.
6N98¼—12-gauge, 30 or 32-inch barrels. State which is wanted. Weight, 7½ to 8 pounds. Shipping weight, 14 pounds $35.80

American Double Barrel Lock Gun.

BARRELS—Blued steel, polished. Choke bore in both barrels. Hollow matted rib. Positive extractor.
ACTION—Bar lock; circular hammers; top lever action. Frame of solid steel with full, substantial breech.
STOCK—One-half pistol grip, checkered and highly polished. Checkered fore-end. Shpg. wt., 14 lbs.
6N70¼—12-gauge, 30-inch barrels. Weight, 7¼ to 8 pounds........................... $17.95
6N71¼—16-gauge, 28-inch barrels. Weight, 6½ to 7 pounds........................... 8.05
6N72¼—20-gauge, 26 or 28-inch barrels. State length. Weight, 6½ to 7 pounds......... 8.15

Complete Double Barrel Hammerless Gun Outfit.

American made Hammerless Gun. Fitted with 12-gauge, 30 or 32-inch blued steel barrels; 16-gauge, 30-inch barrels; or 20-gauge, 26 or 28-inch barrels. Positive extractor, taper choke bored, full pistol grip checkered stock and fore-end. Outfit consists of gun, 25 Pointer shells, 1 bottle gun oil, 1 Tomlinson cleaner, 1 cleaning rod with swab, 1 scratch brush and wiper and 1 improved duck call. Weight, packed for shipment, 22 pounds. Cannot be sent by parcel post.
6N15¼—12-gauge outfit, 30 or 32-inch barrels. State length...................... $21.15
6N16¼—Same as 6N15¼, but in 16-gauge, 28 or 30-inch barrels. State length...... 21.25
6N17¼—Same as above, but in 20-gauge, 26 or 28-inch barrels. State length 21.35

22-Caliber Rifle Outfit.
Ideal for Small Game and Target.

A very excellent American made Rifle. Chambered for 22 short, long and long rifle cartridges. All working parts made of good quality hardened steel, carefully assembled. Takedown model. We include a three-piece cleaning rod with a brass wire bristle brush, and 100 22-caliber long cartridges. Shipping weight, 7 pounds. Cannot be shipped by parcel post.
6N152¼—Complete outfit, as described................................ $5.88

SEARS, ROEBUCK AND CO. 897

A.3 White Law Enforcement Per Black Capita, 1910-1950

Figure A.3: White Law Enforcers per 1000 Black Residents in Former-Confederate States, 1910-1950
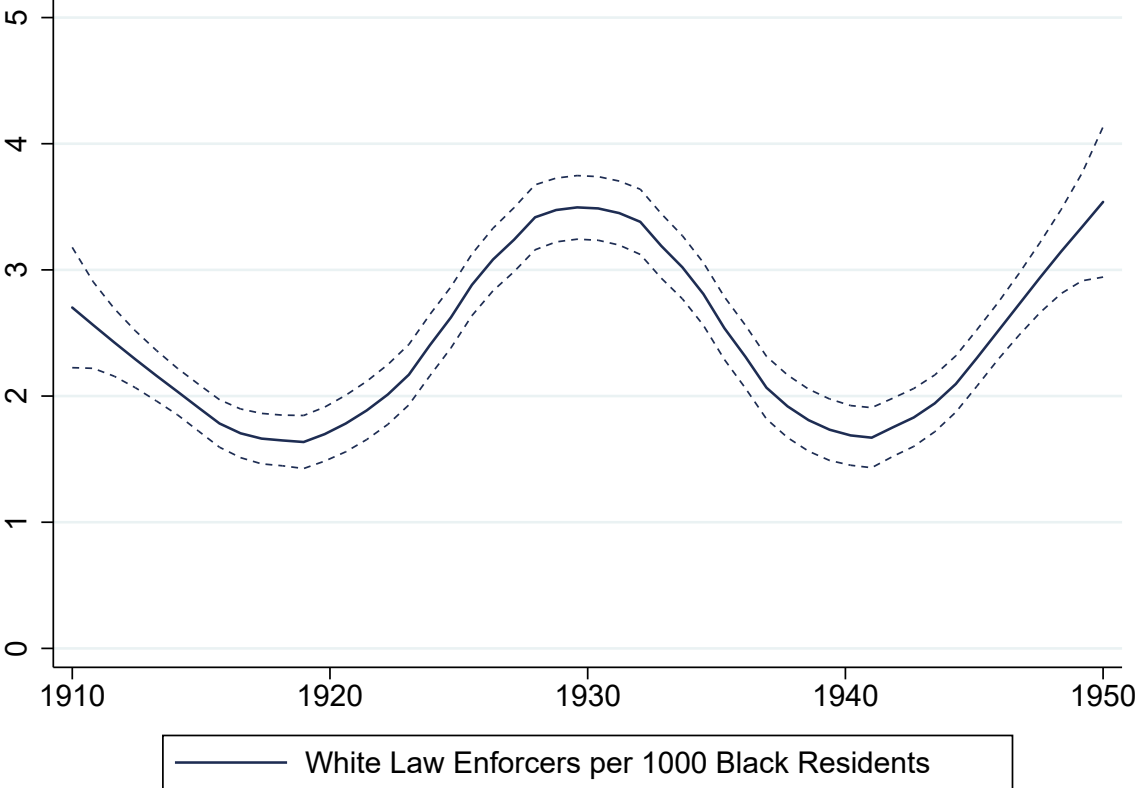
A.4 Black−White Firearms Differential

The time-line presented in Figure A.4 and the history presented in section 1.1 suggest that former Confederate states may have had some success in disarming Black people in the Jim Crow era. To explore this relationship more fully, we run the following regression

$$PSF_{st}^{Black} - PSF_{st}^{White} = \sum_d \beta_d^c decade_t^d \times confed_s + \beta_d decade_t^d + \beta \mathbf{X_{st}} + \gamma_s + \epsilon_{st}, \quad (4)$$

where our interest in the coefficients β_d^c, which represent how the gap between Black and White gun ownership differentially varies in former-confederate states, over time. The 1990s are the excluded decade. The first column of Table A.1 presents a simpler version of that specification, containing the decade dummies and interactions, only. The second column adds state fixed effects. The third includes a medley of controls enumerated in Table A1. The patterns of coefficients are similar in all three specifications, with significant gaps in the Jim Crow south which shrink or disappear in the Civil Rights era, but seems to reemerge in the briefly in the 1970s.

Table A.1: Former-Confederate Black - White Firearm Access Differential

	PSF^{Black} - PSF^{White}		
1910s x Confederate	−0.045	−0.045	−0.071
	(0.057)	(0.071)	(0.060)
1920s x Confederate	−0.079	−0.078**	−0.101*
	(0.048)	(0.037)	(0.056)
1930s x Confederate	−0.039	−0.030	−0.067
	(0.028)	(0.027)	(0.046)
1940s x Confederate	−0.045*	−0.032	−0.061
	(0.026)	(0.027)	(0.039)
1950s x Confederate	−0.021	−0.011	−0.021
	(0.017)	(0.018)	(0.027)
1960s x Confederate	−0.004	0.004	0.004
	(0.024)	(0.024)	(0.027)
1970s x Confederate	−0.047***	−0.041***	−0.036**
	(0.012)	(0.012)	(0.014)
1980s x Confederate	−0.008	−0.006	−0.003
	(0.008)	(0.008)	(0.008)
State FE	No	Yes	Yes
Controls	No	No	Yes
N	2972	2972	2972

Dependent variable: Black Pct. Suicide Firearm - White Pct. Suicide Firearm. All regressions include indicators for decades. Control variables include : White and Black population densities and urban population densities, logged estimated state population, and fraction non-White. The 1990s are the excluded decade.

A.5 Firearm Access in Former Confederate States by Race and Era

Percent Suicide w/Firearm, By State and Era
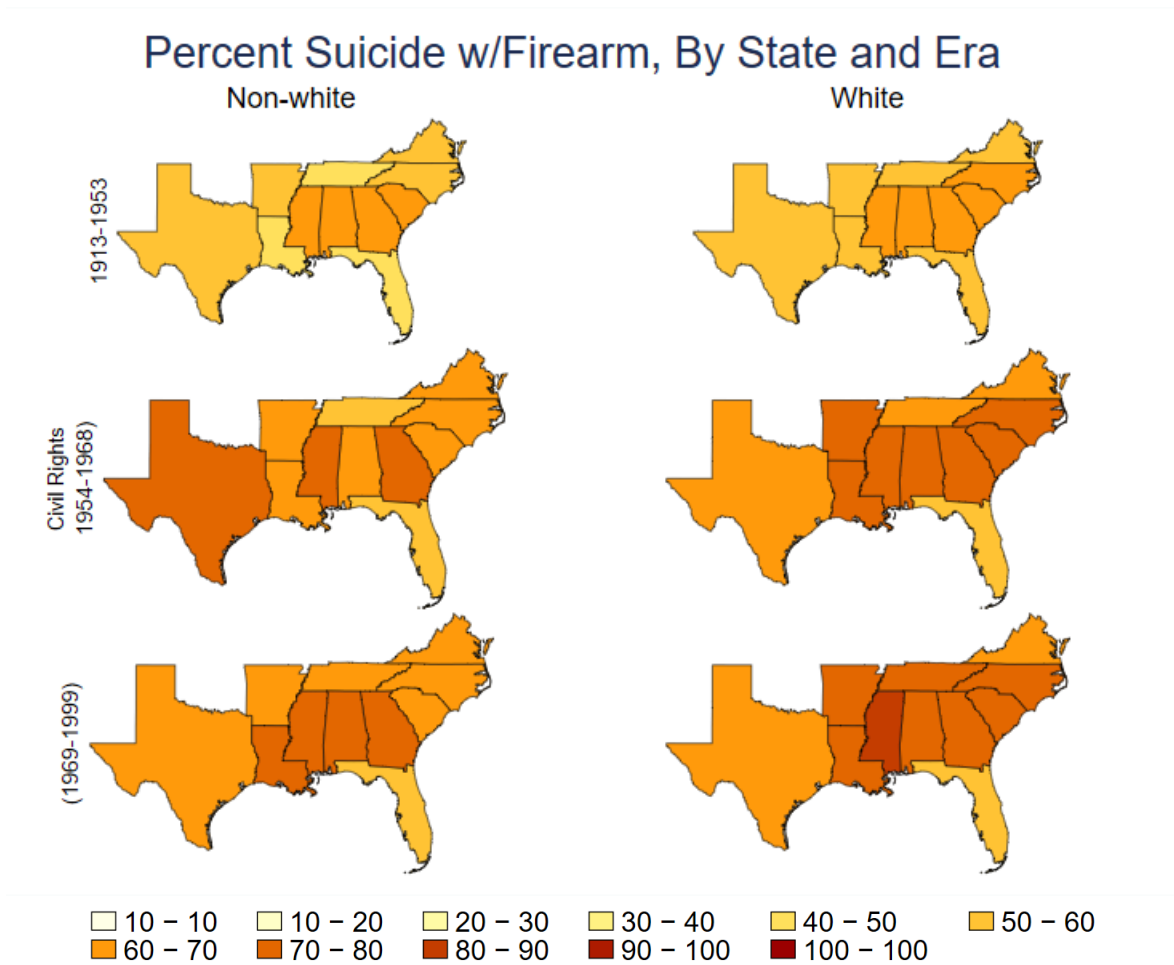
A.6   Firearm Suicide by Race and Region
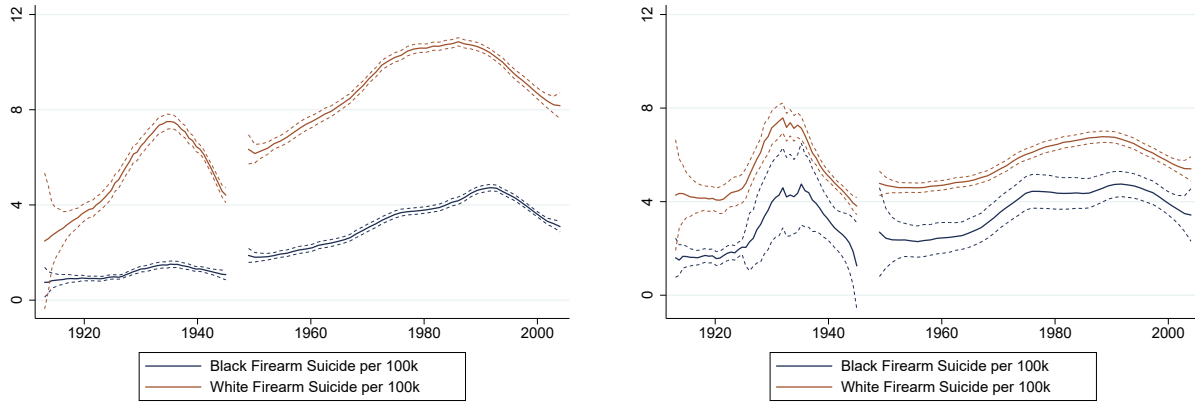
(a) Former Confederate

(b) Non-Confederate

Figure A.4: Firearm Suicide Death Rates per 100k Residents by Race

A.7 Control Variables By Era

Table A.2: Summary Statistics: Control Variables

	Pre-*Brown*: (1913-1952)			
	mean	sd	min	max
Black Doctors per Black Capita	0.25	0.23	0.00	1.22
Black Firemen per Black Capita	0.05	0.07	0.00	0.31
Real Total Capital per Worker	41377.76	19209.27	15804.65	104991.72
Real Services Capital Stock	78164.43	19142.87	48104.86	145666.61
Real Farm Capital Stock	8803.73	4362.70	4027.82	32479.01
Real Manufacturing Capital Stock	17354.69	6446.89	6297.89	39811.11
Mean Real Black Wages	2325.44	682.40	1219.94	4357.88
Mean Real White Wages	5865.35	1184.06	3385.28	8717.83
Observations	323			

	Civil Rights Movement: (1953-1968)			
	mean	sd	min	max
Black Doctors per Black Capita	0.16	0.12	0.01	0.51
Black Firemen per Black Capita	0.08	0.09	0.00	0.49
Mean Real Black Wages	4886.85	1273.08	2493.59	7874.84
Mean Real White Wages	10529.79	1929.27	6578.76	14848.71
Observations	176			

	Post-Civil Rights Movement: (1969-1999)			
	mean	sd	min	max
Black Doctors per Black Capita	0.28	0.15	0.00	0.82
Black Firemen per Black Capita	0.39	0.23	0.00	1.13
Mean Real Black Wages	7955.69	1125.20	4934.14	10499.92
Mean Real White Wages	13236.05	1395.19	10068.04	16479.28
Observations	242			

Table A.3: Summary Statistics: Restricted and Unrestricted Variables from IV Analysis

	Lynching Analysis Window: (1913-1950)			
	mean	sd	min	max
White Law Enforcement Officers per Black Capita	2.42	1.52	0.25	7.75
Observations		317		

	Pre-Civil Rights Movement: (1913-1952)			
	mean	sd	min	max
Shotgun price (real dollars)	128.19	41.62	74.50	224.04
Mean Real Black Farmer Wages	1313.77	607.58	154.99	3446.86
Mean Real Black Non-Farmer Wages	2539.53	662.52	1363.72	4445.85
Observations		323		

	Civil Rights Movement: (1953-1968)			
	mean	sd	min	max
Shotgun price (real dollars)	227.46	11.35	209.38	242.86
Mean Real Black Farmer Wages	2337.18	751.35	1176.28	4615.70
Mean Real Black Non-Farmer Wages	5147.84	1243.17	2680.73	8029.98
Observations		176		

A.8 First Stage Estimates of Black Firearm Access

Table A.4: First-stage panel estimates of PSF_{st}^{Black}

	1913 to 1952	1953 to 1968
$\text{Law}_{st}^{White}/Pop_{st}^{Black}$	-0.047^{***}	0.018^{**}
	(0.013)	(0.008)
PSF^{White}	0.019	0.001
	(0.070)	(0.233)
$\text{Wage}_{nonfarm,st}^{Black} \times p_t^{SG}$		-0.034^{***}
		(0.006)
$\text{Wage}_{farm,st}^{Black} \times p_t^{SG}$		0.015
		(0.009)
$\text{Wage}_{nonfarm,st}^{White} \times p_t^{SG}$		0.002
		(0.015)
$\text{Wage}_{farm,st}^{White} \times p_t^{SG}$		-0.008
		(0.009)
$\text{Wage}_{farm,st}^{Black}$		-2.917
		(2.015)
$\text{Wage}_{nonfarm,st}^{Black}$		5.707^{***}
		(1.326)
$\text{Wage}_{nonfarm,st}^{White}$		4.511
		(2.740)
$\text{Wage}_{farm,st}^{White}$		1.338
		(2.068)
F	11.98	30.26
$State + YearFE$	Yes	Yes
$Controls$	Yes	Yes
$TimeTrend$	Yes	Yes
N	323	176

Note: PSF: Percent of suicides involving a firearm. All regression models include First-stage estimates of PSF^{Black}. First stage estimates in the Pre-*Brown* era include $\text{Law}_{st}^{White}/Pop_{st}^{Black}$ as a restricted variable. The Civil-Rights Era includes separate controls for farmer and non-farmer wages by race and their interaction with shot-gun prices, with $\text{wage}_{non-farm,st}^{Black} \times \text{price}_t^{SG}$ serving as the restricted variable. Additional control variables vary by era. See table A.3 covariates and summary statistics. Kleibergen-Paap F statistics reported in the table. All regressions include state and year fixed effects and state-specific linear time trends. The Early era (1913-1952) excludes the years of World War II (1940-1945).

A.9 Alternative Specifications

Table A.5: Including Baseline Firearm Access: Log Homicides and Accidents Per Capita in Former Confederate States Across Eras

	Black Deaths		White Deaths	
	Homicides	Firearm Accidents	Homicides	Firearm Accidents
Pre-Brown, 1913 - 1952 (N = 323)				
PSF^{Black}	−0.077	−0.088	0.008	−0.007
	(0.118)	(0.063)	(0.126)	(0.108)
PSF^{White}	−1.575*	−1.166	−1.003	−0.309
	(0.851)	(1.068)	(0.922)	(0.910)
PSF^{All}	1.638*	1.609	1.213	0.215
	(0.891)	(1.113)	(0.993)	(1.008)
Civil Rights Movement, 1953-1968 (N = 176)				
PSF^{Black}	0.039	−0.206	0.159	0.202
	(0.139)	(0.246)	(0.119)	(0.222)
PSF^{White}	0.150	−1.524	1.496	1.917
	(1.468)	(3.121)	(1.401)	(1.986)
PSF^{All}	−0.196	1.787	−1.409	−2.220
	(1.569)	(3.241)	(1.431)	(2.263)
Contemporary, 1969-1999 (N = 319)				
PSF^{Black}	0.262*	0.113	0.143	0.152
	(0.133)	(0.430)	(0.209)	(0.269)
PSF^{White}	1.414	−0.029	2.142	1.016
	(1.620)	(4.381)	(1.921)	(3.112)
PSF^{All}	−1.222	0.871	−1.681	−0.972
	(1.769)	(4.853)	(2.053)	(3.425)

Note: PSF: Percent of Suicides involving a firearm. All columns report results from an OLS regression of the log of deaths per capita in a panel with state and year fixed effects, as well as state-specific linear time trends. Additional control variables vary by era. See table A.7. The Early era (1913-1952) excludes the years of World War II (1940-1945).

Table A.6: Relative Gun Access and Relative Death Rates: Log Homicides and Accidents per Capita in Former Confederate States

| | **Black Deaths** | | **White Deaths** | | **Black−White** | |
	Homicides	Firearm Accidents	Homicides	Firearm Accidents	Homicides	Firearm Accidents
	Pre-*Brown*, 1913 - 1952 (N = 323)					
$\text{PSF}^{Black} - \text{PSF}^{White}$	0.084	0.024	0.097	0.035	−0.013	−0.011
	(0.086)	(0.099)	(0.075)	(0.041)	(0.049)	(0.091)
	Civil Rights Movement, 1953-1968 (N = 176)					
$\text{PSF}^{Black} - \text{PSF}^{White}$	−0.117	−0.223*	0.104**	−0.015	−0.221**	−0.208
	(0.076)	(0.105)	(0.044)	(0.118)	(0.084)	(0.136)
	Contemporary, 1969-1999 (N = 319)					
$\text{PSF}^{Black} - \text{PSF}^{White}$	0.137*	0.153	−0.028	0.059	0.165	0.094
	(0.064)	(0.240)	(0.081)	(0.060)	(0.091)	(0.236)

Note: PSF: Percent of Suicides involving a firearm. All columns are a report results from a OLS regression of the log of deaths per capita in a panel with state and year fixed effects. For additional control variables and summary statistics, see table A.7. The pre-*Brown* Era (1913-1953) excludes the years of World War II (1940-1945).

Table A.7: Log Firearm and Non-Firearm Homicides per Capita in Former Confederate States

| | **First** | **Black Homicides** | | **White Homicides** | |
| | | *with* | *without* | *with* | *without* |
	PSF^{Black}	firearm	firearm	firearm	firearm
		Pre-Brown, 1913 - 1952 (N = 323)			
$\text{Law}_{st}^{\text{White}}/Pop_{st}^{Black}$	-0.047^{***}				
	(0.013)				
PSF^{Black}		1.166^{**}	-0.694	1.249^{**}	0.119
		(0.399)	(0.566)	(0.542)	(0.311)
PSF^{White}	0.019	-0.151	-0.014	0.148	0.017
	(0.070)	(0.237)	(0.203)	(0.192)	(0.251)
F	.	11.98	11.98	11.98	13.44
N		323	323	323	322
		Civil Rights Movement, 1953 - 1968 (N = 176)			
$wage_{st}^{\text{Black}} \times price_t^{SG}$	-0.034^{***}				
	(0.006)				
PSF^{Black}		-0.113	0.327	0.341	-0.578
		(0.432)	(0.739)	(0.581)	(1.039)
PSF^{White}	0.001	-0.421	0.549	-0.341	0.173
	(0.233)	(0.308)	(0.707)	(0.467)	(0.580)
F	.	30.26	30.26	30.26	30.26
N		176	176	176	176

Note: PSF: Percent of suicides involving a firearm. All regression models include First-stage estimates of PSF^{Black}. First stage estimates in the Pre-*Brown* era include $\text{Law}_{st}^{\text{White}}/Pop_{st}^{Black}$ as a restricted variable. The Civil-Rights Era includes separate controls for farmer and non-farmer wages by race and their interaction with shot-gun prices, with $wage_{non-farm,st}^{\text{Black}} \times price_t^{SG}$ serving as the restricted variable. Additional control variables vary by era. See table A.3 covariates and summary statistics. All regressions include state and year fixed effects and state-specific linear time trends. The Early era (1913-1952) excludes the years of World War II (1940-1945).

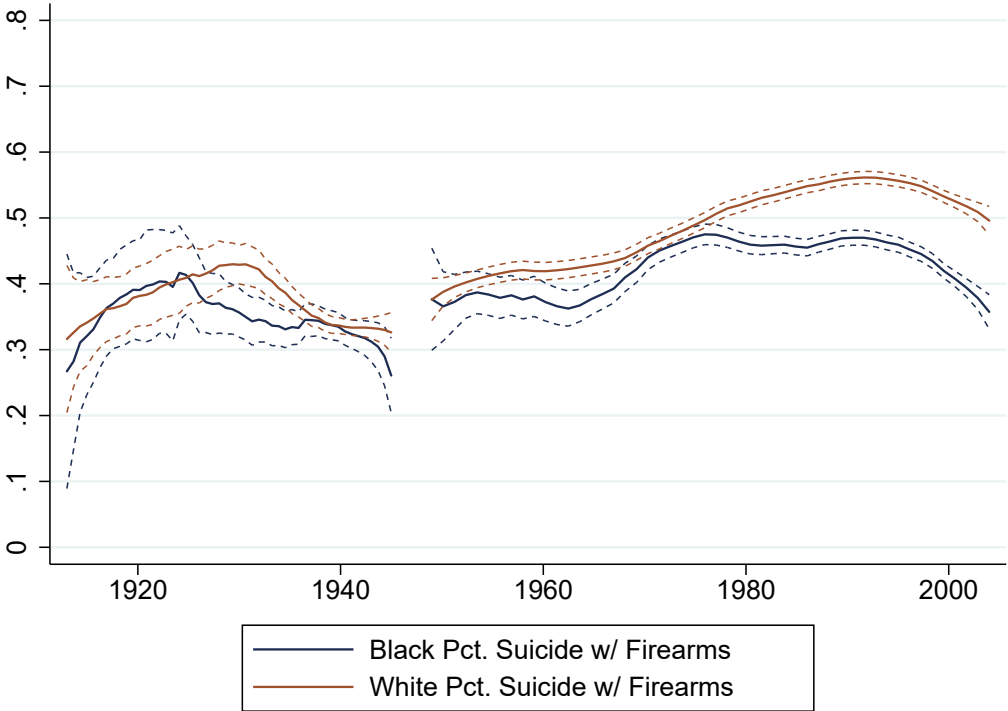## A.10   Non-Confederate States

Figure A.5: Percent Suicide by Firearm by Race, Non-Confederacy

Table A.8: In Non-Confederate States: 2SLS Log Homicides and Accidents per Capita in Former Confederate States Across Eras

	First PSF^{Black}	Black Deaths		White Deaths	
		Homicides	Firearm Accidents	Homicides	Firearm Accidents
	Pre-*Brown*, 1913 - 1952 (N = 323)				
$\text{Law}^{\text{White}}_{st}/Pop^{Black}_{st}$	−0.001				
	(0.001)				
PSF^{Black}		1.008	0.346	0.887	0.105
		(2.691)	(2.670)	(0.726)	(0.186)
PSF^{White}	0.303	0.391	3.154	0.211	−0.130
	(0.536)	(1.990)	(2.583)	(0.587)	(0.316)
F	1.93	1.93	1.93	1.93	1.93
N		456	456	456	456
	Civil Rights Movement, 1953 - 1968 (N = 176)				
$wage^{\text{Black}}_{st} \times price^{SG}_{t}$	0.012				
	(0.016)				
PSF^{Black}		−1.266	7.659	−1.213	−1.634
		(3.964)	(8.217)	(2.108)	(2.425)
PSF^{White}	0.217	0.086	−0.416	0.380	0.453
	(0.372)	(0.949)	(4.057)	(0.634)	(0.854)
F	0.53	0.53	0.53	0.53	0.53
N		425	425	425	425

Note: PSF: Percent of suicides involving a firearm. All regression models include First-stage estimates of PSF^{Black}. First stage estimates in the Pre-*Brown* era include $\text{Law}^{\text{White}}_{st}/Pop^{Black}_{st}$ as a restricted variable. The Civil-Rights Era includes separate controls for farmer and non-farmer wages by race and their interaction with shot-gun prices, with $wage^{\text{Black}}_{non-farm,st} \times price^{SG}_{t}$ serving as the restricted variable. Additional control variables vary by era. See table A.3 covariates and summary statistics. Kleibergen-Paap F statistics reported in the table. All regressions include state and year fixed effects and state-specific linear time trends. The Early era (1913-1952) excludes the years of World War II (1940-1945).

A.11 Sample Sensitivity Analysis

Table A.9: Sample Sensitivity: Black Lynching Deaths in Former Confederate States: 1913-1950

	1913-1950		-1947		-1943		-1941	
PSF^{Black}	-0.993	-1.246**	-0.994	-1.344**	-1.088	-1.462***	-0.906	-1.187**
	(0.924)	(0.571)	(0.924)	(0.559)	(0.939)	(0.560)	(0.995)	(0.585)
PSF^{White}	-0.659	-1.048	-0.778	-1.210	-0.945	-1.392	-0.823	-1.108
	(0.885)	(1.146)	(0.860)	(1.131)	(0.862)	(1.149)	(1.026)	(1.146)
Model	Poisson	Negative Binomial	Poisson	Negative Binomial	Poisson	Negative Binomial	Poisson	Negative Binomial
State + Year FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Controls	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Time Trend	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
N	317	317	287	287	267	267	227	227

Note: All specifications estimate an model for the count of Black lynching deaths within a state and year: columns 1-3 report a Poisson regression model with state and year fixed effects, columns 4-6 a negative binomial regression model conditional on state with year fixed effects. All regressions include the following covariates: log total population, population percent Black, Black urban population density, and real output and capital per worker, both as totals and separately estimated within farming, manufacturing, and service sectors. All regressions include state-specific time trends. Includes all member states from the Confederacy except Texas (insufficient data).

Table A.10: Control Function Poisson w/ Instrumental Variables: Black Lynching Deaths in Former Confederate States, 1913-1950

	1913-1950		-1947		-1943		-1941	
	1st Stage	2nd Stage	1st Stage	2nd Stage	1st Stage	2nd Stage	1st Stage	2nd Stage
$\text{Law}_{st}^{\text{White}}/Pop_{st}^{Black}$	−0.086***		−0.099***		−0.093***		−0.100**	
	(0.013)		(0.018)		(0.021)		(0.033)	
PSF^{Black}		−8.807***		−6.736***		−10.316***		−8.140*
		(2.535)		(2.558)		(3.838)		(4.664)
$\epsilon_{st1}(control func.)$		7.925***		5.842***		9.324***		7.283*
		(2.035)		(2.098)		(3.495)		(4.418)
PSF^{White}	−0.012	−0.488	−0.028	−0.694	0.053	−0.020	−0.016	−0.516
	(0.102)	(0.837)	(0.116)	(0.827)	(0.095)	(0.833)	(0.075)	(1.038)
IV	$Law_{t=0}^{\text{White}}$	$Law_{t=0}^{\text{White}}$	$Law_{t=0}^{\text{White}}$	$Law_{t=0}^{\text{White}}$	$Law_{t=0}^{\text{White}}$	$Law_{t=0}^{\text{White}}$	$Law_{t=0}^{\text{White}}$	$Law_{t=0}^{\text{White}}$
F	44.97		30.34		19.16		9.3	
Trend	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
StateFE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
YearFE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Controls	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
N	317	317	287	287	267	267	227	227

Note: First- and second-stage results from instrumental variables estimation of the effect of Black Firearms on lynching. First stage estimates a state-year panel regression and the inclusion of $\text{Law}_{st}^{\text{White}}/Pop_{st}^{Black}$ as a restricted variable. Columns 3-6 report results using 1- and 2-year lags of the instrument as an additional robustness check against reverse causality between lynchings and law enforcement per Black capita . The second stage is an Poisson maximum-likelihood estimated regression which include ϵ_{st1} as a control function for variation in PSF^{Black} otherwise correlated with the error term. All regressions include the following covariates: log total population, population percent Black, Black urban population density, and real output and capital per worker, both as totals and separately estimated within farming, manufacturing, and service sectors. All regressions include state-specific time trends. Includes all member states from the Confederacy except Texas (insufficient data).