

Online Appendix

The Impact of Affirmative Action Litigation on Police Killings of Civilians

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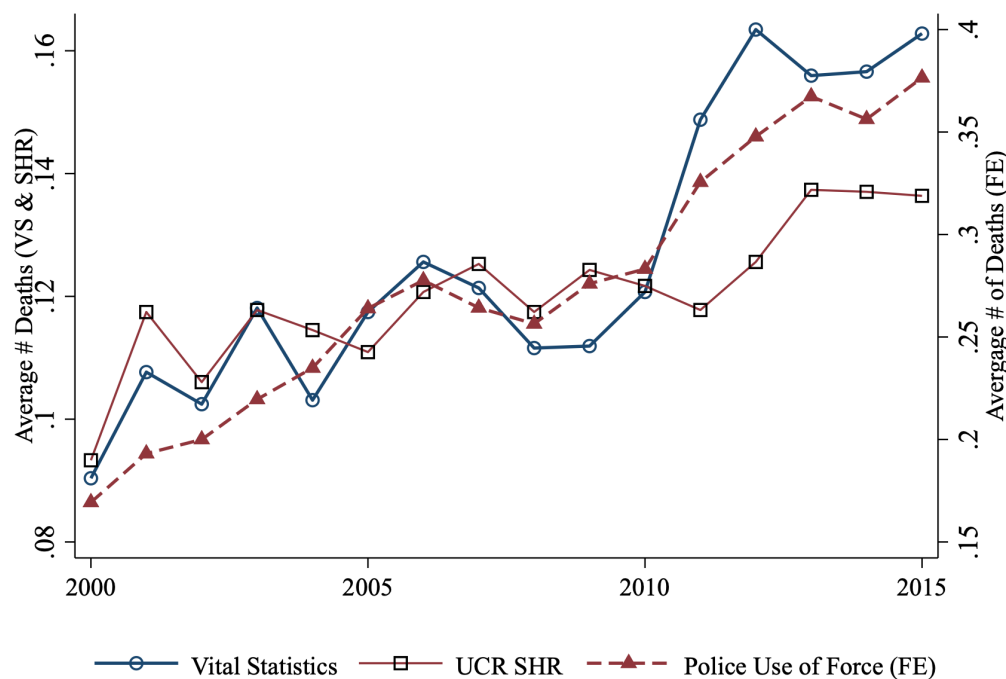
A Data Appendix

We use several data sources in our analysis. Below we describe the data we use and how we obtain the final data set.

A.1 Vital Statistics Data

Our measurement of police killings of civilians comes from the 1959 to 2016 Vital Statistics Multiple Cause of Death Files. The 1958-1988 files are publicly available at the ICPSR at the University of Michigan. For 1989-2016, we use restricted files obtained directly from the CDC. A major shortcoming of using Vital Statistics files to measure police-related fatalities is the severe under-reporting of police-caused deaths. Ideally, we would use newer, crowd-sourced data such as Fatal Encounters to capture police-related fatalities, but the series begins well after locations are treated. Despite the under-count, Vital Statistics does reasonably well with capturing national trends. Below, Appendix Figure A1 shows that the Vital Statistics and Fatal Encounters series on police-related fatalities mirror each other over time. Also, Appendix Figure A2 plot the time-series by treatment status.

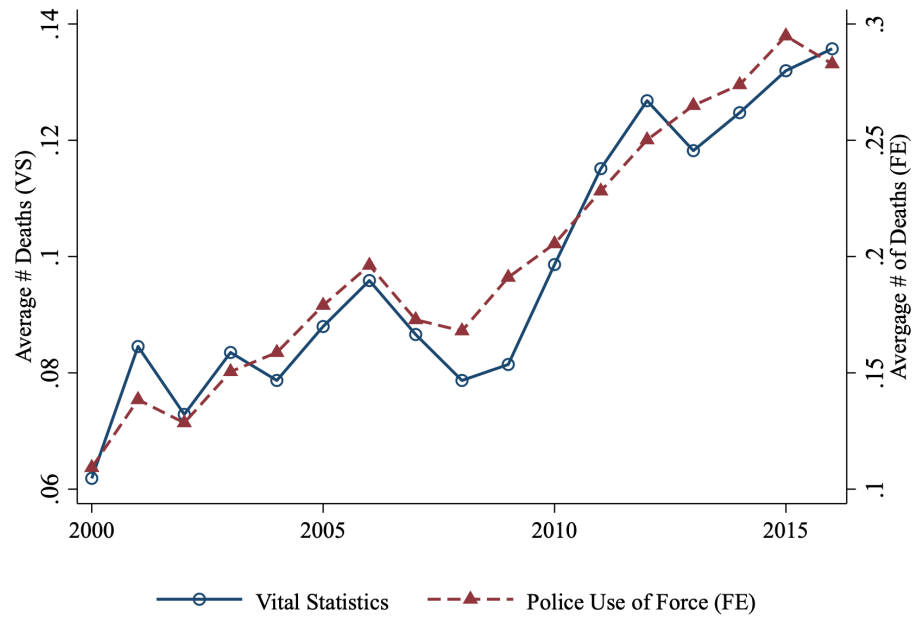
Figure A1: Police Killings, 2000-2016



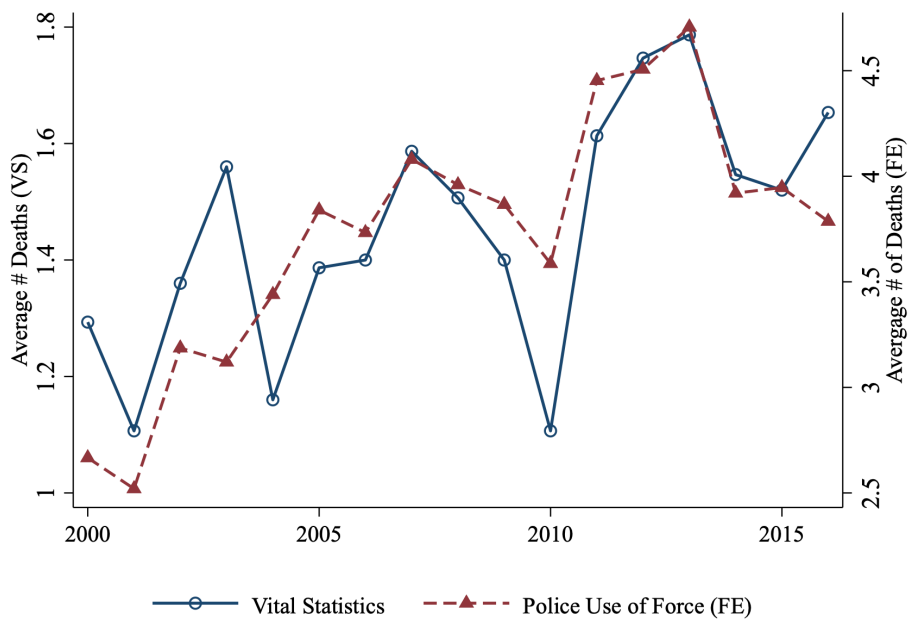
Notes: This figure shows the trend in non-White policing-related civilian fatalities from various data sources. Data are from the Vital Statistics Multiple Cause of Death Files, the UCR: Supplemental Homicide Report, and the Fatal Encounters Data (see [Fatal Encounters Website](#)).

Figure A2: Police Killings by Treatment Status, 2000-2016

(a) Control Group



(b) Treatment Group



Notes: This figure shows the trend in non-White policing-related civilian fatalities by treatment status. Treatment group refers counties that experience Affirmative Action litigation and the control group refers to all other counties. Data are from the 1998 to 2016 Vital Statistics Multiple Cause of Death Files and the Fatal Encounters Data (see [Fatal Encounters Website](#)).

The Vital Statistics files cover several decades with many changes to coding police-related fatalities. For years 1999 to 2016 we use the following ICD-10 codes to classify police-related deaths: Y35.0-Y35.4, Y35.6, Y35.7, and Y89.0. For 1968 to 1998, we use the following ICD-9 and ICD-8 codes: E970-E977. Finally, for 1959 to 1967, we use the following ICD-7 code: E984. For suicide deaths from 1999 and 2016, we use the following ICD-10 codes: X60-X84, Y870, U030. For suicide deaths from 1968 to 1998 we use the following ICD-9 and ICD-8 code: E950-E959. For 1959-1967, we use the following ICD-7 codes: E963, E970-E979.

A.2 UCR Data

Information for arrests and police employment comes from the Uniform Crime Report Data Series, which is publicly available at the ICPSR at the University of Michigan.

A.2.1 Police Employment

Uniform Crime Reporting (UCR): Law Enforcement Officers Killed or Assaulted UCR Law Enforcement Officers Killed or Assaulted (LEOKA) contains monthly counts of law enforcement officers killed and assaulted as well as annual law enforcement employment. The UCR reports the number of civilian officers and sworn officers as of October 31st of the reporting year. The UCR LEOKA is available publicly at the ICPSR website for years after 1974. For years 1960 to 1974 data are manually entered from hard copies of UCR LEOKA reports.

A.2.2 Arrest Data

UCR Arrests by Age, Sex, and Race is publicly available at the Inter-University Consortium for Political and Social Research (ICPSR). It provides information on the number of arrests reported by local and state law enforcement agencies to the Federal Bureau of Investigation (FBI). The data compiled for the UCR is submitted voluntarily by city, county, and state enforcement agencies. The FBI or state law agencies directly provide survey forms to local law agencies or state collecting programs, which are collected on a monthly basis. The data on arrests includes yearly information on the number of arrests within 43 categories including property and violent crime as well as drug-related offenses; it also includes information on the age, sex, and race of arrestees.

A.3 Police Diversity

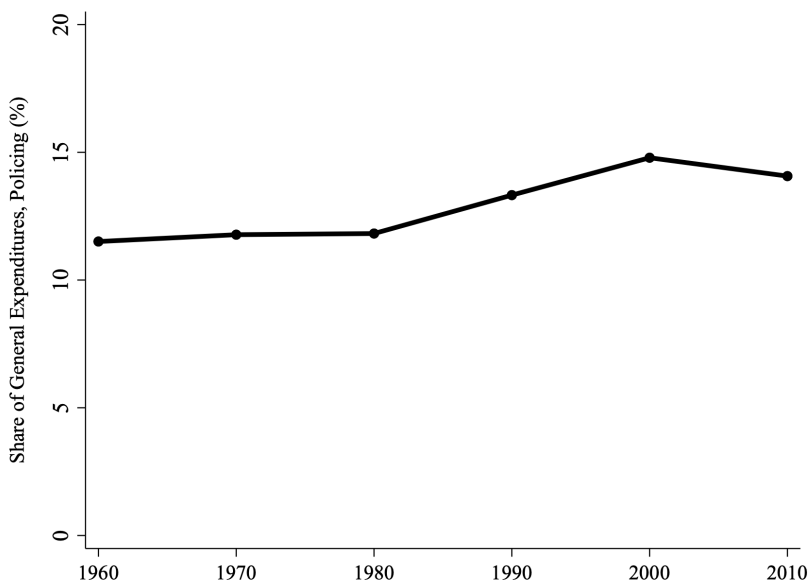
Law Enforcement Management and Administrative Statistics (LEMAS) is publicly available at the Inter-University Consortium for Political and Social Research (ICPSR) at the University of Michigan. LEMAS provides detailed survey data from police agencies on their equipment, personnel, and capabilities. The survey is conducted every three years and includes most large law enforcement agencies. The survey contains information on the demographic composition of law enforcement officers. Our analysis focuses on full-time sworn officers by race.

A.4 Demographic Information

County and City Data Books provide information on city demographics and local government expenditures for counties, cities, and incorporated areas of 25,000 inhabitants or more in the United States. Data on population counts as well as demographic information are from the decennial census conducted in the beginning of each decade. Data on local government operations, revenue, and expenditures are from the Annual Survey of Governments, which is conducted for a sample of governments by the Census Bureau. We use County and City Data Books for 1962 and 1967. Appendix Figure [A3](#) plots police spending over time and shows a fairly consistent share of government spending allocated to policing. We obtain yearly population counts from the 1960

Census ([Haines et al., 2010](#)) and the Surveillance, Epidemiology, and End Results (SEER) annual data, which begin in 1968 (interpolated between 1960 and 1968).

Figure A3: Police Spending Over Time, 1960-2010



Notes: This figure reports police spending over time. Data comes from City and County Data Books publicly available at the ICPSR and www.census.gov.

A.5 Uprising Data

Data for uprisings were provided by [Collins and Margo \(2007\)](#) and was originally collected by [Carter \(1986\)](#). The data consist of detailed information on arrests, injuries, and deaths caused by uprisings in each city where uprisings occurred. Using this information we create a dummy variable to identify the year and county in which uprisings occurred. We also create an index of severity by summing the number of arrests, injuries, arsons, and deaths in the year and dividing them by the total sum of injuries, deaths, arsons, and arrests due to uprisings. The severity index is similar to other uprisings measures used in research that analyzes the impact of uprisings.

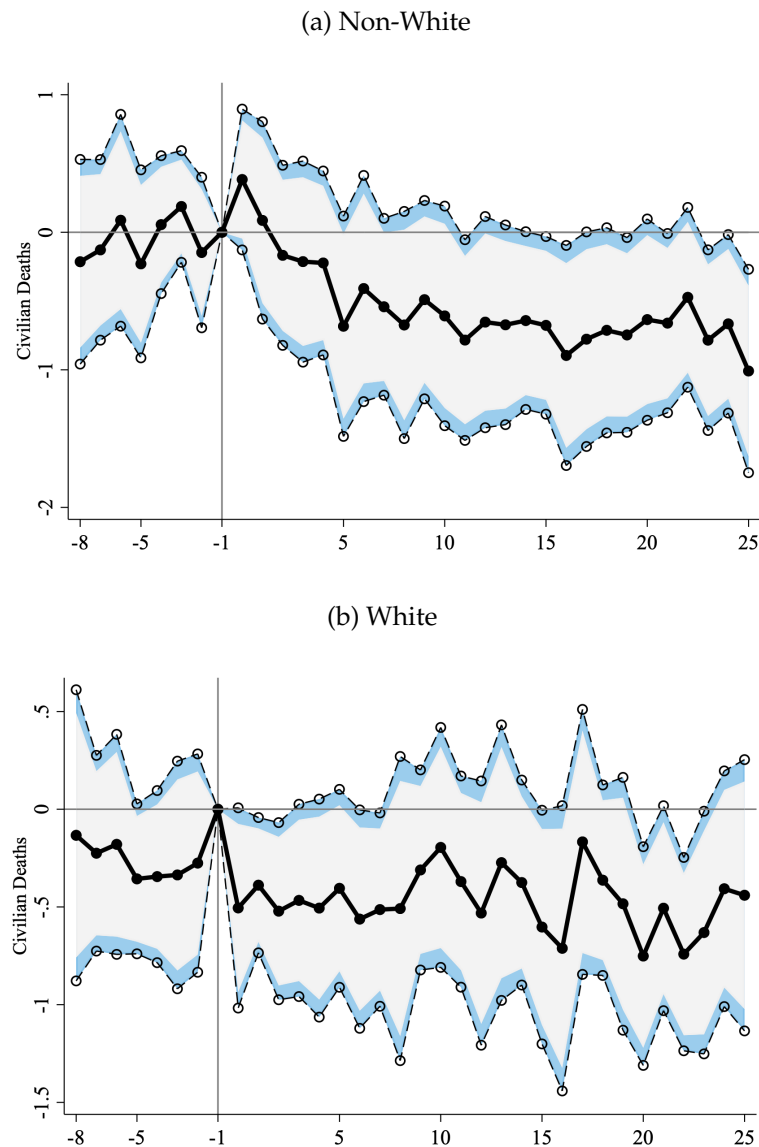
A.6 Final Sample

To compile our final sample we first collapse the litigation data, courtesy of [McCrary \(2007\)](#), and collapse the treated locations to their respective counties. We identify a treated county by the earliest year a city within a county is threatened with affirmative action litigation. We then merge the litigation data with Vital Statistics data using state and county FIPS identifiers. Note, all counties are identified by their 1960 definition. Although San Francisco and Washington D.C. are excluded from [McCrary \(2007\)](#), we include them because we know the litigation dates and outcome of interests. Lastly, we restrict our sample to counties that have a non-White population in every year of record (which excludes 30 counties).

B Appendix Figures

B.1 Alternative Specifications- Police Killings

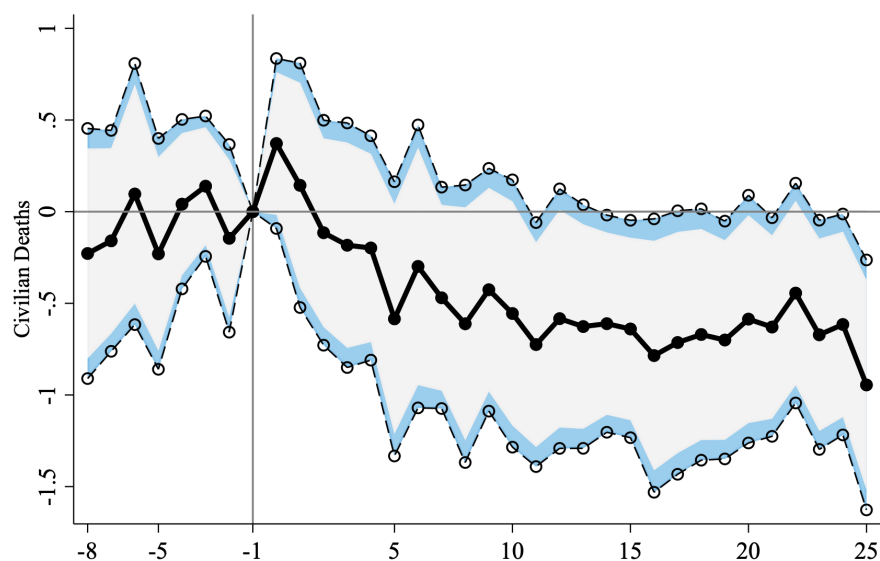
Figure B1: Event Study – Non-White Deaths Due to Legal Intervention: State-by-Year Effects



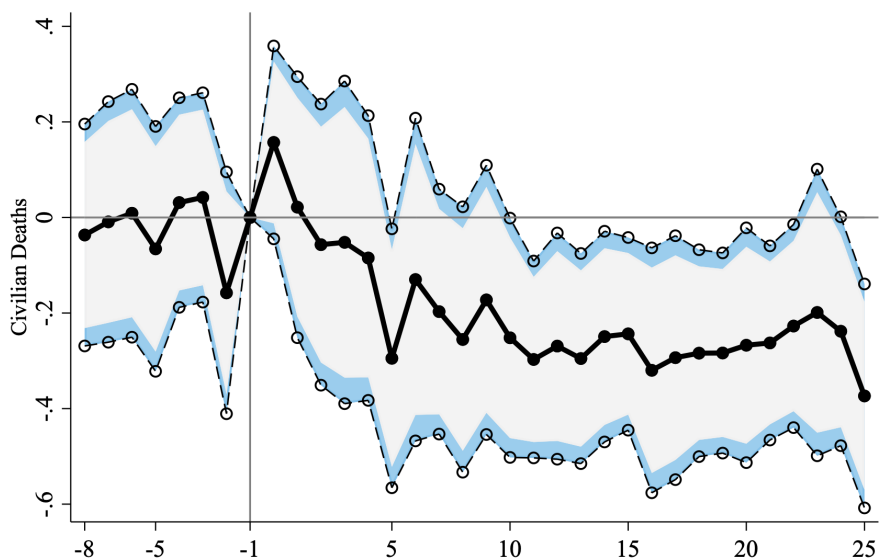
Notes: The ordinary least squares regression specification includes county and state-by-year fixed effects. The dependent variable is the number of non-White policing-related civilian fatalities in panel (a) and White policing-related civilian fatalities in panel (b). Each panel also includes the log of population for each respective racial group as a regressor. Robust standard errors are clustered by county, and 95 and 90 percent confidence intervals are presented. The horizontal axis represents event-years (years before and after litigation).

Figure B2: Event Study – Least Squares Regressions – Non-White Deaths

(a) Non-White: OLS

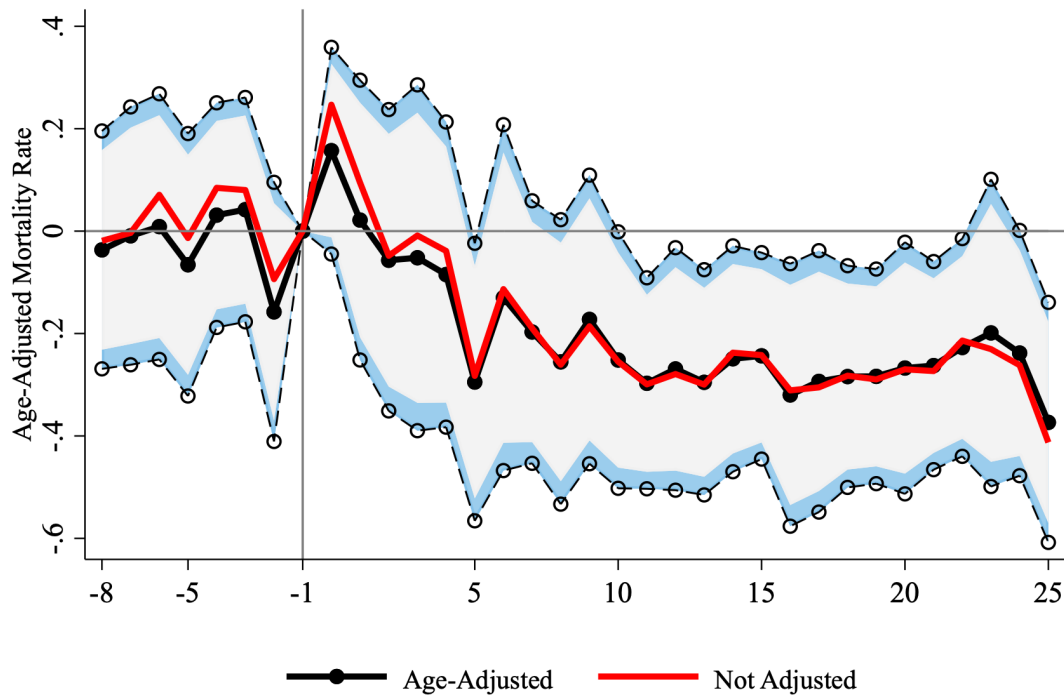


(b) Non-White: WLS



Notes: This figure plots OLS and WLS regression estimates of the effect of the threat of court-ordered affirmative action on non-White policing-related civilian fatalities. Each specification includes county and region-by-year fixed effects. The dependent variable is the number of non-White policing-related civilian fatalities in panel (a) and non-White deaths per 100,000 non-White residents in panel (b). Panel (a) also includes the log of non-White population as a regressor and panel (b) uses the non-White population in 1960 as weights. Robust standard errors are clustered by county, and 95 and 90 percent confidence intervals are presented for the long sample only. The horizontal axis represents event-years (years before and after litigation).

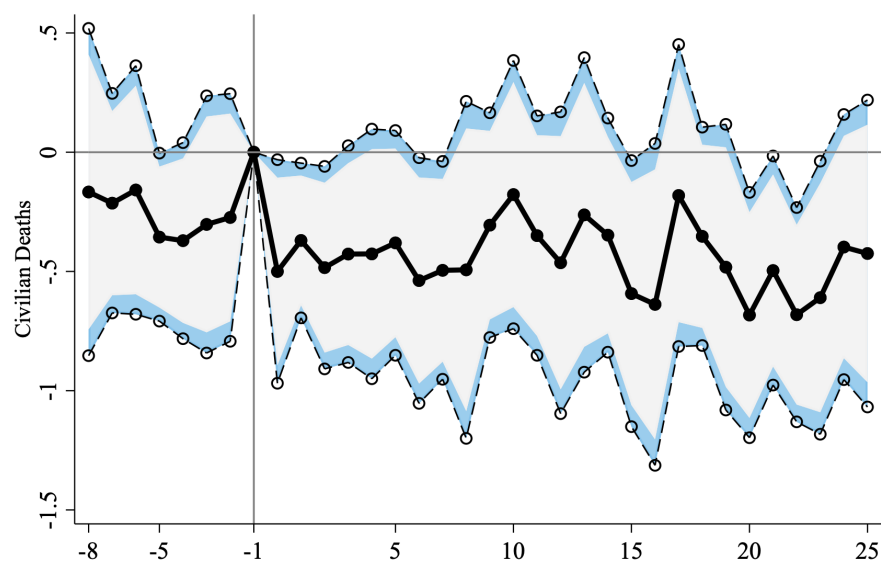
Figure B3: Event Study – Unadjusted vs. Age-Adjusted Mortality Rates



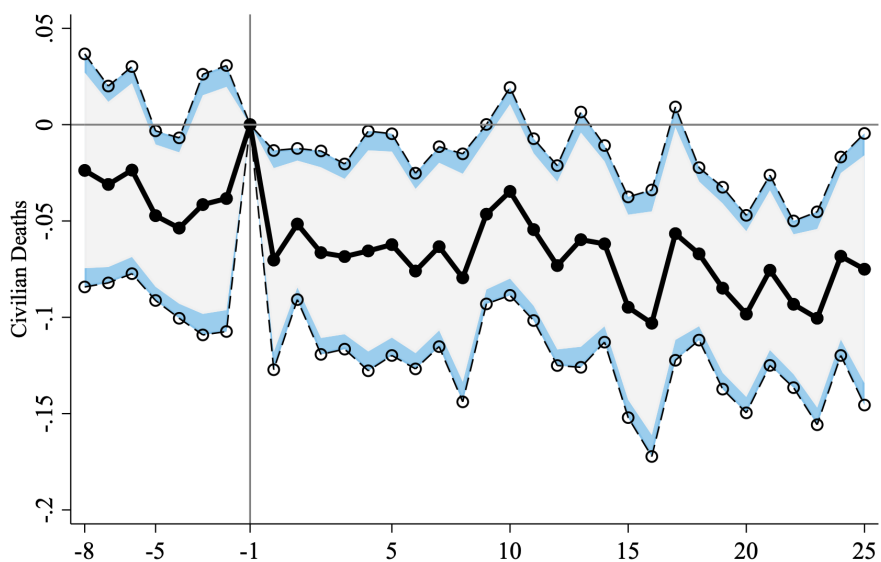
Notes: This figure presents age adjusted and unadjusted non-White policing-related civilian fatalities. Each specification includes county and region-by-year fixed effects. The Black line corresponds to changes in the age-adjusted mortality rate while the red line corresponds to the unadjusted mortality rate. Both regressions use the non-White population in 1960 as weights. Robust standard errors are clustered by county, and 95 and 90 percent confidence intervals are presented for the age-adjusted regressions only. The horizontal axis represents event-years (years before and after litigation).

Figure B4: Event Study – Least Squares Regressions – White Deaths

(a) White: OLS

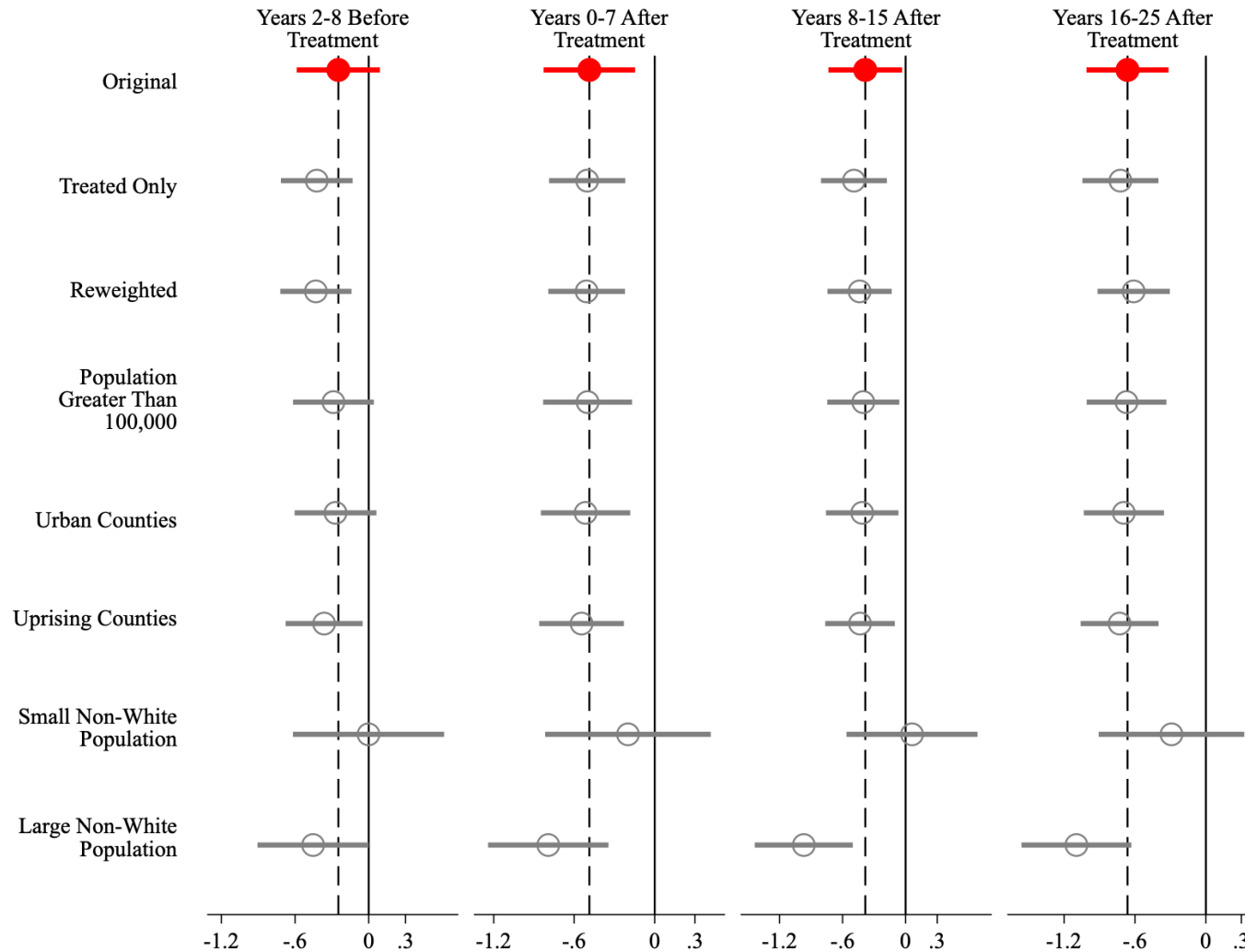


(b) White: WLS



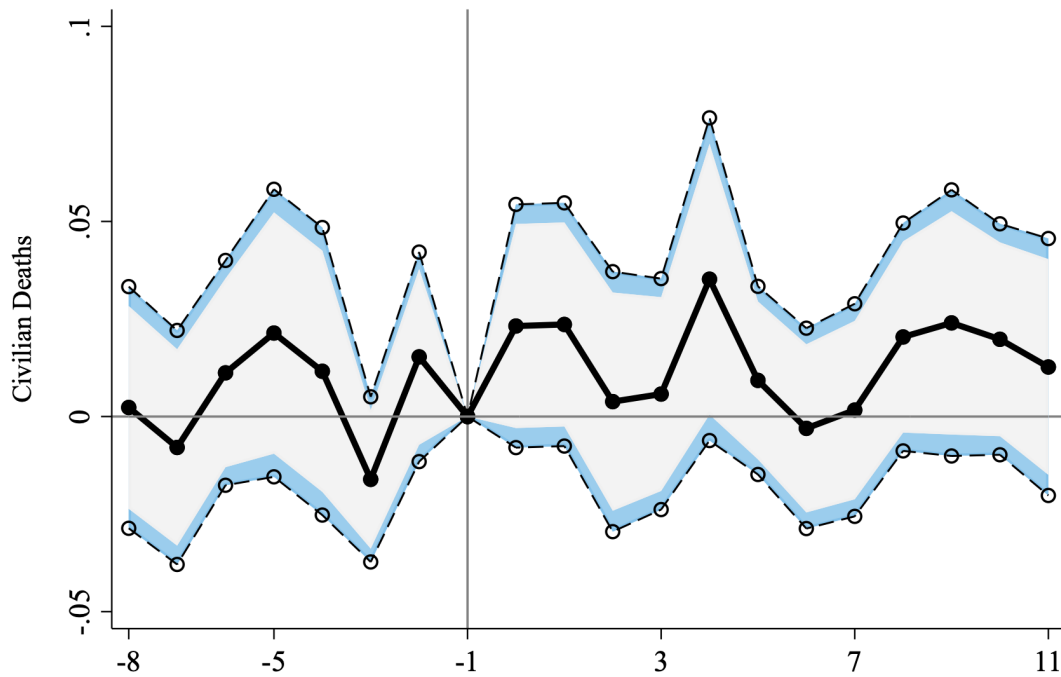
Notes: This figure plots OLS and WLS regression estimates of the effect of the threat of court-ordered affirmative action on White policing-related civilian fatalities. Each specification includes county and region-by-year fixed effects. The dependent variable is the number of White policing-related civilian fatalities in panel (a) and White deaths per 100,000 White residents in panel (b). Panel (a) also includes the log of White population as a regressor and panel (b) uses the White population in 1960 as weights. Robust standard errors are clustered by county, and 95 and 90 percent confidence intervals are presented for the long sample only. The horizontal axis represents event-years (years before and after litigation).

Figure B5: Robustness Checks - White Deaths



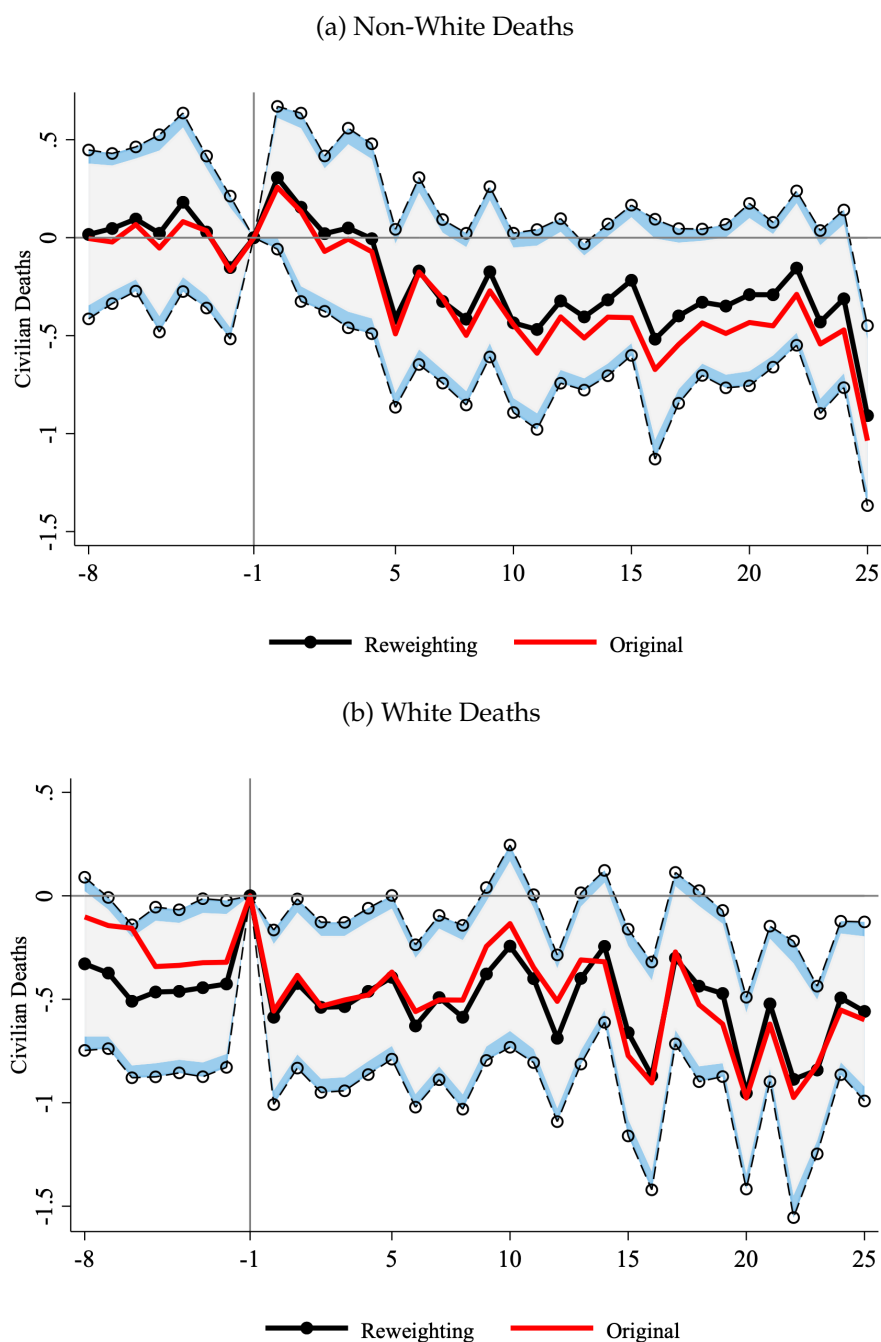
Notes: The figure displays Poisson estimates obtained from estimating Equation (1) by grouping event-years. All rows include county and region-by-year fixed effects. Heteroskedasticity-robust standard errors clustered by county are presented by the bold line. Joint effects are presented by circle markers. Row 1 presents the baseline joint treatment effects; Row 2 restricts the sample solely to treated counties; Row 3 employs a semi-parametric reweighting design; Row 4 restricts the sample to counties with a population greater than 100,000; Row 5 limit the sample to counties where the proportion of residents residing in urban areas was higher than the median share of urbanization in 1960; Row 6 restricts the sample to counties that experienced at least one racial uprising in the 1960s; Rows 7 restricts the treatment group into counties where the share of the non-White population in 1960 is below the median share for the treatment group; Row 8 restricts the treatment group into counties where the share of the Black population in 1960 is above the median share for the treatment group.

Figure B6: Event Study Results – Contiguous Counties



Notes: This figure plots pre-and-post-treatment effects when the treatment status and timing is applied to contiguous untreated counties. The comparison group consists of non-treated non-contiguous counties. Treated counties dropped from the sample. This specification includes county and region-by-year fixed effects and accounts for exposure with non-White population. Robust standard errors are clustered by county, and 95 and 90 percent confidence intervals are presented. The horizontal axis represents event-years (years before and after litigation).

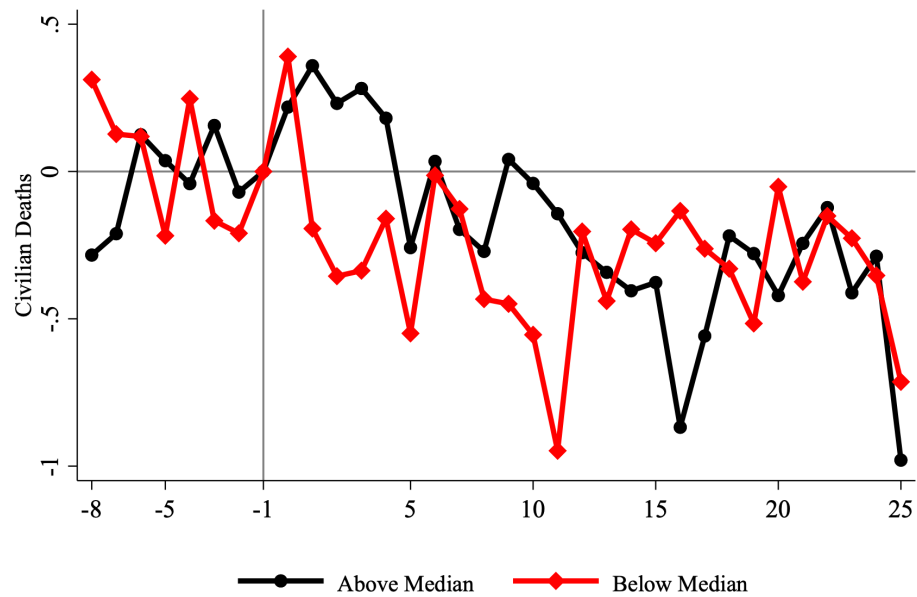
Figure B7: Event Study – Non-White Deaths Due to Legal Intervention: DFL Weights



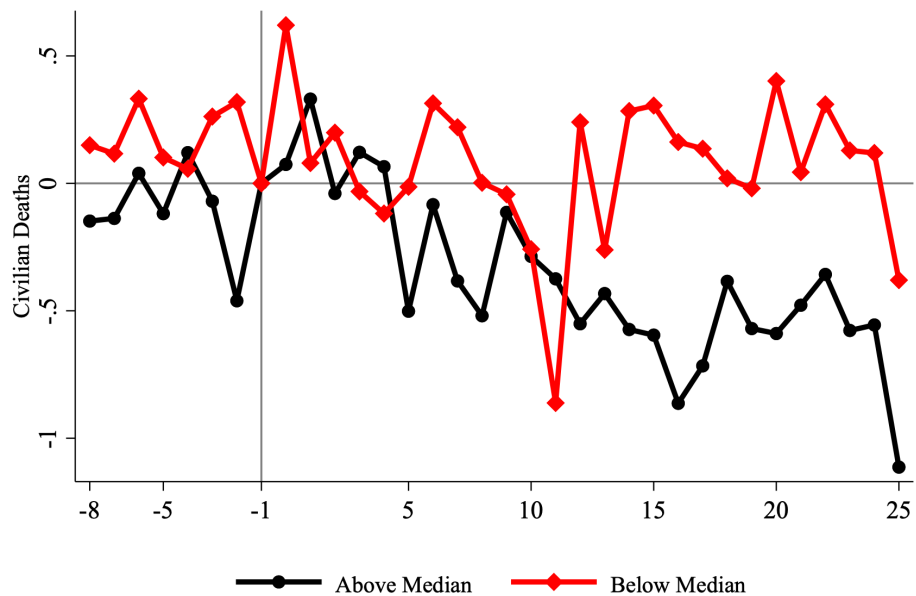
Notes: This figure plots regression estimates after employing propensity scores to reweigh counties in the control group by their inverse propensity scores to balance the distribution of covariates across groups (DiNardo et al., 1996). The dependant variable is the number of non-White policing-related civilian fatalities. This specification includes county and region-by-year fixed effects. Robust standard errors are clustered by county, and 95 and 90 percent confidence intervals are presented for the long-sample only. The horizontal axis represents event-years (years before and after litigation).

Figure B8: Event Study Results – Intensity of Treatment

(a) Total Population Covered

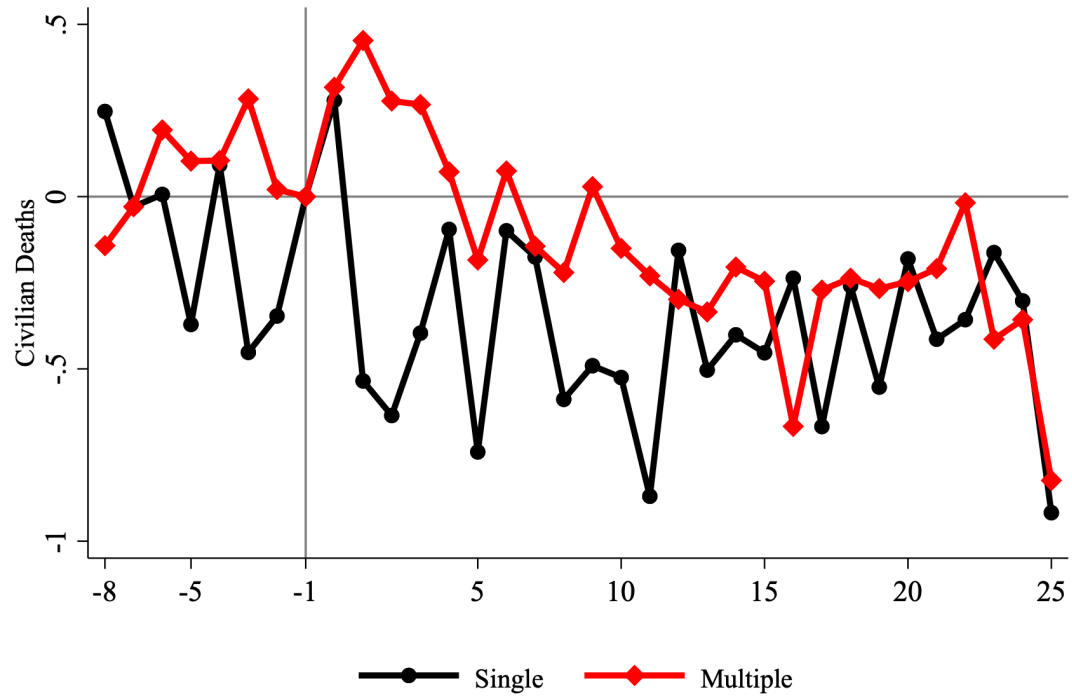


(b) Total Non-White Population Covered



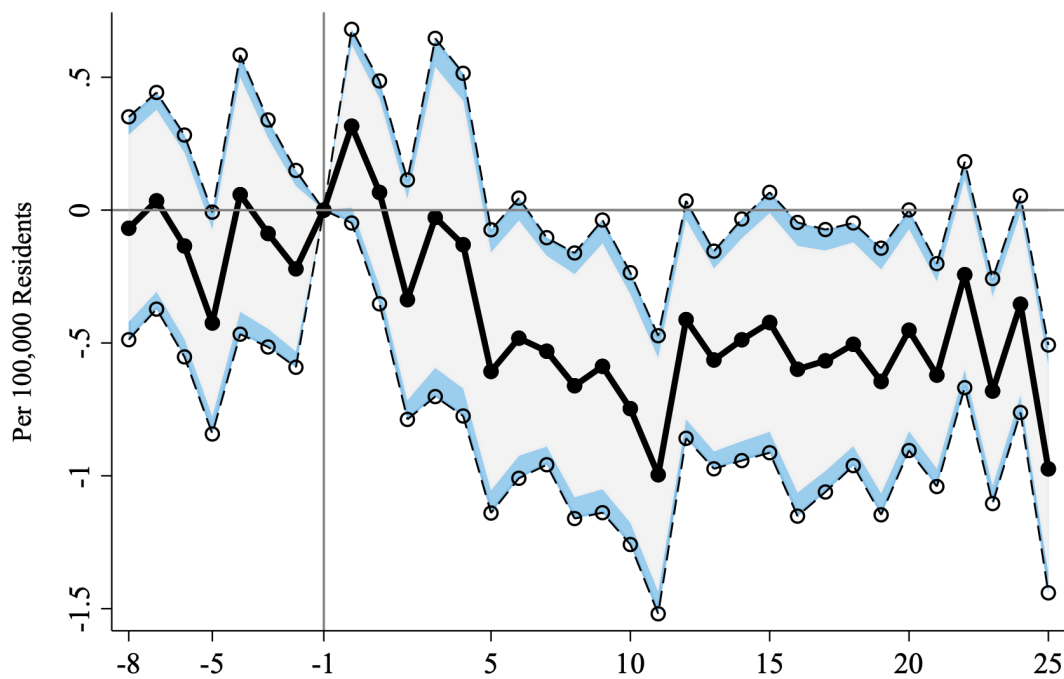
Notes: This figure stratifies counties by treatment coverage, which is defined by the percentage of the county's population resides in treated cities within the county. The dependent variable is the number of non-White policing-related civilian fatalities. Panel (a) stratifies treated counties by locations with above-below median coverage. Panel (b) stratifies treated counties by locations with above-below median non-White population coverage. In both panels, the control group are non-treated locations, irrespective of county demographics. Each specification includes county and region-by-year fixed effects. The horizontal axis represents event-years (years before and after litigation).

Figure B9: Event Study Results – Multiple Treatments



Notes: The figure shows pre- and post-treatment effects for counties with one treated city are compared to control group versus when counties with multiple treated cities are compared to the control group. The dependent variable is the number of non-White policing-related civilian fatalities. In each specification, the control group are non-treated locations, irrespective of county demographics. Each specification includes county and region-by-year fixed effects. The horizontal axis represents event-years (years before and after litigation).

Figure B10: Event Study – Non-White Deaths – [McCrory \(2007\)](#) Sample

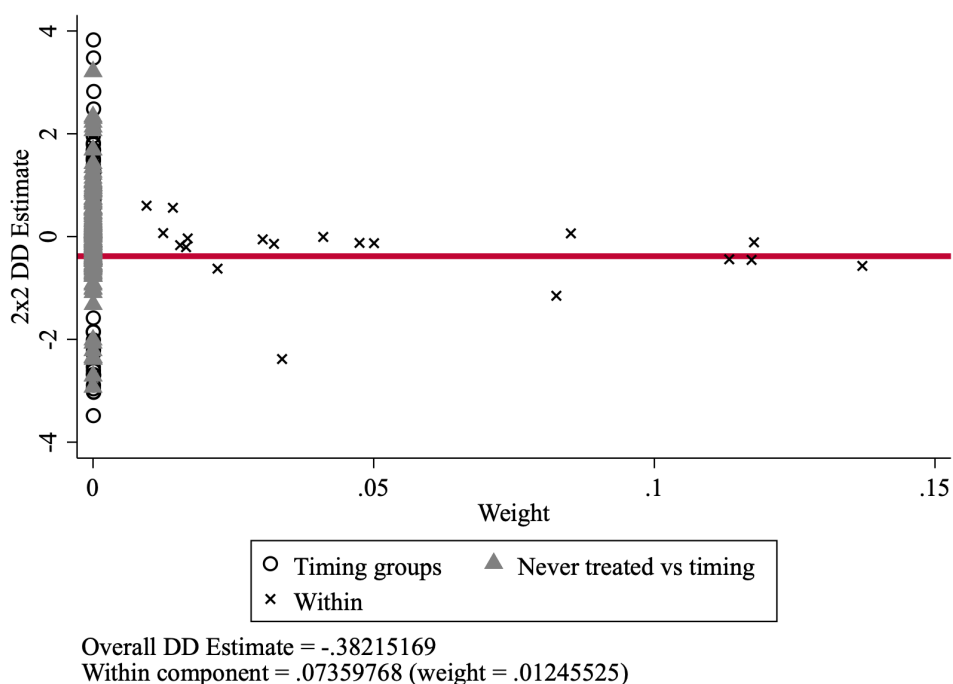


Notes: This figure plots estimates of the effect of Affirmative Action litigation on police killings of non-White civilians limited to counties identified by [McCrory \(2007\)](#) and that report at least 52 years between 1960 and 2016. This specification includes county and region-by-year fixed effects. Treatment group corresponds to counties with cities treated prior to 1987. Robust standard errors by county. The horizontal axis represents event-years (years before and after litigation).

B.2 Heterogeneity in the Treatment Effects Across Timing Groups

We explore heterogeneity in the treatment effects across timing groups for two reasons. One, treatment is a direct response to the 1960 uprisings; therefore, the initial uptick in police-related fatalities may be in response to uprisings and not police actions. Also, the number of newly treated locations drastically slows down during the Reagan Administration. This is especially important because successful litigation depends on involvement from the Equal Employment Opportunity Commission. Secondly, we explore heterogeneity in the treatment effects across timing groups due to potential bias from implementing the standard two-way fixed-effects difference-in-difference model (Goodman-Bacon, 2021). Figure B11 plots the decomposition proposed by Goodman-Bacon (2021).

Figure B11: Difference-in-Difference Decomposition



Notes: This plots the decomposition proposed by Goodman-Bacon (2021) for the effect of Affirmative Action litigation on non-White policing-related civilian fatalities.

In Appendix Figure B12, we diverge from the traditional two-way-fixed effects model (TWFE) and use the estimator from Callaway and Sant'Anna (2020) for estimating unbiased average treatment effects on the treated (ATET) when there is variation in the timing of treatment.¹ The traditional TWFE model will produce biased ATET when there is heterogeneity in the treatment effect across treatment groups or heterogeneity in the treatment effect over time (equivalent to a change in the slope parameter). The bias in the TWFE is a result of how the ATET is calculated. In general, the DiD estimate is a combination of estimates comparing the treated group to the never-treated group, as well as a comparison between groups treated at different times. Appendix Figure B11 displays the weights applied to each group to produce the difference-in-difference estimate from

¹The traditional TWFE model includes both year and location fixed effects and a dummy variable to capture the treatment: $y_{it} = \alpha_i + \gamma_t + \beta^{DD} D_{it} + \varepsilon_{it}$.

a generic TWFE model with variation in the timing of treatment. Hence, treated groups serve as both treatments and controls when estimating the ATET. More specifically, the bias occurs when the later treated groups are compared to earlier treated groups. When making this comparison, the parallel trends assumption is likely violated (due to the treatment of earlier units), producing biased estimates (Goodman-Bacon, 2021). Relatedly, Sun and Abraham (2020) show that a similar bias exists in TWFE event study analyses when there is heterogeneity in the dynamics of the ATET across timing groups. Therefore, TWFE will bias the ATET away from the true effect when there is heterogeneity in the treatment effect over time or across groups.

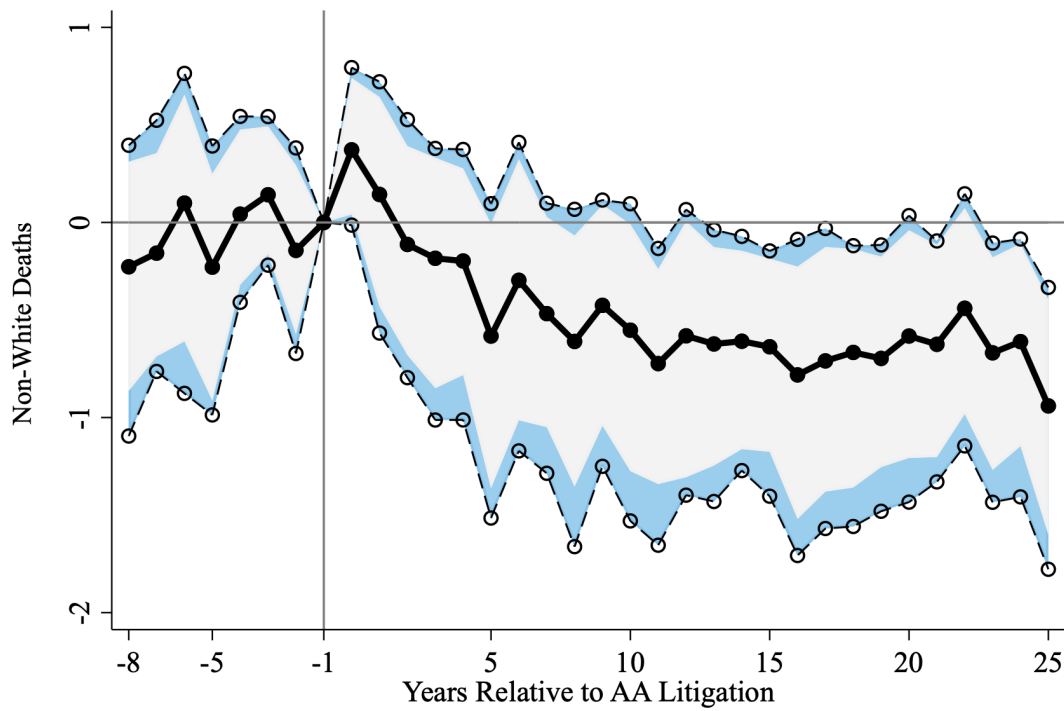
To avoid the bias associated with TWFE models, we first employ the estimator from Callaway and Sant'Anna (2020) (CS) in an event study framework. We stack our data so that stack k includes one timing group t_k^* and other counties that will never be treated. The never-treated group serve as the control group for treatment group k . This method uses calendar time to compare and contrast treated locations with the control group. For example, for those counties treated in 1977, the comparison group will include the calendar years 1971 to 2002 for never-treated counties.

To estimate unbiased pre- and post-treatment effects, we create all possible stacks for timing groups as previously highlighted and calculate means by treatment group (g), time (t), and stack (k). Then we estimate the following equation:

$$Y_{kgt} = \alpha_{kg} + \gamma_{gt} + \sum_{y=-6}^{-2} \pi_y^{CS} D_g \mathbb{1}(t - T_g^* = y) + \sum_{y=0}^{25} \pi_y^{CS} D_g \mathbb{1}(t - T_g^* = y) + \epsilon_{kgt} \quad (1)$$

where Y is police-related fatalities by race. We include treatment group fixed effects for every stack α and time fixed effects for every stack γ . The Callaway and Sant'Anna estimator is captured by π^{CS} , which will provide pre- and post-treatment for group g . The estimator will calculate event study estimates for each group. The reported pre- and post-treatment effects are a weighted average of each group's estimated effects using the number of treated counties in each timing group as weights. We construct 95 percent confidence intervals from 250 draws of a block bootstrap that resamples the counties in our analysis. We aggregate the estimated average treatment effects by the number of resampled counties in each timing group and use this distribution for statistical inference. Due to the manner of computation, these results should be compared to the OLS results. If the TWFE model produced unbiased results, the CS estimator should produce similar estimates.

Figure B12: Event Study – Callaway and Sant’Anna Estimator



Notes: The figure plots regression coefficients estimated using [Callaway and Sant’Anna \(2020\)](#) estimators to avoid biases associated with two-way fixed effects models highlighted in [Goodman-Bacon \(2021\)](#). The dependent variable is the number of non-White deaths due to legal intervention. This specification includes county and region-by-year fixed effects. Both 95 and 90 percent confidence intervals are presented. The horizontal axis represents event-years (years before and after threat of litigation).

B.3 Racial Disparities in Police Killings of Civilians

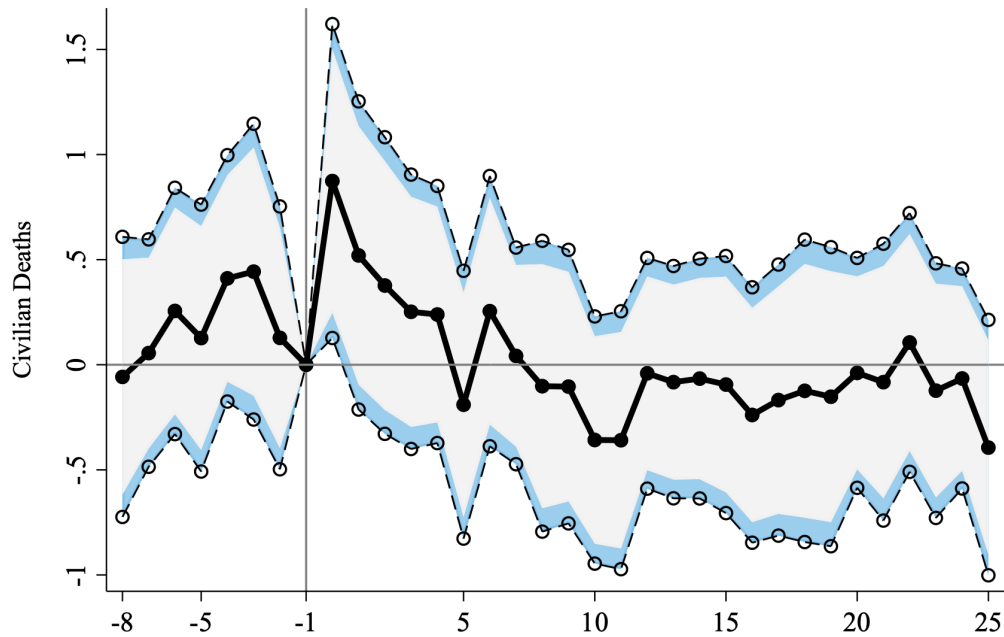
We test for racial disparities in police killings by converting equation (1) into a triple difference strategy (DDD) following [Cox and Cunningham \(2021\)](#). We estimate the following equation using OLS:

$$\begin{aligned}
y_{ct} = & \alpha_c + \gamma_{r(c),t} + NW_k + NW_k\gamma_t + NW_kD_c \\
& + \sum_{j=2}^7 \pi_j D_c \mathbb{1}\{t - t_c^* = -j\} + \sum_{j=0}^{26} \phi_j D_c \mathbb{1}\{t - t_c^* = j\} \\
& + \sum_{j=2}^7 \lambda_j D_c \mathbb{1}\{t - t_c^* = -j\} NW_k + \sum_{j=0}^{26} \sigma_j D_c \mathbb{1}\{t - t_c^* = j\} NW_k + v_{ct}
\end{aligned}$$

where the notation stays as earlier defined in equation 1, and NW_k is equal to one for non-White police killings and zero for White police killings. In this model, we can capture pre-existing trends in racial disparities in police killings of civilians. If the model is correctly specified, the pre-treatment effects will be indistinguishable from zero and any trend break in racial disparities in police killings will be attributed to the threat of litigation. Negative post-treatment effects would suggest that litigation reduces racial disparities in police killings, while positive post-treatment effects would imply that litigation contributes to racial disparities in police killings. If the post-treatment effects are zero, then litigation may not affect racial disparities in police killings.

Appendix Figure B13 plots pre- and post-treatment effects from the OLS model. Overall, pre-treatment effects are not statistically significant. Our model indicates an initial statistically significant increase in racial disparities in police killings at event-year zero. This is not surprising considering the initial rise in non-White deaths in Appendix Figure B2a and the initial decrease in White deaths in Appendix Figure B4a. After the initial increase in racial disparities of police killings, post-treatment effects decrease and eventually become negative, but are not statistically significant. Nonetheless, the initial increase in racial disparities could indicate a distinct change in police behavior in response to federal intervention.

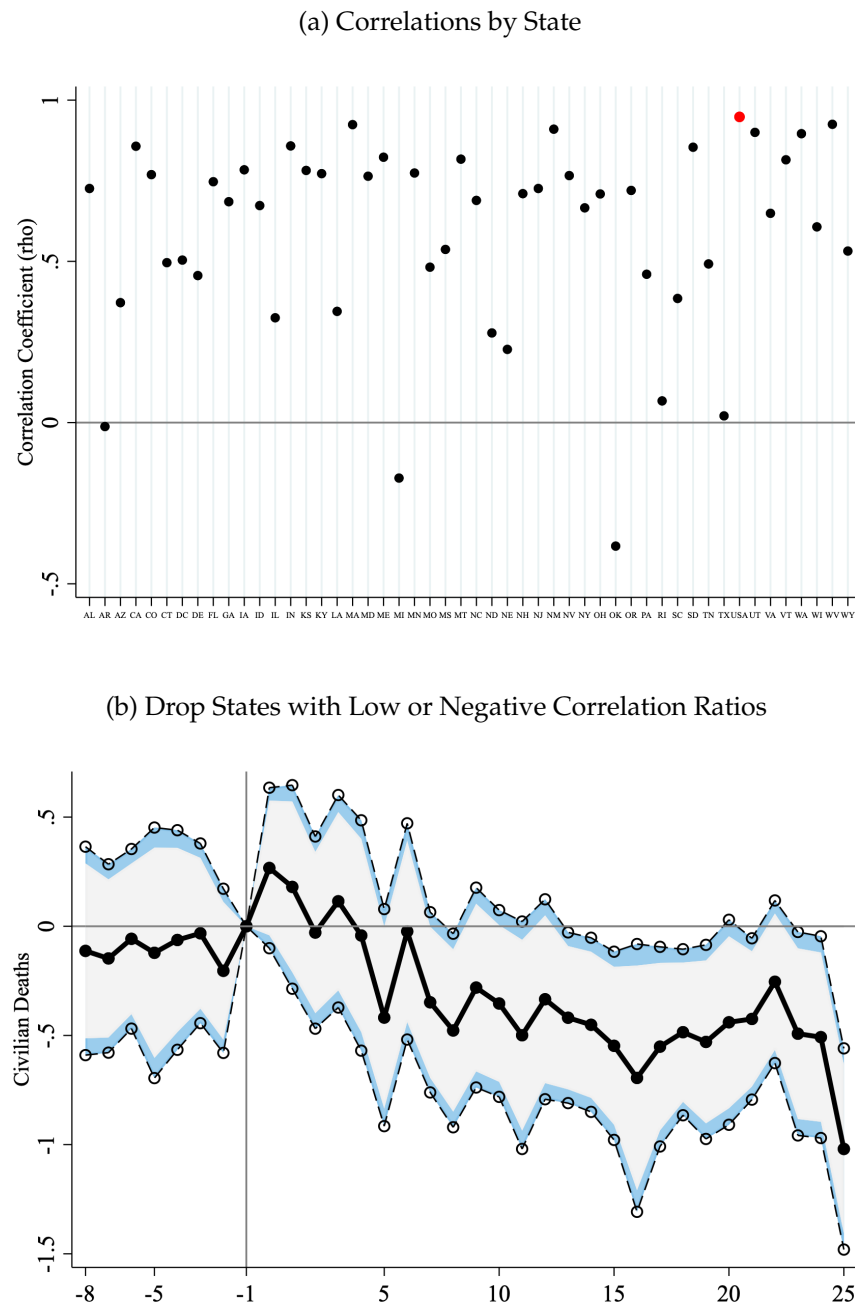
Figure B13: Triple Difference – Racial Disparities in Deaths Due to Legal Intervention



Notes: This figure plots estimates for the disparity in policing-related civilian fatalities. This ordinary least squares regression specification includes county and region-by-year fixed effects. The coefficients are estimated from a Difference-in-Difference-in-Difference model (see [Cox and Cunningham, 2021](#)). Marginal effects show the relative change in non-White deaths relative to White deaths in treated counties. Robust standard errors are clustered by county, and 95 and 90 percent confidence intervals are presented. The horizontal axis represents event-years (years before and after litigation).

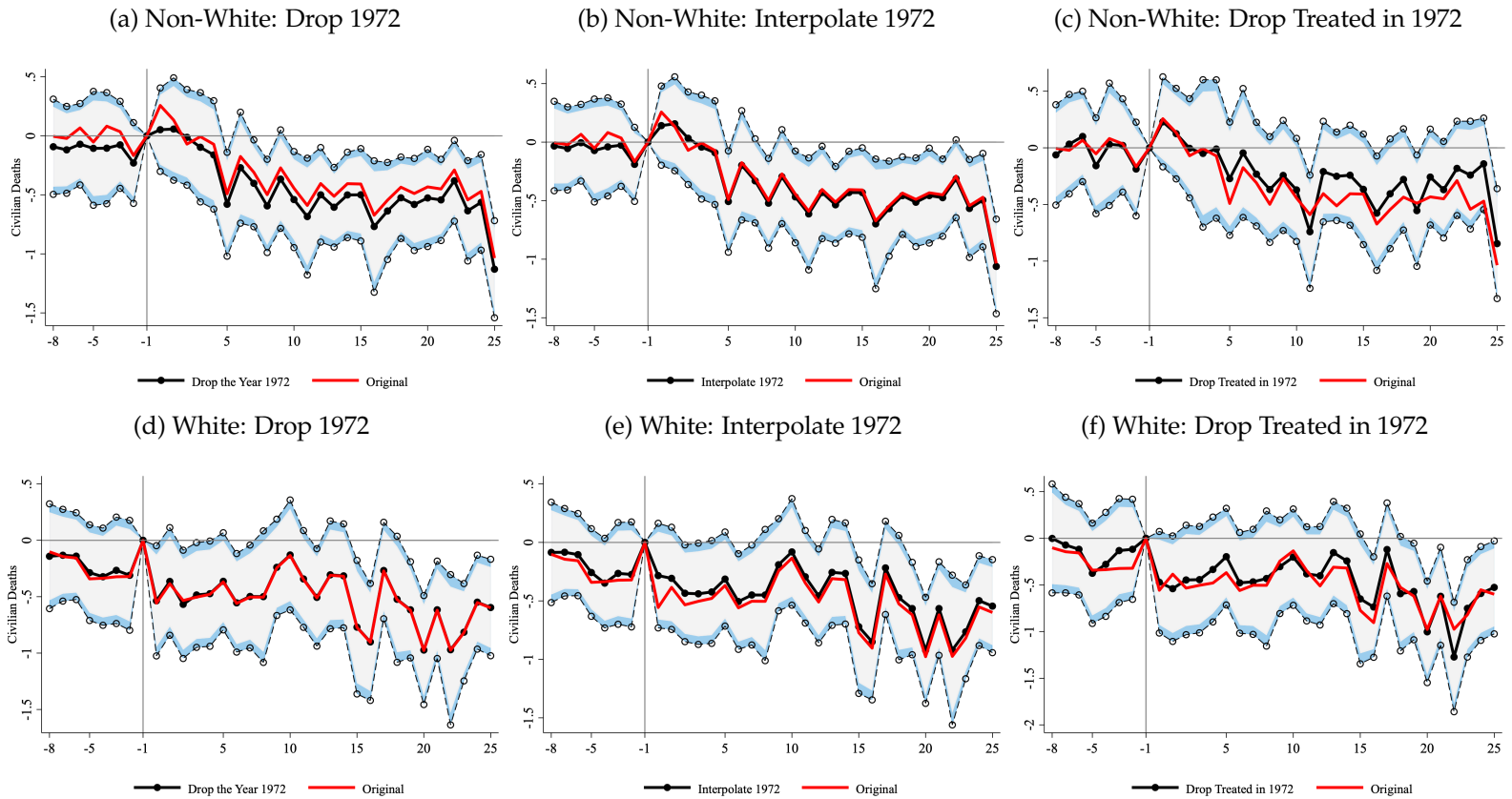
B.4 Measurement Error and Internal Validity

Figure B14: Police Killings Correlation Ratios by States, 2000-2016



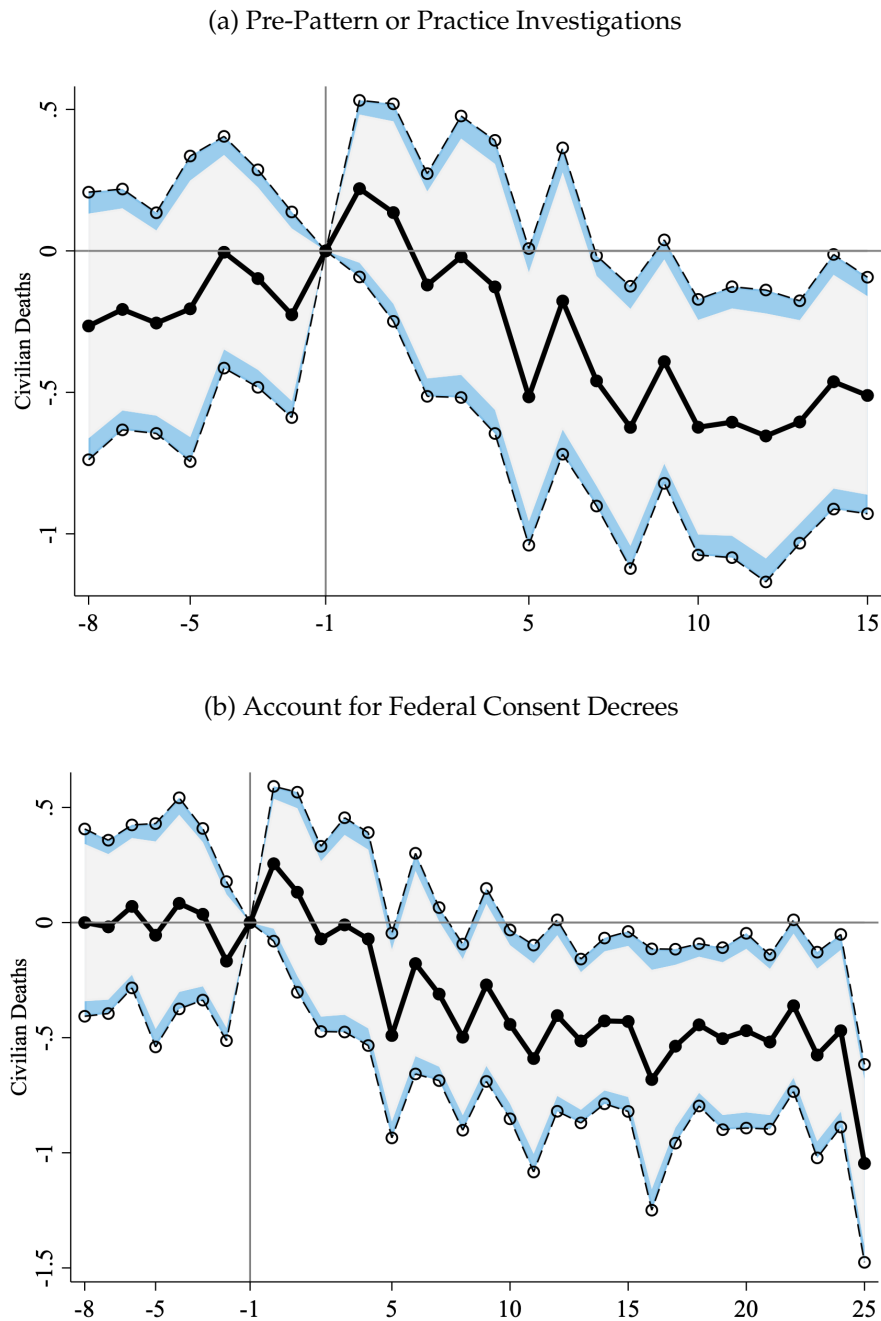
Notes: Panel (a) plots the correlation coefficient for non-White policing-related civilian fatalities for Fatal Encounters and Vital Statistics data by state. Panel (b) plots coefficients from a Poisson regression specification that includes county and region-by-year fixed effects and accounts for exposure with non-White population. Panel (b) drops states with low or negative correlation (below .3). The dependent variable is non-White policing-related civilian fatalities. Robust standard errors are clustered by county, and 95 and 90 percent confidence intervals are presented. The horizontal axis represents event-years (years before and after litigation).

Figure B15: Different Imputation Methods for the Year 1972



Notes: This figure plots the effect of Affirmative Action litigation on policing-related civilian fatalities after addressing issues with data for 1972. All panels estimates are from Poisson models that includes county and region-by-year fixed effects and accounts for exposure with population by race. Panels (a) and (d) drops the year 1972, panels (b) and (e) use the average number of deaths in 1971 and 1973 to estimate the number of deaths in 1972, and panel (c) and (f) drop locations treated in 1972. Robust standard errors are clustered by county, and 95 and 90 percent confidence intervals are presented. The horizontal axis represents event-years (years before and after litigation).

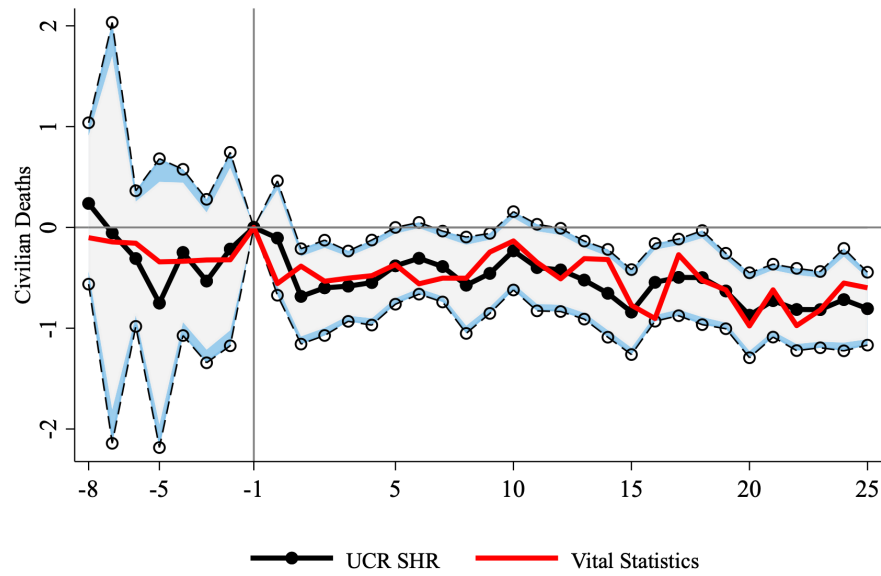
Figure B16: Event Study – Accounting for Pattern or Practice Investigations



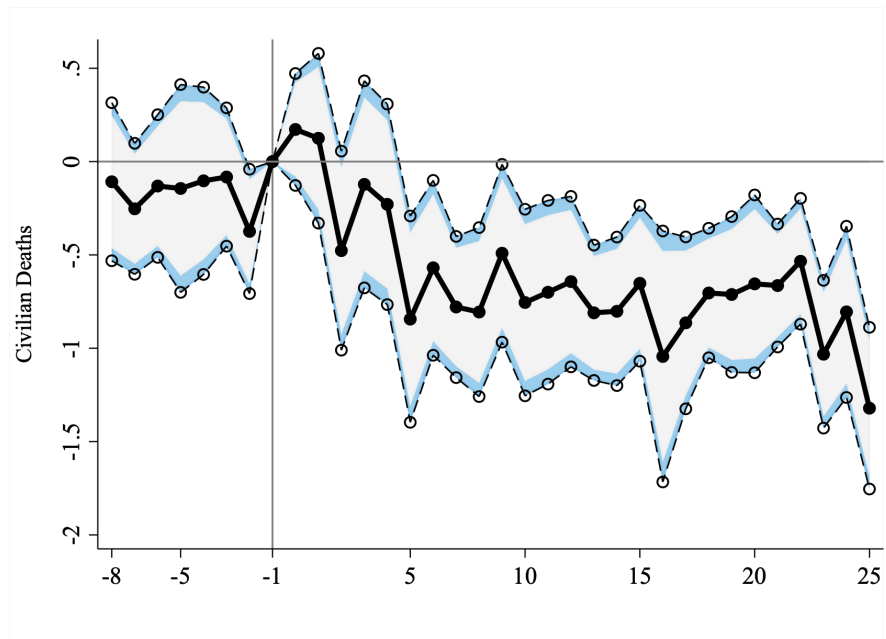
Notes: The figure shows pre- and post-treatment effects of the effect of affirmative action litigation on non-White policing-related civilian fatalities when accounting for practice and patterns investigation and federal consent decrees. Pattern or Practice Investigations begin in 1991. Panel (a) drops locations treated after 1975 and examines the impact of the threat of affirmative action pre-1991. In panel (b) we include indicators for the years before and the years after a consent decree. All regressions include county and region-by-year fixed effects. Robust standard errors are clustered at the county level, and 95 and 90 percent confidence intervals are presented. The horizontal axis represents event-years (years before and after litigation).

Figure B17: Event Study – Deaths Due to Legal Intervention: UCR SHR

(a) Non-White Deaths

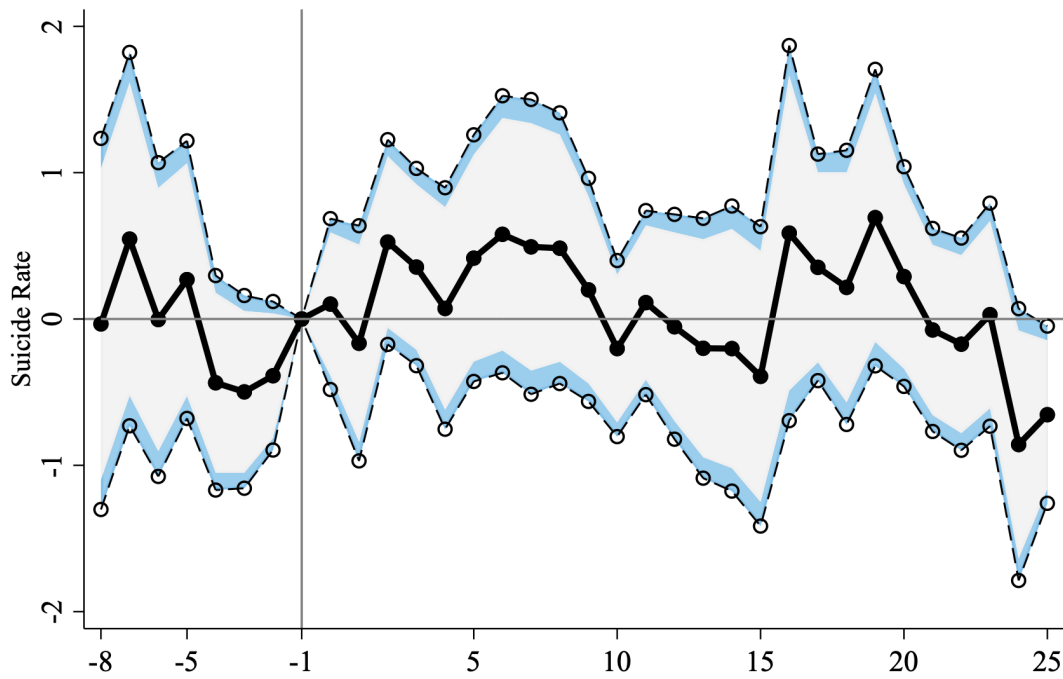


(b) White Deaths



Notes: Data on deaths due to policing comes from the UCR: Supplemental Homicide Report which begins in 1976. Panels (a) and (b) plot pre- and post-treatment effects from an unbalanced panel for counties treated prior to 1987. All regressions include county and region-by-year fixed effects. Robust standard errors are clustered by county, and 95 and 90 percent confidence intervals are presented for the vital statistics sample only. The horizontal axis represents event-years (years before and after litigation). It is important to note, that the UCR SHR suffers from under-reporting just as other UCR products. In our analysis we treated non-reported deaths as zeroes.

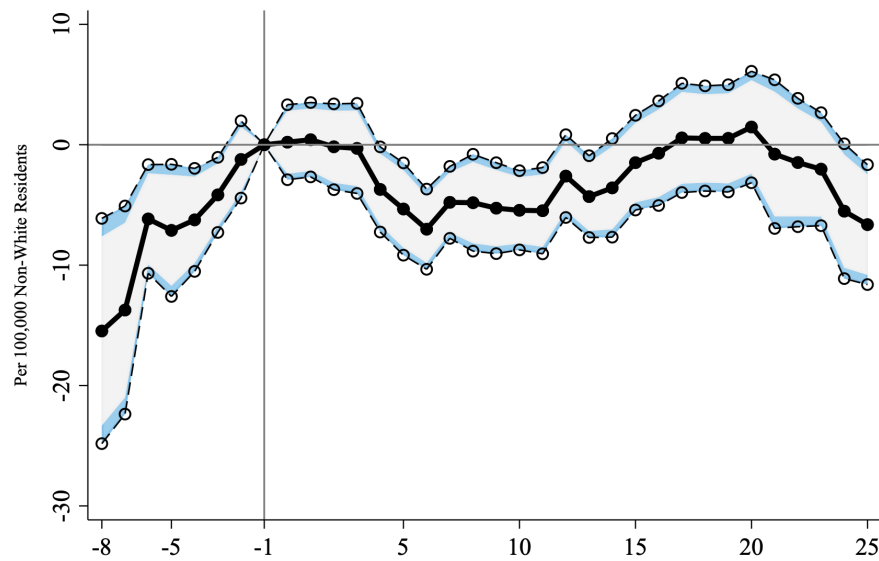
Figure B18: Event Study Results – Non-White Suicides



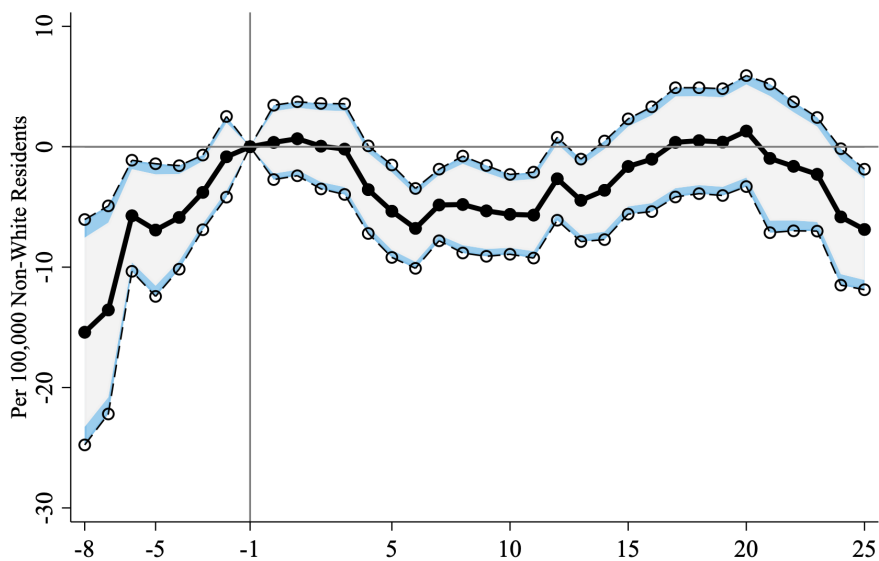
Notes: This figure plots the effect of Affirmative Action litigation on non-White suicides. This weighted least squares regression specification includes county and region-by-year fixed effects. Robust standard errors are clustered by county and 1960 non-White population is used as weights. The horizontal axis represents event-years (years before and after litigation).

Figure B19: Event Study – Non-White Homicide Victimization Rates

(a) Homicides

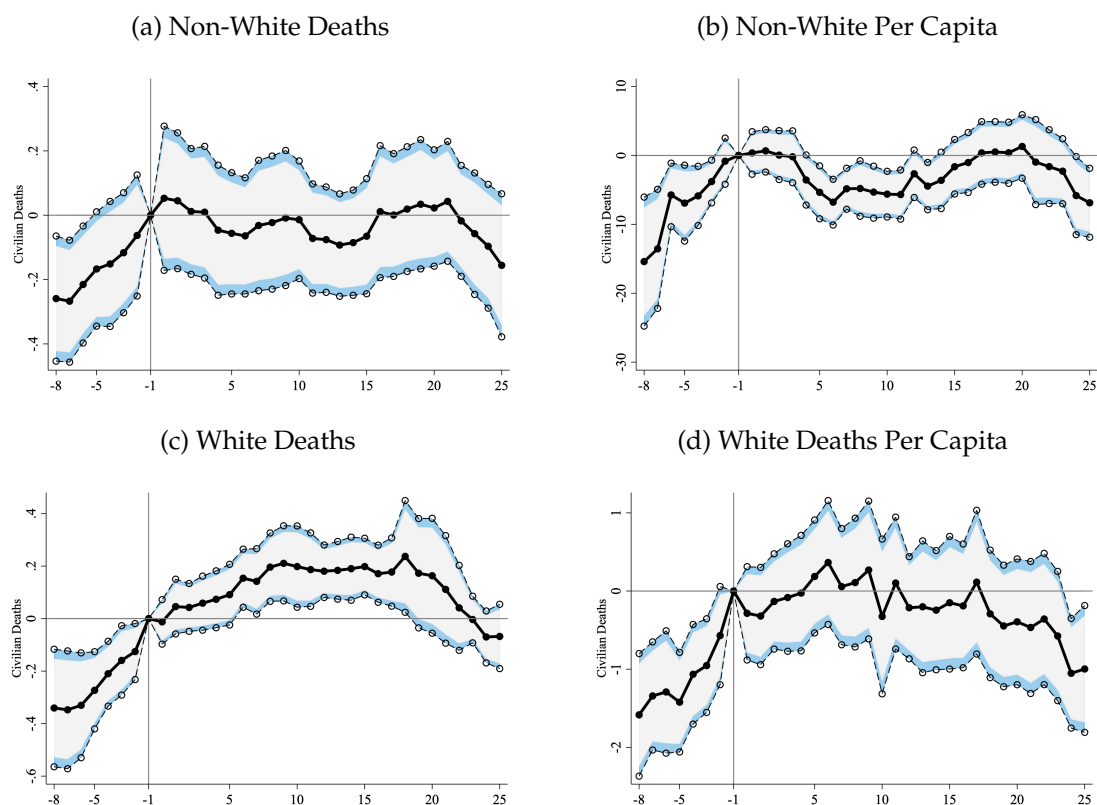


(b) Homicides & Police Killings



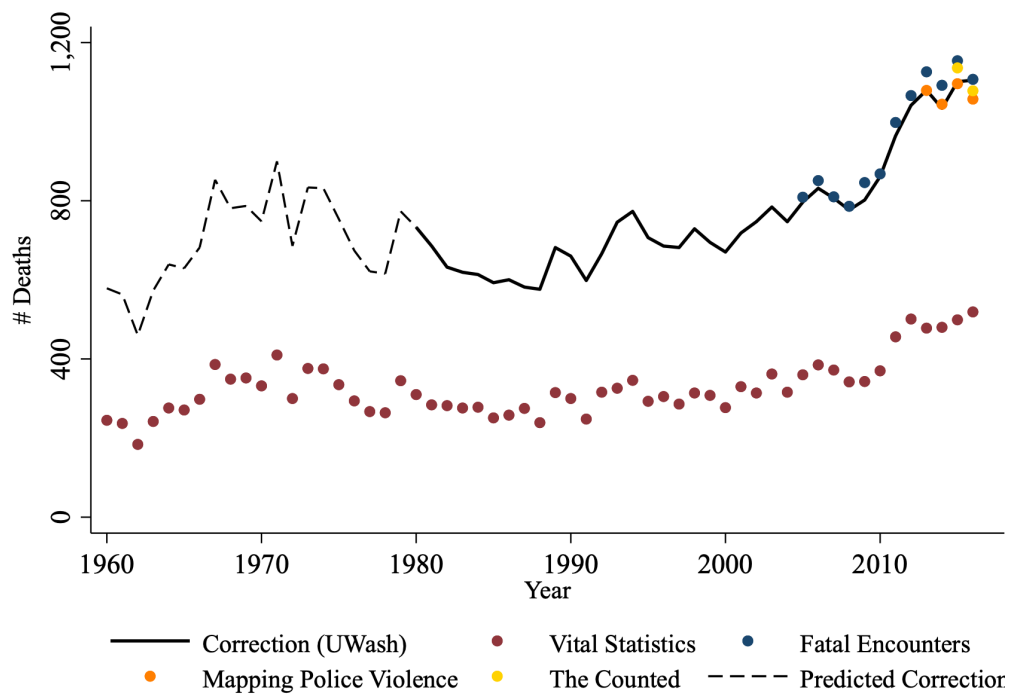
Notes: This figure plots the effect of Affirmative Action litigation on homicide victimization. In panel (a) the dependent variable is the non-White homicide victimization rates per 100,000 non-White residents. In panel (b) the dependent variable is the number of non-White homicides and policing-related civilian fatalities per 100,000 non-White residents. Each regression specification includes county and region-by-year fixed effects. Robust standard errors are clustered at the county level, and 95 and 90 percent confidence intervals are presented. The horizontal axis represents event-years (years before and after litigation).

Figure B20: Event Study - Combine Homicides and Police Killings



Notes: This figure plots the effect of Affirmative Action litigation on homicide victimization. The outcome in each panel contains all homicides for each respective racial group, combining homicides and policing-related civilian fatalities of civilians. In panel (a) the dependent variable is all non-White homicides and in panel (b) is the victimization rates per 100,000 non-White residents. Similarly, In panel (c) the dependent variable is the number of all White homicides and in panel (d) it is the policing-related civilian fatalities per 100,000 White residents. Each regression includes county and region-by-year fixed effects. Robust standard errors are clustered at the county level, and 95 and 90 percent confidence intervals are presented. The horizontal axis represents event-years (years before and after litigation).

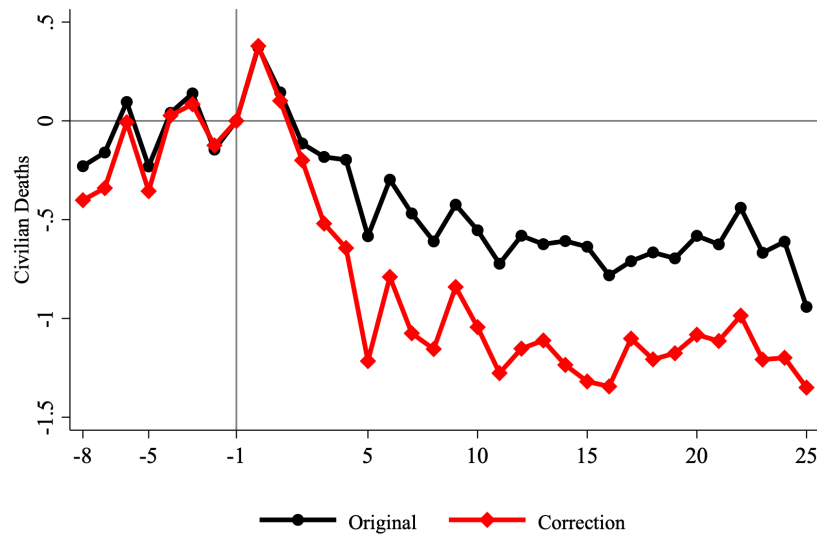
Figure B21: Police Killings of Civilians, 1960-2019



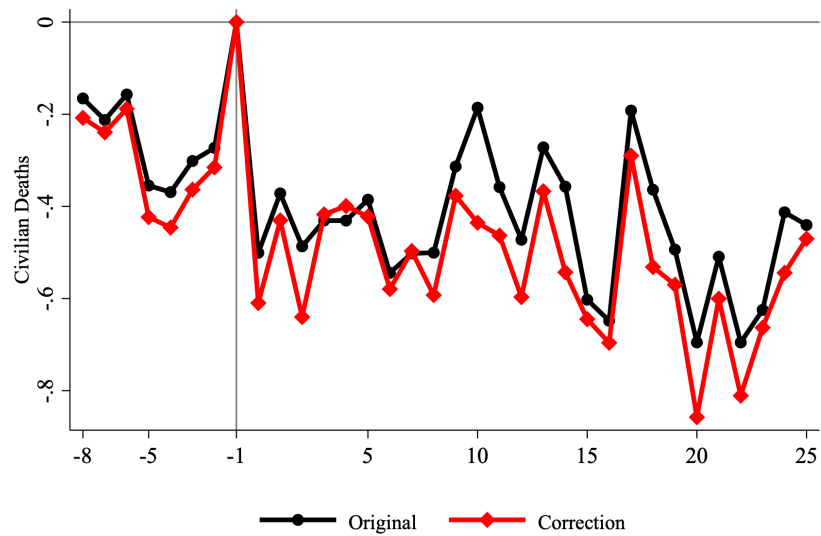
Notes: The figure replicates [Collaborators et al. \(2021\)](#), showing policing-related civilian fatalities from 1960 to 2019. We compute deaths from 1960 to 1979 as a function of reported deaths, bias in reporting, and state-and-year fixed effects.

Figure B22: Event Study – Estimated Deaths Due to Legal Intervention

(a) Non-White: OLS

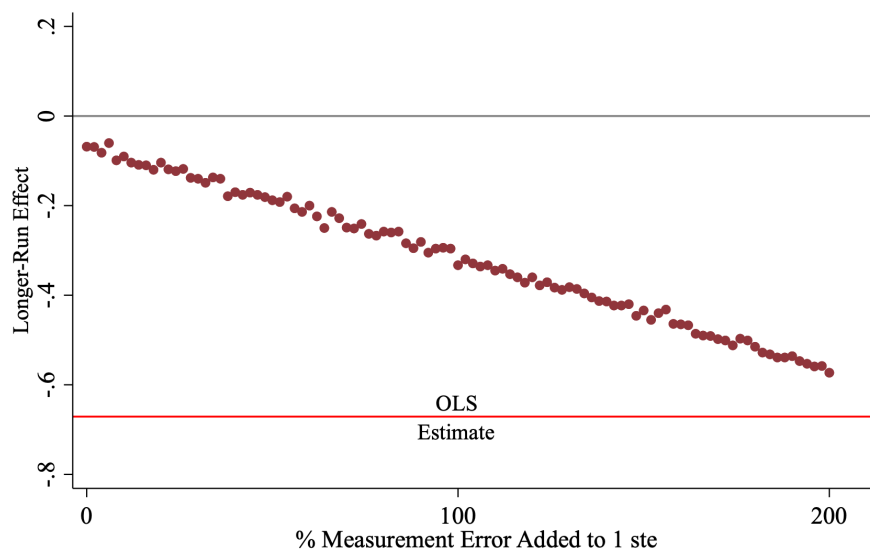


(b) White: OLS



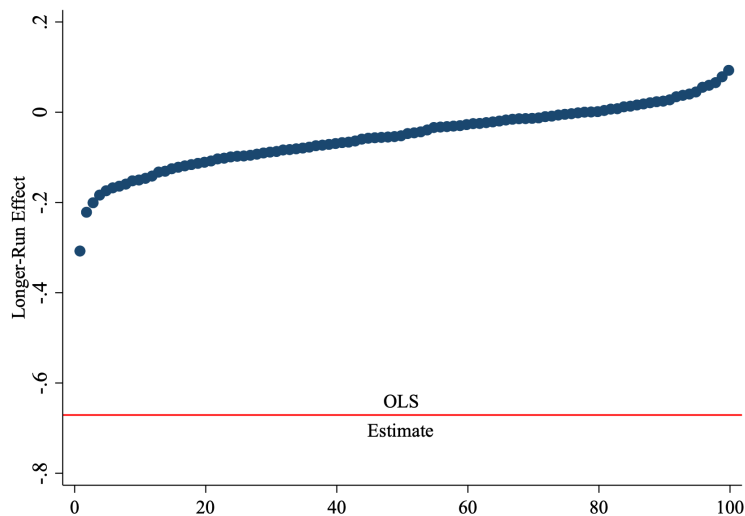
Notes: This figure plots the effect of Affirmative Action litigation on policing-related civilian fatalities after correcting for underreporting. The red line corresponds to the corrected estimated police killings using [Collaborators et al. \(2021\)](#), while the Black line refers to the original estimate. Each specification includes county and region-by-year fixed effects. The horizontal axis represents event-years (years before and after litigation).

Figure B23: Measurement Error in Police Killings of Non-White Civilians



Notes: This figure plots the long-run effects from a placebo specification that randomly assigns treatment status and treatment year to 60 counties that experienced uprisings in the 1960s. The long-run effects are plotted after repeatedly subtracting measurement error, pulled from a uniform distribution, from the outcome of non-White policing-related civilian fatalities. Measurement error is reported as a percent of the standard deviation.

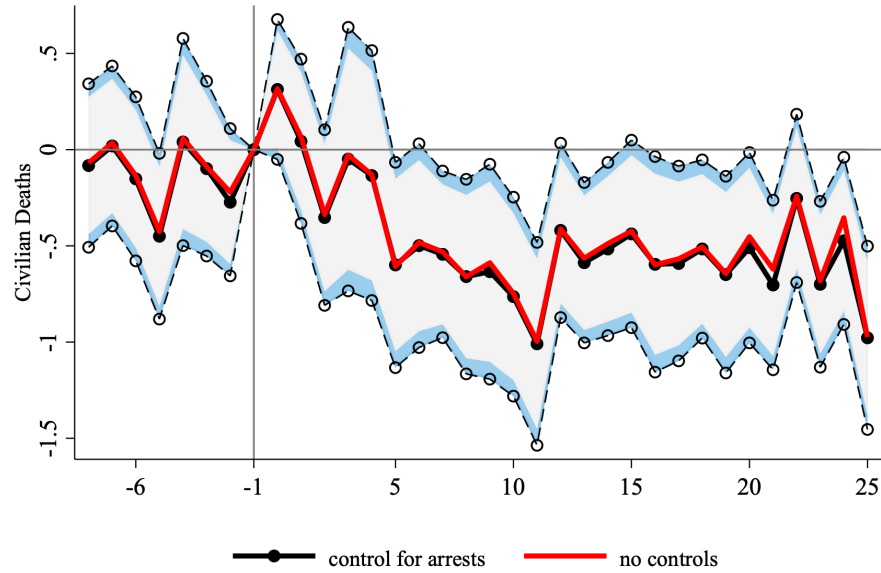
Figure B24: Measurement Error: Fatal Encounters vs. Vital Statistics



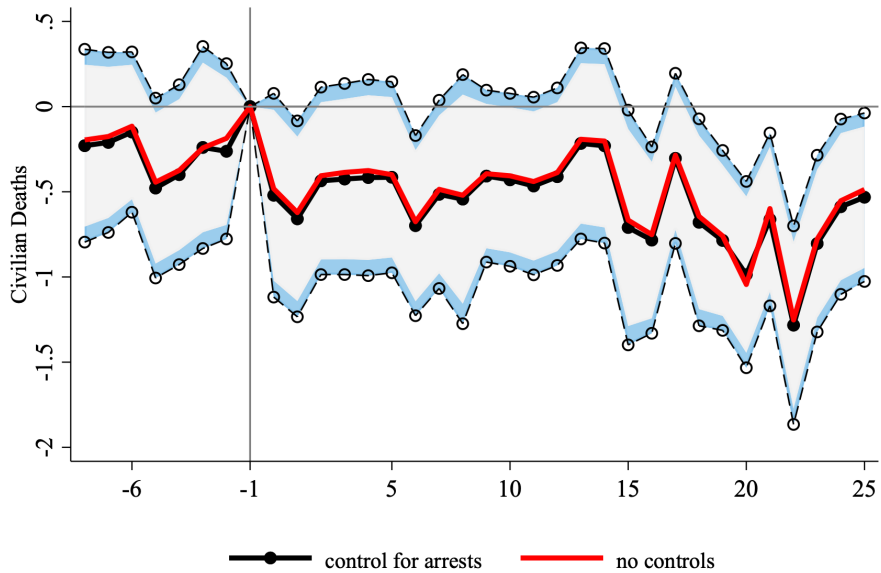
Notes: This figure plots the long-run effects from a placebo specification that randomly assigns treatment status and treatment year to 60 counties that experienced uprisings in the 1960s. The long-run effects are measured after repeatedly subtracting measurement error, pulled from a uniform distribution, from the difference in non-White policing-related civilian fatalities in NVSS and Fatal Encounters. XX

Figure B25: Control for Arrests

(a) Non-White Deaths



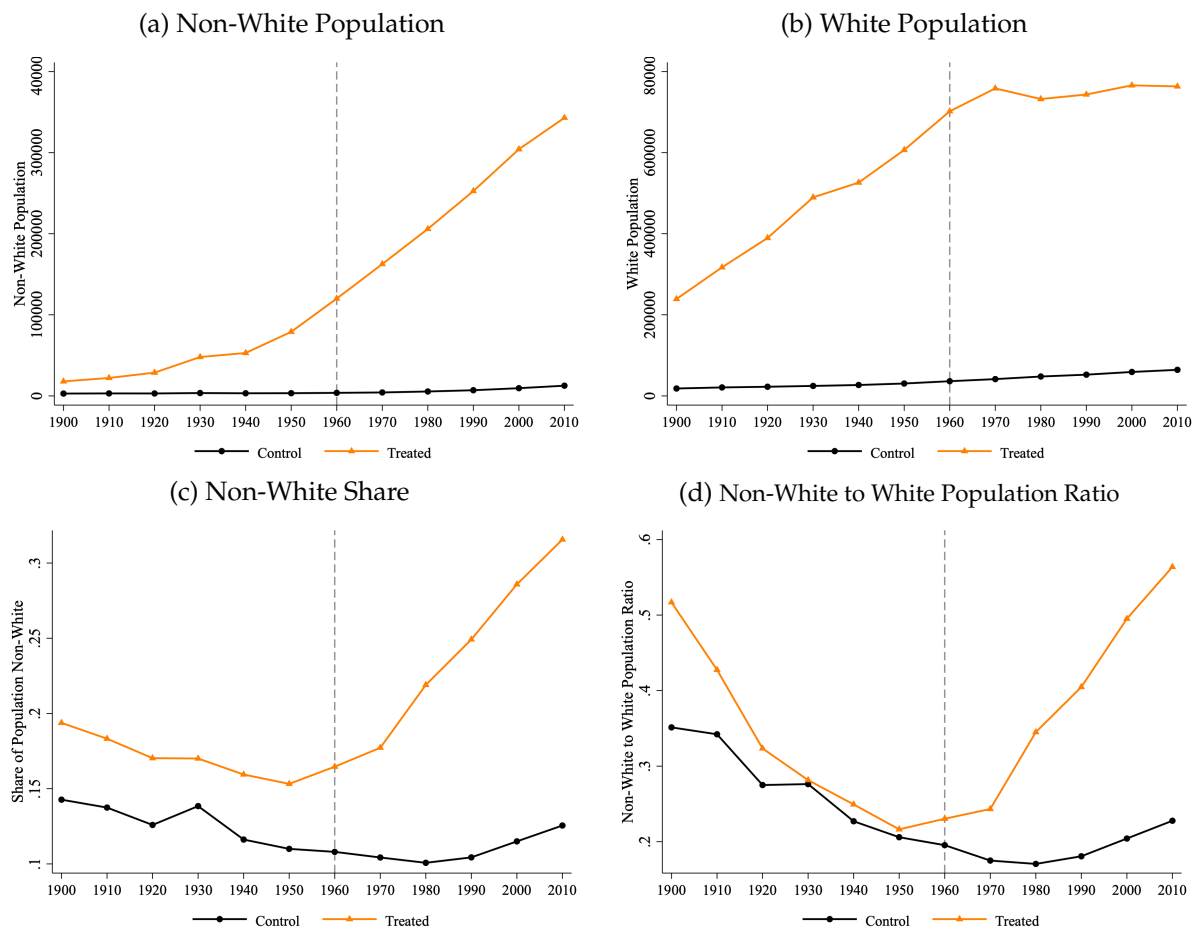
(b) White Deaths



Notes: This figure plots the effect of Affirmative Action litigation on policing-related civilian fatalities after controlling for arrests. The Poisson regression specification includes county and region-by-year fixed effects and accounts for exposure with non-White population. Results are from a sub sample of counties with arrests data for municipalities that report consistently. Robust standard errors are clustered by county, and 95 and 90 percent confidence intervals are presented. The horizontal axis represents event-years (years before and after litigation).

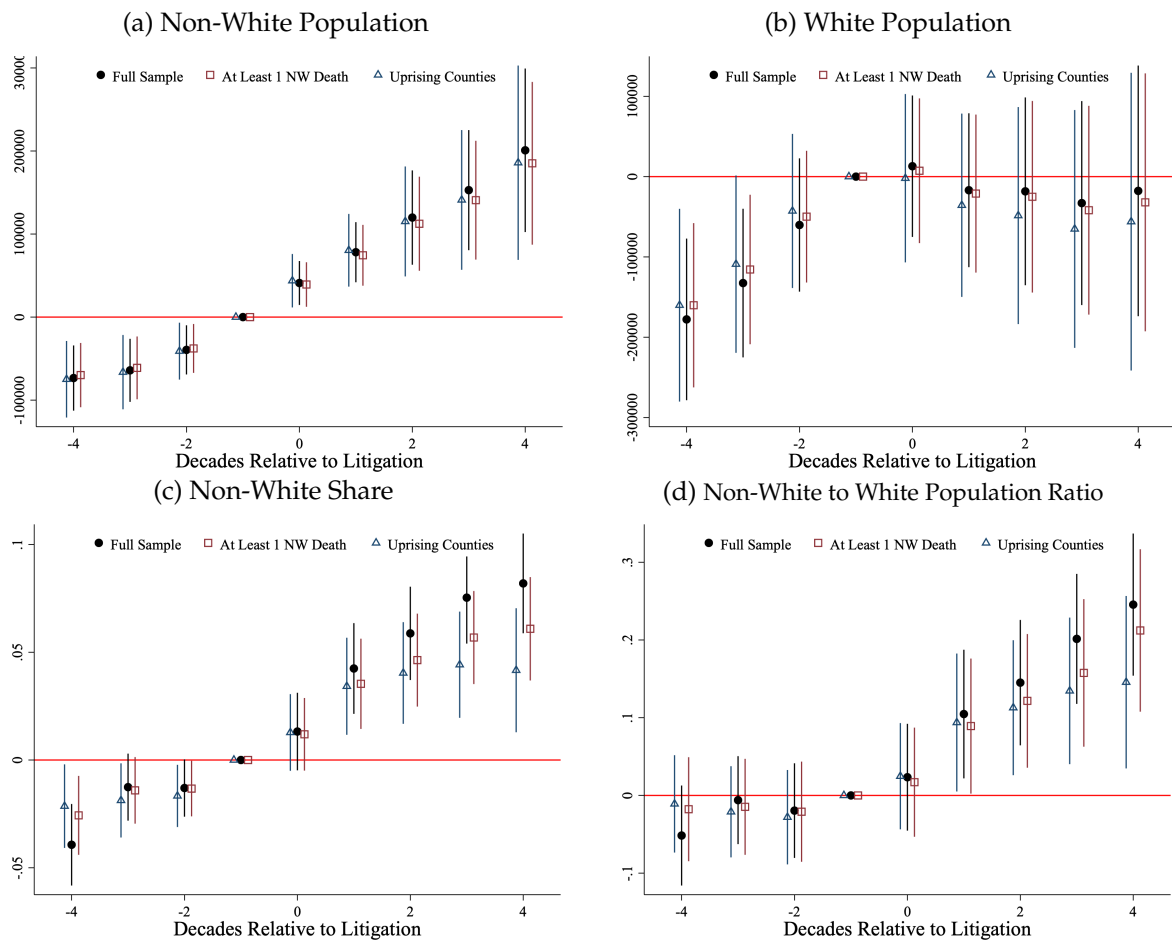
B.5 Diversity vs. Intervention

Figure B26: Demographic Trends: 1900-2010



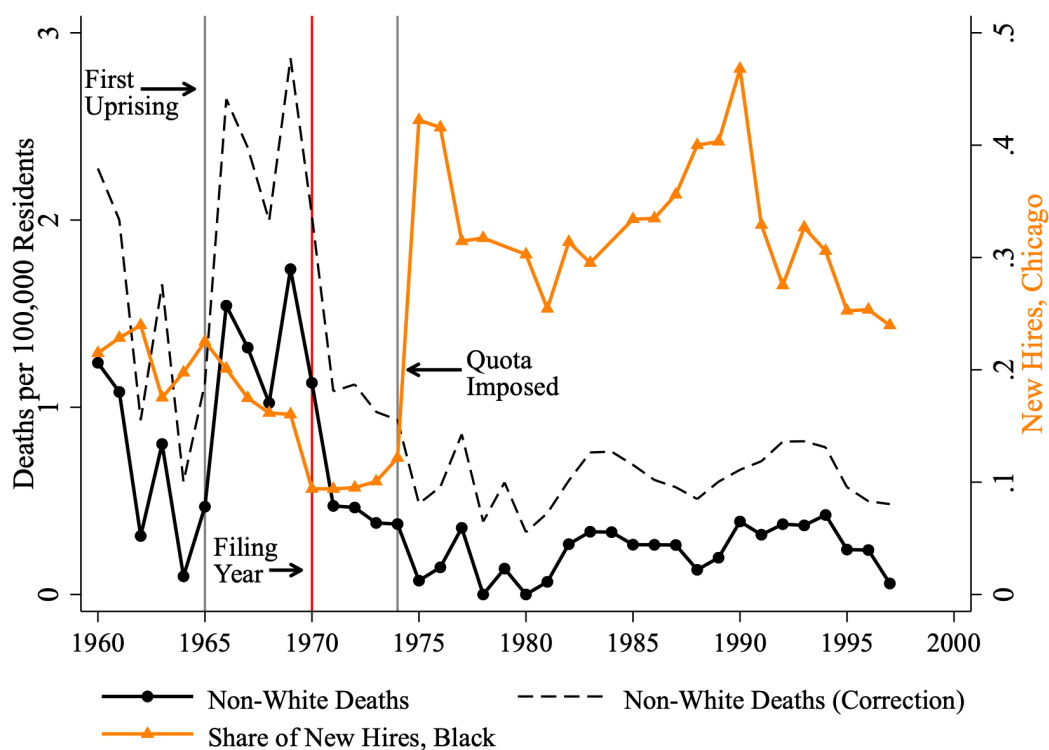
Notes: This figure plots population changes for each Census year from 1900-2010. Data for historical population counts by county comes from [Haines et al. \(2010\)](#). Population counts for 1970 to 2010 comes from Surveillance, Epidemiology, and End Results (SEER) annual data.

Figure B27: Event Study of Demographic Trends: 1900-2010



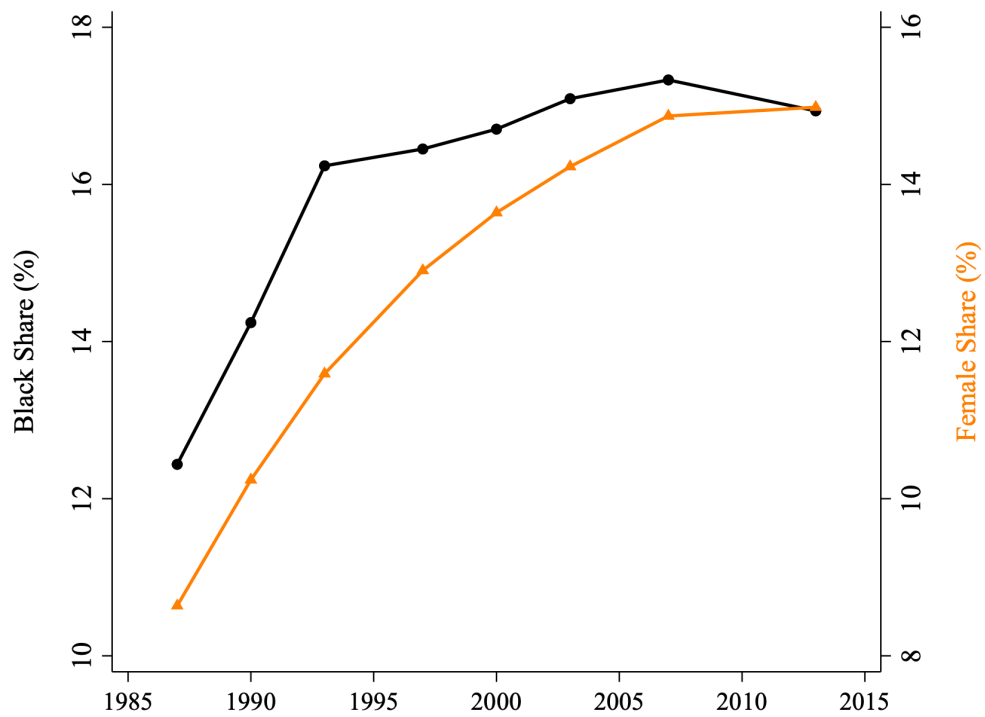
Notes: This figure plots the effect of Affirmative Action litigation on population changes. Each regression includes county, region-by-year, and, urban-by-year fixed effects. Data for historical population counts by county comes from [Haines et al. \(2010\)](#). Population counts for 1970 to 2010 comes from Surveillance, Epidemiology, and End Results (SEER) annual data.

Figure B28: Cook County Police Killings Over Time, Estimated



Notes: Estimated police killings displayed by dashed line. We assume that each county's contribution to the state level estimate of police killings is constant over time. The new county level measure of police killings reflects reported deaths and the bias attributed to each county contribution of the state's total.

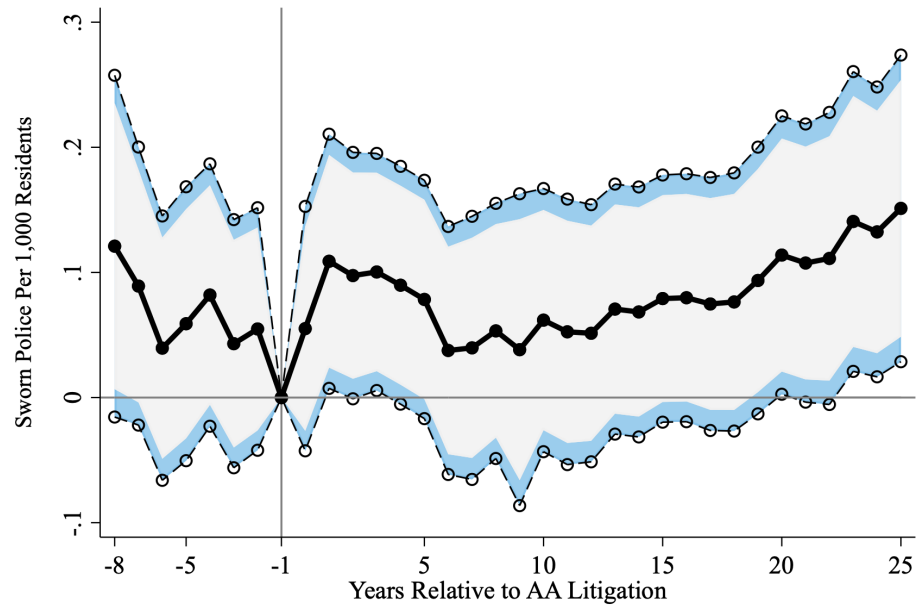
Figure B29: LEMAS Police Composition Over Time



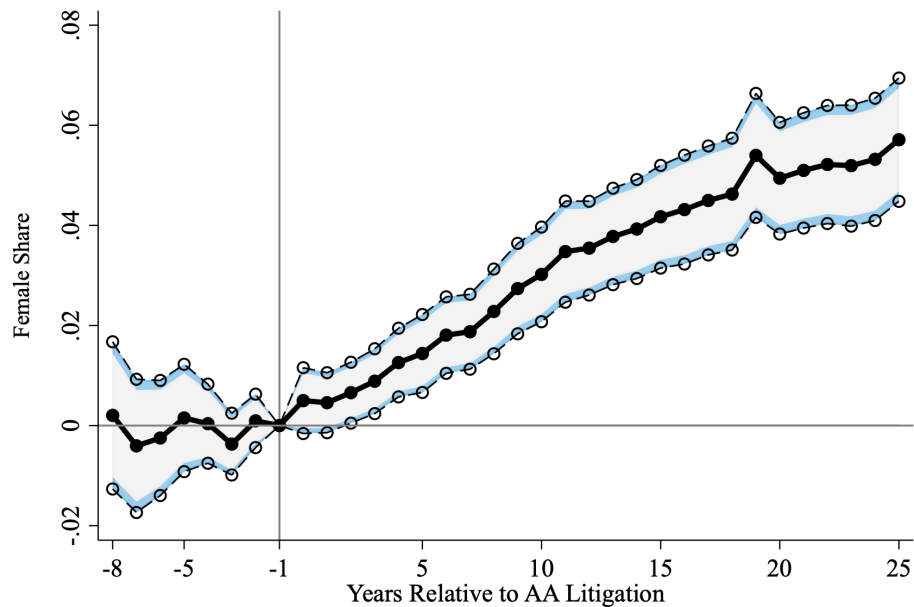
Notes: This figure plots the share of police departments that are Black and female, respectively, over time. Data comes from the Law Enforcement Management Statistics (LEMAS), publicly available at the ICPSR.

Figure B30: Event Study Results – Employment

(a) Employment

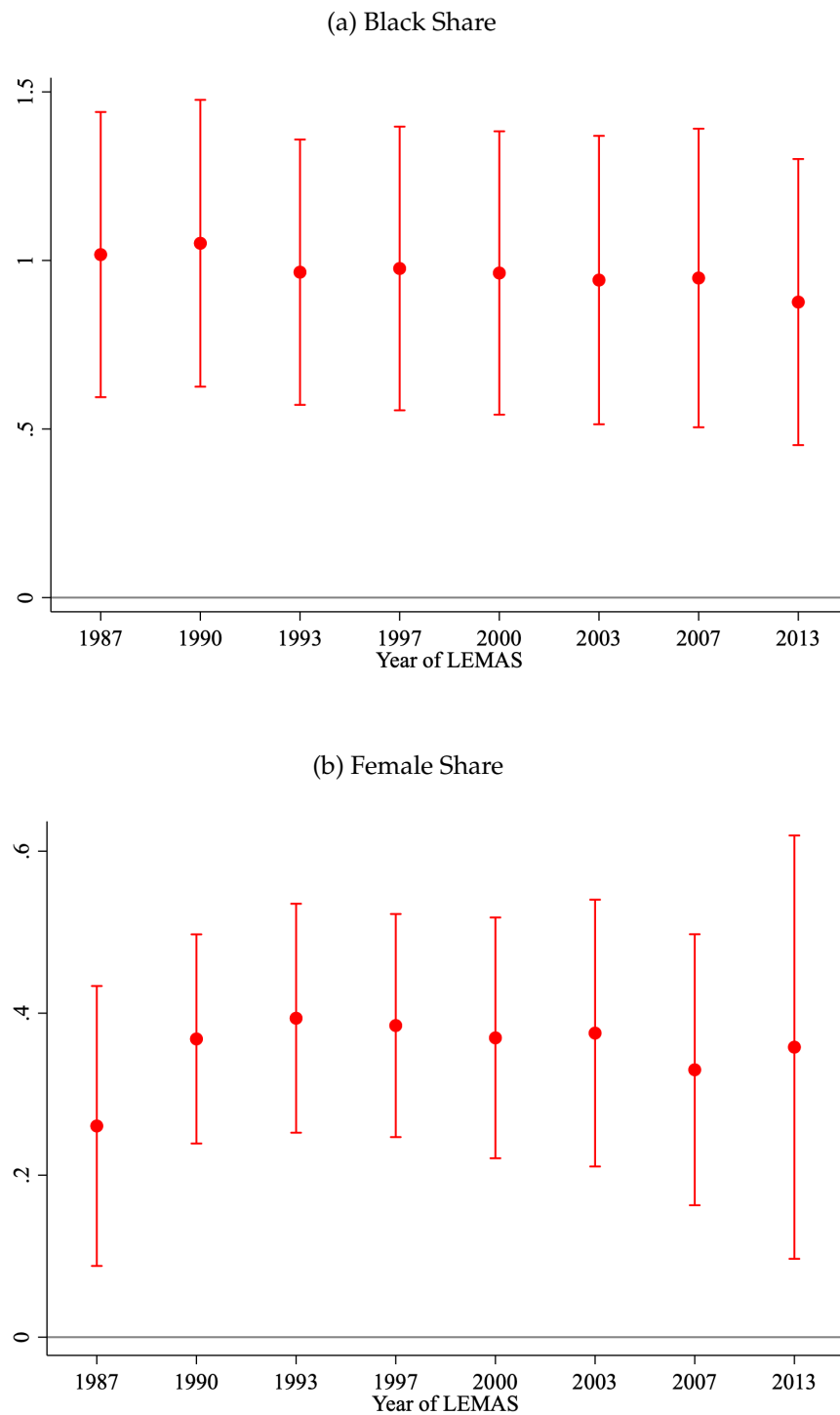


(b) Female Share



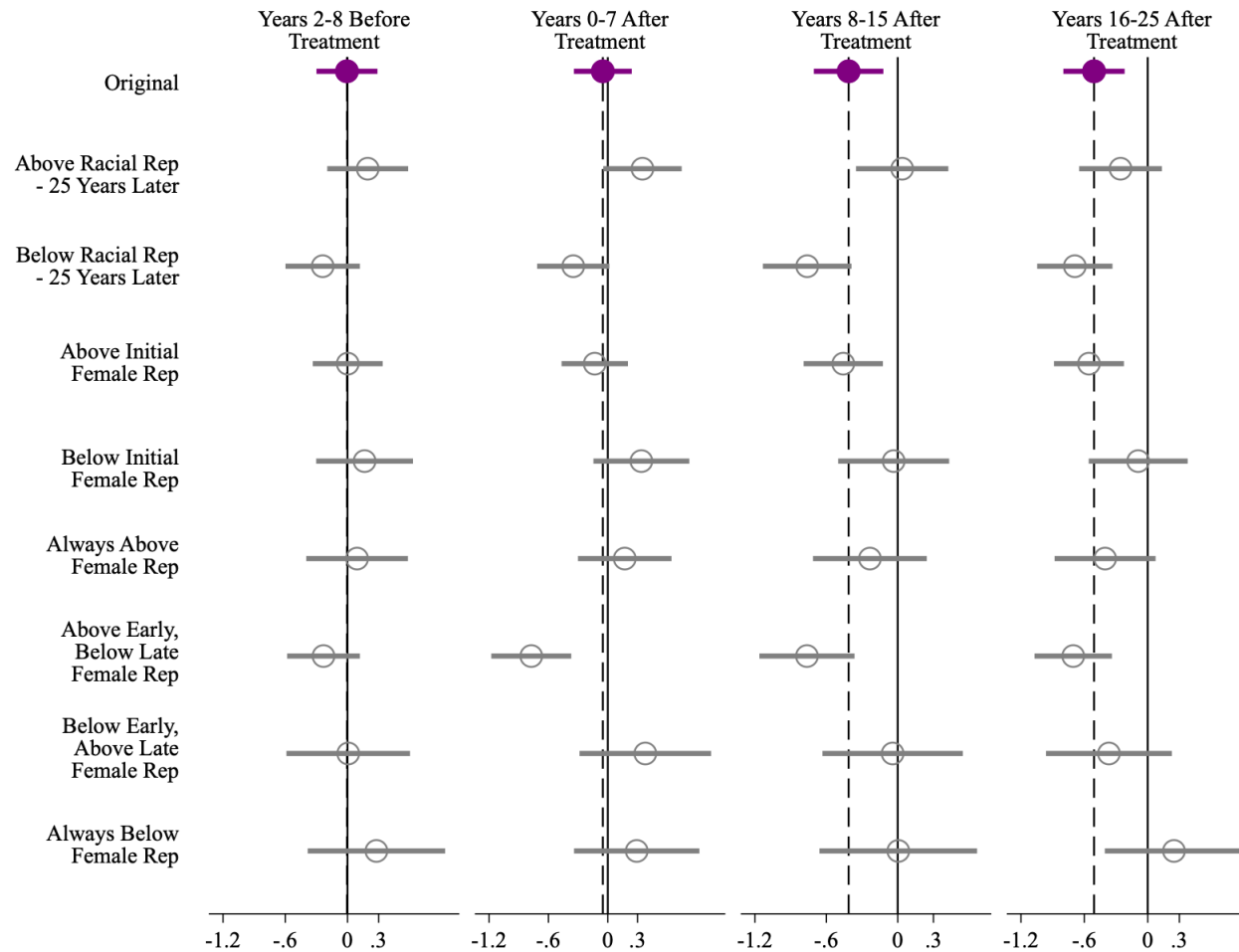
Notes: This figure plots the effect of Affirmative Action litigation on police employment. The outcome in panel (a) is the number of police officers per 1,000 residents and in panel (b) it is the share of female officers. Each regression includes county and region-by-year fixed effects. Data comes from the UCR Law Enforcement Killed or Assaulted files. Employment by gender is available after 1971—therefore the results presented are from an unbalanced panel. Robust standard errors are clustered by county, and 95 and 90 percent confidence intervals are presented. The horizontal axis represents event-years (years before and after litigation).

Figure B31: Years Since Litigation and Police Composition



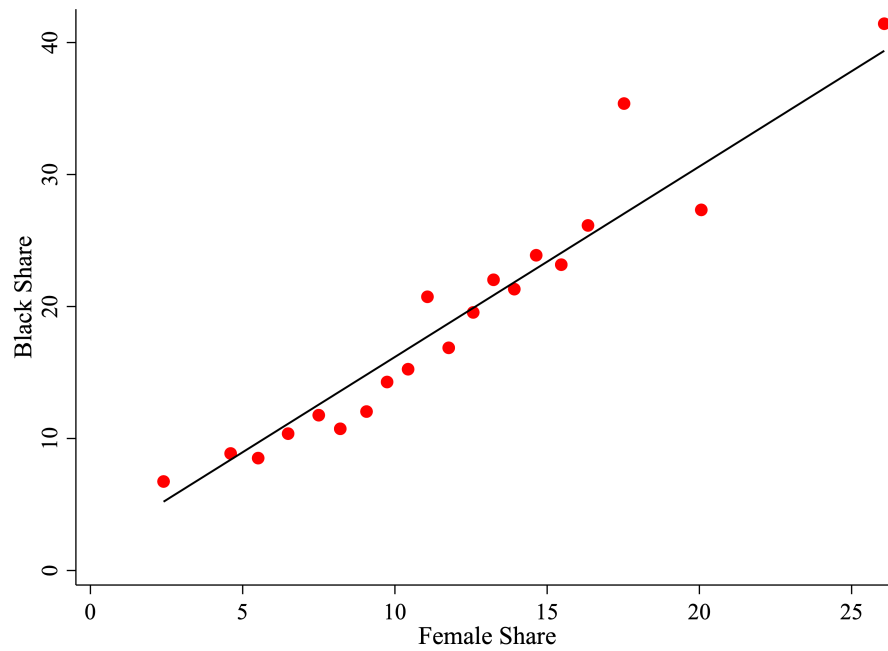
Notes: This figure plots coefficient estimate of the effect of years since a county experiences Affirmative Action litigation on the share of Black or female officers, respectively. Each coefficient is from a separate cross-sectional regression that includes region fixed effects. Data comes from the Law Enforcement Management Statistics (LEMAS).

Figure B32: The Effect of Litigation on Racial and Female Representation Early and Late



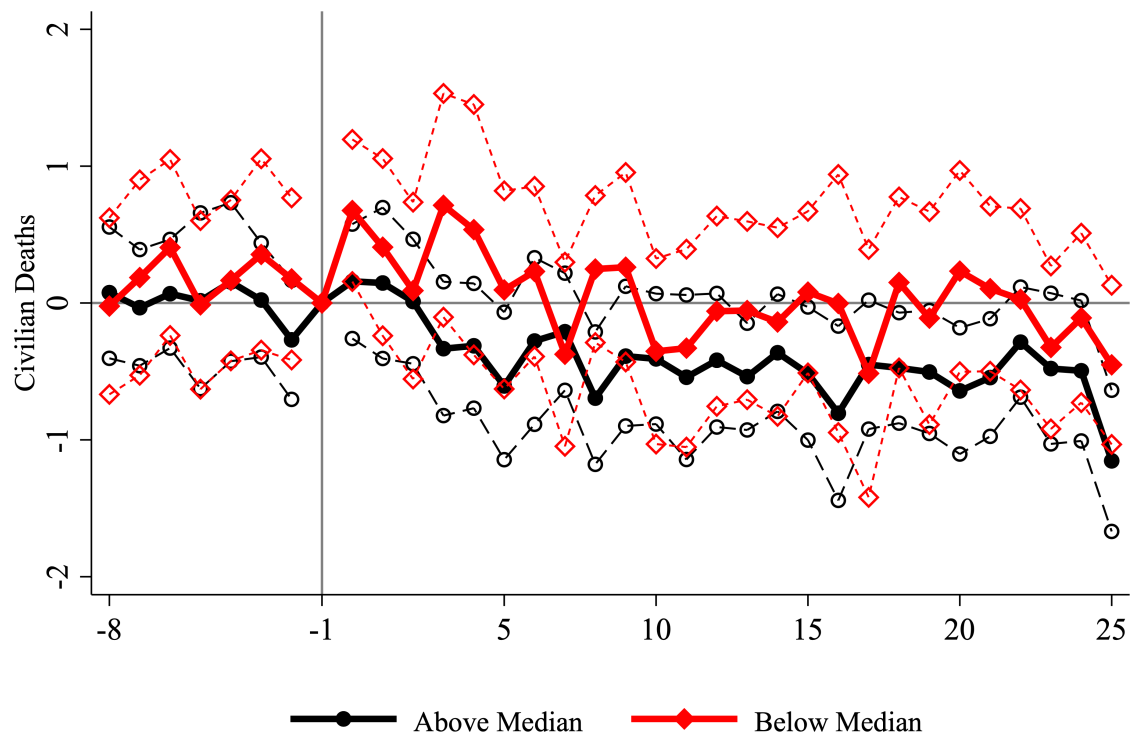
Notes: This figure displays Poisson estimates obtained from estimating Equation (1) after grouping event-years. The dependent variable is non-White policing-related civilian fatalities. All rows include county and region-by-year fixed effects and accounts for exposure with non-White population. Heteroskedasticity-robust standard errors clustered by county are presented by the bold line. Joint least-square coefficients are presented by circle markers. Row 1 presents the baseline joint treatment effects; Row 2 and 3 stratifies the treatment group by above and below median racial representation gap 25 years after treatment, while 4 and 5 stratifies by the initial gender representation gap. Rows 6 through 9 compares initial gender representation gap to the gender representation gap 25 years after treatment.

Figure B33: Correlation Between the Share of Black and Female Officers



Notes: This figure is a binned scatter plot of the share of Black and female officers. The data comes from the Law Enforcement Management and Statistics (LEMAS).

Figure B34: Event Study – Female Representation Early



Notes: This figure plots the event study estimates for treated counties above and below the median female representation between 1971-1975. The counties in the control group are counties that never experience litigation and remain the same for each.

C Appendix Tables

Table C1: Joint Effects - Counties With At Least One Non-White Death

	(1)	(2)	(3)
	OLS	<u>Non-White</u> Poisson	WLS
Pre-Period Effect (Event Years -8 to -2)	-0.717 [0.231]	-0.00497 [0.150]	0.0114 [0.939]
Shorter-Run Effect (Event Years 0 to 7)	-0.160 [0.263]	-0.0502 [0.149]	-0.0234 [0.110]
Medium-Run Effect (Event Years 8 to 15)	-0.590* [0.322]	-0.413*** [0.149]	-0.214* [0.115]
Longer-Run Effect (Event Years 16 to 25)	-0.682** [0.319]	-0.508*** [0.148]	-0.236* [0.126]
Number of Counties	832	832	775
Mean DV	1.478	1.478	0.414

Note: This sample includes counties that report at least one non-White death over the sample period. All regressions include county and region-by-year fixed effects. Columns (1) and (2) use then number of deaths as the dependent variable while column (3) uses the age-adjusted mortality rate. Column (1) includes the log of non-White population as an independent variable. Column (2) accounts for exposure with non-White population. Column (3) uses 1960 non-White population as weights. Column (4) reports estimates using [Callaway and Sant'Anna \(2020\)](#) estimator – analogous to column (1) OLS two-way fixed effects model. Robust standard errors are clustered by county. *** p<.01, ** p<.05, * p<0.1

Table C2: Joint Effects - Counties With At Least One Non-White Death in the 1960s

	(1)	(2)	(3)
	OLS	<u>Non-White</u> Poisson	WLS
Pre-Period Effect (Event Years -8 to -2)	-0.107 [0.293]	-0.128 [0.147]	-0.0733 [0.101]
Shorter-Run Effect (Event Years 0 to 7)	-0.220 [0.320]	-0.0605 [0.144]	-0.0322 [0.107]
Medium-Run Effect (Event Years 8 to 15)	-0.722* [0.391]	-0.400*** [0.144]	-0.215* [0.117]
Longer-Run Effect (Event Years 16 to 25)	-0.825** [0.385]	-0.465*** [0.145]	-0.230* [0.135]
Number of Counties	344	344	326
Mean DV	1.800	1.800	0.462

Note: This sample includes counties that report at least one non-White death prior to 1969. All regressions include county and region-by-year fixed effects. Columns (1) and (2) use then number of deaths as the dependent variable while column (3) uses the age-adjusted mortality rate. Column (1) includes the log of non-White population as an independent variable. Column (2) accounts for exposure with non-White population. Column (3) uses 1960 non-White population as weights. Column (4) reports estimates using [Callaway and Sant'Anna \(2020\)](#) estimator – analogous to column (1) OLS two-way fixed effects model. Robust standard errors are clustered by county. *** p<.01, ** p<.05, * p<0.1

Table C3: Event Study - Joint Effects – White Deaths

	(1) OLS	(2) Poisson	(3) WLS	(4) CS Estimator
Pre-Period Effect (Event Years -8 to -2)	-0.263 [0.222]	-0.247 [0.173]	-0.0373 [0.0252]	-0.260 [0.232]
Shorter-Run Effect (Event Years 0 to 7)	-0.453** [0.215]	-0.487*** [0.174]	-0.0657*** [0.0241]	-0.458 [0.222]
Medium-Run Effect (Event Years 8 to 15)	-0.374 [0.263]	-0.384** [0.179]	-0.0634*** [0.0240]	-0.386* [0.275]
Longer-Run Effect (Event Years 16 to 25)	-0.495* [0.268]	-0.663*** [0.177]	-0.0824*** [0.0250]	-0.515** [0.286]
Mean DV	1.171	1.171	0.146	1.171
Number of Counties	2,980	2,980	2,712	2,980

Note: This sample removes counties treated after 1987 from the analysis. All regressions include county and region-by-year fixed effects. Columns (1) and (2) use then number of deaths as the dependent variable while column (3) uses the age-adjusted mortality rate. Column (1) includes the log of non-White population as an independent variable. Column (2) accounts for exposure with non-White population. Column (3) uses 1960 non-White population as weights. Column (4) reports estimates using [Callaway and Sant'Anna \(2020\)](#) estimator – analogous to column (1) OLS two-way fixed effects model. Robust standard errors are clustered by county. *** p<.01, ** p<.05, * p<0.1.

Table C4: Data Problems: Year 1972

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
		Non-White				White		
	Original	Drop 1972	Interpolate 1972	Drop if Treated in 1972	Original	Drop 1972	Interpolate 1972	Drop if Treated in 1972
Pre-Period Effect (Event Years -8 to -2)	-0.00497 [0.150]	-0.108 [0.141]	-0.0566 [0.130]	-0.0291 [0.167]	-0.247 [0.173]	-0.227 [0.181]	-0.206 [0.161]	-0.152 [0.225]
Shorter-Run Effect (Event Years 0 to 7)	-0.0502 [0.149]	-0.151 [0.144]	-0.0631 [0.134]	-0.00902 [0.169]	-0.487*** [0.174]	-0.477*** [0.182]	-0.393** [0.164]	-0.420* [0.225]
Medium-Run Effect (Event Years 8 to 15)	-0.413*** [0.149]	-0.506*** [0.141]	-0.436*** [0.133]	-0.322* [0.168]	-0.384** [0.179]	-0.379** [0.187]	-0.329* [0.168]	-0.341 [0.227]
Longer-Run Effect (Event Years 16 to 25)	-0.508*** [0.148]	-0.600*** [0.140]	-0.532*** [0.132]	-0.365** [0.165]	-0.663*** [0.177]	-0.658*** [0.184]	-0.607*** [0.166]	-0.640*** [0.225]
Observations	44,096	42,900	43,725	43,725	88,139	86,320	87,980	87,768
Mean DV	1.457	1.593	1.657	1.238	1.171	1.254	1.214	0.905

Note: All panels' estimates are from Poisson models that include county and region-by-year fixed effects and account for exposure with population by race. Columns (1) and (5) report the original estimates for non-White and White police killings of civilians, respectively. Columns (2) and (6) drop the year 1972, columns (3) and (7) use the average number of deaths in 1971 and 1973 to estimate the number of deaths in 1972, and columns (4) and (8) drop locations treated in 1972. Robust standard errors are clustered by county. *** p<.01, ** p<.05, * p<0.1.

Table C5: Summary Statistics Accounting for Key Cross-Sectional Differences

1960 Characteristics	(1) Overall	(2) Treatment	(3) Control	(4) T-Test of Difference	(5) Reweighted Group	(6) T-Test of Difference
Population	59,282	815,406	39,774	<0.01	450,745	<0.05
Population per square mile	155.23	2,585.42	92.53	<0.01	1,525.45	.14
% of counties that experienced uprisings	0.09	0.85	0.07	<0.01	0.81	.51
Percentage of the Population						
residing in urban areas	32.46	87.21	31.04	<0.01	85.92	.56
w/ 12 or more years of education	36.44	43.41	36.26	<0.01	40.90	.16
w/ income greater than 10K	7.91	16.95	7.67	<0.01	16.20	.68
w/ income less than 3K	35.64	17.95	36.10	<0.01	18.30	.84
non-white	10.94	16.61	10.79	<0.01	15.56	.69
Deaths Due to Legal Intervention						
White	0.04	0.61	0.03	<0.01	0.13	<0.05
non-White	0.04	1.03	0.01	<0.01	0.27	<0.01
Number of Counties	2,985	75	2,910			
joint F-test				3.86		1.31
p-value				<0.01		.24

Note: This table reports summary statistics. Treatment refers to counties with a police department that experiences Affirmative Action litigation, and control refers to all other counties. Column (5) reweigh counties in the control group by their inverse propensity scores and column (6) reports the p-value associated with the t -test difference in means between groups.

Table C6: Synthetic Diff-in-Diff

	(1) Non-White	(2) White
Treatment	-0.258*** [0.087]	-0.019 [0.015]
Observations	157,940	157,940
Mean DV	0.383	.143

Note: This table reports the estimates from a synthetic difference-in-differences design proposed by (Arkhangelsky et al., 2021). The outcome is the age-adjusted mortality rate of police killings for each racial group, respectively. Robust standard errors are clustered at the county level and presented in brackets.

Table C7: Composition of Police Department, 1987-2013

	(1) Black Share	(2) Female Share
Treated in 1970s	14.02*** [1.593]	6.316*** [0.459]
Treated in 1980s	10.34** [4.617]	3.555** [1.474]
Treated in 1990s	1.648 [1.001]	0.885** [0.435]
Observations	6,899	6,899
R-squared	0.202	0.088
Mean DV	6.103	6.538

Note: This table reports the regression estimates of share of sworn police officers by demographic group relative to the timing of treatment. The reference group consists of counties that were never treated. All columns include region and year fixed effects. Mean dependent variables report the average share of officers for the control group. Robust standard errors are clustered at the county level and presented in brackets. Source: Law Enforcement and Administrative Statistics (LEMAS), 1987,1990, 1993, 1997, 2000, 2003, 2007, and 2013.

Table C8: Composition of Police Department, Years Since Litigation

	(1) Black Share	(2) Female Share
Years Since Litigation	0.566** [0.182]	0.219*** [0.0645]
Observations	565	565
R-squared	0.285	0.211
Mean DV	5.485	6.335

Note: This table reports the regression estimates of share of sworn police officers by demographic group relative to timing of treatment. All columns include region and year fixed effects. Mean dependent variables report average share of officers for the initial year of litigation. Robust standard errors are clustered at the county level and presented in brackets. Source: Law Enforcement and Administrative Statistics (LEMAS), 1987,1990, 1993, 1997, 2000, 2003, 2007, and 2013.

Table C9: Service Calls by Treatment Status in 1987

Dependent Variable	(1) Service Calls Per Capita	(2)	(3)	(4) Operational 911 System	(5)	(6)
Treatment	0.0476 [0.105]	0.00526 [0.109]	0.128 [0.192]	-0.0633 [0.0780]	-0.109 [0.0731]	0.0627 [0.196]
Add Covariates		X			X	
Treated Only			X			X
Observations	212	212	68	212	212	68
R-squared	0.146	0.241	0.233	0.114	0.190	0.256

Note: Regression of police services to 1987 treatment status. All columns include the percentage of the population Black (1980) and region fixed effects. The dependent variable in columns (1) - (3) is service calls per capita and (0/1) operational 911 system in columns (4) - (6). Columns (2) and (5) adds the following covariates from the 1980 census: population per square mile, median age, median income, percentage of the population age 5 and under, percentage of the population age 64 and older, percent of the population with 12 or more years of education, and the percent of households headed by a female. Columns (3) and (6) restrict the sample to cities litigated between 1969 and 2000. Robust standard errors presented in brackets. Source: Law Enforcement and Administrative Statistics (LEMAS), 1987.

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