Reducing Racial Disparities in Crime Victimization

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Abstract

Black Americans are substantially less safe than white Americans, with persistently higher risks of crime victimization. One possible cause of racial disparities in crime victimization may lie in racial disparities in the police response to crime victimization. Using data from the National Crime Victimization Survey between 1979 and 2004, and leveraging idiosyncratic variation in the timing of litigation over race-based employment discrimination by law enforcement agencies, we find that successful litigation over racially discriminatory practices substantially reduced both absolute and relative Black crime victimization, without increasing white victimization. We explore possible causal mechanisms, finding that successful litigation over racially discriminatory practices a) increased victim trust in the expected police response to victimization by both white and Black victims, but more so for Black victims, b) increased the reporting of victimization to law enforcement by both white and Black victims, but suggestively more so for Black victims, and c) increased Black officer shares, and decreased white officer shares. These findings suggest that intervention into the practices of law enforcement agencies engaging in race-based discrimination can lead to meaningful reductions in both absolute and relative Black crime victimization, without increasing white victimization.

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A Introduction

Considerable recent attention has been devoted to racial disparities in policing. Numerous studies have documented unexplained racial disparities in enforcement, including in rates of stops, arrests, and the use of force [Goel et al., 2016, Cunningham and Gillezeau, 2018, Fryer, 2019]. Yet despite these racial disparities in enforcement, Black Americans are in fact less safe than white Americans. In the 2018 National Crime Victimization Survey (NCVS), for example, Black respondents were 22% more likely to experience a serious violent crime, and 41% more likely to experience a serious violent or property crime, relative to non-Hispanic white respondents.[1] As reported in Figure 8 in the Appendix, Black victimization rates have been persistently higher than white victimization rates in the 40 largest metropolitan statistical areas (MSAs) since the 1970s.

A robust finding in the empirical literature on crime is that more police per capita decrease crime rates [Chalfin and McCrary, 2018, Evans and Owens, 2007, Klick and Tabarrok, 2005]. One possible explanation for racial disparities in victimization is that jurisdictions with more Black residents have fewer police officers per capita, and thus higher rates of victimization, relative to jurisdictions with fewer Black residents. However, as shown in Figure 9 in the Appendix, the racial gap in victimization persists even when measured at the city/year level, holding constant the number of police officers employed in a given city/year.

Another possible explanation for racial disparities in victimization is that policing agencies respond differently to crime experienced by Black victims, relative to crime experienced by white victims. Police agencies tend to be whiter than the cities they police; as reported in Figure 10 in the Appendix, Black officer shares have persistently lagged Black population shares in the 40 largest MSAs between 1990 and 2013. Officers in these agencies may be allowed or even encouraged to exert less effort to detect and deter crime experienced by Black victims, relative to crime experienced by white victims. Officers may take more time to respond to calls for service from less white neighborhoods, relative to calls from more white neighborhoods.[2] As a result of longer response times, calls from less white neighborhoods may see lower clearance rates, leading to less deterrence of crime experienced by Black victims [Blanes i Vidal and Kirchmaier, 2017].

It is difficult to directly identify racially disparate responses to crime victimization without access to internal law enforcement agency data. However, we may be able to indirectly identify racially disparate policing practices from the effects of litigation of law enforcement agencies for race-based discrimination in employment. Agencies that engage in race-based discrimination in employment may also engage in racially disparate policing of crime victimization. In response to serious litigation for race-based discrimination in employment, namely litigation leading to the imposition of affirmative action plans in hiring/promotion, these agencies may seek to reduce racial

[1] Serious violent crime is defined as rape, sexual assault, robbery, and aggravated assault; serious crime adds the categories of burglary and motor vehicle theft.

[2] https://www.aclu-il.org/en/press-releases/newly-released-data-shows-city-continues-deny-equitable-police-services-south-and.

disparities throughout their organizations. Officers may be directed to exert relatively more effort to deterring and clearing crime experienced by Black victims, leading to lower Black victimization rates. Over time, litigation leading to affirmative action may also increase Black officer shares. Black officers may be more interested in and/or more effective at policing crime experienced by Black victims, leading to further reductions in Black crime victimization [Bulman, 2019].

Using victimization data from the National Crime Victimization Survey between 1979 and 2004, and leveraging idiosyncratic variation in the timing of litigation of law enforcement agencies for race-based discrimination in employment between 1970 and 1986, we find that litigation leading to race-based affirmative action in law enforcement substantially reduced both absolute and relative Black crime victimization. In the 26 MSAs with agencies that would eventually be subjected to litigation leading to race-based affirmative action, pre-litigation victimization rates are 20% and 13% for Black and non-Hispanic white respondents, respectively. In this sample of MSAs, litigation leading to race-based affirmative action reduced Black victimization by an average of 10.4 percentage points, and reduced the racial gap in victimization by an average of 7.6 percentage points, without increasing rates of white victimization. Estimates are consistent across a series of alternative samples and specifications, including the addition of time-varying respondent-level covariates, using a balanced panel of 5 treated MSAs and 20 years, alternative sets of time and unit-by-time fixed effects, collapsing the respondent-level data to the MSA level, implementing two-way fixed effect difference in differences (2WFE DD) models, along with Goodman-Bacon decomposition on the 2WFE DD estimates, including the 14 never treated MSAs in both event study and 2WFE DD models, and estimating the effects of placebo litigation years on the racial gap in victimization in the never treated MSAs.

We also explore causal mechanisms that could be generating the large post-litigation decreases in both absolute and relative Black victimization. We find that litigation leading to race-based affirmative action in law enforcement a) increased victim trust in the expected police response to victimization by both white and Black victims, but more so for Black victims; b) increased reporting of victimization to law enforcement by both white and Black victims, but suggestively more so for Black victims; and c) consistent with earlier work [McCrary, 2007, Miller and Segal, 2012], increased Black officer shares and decreased white officer shares. We find no evidence that increases in the numbers of sworn officers or changes in the demographic characteristics of litigated MSAs are plausible causal mechanisms. We find no significant heterogeneity in effects across crime types. Our findings indicate the potential for meaningful reductions in both absolute and relative Black victimization from intervention into the practices of law enforcement agencies engaging in race-based discrimination.

B Anti-Discrimination Litigation and Law Enforcement Behavior

Prior studies estimating the effects of litigation of law enforcement agencies for race-based discrimination in employment have generally not found significant impacts on crime victimization. McCrary [2007] found that litigation for race-based employment discrimination reduced the Black representation gap, or the difference between the percent Black police employment and the percent Black population served, but had no effects on crime rates. Miller and Segal [2012] likewise found that litigation for race-based discrimination leading to post-litigation affirmative action significantly decreased the Black representation gap, as defined in McCrary [2007], but did not investigate the impacts of litigation on crime victimization. Miller and Segal [2018], however, found that litigation leading to gender-based affirmative action plans in law enforcement increased female officer shares, increased rates of reporting of domestic violence victimization, and decreased rates of intimate partner homicide and violent crimes against women.

There are several pathways through which litigation leading to affirmative action in law enforcement hiring and/or promotion might affect racial disparities in crime victimization. Agencies whose leaders practice or tolerate race-based discrimination in hiring and/or promotion may also practice or tolerate racially disparate responses to crime victimization. In these agencies, officers may be allowed or even encouraged to exert less effort to detect and deter crime experienced by Black victims, relative to crime experienced by white victims. Officers may take more time to respond to calls for service from less white neighborhoods, relative to calls from more white neighborhoods.[3] As a result of longer response times, calls from less white neighborhoods may see lower clearance rates, or fewer crimes solved, leading to less deterrence of crime experienced by Black victims [Blanes i Vidal and Kirchmaier, 2017].

As a result of the increased monitoring induced by litigation over race-based discrimination in employment, agencies may seek to reduce racial disparities in their responses to victimization. Officers may be directed to exert relatively more effort to deterring and clearing crime experienced by Black victims, including decreasing response times to calls from less white neighborhoods. These (formal or informal) directives may increase both clearance rates and deterrence of crimes experienced by Black victims, leading to lower Black victimization rates. Over time, litigation leading to affirmative action in law enforcement may also increase the shares of Black police officers, and decrease the shares of white officers [McCrary, 2007, Miller and Segal, 2012]. Increased shares of Black officers may also decrease Black victimization, even without any directives from commanding officers. Black officers may care more about detecting and deterring crime experienced by Black victims, relative to white officers. Black officers may have better information about the patterns of criminal behavior affecting Black victims, relative to white officers.

Litigation leading to affirmative action in law enforcement may also have spillover effects on

[3] https://www.aclu-il.org/en/press-releases/newly-released-data-shows-city-continues-deny-equitable-police-services-south-and.

white victimization rates. Increased responsiveness to reports of Black crime victimization may decrease the police response to white victimization, leading to increases in white victimization rates. Or, with sufficient slack in agency resources, increased law enforcement effort devoted to addressing Black victimization may not increase white victimization rates.

C Data

C.1 National Crime Victimization Survey

We source data on crime victimization between 1979-2004 from the MSA-level release of the National Crime Victimization Survey (NCVS). The NCVS has been conducted annually since 1973 by the U.S. Census Bureau on behalf of the Bureau of Justice Statistics (BJS). The standard NCVS releases do not contain identifiers for geographic units smaller than region. However, one NCVS release reported victimization data for the core counties of the forty largest MSAs in the United States between 1979 and 2004. This release is available through the National Archive of Criminal Justice Data (United States Department of Justice, Bureau of Justice Statistics, 2007).

Between 1979 and 2004 the NCVS was conducted on a nationally representative sample of about 50,000 housing units.[4] Household members aged 12 years and older were interviewed regarding crime incidents twice a year for three consecutive years.[5] Participants were asked screening questions to determine if they were victimized during the six-month period preceding the first day of the month of the interview. Because the NCVS measures both property and personal crime, a separate screening section was administered for each of these crime categories. Screening questions covered the following types of crimes, including attempts: robbery, burglary, theft, assault, and rape. The household respondent was asked to report on crimes against the household as well as personal crimes against him/herself. Other members of the household were asked only about personal crimes. Positive responses led to additional questions that gathered details about the nature of the incident, including whether it was reported to the police.

C.2 Affirmative Action Data

We source data on litigation alleging race-based employment discrimination by law enforcement agencies from Miller and Segal [2012]. To create this litigation database, Miller and Segal [2012] first collected employment data from confidential EEO-4 reports on 479 of the largest U.S. state and

[4] Additional detail on the NCVS sampling frame is reported in the Appendix.

[5] Each month during our sample period the U.S. Census Bureau selected respondents for the NCVS using a "rotating panel" sample design. Households were randomly selected and all age-eligible individuals became part of the panel. Once in the sample, respondents were interviewed every six months for a total of seven interviews over a three-year period. The first and fifth interviews were face-to-face; the rest were by telephone. After the seventh interview the household left the panel and a new household was rotated in to the sample.

local law enforcement agencies between 1973 and 2005.[6] They then searched the Lexis-Nexis and Westlaw federal databases for employment discrimination cases involving these agencies, finding 140 cases brought by private plaintiffs or the U.S. Department of Justice (DOJ) between 1969 and 2000. They further identified cases among this set that resulted in court orders or settlement agreements imposing affirmative action plans in hiring and/or promotion. Cases were dated by the year in which the litigation was filed. Among the set of cases imposing affirmative action plans for whom the target group could be identified, 96% involved Black employees.

Following Miller and Segal [2018], we retain from the litigation sample collected by Miller and Segal [2012] only those county and municipal law enforcement agencies located within a core county of one of the forty largest MSAs in the National Crime Victimization Survey sample. There are 167 such agencies. Each of the forty MSAs in the NCVS sample includes at least one department from the Miller and Segal [2012] litigation database.

As in Miller and Segal [2018], treatment is defined at the MSA level. We characterize an MSA as having been subject to litigation leading to affirmative action in law enforcement if any of the agencies in the litigation sample for that MSA were subject to litigation leading to affirmative action between 1969 and 2000. For those MSAs with core county agencies subjected to litigation leading to affirmative action, litigation date is defined as the earliest year in which any agency in an MSA core county experienced litigation leading to an affirmative action plan. Of the 40 MSAs in the NCVS sample, 26 MSAs contain at least one law enforcement agency that was litigated for race-based employment discrimination, and the litigation resulted in a post-litigation affirmative action plan in hiring or promotion; we characterize these MSAs as treated MSAs. We characterize the remaining 14 MSAs as never treated MSAs.[7]

In the set of 108 agencies located in the 26 treated MSAs, namely MSAs containing at least one agency subject to both litigation and post-litigation affirmative action, the first litigation onset date is 1970; the last is 1986. Figure 1 reports the variation in timing of litigation onset for these 26 treated MSAs.

[6] Departments were included in the sample if they had at least 200 full-time workers at some point in the sample period, had at least 200 protective and professional workers at some point in the sample period, and appeared in the sample for at least 10 years.

[7] 11 of the never treated MSAs contain no law enforcement agencies that were litigated for race-based employment discrimination between 1969 and 2000. Two of the never treated MSAs (Dallas and Oakland) contain only agencies that were never litigated, or agencies that were litigated for race-based employment discrimination, but the litigation did not result in an affirmative action plan in hiring or promotion. Miller and Segal [2012] find that agencies that were litigated, but not subjected to post-litigation affirmative action plans in hiring/promotion, had lower rates of post-litigation nonwhite hiring, relative to agencies that were both litigated and subjected to externally-imposed affirmative action plans. The Tampa, FL MSA contains four agencies that were never litigated, one agency that was litigated with no resulting affirmative action plan (the St. Petersburg Police Department in 1975), and one agency that was litigated in 1980 with a post-litigation affirmative action plan (the Pinellas County Sheriff's Department).

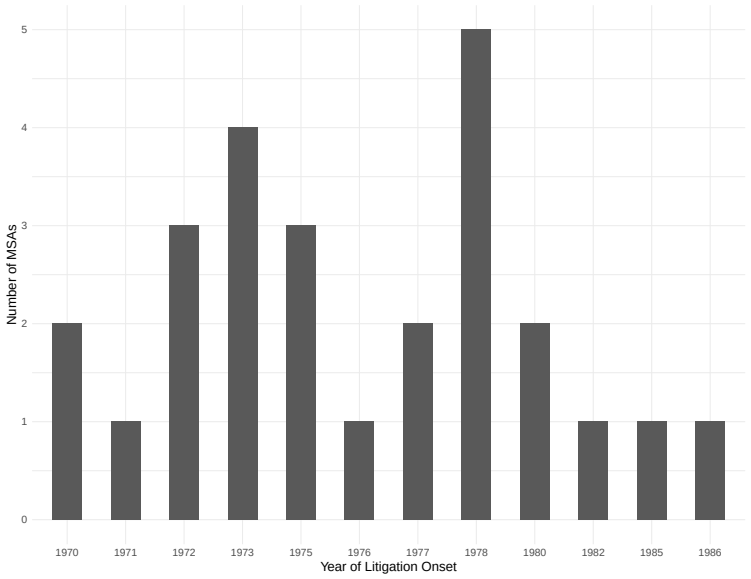

Figure 1: Timing of Litigation Onset in Treated MSAs, 1970-1986

D Analysis

D.1 Assessing Treatment Exogeneity

MSAs containing law enforcement agencies that were both litigated for race-based employment discrimination, and subjected to post-litigation affirmative action plans in employment, may have been different on a number of dimensions, relative to other MSAs. These differences may have affected the evolution of racial disparities in victimization across treated and never treated MSAs.

Among the set of MSAs containing law enforcement agencies that were both litigated for race-based employment discrimination, and subjected to post-litigation affirmative action plans in employment, however, the assumption of as-if random variation in the timing of litigation is perhaps more plausible. The employment discrimination cases brought against law enforcement agencies, many of which involved multiple parties and multiple actions, typically had lengthy and complex histories. The precise date of litigation onset for that part of a litigation effort resulting in a post-litigation affirmative action plan may in many cases have been plausibly exogenous to factors also affecting victimization [Johnson, 2015, Deshpande and Li, 2019].

We first explore the plausible exogeneity of both the presence and the timing of post-litigation affirmative action plans in the 167 law enforcement agencies in our sample of treated and never treated MSAs using county-level demographic measures sourced from the 1970 Census. We estimate both the probability of treatment and, conditional on treatment, the year of treatment, as a function of 1970 covariates, including log population, percent Black, median age, median family income,

median years of school, and percent urban. Models and results are reported in the Appendix.

In 1970, MSAs containing at least one law enforcement agency that would eventually be subjected to litigation leading to affirmative action over the next sixteen years have larger populations, larger percentages of Black residents, higher median family incomes, and are located in counties whose residents have fewer years of schooling, relative to other MSAs. By contrast, among the set of MSAs containing at least one agency that will eventually be subjected to litigation leading to affirmative action, year of litigation is unrelated to all 1970 county-level demographic characteristics.

We can also use the NCVS data to predict both treatment and treatment timing using the sample of respondents in never treated MSAs between 1979 and 1985, and in treated MSAs that had not yet been subjected to treatment between 1979 and 1985. Again we see several correlations between respondent-level pretreatment covariates and whether an MSA will experience litigation leading to affirmative action in law enforcement. These correlations disappear, however, for the models predicting treatment timing.

The observable pretreatment differences across never treated and treated MSAs may not have affected trends in racial disparities in crime victimization. Nonetheless, as in Johnson [2015] and Deshpande and Li [2019], we initially restrict our initial analyses to only the 26 treated MSAs, using the idiosyncratic variation in the timing of litigation leading to affirmative action to estimate effects. We also report robustness tests that include the never treated MSAs as controls.

D.2 Victimization Rates

We first estimate event study models of changes in crime victimization, by victim race, and also changes in racial disparities in crime victimization, relative to the last pre-litigation year. Our sample consists of MSAs that will at some point be subject to litigation leading to affirmative action. We condition on fixed differences across MSAs and years. Our primary event study model is specified in Equation 1:

$$Victimization_{imt} = \sum_{\substack{y=-7 \\ y\neq -1}}^{y=24} \beta_y I(t - t^*_m = y) + \boldsymbol{\beta_t} + \boldsymbol{\beta_m} + \epsilon_{imt} \tag{1}$$

In Equation 1, $Victimization_{imt}$ is a binary indicator for whether a respondent i in MSA m interviewed in year t reported having been a victim of a crime in the previous six months. Indicator variables $I(t - t^*_m = y)$ denote pre- and post-treatment years relative to litigation year t^*_m. The omitted category is $y = -1$, the year immediately prior to litigation onset. $\boldsymbol{\beta_t}$ are calendar year fixed effects, and $\boldsymbol{\beta_m}$ are MSA fixed effects. We estimate Equation 1 with a linear probability model, and report heteroskedasticity-robust standard errors that are clustered at the MSA level.

Figure 2 reports the estimates of β_y for $y = -7$ to $y = 24$, separately for white and Black NCVS respondents, along with 95% confidence intervals. The estimates reported in Figure 2 indicate

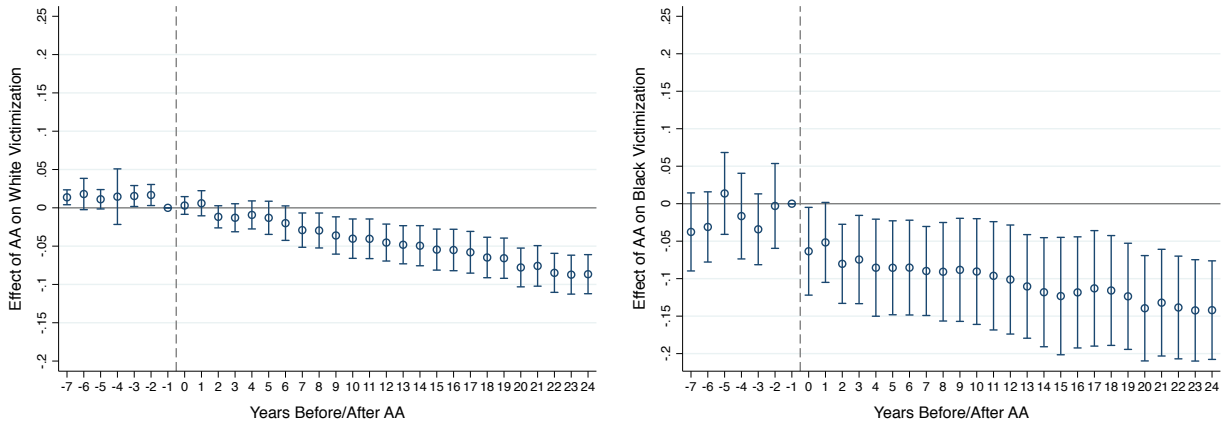

Figure 2: Estimated Effects of Litigation Leading to Affirmative Action on Changes in White and Black Victimization Rates, 1979-2004

that victimization rates were not trending differently in treated MSAs pretreatment, relative to the last year prior to treatment, for either white or Black respondents. Both white and Black victimization rates then decline post-treatment, relative to pretreatment baseline rates, even after removing common time trends through year fixed effects. However, Black victimization rates decline substantially more than do white victimization rates. White respondents experience on average a 4.3 percentage point reduction in crime victimization, following litigation onset. Black respondents see on average a 10.4 percentage point reduction in crime victimization, following litigation onset. These estimates suggest that litigation leading to affirmative action in law enforcement agencies reduced Black victimization rates without increasing white victimization rates.

We can also see that treatment effects appear immediately for Black respondents, and gradually grow in magnitude. This pattern is consistent with an immediate change in litigated agencies' responses to reports of Black victimization, followed by gradually increasing reductions in Black victimization possibly induced by gradually increasing Black officer shares.

We can directly estimate the effects of litigation leading to affirmative action on changes in racial disparities in victimization using the interaction model in Equation 2:

$$Victimization_{imt} = \sum_{\substack{y=-7 \\ y\neq -1}}^{y=24} \beta_y I(t - t_m^* = y) + \beta_b Black_{imt} + Black_{imt} \times \sum_{\substack{y=-7 \\ y\neq -1}}^{y=24} \beta_y I(t - t_m^* = y) + \boldsymbol{\beta_t} + \boldsymbol{\beta_m} + \epsilon_{imt}, \quad (2)$$

In Equation 2 we multiply the event indicators by $Black_{imt}$, an indicator for whether a respondent

is Black (1) or white (0). When $Black_{imt} = 1$, the estimates of β_y report the changes in Black victimization in treated MSAs, relative to white victimization, relative to the year immediately prior to plan implementation. Figure 3 reports the estimates of β_y from Equation 2 when $Black_{imt} = 1$, along with 95% confidence intervals.

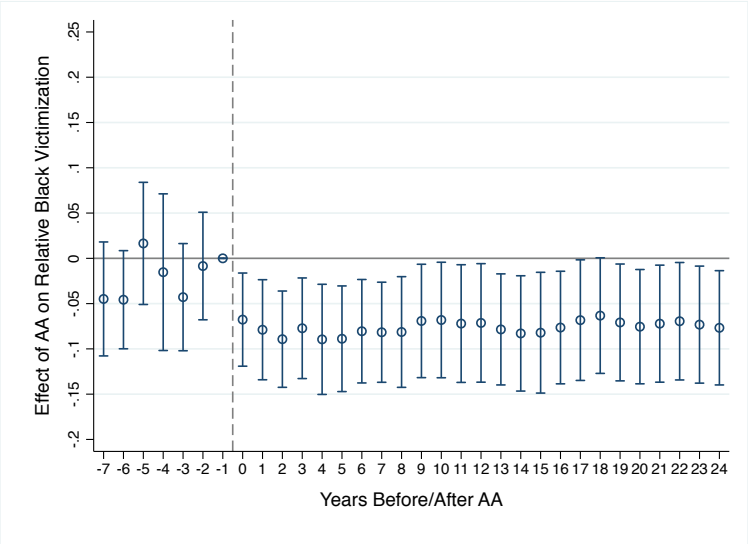

Figure 3: Estimated Effects of Litigation Leading to Affirmative Action on Changes in Racial Disparities in Victimization Rates, 1979-2004

The interaction estimates reported in Figure 3 indicate both that racial disparities in victimization rates were not trending differently in treated MSAs pretreatment, relative to the last year prior to treatment, and that litigation leading to affirmative action had a significant impact not only on changes in absolute Black victimization rates, but also on changes in relative Black victimization rates. Post-litigation estimates of decreases in racial disparities in victimization rates, relative to the last year prior to treatment, range between 6.3 and 8.9 percentage points over the 25 years after litigation onset. These estimates are all significant at the 95% threshold. The average of the post-litigation estimates is a 7.6 percentage point decrease in the relative Black victimization rate, after the onset of litigation leading to affirmative action in law enforcement. As reported in Table 3, the average pretreatment racial gap in victimization between 1979 and 1985 is 7 percentage points, indicating that litigation leading to affirmative action essentially eliminated the pretreatment racial gap in crime victimization.

The estimates reported in Figure 3 also reveal that relative Black victimization dropped immediately after the onset of litigation leading to affirmative action, suggesting a response that occurred before substantial changes to Black officer shares.

We explore a number of alternative specifications, reported in the Appendix. These include: including a vector of time-varying respondent-level covariates, using a balanced panel of 5 treated

MSAs and 20 years, alternative sets of time and unit-by-time fixed effects, collapsing the respondent-level data to the MSA level, implementing two-way fixed effect difference in differences (2WFE DD) models, implementing Goodman-Bacon decomposition on the 2WFE DD estimates, including the 14 never treated MSAs in both event study and 2WFE DD models, and estimating the effects of placebo litigation years on the racial gap in victimization in the never treated MSAs. Results remain qualitatively unchanged.

D.3 Reporting Rates

Miller and Segal [2018] found that litigation leading to gender-based affirmative action in law enforcement increased the rate at which female victims reported gender-based violence to law enforcement agencies, and attributed post-litigation decreases in gender-based violence at least in part to this increased reporting. We can likewise use the NCVS data to ask whether litigation leading to race-based affirmative action in law enforcement disproportionately increased rates of reporting by Black victims. If so, this may have been a mechanism contributing to decreases in both absolute and relative Black victimization.

We estimate the effects of litigation leading to affirmative action on changes in the reporting of victimization using Equation 1. For these models we restrict the sample to NCVS respondents who reported having experienced a crime in the six months prior to their interview. The outcome of interest is $Reported_{imt}$, which is 1 if the respondent reported the crime to law enforcement, and 0 otherwise. Figure 5 reports the estimates of β_y for both Black and white respondents, for the set of 26 treated MSAs.

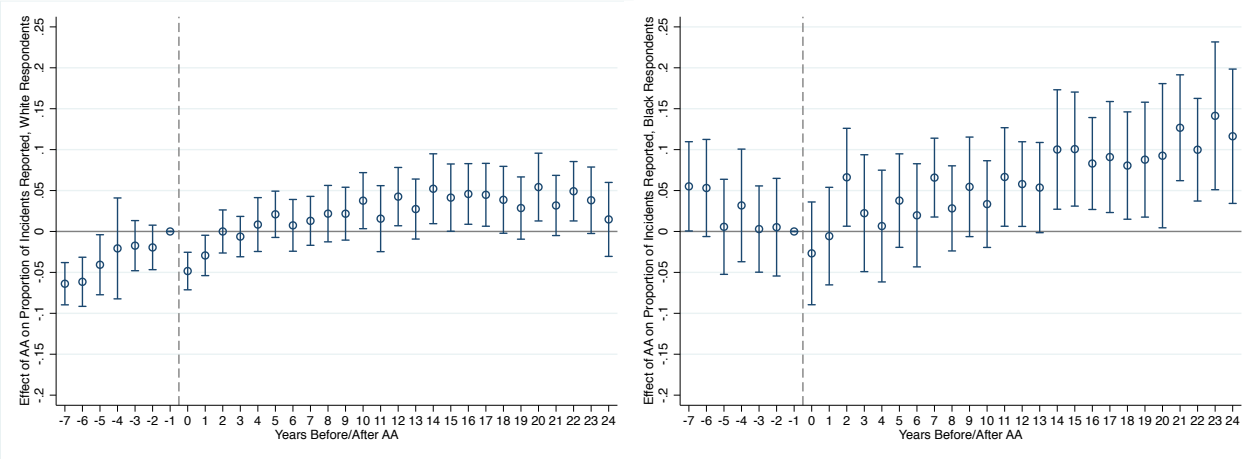

Figure 4: Estimated Effects of Litigation Leading to Affirmative Action on Changes in White and Black Victimization Reporting Rates, 1979-2004

Prior to the onset of litigation leading to affirmative action, reporting rates for white respondents are stable for three years prior to the baseline year. After the onset of litigation leading to affirmative

action, reporting rates for white respondents drop but quickly rebound and then increase over time relative to the baseline year, with an average 2.3 percentage point increase over the 25-year post-litigation period. These estimates become distinguishable from 0 at the 95% confidence level after approximately 10 years. Reporting rates for Black respondents are likewise stable for four years prior to the baseline year, then gradually increase after the onset of litigation leading to court-imposed affirmative action. These post-litigation increases are larger for Black respondents than for white respondents; the average post-litigation increase in reporting rates is 6 percentage points for Black respondents over the 25-year post-litigation reporting period, and also become distinguishable from 0 at the 95% confidence level after approximately 10 years. Because of the relatively wide confidence intervals for the estimates of Black respondents' reporting rates, we cannot generally reject the null hypothesis that post-litigation increases in reporting rates are the same for white and Black respondents. This is nonetheless suggestive evidence that differential increases in reporting rates may have contributed to decreases in racial disparities in victimization.

The post-litigation increases in reporting rates among both white and Black respondents, which are consistent with the findings in Miller and Segal [2018], help to reconcile the strong evidence of negative impacts from litigation leading to affirmative action on victimization, as reported here, with the absence of evidence of impacts of litigation on offenses known to law enforcement, as reported by McCrary [2007]. As reported in Figure 5, overall victimization rates decreased after the onset of litigation leading to affirmative action, while overall reporting rates increased.

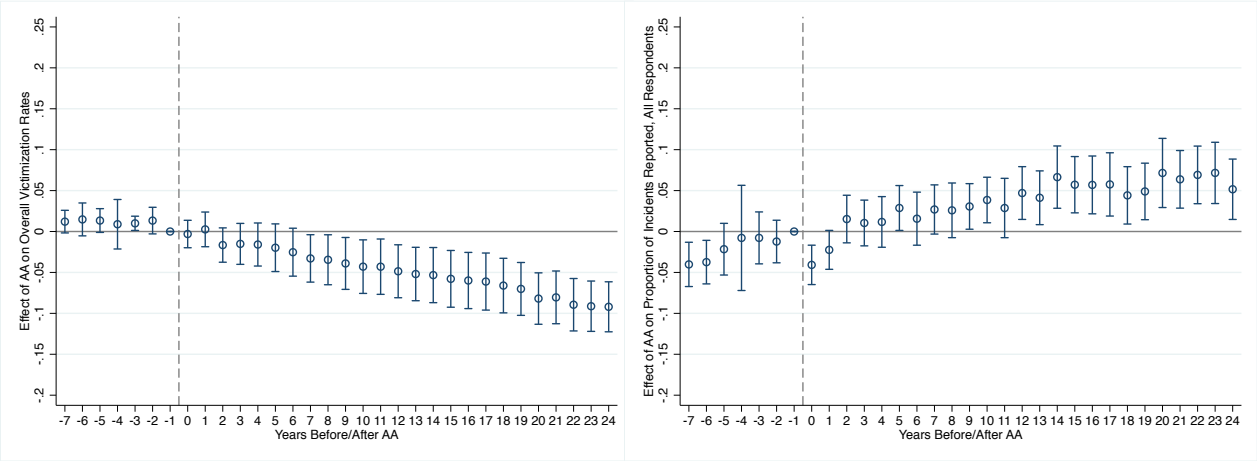

Figure 5: Estimated Effects of Litigation Leading to Affirmative Action on Changes in Overall Victimization and Reporting Rates, 1979-2004

As reported in the first plot of Figure 6, these trends largely offset each other for victimization reported to law enforcement. This plot reports estimates of the effects of litigation leading to affirmative action on changes in victimization *reported to law enforcement*, using data aggregated to the MSA/year level to enable comparisons with aggregated administrative data reported by the FBI's

Uniform Crime Reporting program (UCR). The outcome in the event study model used for the first plot in Figure 6 is the proportion of respondents in an MSA/year who experienced a victimization and reported that victimization to law enforcement. These estimates are indistinguishable from zero for approximately 15 years after the imposition of litigation leading to affirmative action, and are negative and significant but small in magnitude after that. The average of the post-litigation event study coefficients is a decrease in reported victimization of approximately one percentage point.

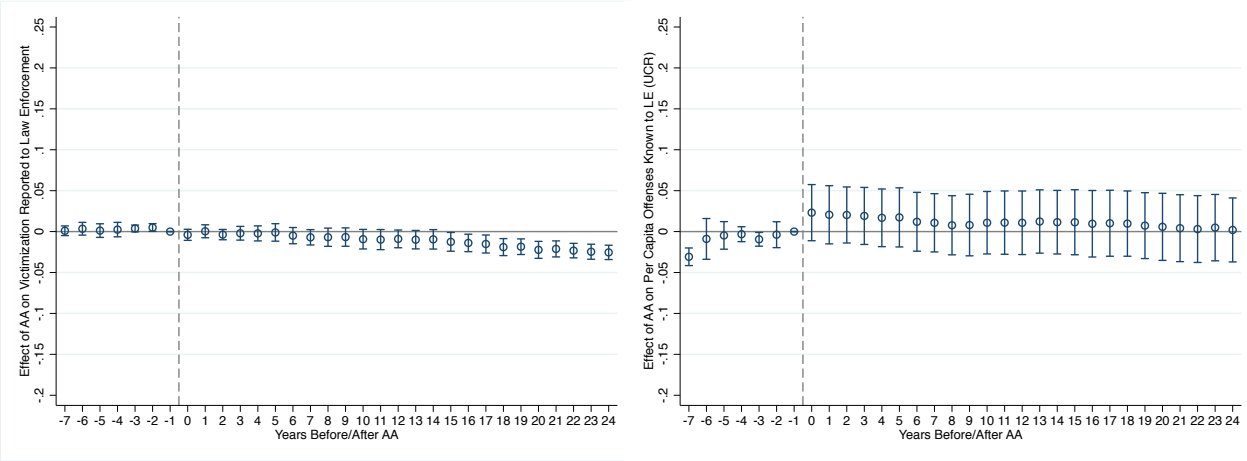

Figure 6: Estimated Effects of Litigation Leading to Affirmative Action on Changes in Reported Victimization (NCVS) and Offenses Known to Law Enforcement (UCR), 1979-2004

The second plot in Figure 6 reports estimates of the effects of litigation leading to affirmative action on changes in offenses known to law enforcement, using the FBI UCR data for agencies located in the core counties of the 26 treated MSAs.[8] Total offenses and population served are aggregated from the agency level to the MSA/year level; per capita offenses known to law enforcement are constructed at the MSA/year level from these aggregated data.

As discussed in the Appendix, the UCR data are potentially subject to multiple sources of systematic measurement error that may bias estimates of the effects of litigation leading to affirmative action. Perhaps most importantly, law enforcement agencies do not record all received reports of victimization as "offenses known to law enforcement." Calls with longer response times may be less likely to be recorded as criminal offenses [Asher, Jan 29, 2018]. Officers may be slower to respond to calls originating in less white neighborhoods, leading to fewer victimization reports from less white neighborhoods being recorded as criminal offenses, relative to victimization reports from more white neighborhoods.[9] The discretion of law enforcement agencies to record complaints as criminal offenses (or not) may generate positive bias in estimates of the effects of litigation onset

[8] Details on the sourcing and cleaning of the UCR data are reported in the Appendix.

[9] https://www.aclu-il.org/en/press-releases/newly-released-data-shows-city-continues-deny-equitable-police-services-south-and.

on offenses known to law enforcement. If, after the onset of litigation leading to affirmative action, agencies decreased response times to calls involving Black victims, and/or were more likely to record incidents involving Black victims as criminal offenses, then a larger number of victimization reports may have been recorded as criminal offenses post-litigation. Post-litigation increases in the proportion of victimizations recorded as "offenses known to law enforcement" would generate upward bias in estimates of the effects of litigation leading to affirmative action on offenses known to law enforcement.

As reported in Plot 2 of Figure 6, estimates of the effects of litigation leading to affirmative action on changes in offenses known to law enforcement are very similar to the estimates from the NCVS data, albeit noisier and slightly more positive on average. The somewhat less negative estimates of the effects of litigation on changes in offenses known to law enforcement, relative to changes in reported victimization, are consistent with positive bias generated by a larger share of reported victimizations being recorded as criminal offenses after litigation onset. Consistent with the estimates reported by McCrary [2007], all of the post-litigation estimates are indistinguishable from zero at the 95% confidence level. Without taking into account the positive effects of litigation leading to affirmative action on reporting rates, and potentially on the share of reported victimizations recorded as offenses known to law enforcement, we would miss its large negative effects on victimization.

D.4 Reasons for Not Reporting

The NCVS asks respondents who experienced a crime, but did not report the crime to the police, the reasons they did not report to the police. The most frequently cited reasons for not reporting are separately identified. These are: "police wouldn't help," "police couldn't do anything," "not important to respondent," "dealt with another way," "insurance wouldn't cover," and "other reason." Of these listed reasons for not reporting, the first two ("police wouldn't help"/"police couldn't do anything") reflect a lack of trust in the nature of the police response to reported victimization. The remaining reasons for not reporting are unrelated to trust in the police response.

We distinguish reasons for not reporting victimization into two categories: Not Reporting: Mistrust Police, which is coded as 1 if a victim cited "police wouldn't help" or "police couldn't do anything" as a reason for not reporting, and zero otherwise; and Not Reporting: Other Reasons, which is coded as 1 if a victim cited any of the other reasons for not reporting, and zero otherwise. The sample is restricted to those respondents who experienced victimization.

Figure 7 reports event study estimates of the effects of litigation leading to affirmative action on changes in not reporting because of mistrust in the police response, separately for white and Black respondents. For both white and Black respondents, there do not appear to be pretrends in not reporting victimization because of mistrust in the police response. Not reporting because of mistrust in the police response then decreases for both white and Black victims after the onset of

litigation leading to affirmative action, relative to the baseline year, but these decreases are larger for Black victims. The average post-litigation decrease in not reporting victimization because of mistrust in the police response, relative to the baseline year, is 7.5 percentage points for white respondents, and 13.2 percentage points for Black respondents. In the interaction model, reported in the Appendix, nonreporting of victimization because of mistrust in the police response decreases by 4.3 percentage points more for Black respondents, relative to white respondents, after the onset of litigation leading to affirmative action. These decreases are significant at the 90% threshold in a majority of post-litigation years. These estimates suggest that Black respondents became more confident in the nature of the police response they could expect after reporting, after the onset of litigation leading to affirmative action, both in absolute terms and relative to white respondents.

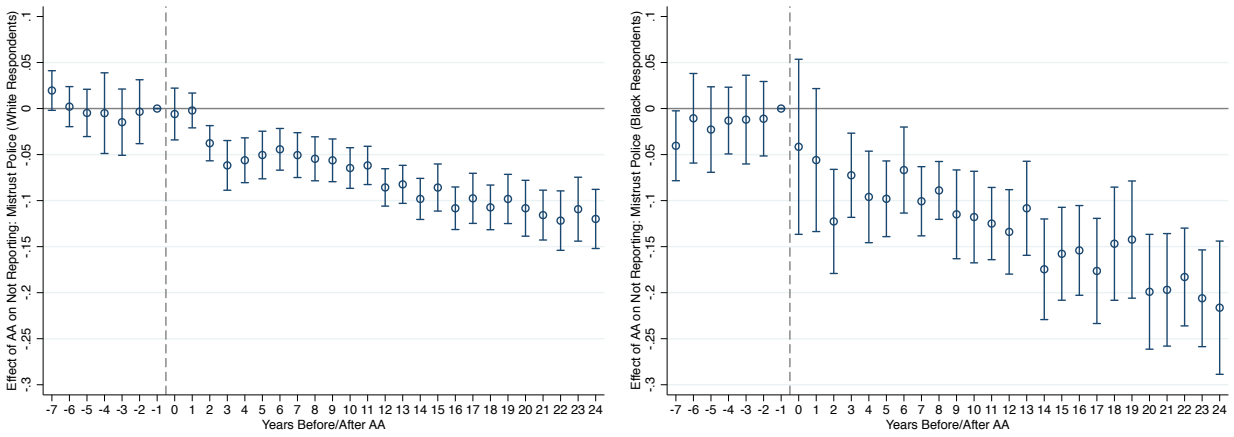

Figure 7: Estimated Effects of Litigation Leading to Affirmative Action on Changes in Not Reporting: Mistrust Police, 1979-2004

Figure 22 in the Appendix reports estimates of the effects of litigation leading to affirmative action on changes in not reporting victimization for reasons other than mistrust in the police response, relative to the baseline year. There are no post-litigation decreases in not reporting due to reasons other than mistrust in the police response, for either white or Black victims.

D.5 Agency Racial Composition

The pattern of observed treatment effects reported above is consistent with an immediate post-litigation increase in responsiveness to Black victimization by existing officers, followed by more gradual reductions in both Black and white victimization, possibly induced by more gradual changes in officer racial composition.

We can explore the plausibility of effects driven by changes in officer racial composition using the Law Enforcement Management and Administrative Statistics (LEMAS) survey, conducted by the Bureau of Justice Statistics periodically since 1987. The LEMAS survey reports demographic

personnel data for a sample of local law enforcement agencies, including all agencies that employ 100 or more full-time sworn officers, and a nationally representative sample of smaller agencies. We matched the agencies in our sample to the agencies in the LEMAS survey for the years 1987, 1990, 1993, 1997, 2000, 2003, 2007, and 2013. All agencies in our litigation sample are also represented in the LEMAS survey. We aggregated agency-level LEMAS data on the numbers of Black and white sworn officers and the total numbers of sworn officers to the MSA level, weighting the MSA means by the sizes of the populations served by each agency. For each MSA/year, we constructed the proportions of sworn officers that are Black and white.

Because the LEMAS data are only available as of 1987, they record only post-treatment variation in agency racial composition. To estimate the effects of litigation leading to affirmative action using only these post-treatment data, we constructed the treatment variable $AA\ Duration_{mt}$, which records the number of years a treated MSA has been subjected to litigation leading to an affirmative action plan.

Figure 23 in the Appendix reports the scatterplots and bivariate relationships between litigation duration and the proportions of Black and white officers, for the 26 treated MSAs. Litigation duration is positively correlated with the proportion of sworn officers that are Black, and negatively correlated with the proportion of officers that are white.

We then estimate Equation 3 separately for the proportions of sworn officers that are Black and white:

$$Pct\ Black/White\ Officers_{mt} = \alpha + \beta AA\ Duration_{mt} + \lambda AA\ End_{mt} + \theta_m + \gamma t + \epsilon_{mt} \qquad (3)$$

Equation 3 includes a covariate $AA\ End_{mt}$, which is 1 if MSA m had an affirmative action plan AA that terminated after year t, and is 0 otherwise. θ_m are MSA fixed effects; γ_t are year fixed effects. Robust standard errors are clustered on the MSA level.

Table 11 in the Appendix reports these estimates. Litigation duration has clear effects on agency racial composition. We see an average 0.2 percentage point increase in the proportion of Black officers per year post-treatment, and an average 0.8 percentage point decrease in the proportion of white officers per year post-treatment; both estimates are significant at the 95% confidence level. Over the course of 25 years after the imposition of litigation leading to affirmative action, the average agency sees a 5 percentage point increase in Black officer shares, a 42% increase in Black officer shares relative to the 1987 baseline rate of 12% Black officer shares. These findings are consistent with those reported by McCrary [2007] and Miller and Segal [2012].

D.6 Other Causal Mechanisms

Finally, we consider a number of other causal mechanisms that may explain the observed post-litigation decreases in both absolute and relative Black victimization. We estimate the effects of litigation leading to affirmative action on numbers of sworn officers per capita, the demographic composition of treated MSAs, and offense clearance rates as reported by the UCR. Estimates are reported in the Appendix. We find no evidence of any systematic relationships between these potential causal mechanisms and litigation leading to affirmative action. We also explore heterogeneous effects of litigation leading to affirmative action on victimization by type of crime. We find no pattern of heterogeneous effects.

E Discussion

Black Americans are disproportionately the focus of criminal justice enforcement effort in the United States. Black Americans are disproportionately stopped, arrested, and subjected to use of force, relative to white Americans [Goel et al., 2016, Cunningham and Gillezeau, 2018, Fryer, 2019]. This disproportionate enforcement effort has led some to argue that Black Americans are being overpoliced.

Yet Black Americans are also less safe than white Americans, consistently experiencing relatively higher rates of crime victimization (Bureau of Justice Statistics, National Crime Victimization Survey, 1993-2018). Given the higher relative risk of crime victimization faced by Black Americans, it is arguable that Black crime victimization is in fact underpoliced.

The relative underpolicing of Black crime victimization may be due to racially disparate responses to victimization by law enforcement agencies, which are whiter on average than the cities they police. Police agencies may allow or even encourage officers to exert less effort to detect and deter crime experienced by Black victims, relative to crime experienced by white victims. Officers may take more time to respond to calls for service from less white neighborhoods, relative to calls from more white neighborhoods. As a result of longer response times, calls from less white neighborhoods may see lower clearance rates, leading to less deterrence of crime experienced by Black victims.

Identifying racial disparities in the police response to crime victimization is hampered by lack of access to internal agency data. However, we may be able to identify racially disparate responses to crime victimization from the effects of litigation of law enforcement agencies for race-based discrimination in employment. Police agencies that are litigated for race-based discrimination in employment may seek to reduce racially disparate policing as a result of the additional external oversight induced by litigation. After litigation, officers may be directed to exert relatively more effort to deterring and clearing crime experienced by Black victims, leading to lower Black victimization rates. Over time, litigation leading to affirmative action in law enforcement may also

increase the shares of Black police officers, and decrease the shares of white officers. Black officers may care more about detecting and deterring crime experienced by Black victims, relative to white officers, leading to further reductions in Black victimization.

We leverage the idiosyncratic variation in the timing of litigation of law enforcement agencies for race-based discrimination in employment in 26 of the largest MSAs between 1970 and 1986. Across a variety of specifications and samples, we consistently find that successful litigation of police agencies for racially discriminatory practices substantially reduced rates of both absolute and relative Black victimization, without increasing rates of white crime victimization.

We also explore causal mechanisms that could be generating the large post-litigation decreases in both absolute and relative Black victimization. We find that successful litigation of police agencies for racially discriminatory practices a) increased victim trust in the expected police response to victimization by both white and Black victims, but more so for Black victims; b) increased reporting of victimization to law enforcement by both white and Black victims, but suggestively more so for Black victims; and c) consistent with earlier work [McCrary, 2007, Miller and Segal, 2012], increased Black officer shares and decreased white officer shares. We find no evidence that increases in the numbers of sworn officers or changes in the demographic characteristics of litigated MSAs are plausible causal mechanisms. We find no significant heterogeneity in effects across crime types.

Our estimates may have implications for the constitutional status of affirmative action in law enforcement. Since Richmond v. Croson (1989), the Supreme Court has held that affirmative action plans in public sector hiring must survive strict scrutiny, and will be invalidated by courts unless they serve a "compelling" governmental interest. One governmental interest that might be particularly compelling is the performance of an agency's core function. In the case of policing agencies, if affirmative action hiring plans contribute to decreases in crime victimization, they might be more likely to pass the strict scrutiny test [Lott, 2000].

No prior studies have found that litigation leading to race-based affirmative action plans in law enforcement in fact helps agencies to perform their core mission, namely to reduce crime [Lott, 2000, McCrary, 2007]. The estimates reported here challenge this received wisdom, and indicate that external intervention into law enforcement agencies engaging in race-based discrimination can reduce both absolute and relative Black victimization, without increasing white victimization.

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F Appendix

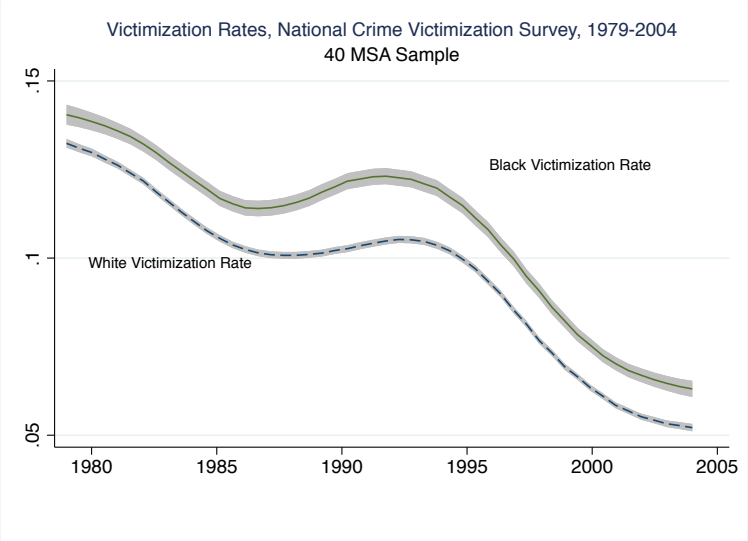

Figure 8

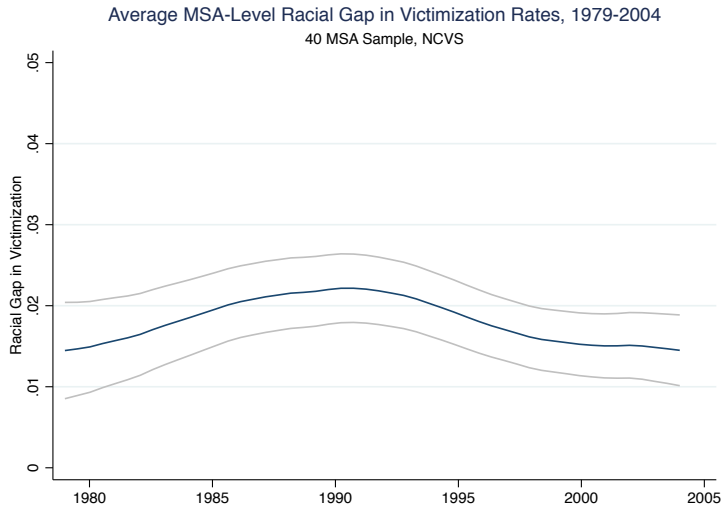

Figure 9

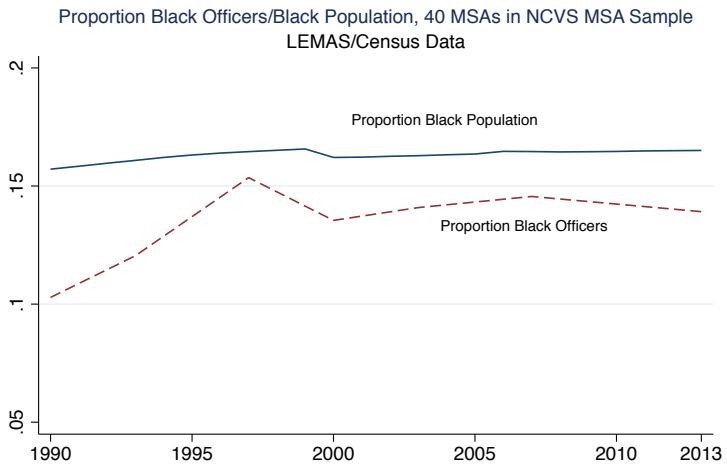

Figure 10

F.1 Construction of NCVS Sample

Core counties within the forty MSAs included in the NCVS data used here are defined as those self-representing primary sampling units that are common to the MSA definitions determined by the Office of Management and Budget. The NCVS sample consists of approximately 50,000 sample housing units selected with a stratified, multi-stage cluster design. The Primary Sampling Units (PSU's) composing the first stage of the sample are counties, groups of counties, or large metropolitan areas. Large PSU's were included in the sample automatically, and each large PSU was assigned to its own stratum. These PSU's are considered to be self-representing (SR) since all of them were selected. The remaining PSU's, called non-self-representing (NSR) because only a subset of them were selected, were combined into strata by grouping PSU's with similar geographic and demographic characteristics, as determined by the Census, to design the sample. The design consists of 84 SR PSU's and 153 NSR strata.

Housing units within a PSU are selected into the sample in two stages. The stages were designed such that, prior to any weighting adjustments, each sample housing unit had the same probability of being selected. The first stage involved selecting a sample of Enumeration Districts (ED's), geographic areas established for each decennial Census encompassing a population of 750 to 1,500 persons, from designated PSU's. ED's were systematically selected proportionate to their 1980 or 1990 population size. In the second stage, each selected ED was divided into segments using clusters of about four housing units each, and a sample of segments was selected. From this sample was compiled a list of addresses recorded during the 1980 and 1990 Censuses.

F.2 Treatment Exogeneity

To estimate the probability of litigation leading to affirmative action, we implement Equation 4

$$Treatment_i = \alpha + \beta \boldsymbol{Pretreatment}_i + \epsilon_i \tag{4}$$

where the vector $\boldsymbol{Pretreatment}_i$ includes pairs of uncorrelated pretreatment demographic variables sourced from the 1970 census. To estimate the timing of litigation leading to affirmative action, we implement Equation 5

$$Treatment\ Year_i = \alpha + \beta \boldsymbol{Pretreatment}_i + \epsilon_i \tag{5}$$

using only those agencies that will eventually be subjected to treatment, where the vector $\boldsymbol{Pretreatment}_i$ again includes pairs of uncorrelated pretreatment demographic variables sourced from the 1970 census. We report estimates at three levels of aggregation: agency, county, and MSA. Standard errors are clustered on MSA for estimates reported at the agency and county level.

Tables 1 and 2 report the results.

Table 1: Predicting Presence of Litigation Leading to Affirmative Action

	Agency	County	MSA	Agency	County	MSA	Agency	County	MSA
Log Population	0.08	0.05	0.16**						
	(0.05)	(0.06)	(0.08)						
Pct Black	0.01***	0.01**	0.02**						
	(0.01)	(0.00)	(0.01)						
Median Age				0.03	0.01	0.03			
				(0.02)	(0.02)	(0.02)			
Median Fam Income				0.0000	0.0001	0.0001**			
				(0.0000)	(0.0000)	(0.0001)			
Median Yrs School							-0.18**	-0.14**	-0.25
							(0.08)	(0.07)	(0.15)
Pct Urban							0.00	0.00	0.01
							(0.00)	(0.00)	(0.01)
Constant	-0.49	-0.09	-1.70	-0.46	-0.17	-1.38	2.56**	2.26***	2.73
	(0.72)	(0.78)	(1.02)	(0.68)	(0.74)	(0.87)	(0.97)	(0.76)	(2.17)
N	149	81	37	149	81	37	149	81	37

* p<.10, ** p<.05, *** p<.01. Standard errors clustered on MSA for agency and county models.

Table 2: Predicting Timing of Litigation Leading to Affirmative Action

	Agency	County	MSA	Agency	County	MSA	Agency	County	MSA
Log Population	0.24	-0.29	0.21						
	(0.47)	(0.51)	(1.00)						
Pct Black	-0.06	-0.01	-0.09						
	(0.08)	(0.05)	(0.13)						
Median Age				-0.22	-0.24	-0.08			
				(0.22)	(0.18)	(0.24)			
Median Fam Income				-0.0005	-0.0002	-0.0001			
				(0.0004)	(0.0003)	(0.0007)			
Median Yrs School							0.92	0.48	1.35
							(0.74)	(0.69)	(1.97)
Pct Urban							0.02	0.01	0.08
							(0.03)	(0.03)	(0.09)
Constant	1973.6***	1979.7***	1974.4***	1988.0***	1984.6***	1979.8***	1963.2***	1969.1***	1952.4***
	(6.7)	(6.7)	(14.7)	(8.6)	(6.3)	(11.7)	(8.4)	(7.7)	(23.7)
N	108	60	26	108	60	26	108	60	26

* p<.10, ** p<.05, *** p<.01. Standard errors clustered on MSA for agency and county models.

We can also predict treatment and treatment timing using the NCVS data between 1979 and 1985 for all never treated MSAs, and for treated MSAs during pretreatment years only. We include respondent level indicators for race, homeownership, residence in a single family home, household income greater than $30,000, some college, age between 18 and 29, married, and experience of victimization.[10]

Table 3 reports descriptive statistics. Never treated MSAs are unlike MSAs containing law enforcement agencies that were successfully litigated for racial discrimination in employment. Among other differences, never treated MSAs between 1979 and 1985 have on average fewer NCVS respondents per year, smaller proportions of Black respondents, and smaller racial disparities in homeownership, residence in single-family homes, and marital status, relative to MSAs that will eventually experience post-litigation affirmative action. Perhaps of greatest concern, never treated MSAs have substantially smaller racial disparities in victimization rates, reporting rates, and reported victimization rates, relative to treated MSAs pretreatment.

We estimate models, both with and without interactions with race of respondent, predicting a) whether an MSA would experience litigation leading to affirmative action, and b) conditional on an MSA experiencing litigation leading to affirmative action, the year of litigation onset. We cluster standard errors on the MSA. Table 4 reports these estimates.

[10]Black respondents are defined as those respondents who self-identify as Black, either alone or in combination with other race/ethnicity categories. Victimization is defined as whether a respondent reported being the victim of any crime during the six months prior to their NCVS interview.

Table 3: Descriptive Statistics
Never Treated and Treated MSAs Pretreatment

	Never Treated 1979-1985		Treated Pretreatment	
	White	Black	White	Black
Avg # Respondents/Yr	1,129	82	2,205	462
Proportion Black/White	0.80	0.06	0.83	0.12
Homeownership	0.70	0.55	0.81	0.61
Single Family Home	0.74	0.71	0.83	0.63
Household Income 30K+	0.26	0.11	0.28	0.12
Some College	0.44	0.29	0.35	0.22
Age 18-29	0.26	0.30	0.25	0.27
Married	0.56	0.39	0.56	0.34
Victimization Rate	0.14	0.15	0.13	0.20
Reporting Rate	0.35	0.34	0.34	0.40
Reported victimization	0.05	0.05	0.05	0.08
N	86,909	6,304	49,623	7,399

Cells report NCVS means between 1979-1985 for all never treated MSAS, and for treated MSAs during pretreatment years only, by race of respondent.

There are several correlations between respondent-level pretreatment covariates and whether an MSA will experience litigation leading to affirmative action in law enforcement. MSAs are more likely to experience the latter if they have more respondents who: own homes, are white and aged 18-29, are Black and do not own a home or live in a single family home, have household income below $30,000, are older, have no college, and are not married, and are Black and have experienced victimization. MSAs are less likely to experience litigation leading to affirmative action in law enforcement if they have more respondents who have some college, are Black and own a single family home, and are Black and aged 18-29. These correlations disappear, however, for the models predicting treatment timing.

Table 4: Predicting Treatment and Timing of Litigation Leading to Affirmative Action
NCVS Sample, Respondent Level

	DV: Treatment		DV: Treatment Timing	
Black	0.21	0.36**	0.81	1.34
	(0.13)	(0.16)	(0.56)	(0.75)
Homeownership	0.13**	0.12**	-0.19	-0.19
	(0.05)	(0.05)	(0.25)	(0.25)
Single Family Home	0.02	0.05	0.55	0.68
	(0.04)	(0.05)	(0.36)	(0.40)
Age 18-29	0.02**	0.03***	-0.05	-0.04
	(0.01)	(0.01)	(0.04)	(0.04)
Household Income 30K +	0.02	0.01	0.50	0.49
	(0.06)	(0.05)	(0.27)	(0.26)
Some College	-0.07**	-0.07**	-0.07	-0.07
	(0.03)	(0.03)	(0.05)	(0.05)
Married	-0.02	-0.01	-0.04	-0.03
	(0.01)	(0.01)	(0.05)	(0.04)
Victimization	0.02	0.01	0.08	0.08
	(0.02)	(0.02)	(0.05)	(0.05)
Black X Homeownership		0.08		-0.01
		(0.08)		(0.24)
Black X Single Family Home		-0.27***		-0.70
		(0.04)		(0.40)
Black X Age 18-29		-0.06**		-0.04
		(0.03)		(0.09)
Black X Household Income 30K+		0.04		-0.07
		(0.03)		(0.32)
Black X Some College		-0.03		0.01
		(0.04)		(0.09)
Black X Married		-0.04		-0.14
		(0.03)		(0.16)
Black X Victimization		0.08***		0.07
		(0.02)		(0.15)
Constant	0.25*	0.24*	1984.52***	1984.39***
	(0.13)	(0.12)	(1.02)	(1.02)
N	167664	167664	59554	59554

* p<.10, ** p<.05, *** p<.01. Standard errors clustered on MSA.

F.3 Event Study Extensions

Figure 11 replicates the interaction estimates from Equation 2, but includes a vector of time-varying respondent-level covariates from Table 3, including homeownership, residence in a single-family home, annual household income above $30,000, age between 18 and 29, marital status, and whether the respondent has some years of college education. Estimates are of nearly identical magnitudes but are somewhat more precisely estimated after the inclusion of covariates.

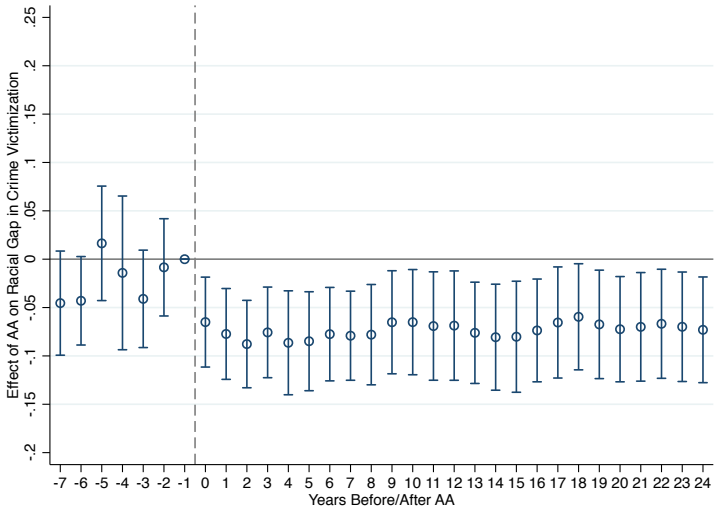

Figure 11: Estimated Effects of Litigation Leading to Affirmative Action on Changes in the Racial Gap in Victimization, 1979-2004; Including Covariates

Figure 12 replicates the interaction estimates from Equation 2, but restricts the sample to a balanced panel of 5 treated MSAs and 20 years (one pretreatment year, 19 posttreatment years) for which NCVS data are available in all periods for all treated MSAs. Covariates are included. The estimates, while noisier than those reported for the full unbalanced sample, continue to indicate that racial disparities in victimization dropped immediately after litigation. The average of the post-litigation event study estimates indicates a 5.2 percentage point reduction in the racial gap in victimization rates in the balanced panel.

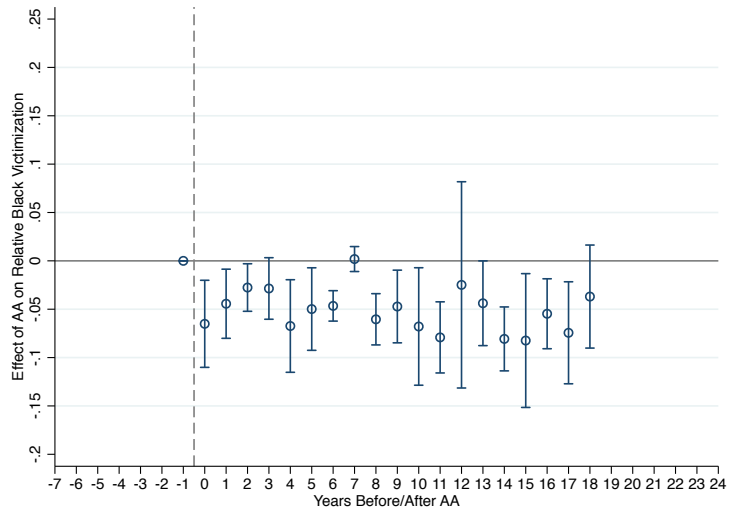

Figure 12: Estimated Effects of Litigation Leading to Affirmative Action on Changes in the Racial Gap in Victimization, 1979-2004; Including Covariates Balanced Panel of 5 Treated MSAs

Figure 13 reports estimates of the effects of litigation leading to affirmative action on changes in the racial gap in victimization rates, including year-by-month fixed effects. Figure 14 reports estimates of the effects of litigation leading to affirmative action on changes in the racial gap in victimization rates, including year-by-month-by-MSA fixed effects. Results are qualitatively unchanged.

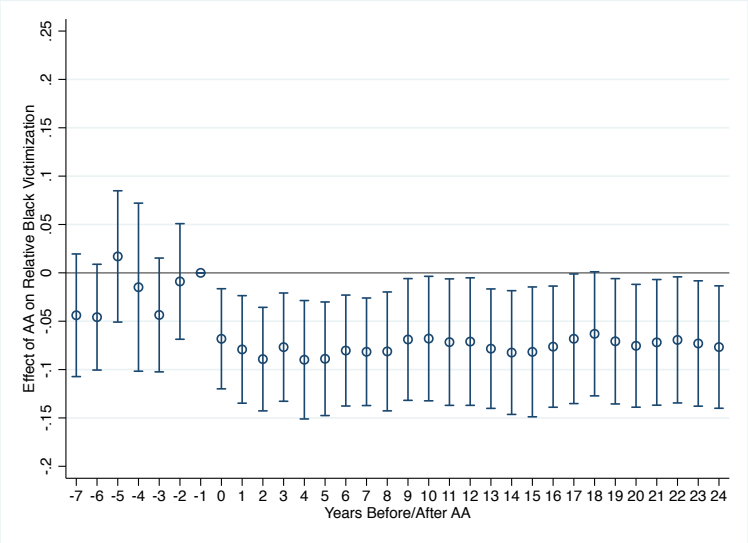

Figure 13: Estimated Effects of Litigation Leading to Affirmative Action on Changes in the Racial Gap in Victimization, 1979-2004; Including Covariates Including Year-By-Month Fixed Effects

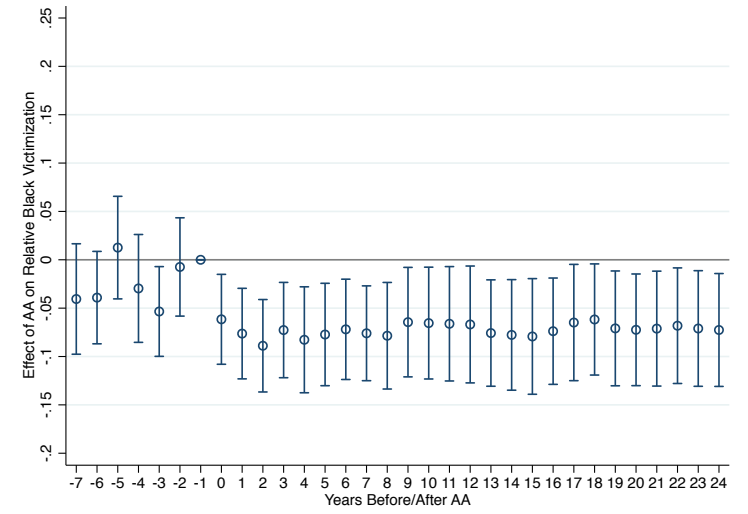

Figure 14: Estimated Effects of Litigation Leading to Affirmative Action on Changes in the Racial Gap in Victimization, 1979-2004; Including Covariates Including Year-By-Month-By-MSA Fixed Effects

Figure 15 replicates Figure 2, but includes the 14 never treated MSAs.[11] Because of the evident

[11]For these analyses, the indicator variables in Equation 1 are multiplied by AA_m, a binary variable equal to one for the 26 MSAs subjected to post-litigation affirmative action between 1970 and 1986, and equal to zero for the 14 remaining MSAs. Event indicator variables are zero for all never treated MSAs.

imbalances in pretreatment covariates across treated and never treated MSAs, we include the vector of respondent-level covariates included in Figure 11.

Including never treated MSAs as controls shifts estimated post-treatment coefficients in a positive direction for both white and Black victimization rates. In these models, white respondents experience on average an increase of less than one percentage point in crime victimization following the onset of litigation leading to affirmative action, although the annual estimates are not themselves significant at the 95% threshold. Black respondents see on average a 4.6 percentage point reduction in crime victimization following the onset of litigation leading to affirmative action. These annual changes in Black victimization are significant at conventional thresholds for the first nine years after litigation onset, and are close to significance afterwards.

Finally, Figure 16 replicates the interaction estimates, including never treated MSAs in the sample and including all respondent-level covariates. Post-litigation decreases in the racial gap in victimization are large and significant, averaging a 7.3 percentage point decrease in the racial gap in victimization.

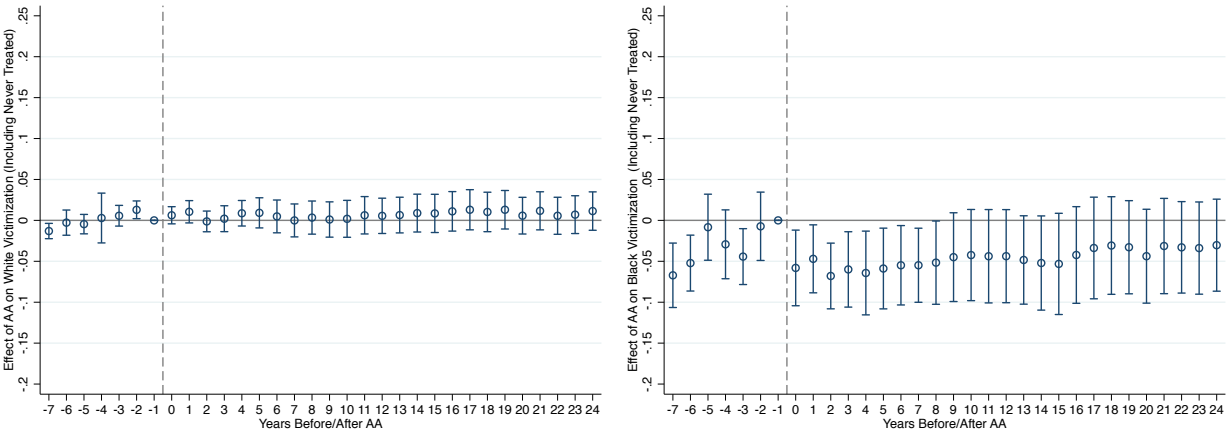

Figure 15: Estimated Effects of Litigation Leading to Affirmative Action on Changes in White and Black Victimization, 1979-2004; Including All MSAs

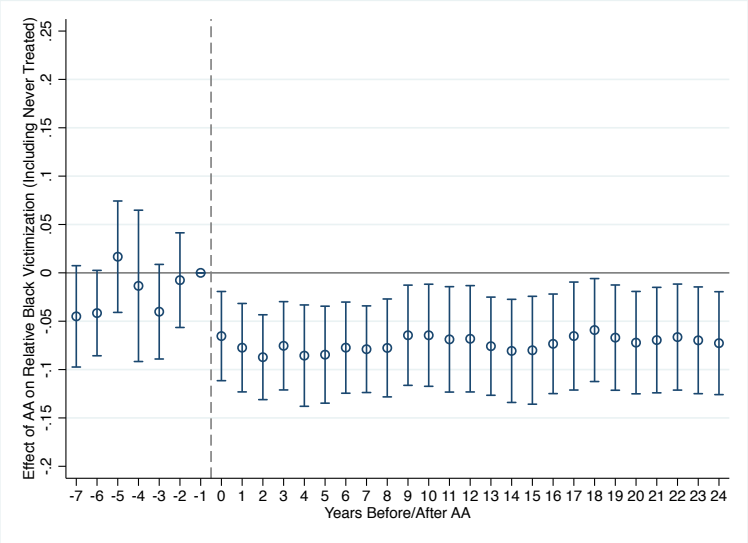

Figure 16: Estimated Effects of Litigation Leading to Affirmative Action on Changes in the Racial Gap in Victimization, 1979-2004; Including All MSAs

We can also collapse the respondent-level data to the MSA/year level. Figures 17 and 19 report these event study estimates.[12] We see an average post-litigation decrease in white victimization of 4.3 percentage points, similar to that observed using the respondent-level data. Post-litigation decreases in white victimization are increasing over time, and are significant at the 95% level approximately 8 years after litigation onset. We see an average post-litigation decrease in Black victimization of 10.4 percentage points, similar to that observed using the respondent-level data. Post-litigation decreases in Black victimization are also increasing over time, and are significant at the 95% level immediately after litigation onset.

[12]MSA-level estimates are weighted by the number of respondents per MSA/year.

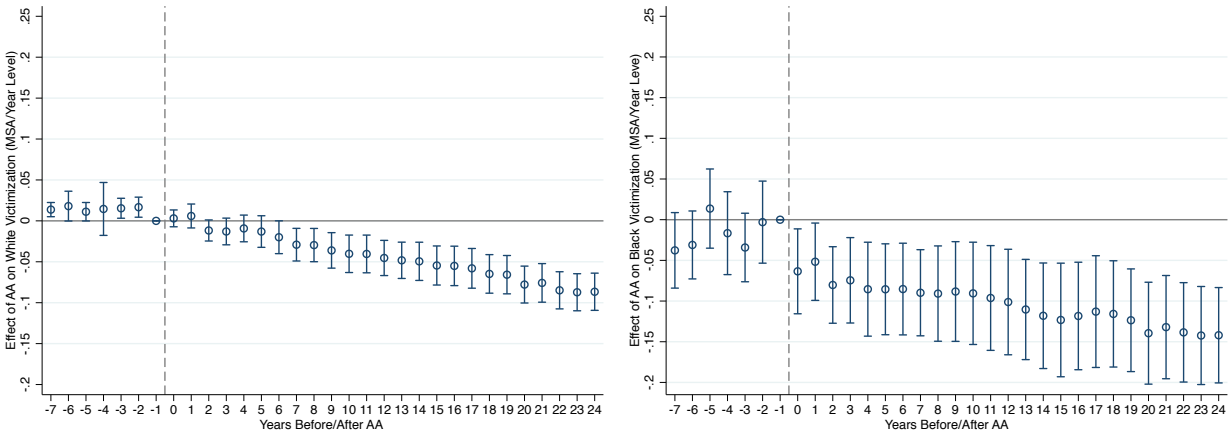

Figure 17: Estimated Effects of Litigation Leading to Affirmative Action on Changes in White and Black Victimization, 1979-2004; MSA/Year Level

In the MSA/year level data we measure the racial gap in victimization at the MSA/year level. We see an average post-litigation decrease in the racial gap in victimization of 4.8 percentage points, a somewhat smaller average decrease than that observed using the respondent-level data. Post-litigation decreases in the racial gap in victimization are relatively stable over time in the MSA/year level data, and are generally significant at the 90% threshold.

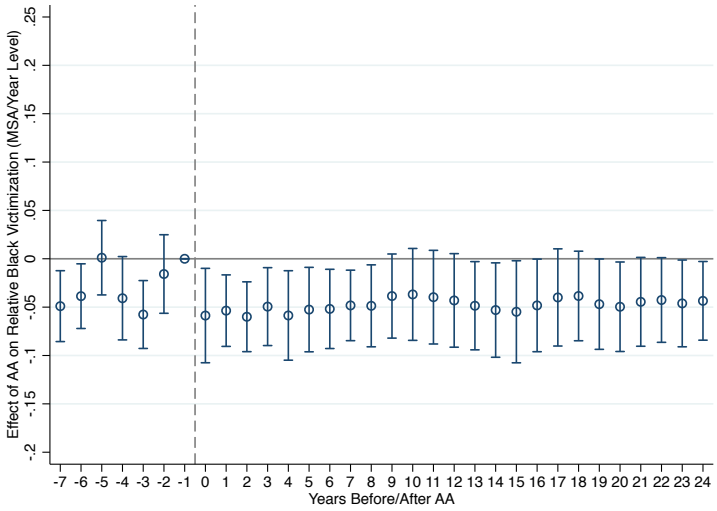

Figure 18: Estimated Effects of Litigation Leading to Affirmative Action on Changes in the Racial Gap in Victimization, 1979-2004; MSA/Year Level

Lastly, we report estimates of the effects of litigation leading to affirmative action on racial disparities in victimization after both including the never treated MSAs, and collapsing data to

the MSA/year level. As in the respondent-level models including never treated MSAs, we include covariates, here aggregated to the MSA/year level. We weight the MSA/year level estimates by the numbers of respondents per MSA/year. Estimates of post-litigation changes in the racial gap in victimization are consistently negative and are significant or close to significance at conventional thresholds. The average post-litigation decrease in the racial gap in victimization in this model is 4.2 percentage points.

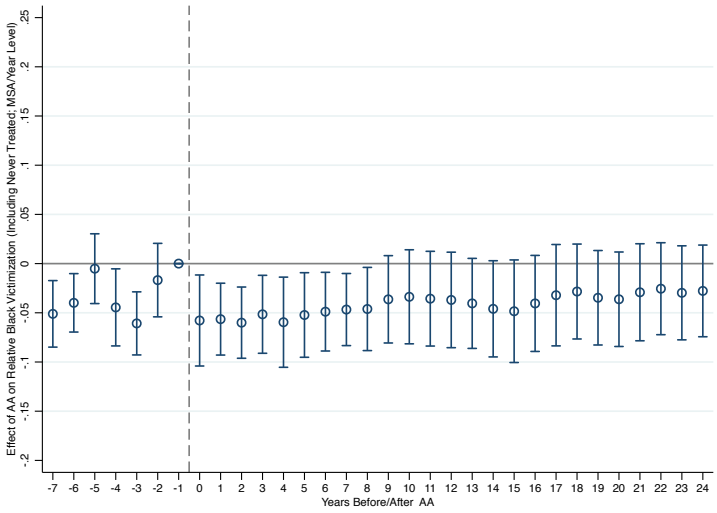

Figure 19: Estimated Effects of Litigation Leading to Affirmative Action on Changes in the Racial Gap in Victimization, 1979-2004; MSA/Year Level Including Never Treated MSAs

F.4 2WFE Difference in Differences Models

We also estimate average posttreatment effects using two-way fixed effect difference in differences (2WFE DD) models, and estimate the Goodman-Bacon decomposition of the weights used in these models [Goodman-Bacon, 2018]. Estimates are consistent with estimates from the event study models, although effect sizes are slightly smaller. The Goodman-Bacon decomposition exercise indicates that the smaller effect sizes estimated in the 2WFE DD models are likely due to treatment effects that increase over time.

We estimate average post-litigation effects on both white and Black victimization using Equation 6:

$$Victimization_{imt} = \beta_y Post\text{-}AA_t + \boldsymbol{\beta_t} + \boldsymbol{\beta_m} + \epsilon_{imt} \tag{6}$$

We estimate average post-litigation effects on relative Black victimization using Equation 7:

$$Victimization_{imt} = \beta_y Post\text{-}AA_t + \beta_b Black_{imt} + \beta_{by}(Black_{imt} \times Post\text{-}AA_t) + \boldsymbol{\beta_t} + \boldsymbol{\beta_m} + \epsilon_{imt} \tag{7}$$

In Equations 6 and 7, the indicator variables $I(t - t^*_m = y)$ from Equations 1 and 2 have been replaced by a single indicator variable denoting whether a treated MSA was post-treatment in year t ($Post\text{-}AA_t = 1$) or not ($Post\text{-}AA_t = 0$).

In all 2WFE DD models we continue to estimate a linear probability model and cluster standard errors at the MSA level, initially using only the sample of MSAs containing law enforcement agencies subjected to litigation leading to affirmative action plans between 1970 and 1986.

Table 5 reports the coefficients from Equations 6 and 7. The 2WFE DD estimates are of somewhat smaller magnitude than the event study estimates, but continue to show significant decreases in both absolute and relative Black victimization after the initiation of litigation leading to court-imposed affirmative action. In the separately estimated DD models, there are no average post-treatment changes in the white victimization rate, and an average 4 percentage point decrease in the Black victimization rate. In the DD interaction model, Black victimization rates are estimated to be 7 percentage points higher than white victimization rates in yet-to-be-treated MSAs during the pretreatment period; post-treatment decreases in the racial gap in victimization are estimated to average 6 percentage points.

Table 5: 2WFE DD Estimates of Effects of Litigation Leading to Affirmative Action on Victimization, 1979-2004

	White Respondents	Black Respondents	Interaction Model
Post-AA	0.000	-0.04***	0.002
	(0.011)	(0.01)	(0.010)
Black			0.07***
			(0.01)
Post-AA X Black			-0.06***
			(0.01)
Constant	0.13***	0.17***	0.13***
	(0.01)	(0.01)	(0.01)
N	1,156,762	262,912	1,419,674
MSA FE	Yes	Yes	Yes
Year FE	Yes	Yes	Yes

* p<.10, ** p<.05, *** p<.01. Standard errors clustered on MSA.

Table 6 replicates the estimates reported in Table 5, but includes all MSAs. Magnitudes are smaller than those reported in Table 5, but are still significant at conventional thresholds. There are no average post-treatment changes in the white victimization rate, and an average 3 percentage point post-treatment decrease in the Black victimization rate ($p < .05$). The average Black victimization rate is estimated to be 1.5 percentage points higher than white victimization rates in untreated MSAs; post-treatment decreases in the racial gap in victimization are estimated to average 1.5 percentage points, and are significant at the .05 level. Respondent-level demographic covariates are clearly related to victimization. We note that, as several of these demographic covariates also predict whether an MSA will be treated, we should regard estimates from models that include never treated MSASs with caution.

Table 7 replicates the estimates reported in Table 5, but restricts the sample to the balanced panel of 5 treated MSAs and 20 years (1 pretreatment year and 19 posttreatment years) for which NCVS data are available in all years for all MSAs. In the separately estimated DD models, there are no average post-treatment changes in the white victimization rate, and an average 10 percentage point decrease in the Black victimization rate. Black victimization rates are estimated to be 9 percentage points higher than white victimization rates in yet-to-be-treated MSAs during the pretreatment period; post-treatment decreases in the racial gap in victimization are estimated to average 5 percentage points.

Table 6: 2WFE DD Estimates of Effects of Litigation Leading to Affirmative Action on Victimization, 1979-2004; Including Never Treated MSAs

	White Respondents	Black Respondents	Interaction Model
Post-AA	-0.000	-0.032**	-0.002
	(0.011)	(0.013)	(0.011)
Black			0.015**
			(0.007)
Post-AA X Black			-0.015**
			(0.007)
Homeownership	-0.046***	-0.027***	-0.042***
	(0.004)	(0.003)	(0.004)
Single Family Home	-0.008***	-0.013***	-0.009***
	(0.002)	(0.003)	(0.002)
Age 18-29	0.037***	0.026***	0.035***
	(0.002)	(0.003)	(0.002)
Household Income 30K+	0.008***	0.005	0.008***
	(0.001)	(0.003)	(0.001)
Some College	0.020***	0.032***	0.022***
	(0.002)	(0.002)	(0.002)
Married	-0.034***	-0.021***	-0.032***
	(0.002)	(0.004)	(0.002)
Constant	0.180***	0.180***	0.175***
	(0.008)	(0.010)	(0.008)
N	1550969	306496	1857465
MSA FE	Yes	Yes	Yes
Year FE	Yes	Yes	Yes

* p<.10, ** p<.05, *** p<.01. Standard errors clustered on MSA.

Table 7: 2WFE DD Estimates of Effects of Litigation Leading to Affirmative Action on Victimization, 1979-2004; Balanced Panel

	White Respondents	Black Respondents	Interaction Model
Post-AA	-0.004	-0.10*	-0.01
	(0.009)	(0.04)	(0.01)
Black			0.09**
			(0.03)
Post-AA X Black			-0.05*
			(0.03)
Constant	0.128***	0.16***	0.12***
	(0.010)	(0.01)	(0.01)
N	162865	21239	184104
MSA FE	Yes	Yes	Yes
Year FE	Yes	Yes	Yes

* p<.10, ** p<.05, *** p<.01. Standard errors clustered on MSA.

F.4.1 MSA/Year Level Estimates; DD Decomposition

We can also collapse the data to the MSA/year level; doing so will allow us to decompose the weights on the 2WFE DD estimates. The 2WFE DD model captures average treatment effects on the treated, but may incorporate downward bias in the presence of treatment effects that increase over time. If outcomes are changing at a faster rate in earlier-treated units being used as controls for later-treated units, the 2WFE DD model may underestimate treatment effects in later-treated units (and may even produce sign reversals, relative to true treatment effects) [Goodman-Bacon, 2018].

We can use the difference in differences decomposition model developed by Goodman-Bacon [2018] to uncover the extent to which the 2WFE DD models may be underestimating treatment effects. The 2WFE DD estimates reported in Table 5 are composed of variance-weighted averages of treatment effects estimated from a series of 2x2 treatment/control groups, which themselves compare agencies treated at the same time to agencies treated at another time (earlier or later). The extent of the bias introduced into the DD estimates by time-varying treatment effects depends on the shares of the 2WFE DD estimates that are derived from comparisons of later to earlier treated agencies, which in turn depends on both group size and the variance of the treatment within each 2x2 comparison group [Goodman-Bacon, 2018].

The Goodman-Bacon decomposition model is currently only available for strongly balanced panels. To estimate the decomposition model we collapse the NCVS data to the MSA/year level. 2WFE DD estimates for the sample collapsed to MSA/year observations are reported in Table

8, along with the DD estimates and weights for the categories of treatment/control comparison groups from which the 2WFE DD estimates are derived. Estimates are weighted by the number of respondents in each MSA/year.[13]

Table 8: 2WFE DD Estimates of Effects of Litigation Leading to Affirmative Action on Victimization, 1979-2004; MSA/Year Level Estimates

	White Respondents	Black Respondents	Racial Gap
Post-AA	0.00	-0.04***	-0.02***
	(0.01)	(0.01)	(0.01)
Constant	0.13***	0.17***	0.03***
	(0.01)	(0.01)	(0.01)
N	672	670	670
	Avg DD Decomp Estimates		
	Beta/Weight	Beta/Weight	Beta/Weight
Timing Groups	-0.013/0.07	-0.06/0.03	-0.04/0.03
Always v. Timing	0.003/0.92	-0.04/0.95	-0.02/0.95
Within	0.029/0.011	-0.06/0.02	-0.06/0.02
MSA FE	Yes	Yes	Yes
Year FE	Yes	Yes	Yes

* p<.10, ** p<.05, *** p<.01. Population-weighted OLS; standard errors clustered on MSA.

The 2WFE DD estimates using NCVS data collapsed to MSA/year means are slightly smaller in magnitude, relative to those reported in Table 5. We see no post-treatment changes in white victimization rates, post-treatment decreases in Black victimization rates of 4 percentage points on average, and post-treatment decreases in the racial gap in victimization of 2 percentage points on average. The decomposition weights and betas reported in Table 8 reveal that almost all of the weight in the 2WFE DD estimates is being placed on comparisons between MSAs with agencies subjected to litigation leading to affirmative action before 1979 (always treated), and those subjected to litigation leading to affirmative action after 1978 (timing groups). Because of the increases in treatment effects over time evident in Figure 2, the treatment effects estimated for these later-earlier comparisons are consistently smaller than those estimated for the comparisons between MSAs subjected to litigation leading to affirmative action between 1979 and 1986 (the

[13]For the 2WFE models we use *xtreg* in Stata 16; for the decomposition model we use the *bacondecomp* Stata 16 command developed by Goodman-Bacon et al. [2019]. To enable the estimation of the weights we include a covariate for whether a plan has terminated.

timing group only comparisons). Given the evident downward bias introduced into the 2WFE DD models by time-varying treatment effects, we believe the event study estimates are the most reliable estimates of the effects of litigation leading to affirmative action on both the racial gap in victimization, and rates of white and Black victimization.

We can also use the collapsed MSA-level data to estimate the 2WFE DD model including all MSAs. As in earlier models including all MSAs, we include MSA-level covariates. Table 9 reports these estimates. We again see no effect of litigation leading to affirmative action on white victimization, an average decrease of 3 percentage points in Black victimization, and an average decrease of 2 percentage points in the racial gap in victimization.

Table 9: 2WFE DD Estimates of Effects of Litigation Leading to Affirmative Action on Victimization, 1979-2004; Including Never Treated MSAs; MSA/Year Level Estimates

	White Respondents	Black Respondents	Racial Gap
Post-AA	0.00	-0.03**	-0.02**
	(0.01)	(0.02)	(0.01)
Homeownership	-0.04	-0.09*	-0.07
	(0.05)	(0.05)	(0.06)
Single Family Home	0.03	0.04	-0.02
	(0.05)	(0.06)	(0.05)
Age 18-29	0.15**	0.10	-0.11
	(0.06)	(0.09)	(0.07)
Household Income 30K+	0.02	0.04	0.02
	(0.03)	(0.04)	(0.02)
Some College	0.06	0.11*	0.02
	(0.04)	(0.06)	(0.05)
Married	-0.12**	-0.02	0.05
	(0.06)	(0.08)	(0.07)
Constant	0.15***	0.15**	0.07
	(0.05)	(0.07)	(0.06)
N	1032	1032	1032
MSA FE	Yes	Yes	Yes
Year FE	Yes	Yes	Yes

* p<.10, ** p<.05, *** p<.01. Standard errors clustered on MSA.

F.4.2 Placebo Litigation Years

We also use a series of 2WFE DD models to estimate the effects of placebo treatments on the 14 MSAs containing no law enforcement agencies that were subjected to litigation leading to affirmative action plans. We assign a placebo litigation year between 1970 and 1986, with replacement, to each

never treated MSA; we iterate this random assignment 10 times. For each set of randomly assigned placebo years, we estimate the 2WFE DD interaction model (Equation 7). Figure 20 reports the coefficients on the interaction terms; none are significant at conventional thresholds.

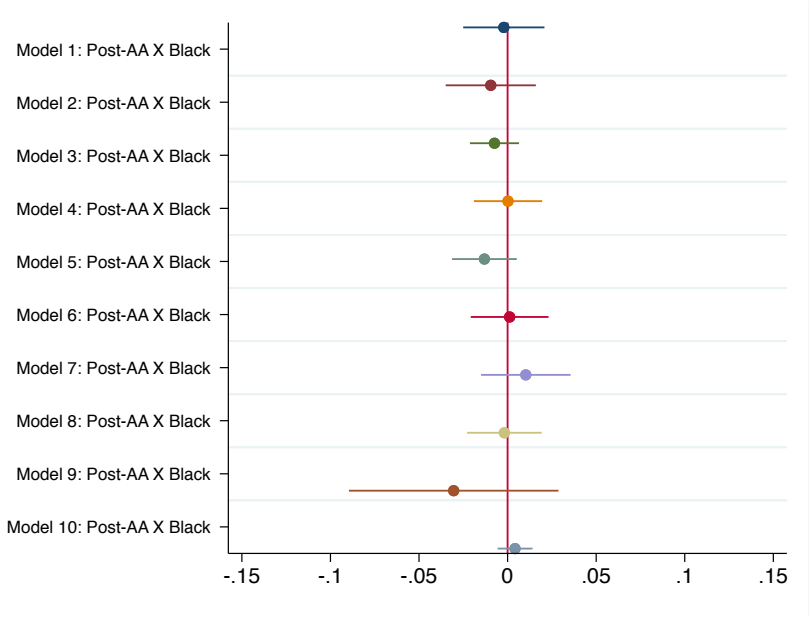

Figure 20: 2WFE DD Estimates of Effects of Placebo Litigation Years on Relative Black Victimization; Never Treated MSAs; 1979-2004

F.5 Reporting Rates/UCR Offenses Known to Law Enforcement

The FBI's Uniform Crime Reporting (UCR) program is voluntary; not all agencies participate, or participate consistently, in the program. Offenses known to law enforcement in the UCR data include homicide, rape, robbery, aggravated assault, burglary, theft, and motor vehicle theft. We eliminate the homicide counts in order to better approximate the offenses that could have been reported to law enforcement by victims. We match the 108 agencies located in our sample of 26 treated MSAs to the agencies reporting monthly offense data in the UCR, as cleaned and aggregated to the yearly level by Kaplan [2019]. 87 of these agencies consistently report UCR data.[14] We aggregated total offenses and population served from the agency level to the MSA level, and constructed per capita offenses known to law enforcement at the MSA/year level from these aggregated data.

The UCR data are potentially subject to multiple sources of systematic measurement error that may bias estimates of the effects of litigation leading to affirmative action. For example, the UCR includes property offenses involving commercial establishments in its offense series, but the

[14] Agencies that report zero crimes in any year are treated as missing data in that year. We interpolated isolated missingness in the annual total offense series between 1979 and 2004.

NCVS does not. We cannot separately identify and remove commercial property offenses from the UCR offense series; this may lead to positive bias in estimates of the effects of litigation leading to affirmative action on offenses known to law enforcement. If agencies shifted effort to responding to reports of non-commercial property offenses after litigation onset, non-commercial property offenses may have decreased, but commercial property offenses (recorded in the UCR but not the NCVS data) may have increased. Post-litigation increases in commercial property offenses would generate upward bias in estimates of the effects of litigation leading to affirmative action on offenses known to law enforcement.

Law enforcement agencies also do not record all victimization reports as criminal offenses. In one study in which independent observers accompanied law enforcement officers responding to 911 calls, by the time that officers arrived on the scene, victims were no longer present for approximately 33% of calls. These calls were not recorded as criminal offenses. Of the calls coded by observers as involving criminal incidents in which a victim was present, officers failed to report the incident as a criminal offense in another 36% of cases [Black, 1970]. Calls with longer response times may be less likely to be recorded as criminal offenses [Asher, Jan 29, 2018]. Officers may be slower to respond to calls originating in less white neighborhoods, leading to fewer victimization reports from less white neighborhoods being recorded as criminal offenses, relative to victimization reports from more white neighborhoods.[15]

The discretion of law enforcement agencies to record complaints as criminal offenses (or not) may also generate positive bias in estimates of the effects of litigation onset on offenses known to law enforcement. If, after the onset of litigation leading to affirmative action, agencies decreased response times to calls involving Black victims, and/or were more likely to record incidents involving Black victims as criminal offenses, then a larger number of victimization reports may have been recorded as criminal offenses post-litigation.[16] Post-litigation increases in the proportion of victimizations recorded as "offenses known to law enforcement" would also generate upward bias in estimates of the effects of litigation leading to affirmative action on offenses known to law enforcement.

F.6 Reasons for Not Reporting

Table 10 reports pretreatment means for the reasons given for not reporting victimization to law enforcement, by race, for the treated MSAs during pretreatment years only, using only respondents who experienced victimization. During this pretreatment period, Black respondents were more likely to not report victimization because they believed that the police either would not or could not help them; 28% of Black respondents cited at least one of these as reasons for not reporting

[15] https://www.aclu-il.org/en/press-releases/newly-released-data-shows-city-continues-deny-equitable-police-services-south-and.

[16] In 1983, the FBI began asking law enforcement agencies to report complaints that were determined by agencies not to involve criminal offenses as "unfounded" complaints. Unfortunately, we do not have enough pretreatment years of data on these unfounded complaints to systematically analyze this potential source of measurement error.

victimization, relative to 24% of white respondents. White respondents were more likely to not report victimization to the police for reasons unrelated to trust in the police response, relative to Black respondents.

Table 10: Descriptive Statistics
Reasons for Not Reporting Victimization, by Race
Treated MSAs Pretreatment

	White Respondents	Black Respondents
Not Reported: Mistrust in Police Response		
Police Wouldn't Help	0.078	0.112
Police Couldn't Do Anything	0.177	0.185
Not Reported: Mistrust Police	0.241	0.281
Not Reported: Other Reasons		
Not Impt to Rspndt	0.268	0.176
Dealt With Another Way	0.141	0.111
Other Reason	0.113	0.090
Not Reported: Other Reasons	0.390	0.273
N	6694	1504

Cells report NCVS means between 1979-1985 for treated MSAs during pretreatment years only.

Figure 7 reports event study estimates of the effects of litigation leading to affirmative action on the racial gap in not reporting victimization because of mistrust in the police. There is an average post-litigation decrease of 4.3 percentage points in the racial gap in not reporting because of mistrust in the police. A majority of these estimates are significant at the 90% level or higher.

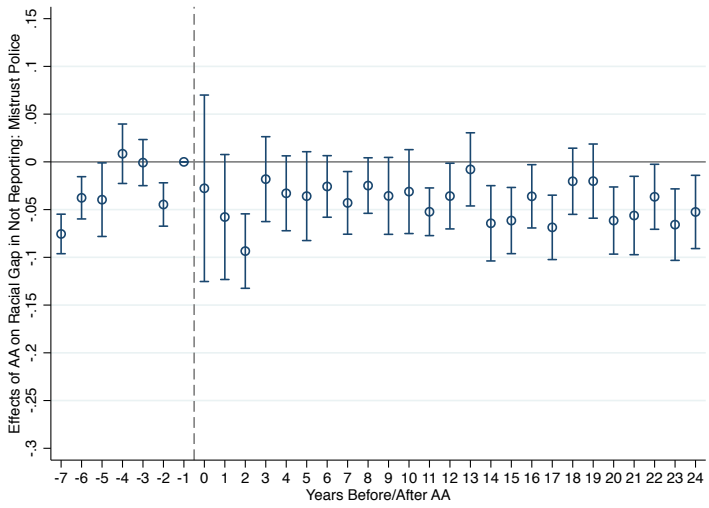

Figure 21: Estimates of Effects of Litigation Leading to Affirmative Action on Changes in Racial Gap in Not Reporting Victimization: Mistrust Police; 1979-2004

Figure 22 reports estimates of the effects of litigation leading to affirmative action on changes in not reporting victimization for reasons other than mistrust in the police response, relative to the baseline year. There are no post-litigation decreases in not reporting due to reasons other than mistrust in the police response, for either white or Black victims.

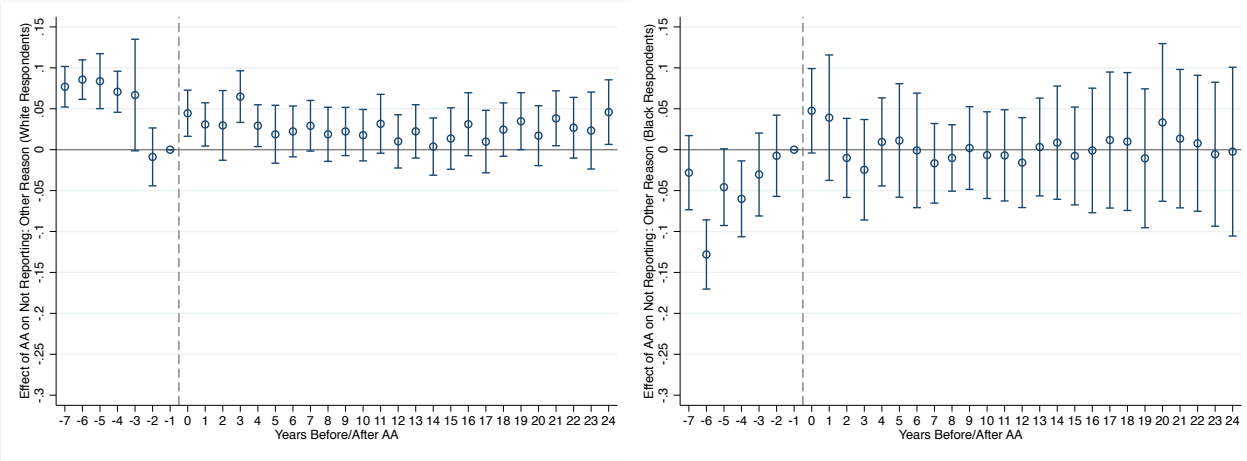

Figure 22: Estimated Effects of Litigation Leading to Affirmative Action on Changes in Not Reporting: Other Reasons, 1979-2004

F.7 Agency Racial Composition

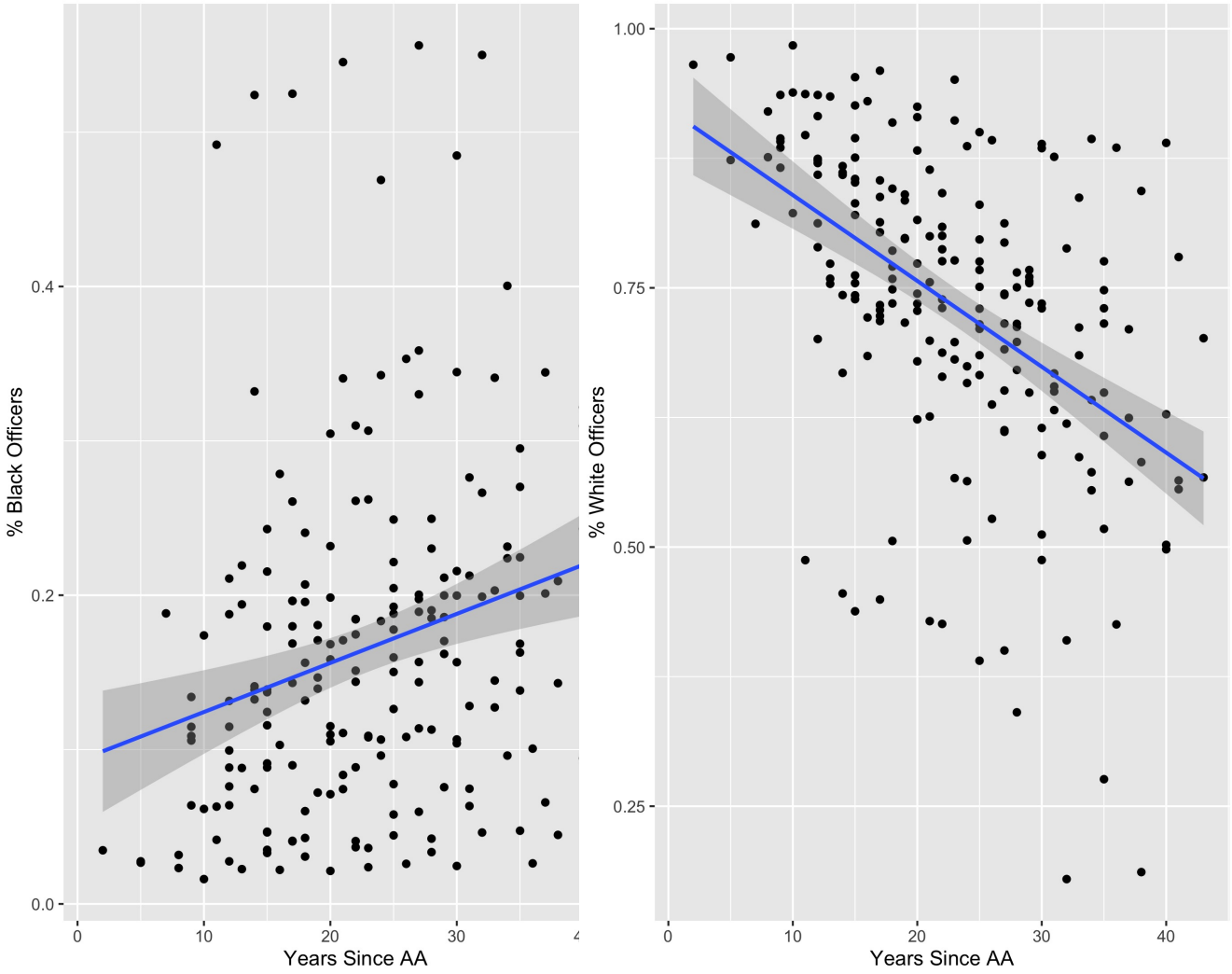

Figure 23: Litigation/Plan Duration and Agency Racial Composition, 1987-2013

Table 11: 2WFE Estimates of Effects of Litigation Leading to Affirmative Action on Proportions of Black and White Officers, 1987-2013

	Prprtn Black Officers	Prprtn White Officers
Litigation Duration	0.002**	-0.008***
	(0.001)	(0.002)
1987 Mean	0.12	0.87
N	200	200
MSA FE	Yes	Yes
Year FE	Yes	Yes

* p<.10, ** p<.05, *** p<.01. Standard errors clustered on MSA.

F.8 Number of Police

We source agency-level data on numbers of sworn officers from the FBI's LEOKA data series. We aggregate agency-level numbers of officers and agency-level population served to the MSA/year level. Figure 24 reports event study estimates for the 26 treated MSAs. There is no effect of litigation leading to affirmative action on changes in the numbers of sworn officers, relative to the baseline year.

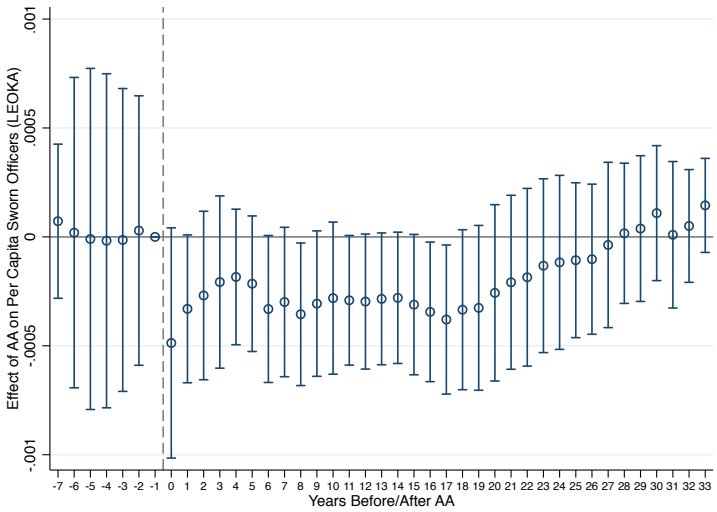

Figure 24: Estimated Effects of Litigation Leading to Affirmative Action on Changes in Number of Sworn Officers Per Capita, 1979-2004

F.9 Racial Disparities in Socioeconomic Characteristics

As reported in the second two columns of Table 3, sizable racial disparities in a variety of socioeconomic characteristics are evident in treated MSAs during pretreatment years. Black respondents in these MSAs are less likely to own homes, to live in single family residences, to have household incomes of at least $30,000, to have some college, and to be married, relative to white respondents; a higher proportion of Black respondents in these MSAs are also in the 18-29 year age cohort, relative to white respondents. These pretreatment racial disparities in socioeconomic attributes may have contributed to pretreatment racial disparities in crime victimization. One possibility is that litigation leading to affirmative action may have caused decreases in the racial disparities in socioeconomic characteristics observed in treated MSAs pretreatment, leading to decreases in racial disparities in victimization.

We estimate Equation 2 using the respondent-level outcomes of homeownership, residence in a single-family home, age 18-29, household income of at least $30,000, some college, and marital status, using only the 26 MSAs that will eventually become subject to treatment. Figures 25-31 report the results. There is no evidence of post-treatment changes in racial disparities in socioeconomic characteristics.

Figures 25-31 also reveal no pretreatment trends in respondent socioeconomic characteristics in the 26 MSAs that will eventually be treated. The lack of pretreatment trends in respondent socioeconomic characteristics further supports the premise that the timing of litigation leading to affirmative action was as-if random among these MSAs.

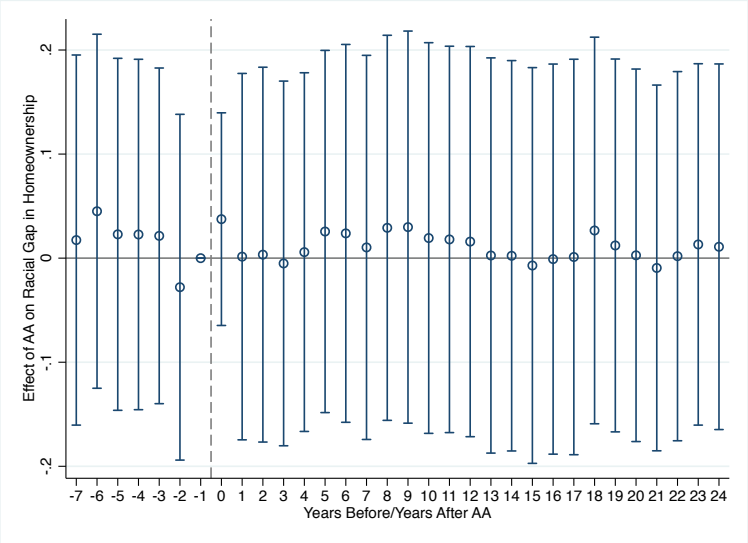

Figure 25: Estimated Effects of Litigation Leading to Affirmative Action on Changes in the Racial Gap in Homeownership, 1979-2004

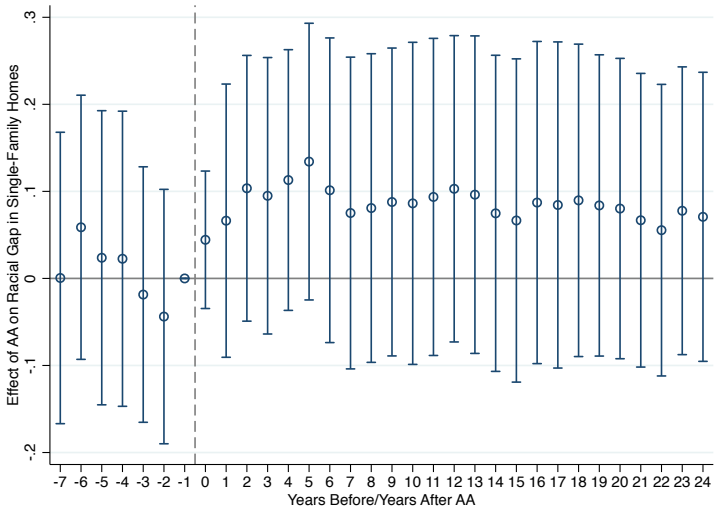

Figure 26: Estimated Effects of Litigation Leading to Affirmative Action on Changes in the Racial Gap in Single Family Homes, 1979-2004

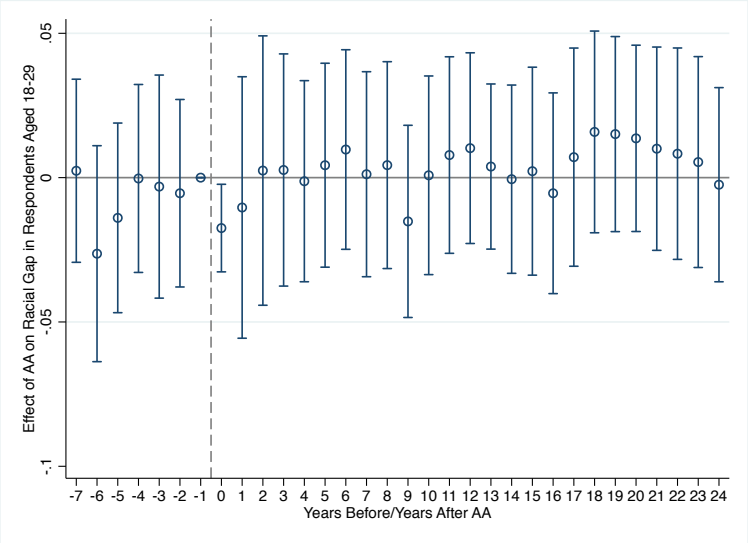

Figure 27: Estimated Effects of Litigation Leading to Affirmative Action on Changes in the Racial Gap in Presence of Respondents Aged 18-29, 1979-2004

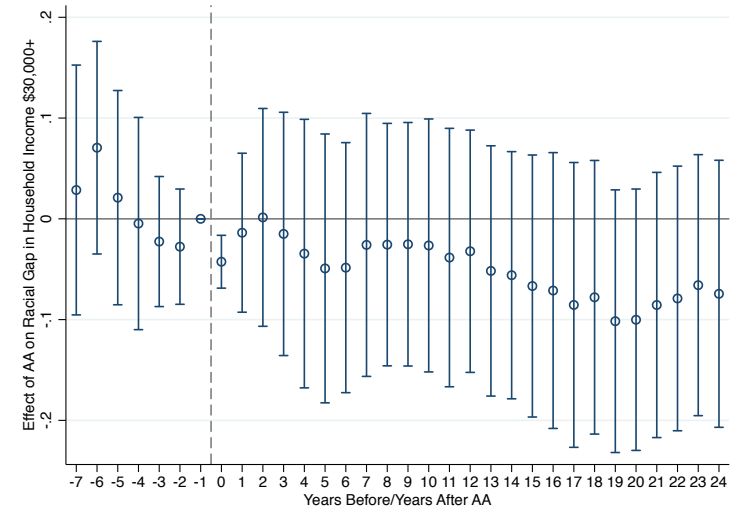

Figure 28: Estimated Effects of Litigation Leading to Affirmative Action on Changes in the Racial Gap in Respondents With Household Income $30,000+, 1979-2004

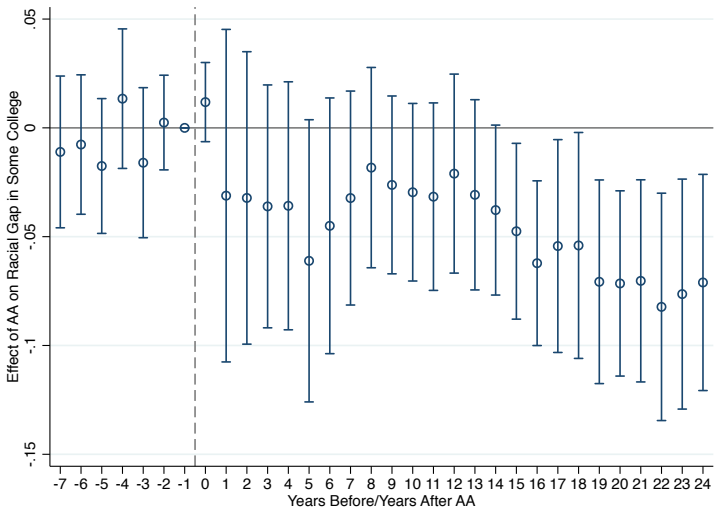

Figure 29: Estimated Effects of Litigation Leading to Affirmative Action on Changes in the Racial Gap in Respondents With Some College, 1979-2004

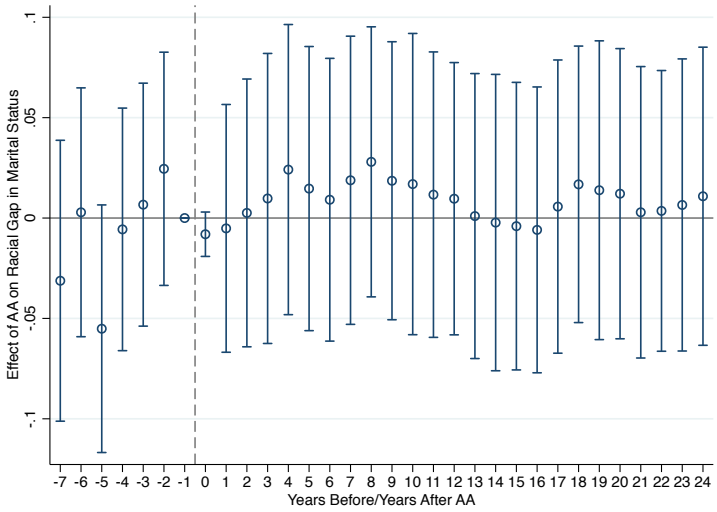

Figure 30: Estimated Effects of Litigation Leading to Affirmative Action on Changes in the Racial Gap in Respondents Who are Married, 1979-2004

F.10 UCR Clearance Rates

The FBI UCR data report the numbers of offenses known to law enforcement that were "cleared" by law enforcement agencies. As noted in the body text, litigation leading to affirmative action may have induced agencies to exert greater effort to solve or "clear" victimization complaints recorded as criminal offenses; this greater effort to solve crime may have both reduced victimization rates and increased clearance rates.

However, declaring offenses as "cleared" in the UCR data is at an agency's discretion. Agencies may report to the UCR that an offense has been cleared if either an arrest of a suspect has been made, or the agency has simply declared the offense to have been cleared even when an arrest has not been made. Although there are UCR guidelines for the use of these "exceptional" clearances, there does not appear to be any monitoring of agency practice. Further, there have been media reports of agencies strategically using exceptional clearances in order to increase clearance rates for offenses to which the agencies either do not want to devote effort, or for which genuine clearances are harder to achieve.[17]

Agencies' discretion to simply declare offenses as cleared may bias effect estimates. Prior to the onset of litigation leading to affirmative action, agencies may have been more likely to use strategic clearances for crimes reported by Black victims, relative to crimes reported by white victims. After the onset of litigation leading to affirmative action, agencies may have reduced the frequency with which they strategically (and misleadingly) declared these offenses to have been cleared. This change in practice would be observed as a decrease in clearance rates after the onset of litigation leading to affirmative action. Even if agencies also increased effort devoted to sincerely clearing these offenses, leading to increases in (true) clearance rates, these two trends might offset each other.

Further, even in the absence of strategic manipulation of clearance rates, clearing recorded offenses is only one mechanism by which agencies could have reduced victimization rates. Increased effort devoted to patrolling higher crime neighborhoods could have deterred criminal victimization, thereby reducing victimization rates, even in the absence of post-victimization law enforcement effort. Even if clearance rates were sincerely reported by law enforcement agencies, the absence of an effect of litigation leading to affirmative action on clearance rates need not imply the absence of greater responsiveness by law enforcement agencies to reports of criminal victimization.

We aggregate total numbers of cleared offenses and total numbers of offenses to the MSA/year level for the sample of 87 agencies located in the core counties of the 26 treated MSAs that consistently report UCR data between 1979 and 2004. Clearance rates are defined as total clearances/total offenses. Figure **??** reports estimates from Equation 1. Estimates are too noisy to be able to make inferences.

[17] "When It Comes to Rape, Just Because a Case Is Cleared Doesn't Mean It's Solved," ProPublica/Reveal from The Center for Investigative Reporting, Nov. 15, 2018; "How We Analyzed Rape Clearance Rates," ProPublica/Reveal from The Center for Investigative Reporting, Nov. 15, 2018.

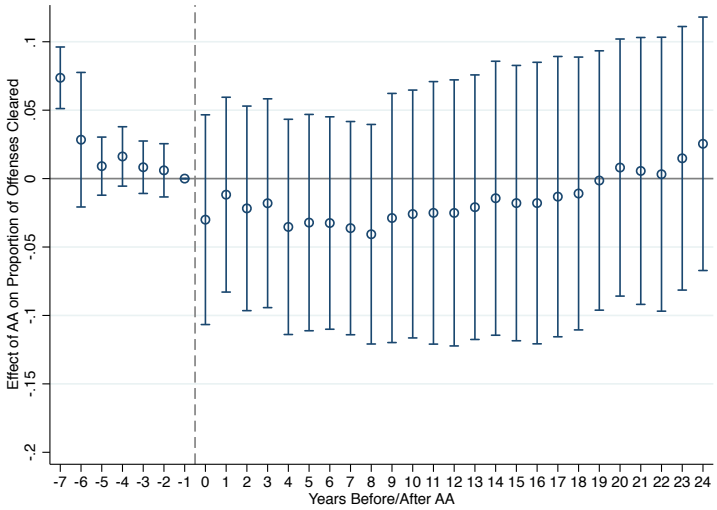

Figure 31: Estimated Effects of Litigation Leading to Affirmative Action on Changes in UCR Clearance Rates, 1979-2004

F.11 Heterogeneity by Type of Crime

We can also explore whether the impacts of litigation leading to affirmative action on relative Black victimization are heterogeneous by kind of crime. Table 12 reports victimization means, by race and category of crime, for treated MSAs during pretreatment years only.[18] Black respondents report higher pretreatment victimization rates, relative to white respondents, for nearly all categories of crime. The exceptions are assault without a weapon (simple assault), both with and without injury, for which white respondents report slightly higher victimization rates during the pretreatment period. Most victimization during the pretreatment period, for both white and Black respondents, occurs in the category of burglary/theft, where there is approximately a 5 percentage point (50%) racial gap in victimization (11% victimization rate for white respondents; 16% victimization rate for Black respondents).

[18]Crime categories are reported as defined by the NCVS.

Table 12: Descriptive Statistics
Victimization by Race and Type of Crime
Treated MSAs Pretreatment

	White Respondents	Black Respondents
Attptd/Cmpltd Robbery/Injury/Serious Assault	0.05	0.19
Attptd/Cmpltd Robbery/Injury/Minor Assault	0.08	0.11
Attptd/Cmpltd Robbery/No Injury	0.24	1.09
Attptd/Cmpltd Robbery/No Contact	0.10	0.30
All Robbery	0.47	1.69
Burglary	1.68	3.38
Attptd Forcible Entry	0.48	1.23
Attptd/Cmpltd Motor Vehicle Theft	0.51	1.93
Attptd/Cmpltd Theft	8.43	9.65
All Theft/Burglary	11.09	16.19
Attptd/Cmpltd Aggravated Assault	0.59	1.26
Simple Assault/Injury	0.28	0.19
Simple Assault/No Injury	0.99	0.88
All Assault	1.86	2.32
Attptd/Cmpltd Rape	0.06	0.12
N	49,623	7,399

Cells report NCVS means between 1979-1985 for treated MSAs during pretreatment years only.

Because there are fewer incidents within each crime category, relative to the full sample, to achieve greater precision we report the pooled 2WFE DD estimates from Equation 7 of the effects of litigation leading to affirmative action on racial disparities in victimization, by type of crime. We report estimates for the 26 MSAs eventually subjected to treatment, exploiting only the variation in treatment timing.

Tables 13 and 14 report the results. Effects are largely consistent across crime categories. Litigation leading to affirmative action decreases racial disparities in victimization for robbery with serious injury, robbery with no injury, robbery with no contact (e.g., pickpocketing), all categories of robbery pooled together, burglary, attempted forcible entry, motor vehicle theft, other theft, all categories of burglary and theft pooled together, aggravated assault, and all categories of assault

pooled together. For all of these categories of crime, Black respondents were also significantly more likely to be victimized during pretreatment years, relative to white respondents.

We see no negative effects of litigation leading to affirmative action on racial disparities in robbery with minor injury, simple assault with no injury, simple assault with injury, and rape. However, these categories account for few crimes, for both white and Black respondents.

The largest reduction in the racial gap in crime victimization is realized in the pooled category of burglary/theft, or property crimes committed without the personal involvement of the victim. In the overall 2WFE DD estimates for all incidents reported in Table 5, we see an overall 5 percentage point reduction in the racial gap in victimization after the imposition of litigation leading to affirmative action. As reported in Table 13, 4.5 percentage points of this 5 percentage point reduction in the racial gap in victimization is realized in the category of burglary/theft.

Table 13: Estimated Effects of Litigation Leading to Affirmative Action on the Racial Gap in Victimization, 1979-2004; By Type of Crime

	Robbery Injury Serious	Robbery Injury Minor	Robbery No Injury	Robbery No Contact	Robbery All	Burglary	Attmptd Forcible Entry	Theft Motor Vehicle	Theft Attmptd/ Completed	Burglary/ Theft All
Post-AA	0.000	-0.000	0.001	0.001***	0.002**	-0.000	0.000	0.001	-0.000	0.001
	(0.000)	(0.000)	(0.000)	(0.000)	(0.001)	(0.001)	(0.001)	(0.001)	(0.006)	(0.007)
Black	0.001***	0.000	0.008***	0.002***	0.012***	0.017***	0.007***	0.014***	0.015***	0.053***
	(0.000)	(0.000)	(0.001)	(0.000)	(0.002)	(0.001)	(0.001)	(0.001)	(0.002)	(0.003)
Post-AA X Black	-0.001***	0.000	-0.006***	-0.001**	-0.008***	-0.013***	-0.005***	-0.011***	-0.015***	-0.044***
	(0.000)	(0.000)	(0.001)	(0.000)	(0.002)	(0.001)	(0.001)	(0.001)	(0.003)	(0.004)
Constant	0.001***	0.001***	0.002***	0.002***	0.006***	0.015***	0.004***	0.004***	0.081***	0.104***
	(0.000)	(0.000)	(0.000)	(0.000)	(0.001)	(0.001)	(0.000)	(0.001)	(0.004)	(0.005)
N	1,419,674	1,419,674	1,419,674	1,419,674	1,419,674	1,419,674	1,419,674	1,419,674	1,419,674	1,419,674
MSA FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Year FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes

* p<.10, ** p<.05, *** p<.01. Standard errors clustered on MSA.

Table 14: Estimated Effects of Litigation Leading to Affirmative Action on the Racial Gap in Victimization, 1979-2004; By Type of Crime

	Assault Aggravated	Assault Simple Injury	Assault Simple No Injury	Assault All	Rape
Post-AA	0.000	-0.000	-0.001	-0.002	0.000
	(0.000)	(0.001)	(0.002)	(0.002)	(0.000)
Black	0.007***	-0.001***	-0.001	0.005***	0.001***
	(0.001)	(0.000)	(0.001)	(0.001)	(0.000)
Post-AA X Black	-0.005***	0.001***	0.001	-0.003***	-0.000
	(0.001)	(0.000)	(0.001)	(0.001)	(0.000)
Constant	0.006***	0.002***	0.009***	0.017***	0.001***
	(0.000)	(0.000)	(0.002)	(0.002)	(0.000)
N	1,419,674	1,419,674	1,419,674	1,419,674	1,419,674
MSA FE	Yes	Yes	Yes	Yes	Yes
Year FE	Yes	Yes	Yes	Yes	Yes

* p<.10, ** p<.05, *** p<.01. Standard errors clustered on MSA.