Policing the Police: The Impact of Federal Investigations on Crime
Online Appendix (Not for Publication)

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I. Data Appendix

A. Investigation Inclusion/Exclusion in the Main Analysis

The Civil Rights Division of the federal Department of Justice has conducted 69 Pattern-or-Practice Investigations since the division was granted the authority to investigate police departments for systemic unconstitutional policing in 1994. The California Attorney General has investigated an additional 4 police departments for police misconduct. Twenty-seven of those investigations enter our final sample. Cities are dropped for various reasons, which are indicated in Appendix Table 1. Here, we expand upon the reasons each city was not included in the final sample. First, investigations were dropped if they were missing data in the relevant event window. Second, investigations were dropped from the main analysis if they met one of several categorical requirements that made it infeasible to perform the synthetic control calculation.

1. Twenty-seven investigations are dropped because they did not report the relevant data to the FBI UCR program in the required event window.

2. Fifteen investigations are dropped from the main analysis because the jurisdictions of the police departments are not "principal cities," as defined by the US 2010 census.[1] This is because the calculation of the synthetic control relied on matching police department jurisdictions to city-level demographic variables – additional details are provided later. Thus, investigations are dropped from the main analysis when the investigated department is a county sheriff department, county police department, or a police department in a city that is too small to be considered a "principal city." Results for these investigations are presented in the appendix.

3. Two investigations are dropped because its' event window overlaps with a previous investigation of the same police department. While the two investigations were officially investigations focusing on separate districts of the New York Police Department, all districts of NYPD report crime as one law enforcement agency. The investigation focusing on the Eastern District began in August 1997, and the investigation focusing on the Southern District began in March 1999. Given the relatively small 24-month gap between the two investigations, we only include the first investigation. For Riverside, the state AG initiated an investigation in April 1999 that had its results announced later. The DOJ investigated the same department starting July 1999. The second investigation never reached completion and does not have a publicly available summary of findings either.

4. Finally, two investigations were dropped because they investigated the department's canine unit and drug interdiction unit only.

B. Data Collection

The FBI UCR Program attempts to collect monthly totals of Part I felony offenses for each law enforcement agency in the United States (approximately 18,000 law enforcement agencies). The exact crimes and their definitions are detailed below. Reporting is not mandatory, however, and many law enforcement agencies do not report crimes in all years. Furthermore, UCR data only includes crimes that are reported to police. That said, it is the most comprehensive source of collated national crime data at this time. Archived UCR data is available from the Inter-university Consortium for Political and Social Research (ICPSR) from 1966-2016. Data from 2017 is available on www.openicpsr.org.

[1] From `https://www.census.gov/geo/reference/gtc/gtc_cbsa.html`: "Principal cities of a Core Based Statistical Areas (CBSA) (or New English City Town Areas (NECTA)) include the largest incorporated place with a population of at least 10,000 in the CBSA, or if no incorporated place of at least 10,000 population is present in the CBSA, the largest incorporated place or census designated place (CDP) in the CBSA. Principal cities also include any additional incorporated place or CDP with a population of at least 250,000 or in which 100,000 or more persons work; any additional place or CDP with a population of at least 50,000 and in which the number of jobs meets or exceeds the number of employed residents; and any additional incorporated place or CDP with a population of at least 10,000 but less than 50,000 and at least one-third the population size of the largest place and in which the number of jobs meets or exceeds the number of employed residents.

C. Variable Construction

C.1 UCR Part 1 Offenses and Offenses Cleared By Arrest

FBI UCR Part I felony crimes are: Criminal homicide, forcible rape, robbery, aggravated assault, burglary, larceny, auto theft, and arson.

- *Criminal homicide* is defined as murder and non-negligent manslaughter: the willful killing of one human being by another. Deaths caused by negligence, attempted killings, suicides, and accidental deaths are not included. Justifiable homicides (the killing of a felon by a law enforcement officer in the line of duty, or the killing of a felon while the felon is attempting a crime by a private citizen) are considered separately from criminal homicide.

- *Forcible rape* is defined as the carnal knowledge of a female forcibly and against her will. Attempted forcible rape is included. Statutory rape (no force used, but the victim is under the age of consent) is not included.

- *Robbery* is defined as the taking of anything of value from a person by force, threat of force, or intimidation. Attempted robbery is included.

- *Aggravated assault* is defined as an attack on a person for the purpose of inflicting severe or aggravated physical injury. This type is often accompanied by use of a weapon, but aggravated assaults with hands and feet used as weapons are also counted. Simple assaults are excluded (assaults where no weapon was used or no serious injury resulted. Includes stalking, intimidation, coercion, and hazing). "Battery" and "assault" are synonyms.

- *Burglary* is defined as the unlawful entry of a structure to commit a felony or theft. Attempted forcible entry is included. "Breaking and entering" and "burglary" are synonyms.

- *Larceny* is defined as all theft, excluding theft of a motor vehicle. This is the unlawful taking of property from the possession of another. Attempted larcenies are included. Embezzlement, confidence games, forgery, and check fraud are excluded. "Theft" and "larceny" are synonyms.

- *Motor vehicle theft* is defined as the theft or attempted theft of a motor vehicle (a self-propelled form of transportation that runs on land and not on rails). It is counted separately from all other larceny due to the high proportion of motor vehicle theft relative to all other larceny.

- *Arson* is defined as the willful or malicious burning a house, public building, motor vehicle or aircraft, personal property, etc. Attempted arson is included.

Unfounded reports of each of these crimes are reported separately to the FBI UCR program. We do not include unfounded crimes. Crimes are reported for the month that they were reported to the police department. If crimes are discovered to be unfounded in a later month after they were reported, they are removed from the total counts.

These eight are the crimes that police departments report to the FBI as part of the UCR program. However, when requesting data from police departments, we found that many did not include arson when providing counts to us. Also, police departments did not consistently provide motor vehicle theft – it was either not provided or provided only for auto theft (not total motor vehicle theft) by many police departments. Therefore, we define "total crime" as the total number of all Part I offenses, minus motor vehicle theft and arson.

Some examples from the UCR Handbook:

1. Two women broke into a new car dealership after closing hours. They took the cash from the dealership?s office safe and two new automobiles from the garage.

   This is classified as one count of burglary.

2. A burglar broke into a home, stole several items, and placed them in a car belonging to the owner of the home. The homeowner returned and surprised the thief, who in turn knocked the owner unconscious by hitting him over the head with a chair. The burglar drove away in the homeowner?s car.

This is classified as one count of robbery.

3. As a result of arson in an apartment building, six persons were found dead.

   This is classified as six counts of criminal homicide and one count of arson.

4. A man forcibly entered a sporting goods store, which was closed, and stole cash and merchandise including numerous firearms. The next day, the police arrested a man during an attempted street robbery. The man was armed with a handgun, which further police investigation determined he stole from the sporting goods store the previous day.

   This is classified as one count of burglary and one count of robbery.

We use ICPSR data through 2017 with two exceptions. We use data collapsed from incident reports for the entire event window for Chicago and Washington DC. This is because (1) Chicago did not report aggravated assault separately from simple assault to the FBI, but the two can be separated in the incident reports and (2) Washington DC explicitly states that their incident reports use DC's criminal code rather than the FBI standards to categorize crimes (though the two are quite similar). To be consistent in crime definitions, we use incident report data over the entire window for these two cities.

C.2 9-1-1 Calls for Service

Data on 9-1-1 calls for service was provided at the call level. Variables included the type of call, the date and time of the call, and, in St. Louis, the time officers were dispatched and the time they arrived on scene. Calls were removed if they were 3-1-1 calls (non-emergency call systems, used to ask questions about government services, make complaints, or report problems like graffiti or road damage).

C.3 Police-Civilian Interactions

Data on all police-civilian contacts (in Chicago) and traffic stops (in all other cities) was provided either as monthly totals or as incident reports. If we received incident reports, we counted all recorded stops. One exception is that the North Charleston Police Department could only provide records of traffic stops that did not result in an arrest or citation.

C.4 Media Scrutiny

We use the number of media articles published on the topic of a particular police department as our outcome variable. For each relevant police department, we used the news article search database *Factiva* to collect news articles concerning the police department over the relevant time frame. *Factiva* aggregates archived news content from licensed and free sources including newspapers, journals, magazines, etc. We started with the 25 largest news agencies in the US. Based on the availability in *Factiva* and resource constraints, we accessed news articles from 13 of those 25 news agencies. For each police department, we searched for articles in the (-2, 2) year window around the relevant investigation. We used the following search term for each city:

> *([city name] w/1 police) AND (excessive w/1 force OR officer w/1 involved w/1 shooting OR use w/2 force OR department w/2 justice OR police w/3 misconduct OR police w/3 brutality) and date from [date-2years] to [date+2years]*

where "word1 w/1 word2" indicates that word1 should be within one word of word2. We went through all returned articles and removed irrelevant articles (approximately 10% of all articles). One example of an article that needed to be removed is that articles would be returned if they linked to a headline of another article that was relevant – i.e. articles that were irrelevant but about the same city at the same point in time. A second example is articles that were about the appropriate topic, but in a different city, and were returned because of an extraneous mention of the city of interest. We also removed all duplicated articles. The measure we use is the total number of articles that are returned to this search query per month around the investigation, after making these adjustments.

C.5 Population

We adjust all crime statistics by population size to make them comparable across cities. All variables are presented as counts per 100,000 people. Population counts of the jurisdiction of each police department is recorded in the FBI UCR files collated by ICPSR. This is census-recorded population of the city or county that the police department has jurisdiction over. To extend population counts for 2016 and 2017, we use publicly-available intercensal population estimate files available from the census for every city and town in the US. These estimates are available in for 2010-2016. We match police departments to their correct city/town jurisdiction based on name and by comparing the population in the FBI UCR files collated by ICPSR through 2015 to the intercensal estimates. We then use the intercensal population estimate for 2016. The intercensal population estimate is not yet available for 2017. Therefore, for each city we calculate the population growth from 2015 to 2016 and assume that the city will experience the same population growth from 2016 to 2017 to estimate the 2017 population.

C.6 Census Demographics

We use city-level control variables at several points in the analysis, most importantly to calculate the synthetic control cities using the procedure described in Abadie, Diamond, and Hainmueller (2010). We use city-level total counts of a range of demographic, economic, and education-related variables to create these control variables for each police department. We match each police department to its jurisdiction if its jurisdiction is a "principal city" (see footnote 1 for a definition). Each police department is assigned the demographics of its jurisdiction. We use data from the 1990 Census Long Form, the 2000 Census Long Form, and the 2011 ACS 5-year sample. The ACS 5-year samples replaced the Census Long Form following the 2000 Census. We purchased this census data from Geolytics, Inc.

We define the following variables using this census data:

- Total population
- Percent of the population between the ages of 15 and 24 (inclusive)
- Percent white (non-Hispanic)
- Percent black (Hispanic or non-Hispanic)
- Percent Hispanic (non-black)
- Percent other race (non-white, non-black, non-Hispanic)
- Unemployment rate (civilians only, population 16 years and older)
- Median household income
- Poverty rate (where poverty is defined as income in the past 12 months below the poverty level)
- Percent with at least a high school degree (population 18 years and older)
- Percent with at least a 4-year college degree (population 18 years and older)
- Percent of families with own children aged 0-17 present in the household that are led by either a male householder with no wife present or a female householder with no husband present (i.e. "single parent households").
- Percent of households in which at least one member is receiving public assistance income (i.e. cash payments to poor families, including General Assistance and Temporary Assistance to Needy Families (TANF) – does not include Supplemental Security Income (SSI), non-cash benefits, or payments for medical care via Medicaid or Medicare).

In addition, we create three indices that are used as controls in our main specification. The indices are created by standardizing each input variable across the distribution (of principal cities or of census tracts, depending on the level of analysis) to have a mean of zero and standard deviation one. Variables for the economic index are first recoded, where necessary, so that all are *negatively* correlated with crime rates. Each index is the mean of the following standardized variables:

- Race Index: Percent minority (non-white)
- Economic Index: Median income, 1-poverty rate, 1-percent receiving public assistance income, 1-unemployment rate, 1-percent single parent households
- Education Index: Percent with at least a high school degree, percent with at least a 4-year college degree

D. Synthetic Control "Donor Pool" Construction

D.1 Background

Our "synthetic control" technique is based on the procedure originated by researchers Alberto Abadie, Alexis Diamond, and Jens Hainmueller (henceforth ADH). This procedure is described and illustrated via example in ADH (2010) and ADH (2015). We use the *Synth* package for Stata written by ADH to carry out this synthetic control procedure. The key idea is to take a set of untreated units and determine what weighted combination of those units best matches predictors of the outcome of interest in the treated unit in the pre-treatment period. Then, comparisons of the treated unit and the "synthetic control" unit in the post-treatment period can be interpreted as the effect of the treatment, assuming that no other events occurred simultaneously in the untreated units.

There are two main differences between our analysis and theirs: first, in both of their analyses they have only one "treated" unit, and we have many in our application. Second, their "donor pools" (the comparison units that are eligible to receive positive weight in the synthetic control unit) are obvious given the events they analyze and the unit of aggregation at which they do so. For example, ADH (2010) analyzes the passage of a large-scale tobacco control program that California implemented in 1988. The donor pool is the remaining states that do not have simultaneous large-scale tobacco control programs (38 states of a possible 49). ADH (2015) analyzes the reunification of East and West Germany in 1990, where West Germany is the treated unit. The donor pool is 16 of 23 OECD member countries in 1990 – countries are excluded based on size, unusual economic structure, and if they had idiosyncratic financial shocks during the sample period.

ADH (2015) outlines three reasons to restrict the donor pool. First, units that are affected by a similar event as the treated unit should not be included. Second, units that may have experienced large or unexpected shocks to the outcome variable during the event window should be excluded if the shocks would have not have affected the treated unit in the absence of treatment. Finally, to avoid interpolation biases and the chance of overfitting, the donor pool should be restricted to units that are similar to the treated unit. It is also important for practical considerations – with a donor pool larger than 150 units, the *Synth* package cannot determine the optimal weights in a reasonable amount of time.

In this section, we describe how we limit the universe of 18,000 law enforcement agencies in the US to the appropriate donor pool for each of the eligible 27 DOJ investigations of police departments between 1994 and 2015, and 8 viral shootings that were not followed by an investigation between 2013 and 2015. We follow the process below separately for each investigation or viral shooting. The treated unit is a police department, which serves one city in the US. The event window of interest is a (-27, 24) month window around the event.

D.2 Restricting the donor pool

At the outset, there are 22,531 law enforcement agencies that report to the FBI at some point between 1988 and 2017. 11,408 of those agencies have non-missing crime data over a full event window for at least one investigation or viral shooting (many of the agencies without crime data are college police departments, state and national park rangers, airport authority police, etc.). 8,787 agencies remain after we remove 2,441 sheriff's offices, 139 state law enforcement agencies, 38 county police departments, one police department with

a special jurisdiction, one constable's office, and one park police department (all of which have jurisdiction over something other than a city). Finally, we limit to agencies that serve a principal city (see footnote 1 for a definition). This restricts to 1,200 police departments that are eligible to enter the donor pool for at least one investigation or viral shooting, including the 27 cities that are the treated city for some event.

We limit to principal cities in order to match police departments to the demographic control variables of the jurisdiction they serve. These demographic variables, which should be correlated with the outcome of interest, are used to match the treated city to its synthetic city. We limit to principal cities because matching the police departments to the correct city demographics is a process that is done "by hand," and identifying the police department that serves over 22,000 "census designated places" (which include smaller cities, towns, etc.) was infeasible.

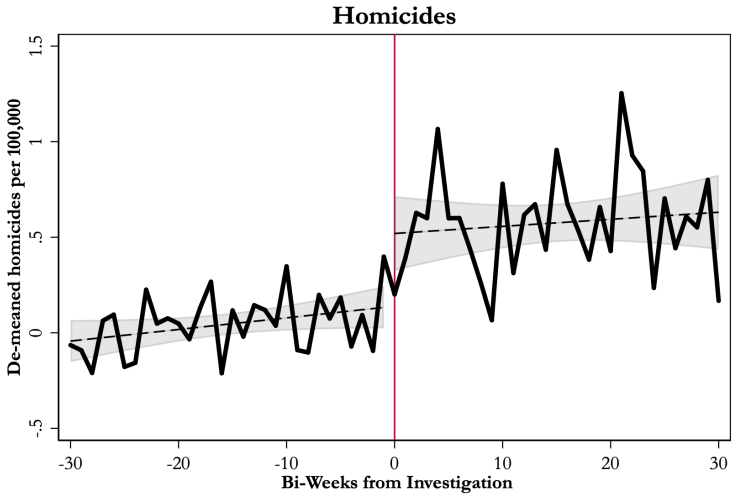
At this point, each event has a donor pool ranging from 752 cities to 1,078 cities that are not missing homicide or 752 to 1,037 cities that are not missing total crime in the relevant window. As described above, the donor pools must be further restricted to cities that look the most like the city that is investigated or has a viral shooting. We do this by finding, from the list of cities that are not missing the outcome variable, the 400 cities that are the closest to the city with an investigation or a viral shooting in (i) total population, (ii) percent black, (iii) poverty rate, and (iv) the mean value of the outcome variable in the 27 months before the event occurred in the treated city. We take the intersection of those four lists to form the donor pool for each event and outcome. As a final step, we remove any city that made it into the donor pool of another city but is simultaneously treated (where simultaneously means the two event windows overlap).

This describes the final donor pools. When the event is P&P investigations and homicide rates are the outcome variable, the average donor pool is 83 cities, with a minimum of 19 and a maximum of 134. When total crime rates are the outcome variable, the average donor pool is 63 cities, with a minimum of 14 and a maximum of 109. When the event is viral shootings with no investigation and homicide rates are the outcome variable, the average donor pool is 60 cities, with a minimum of 41 and a maximum of 72. When total crime rates are the outcome variable, the average donor pool is 50 cities, with a minimum of 40 and a maximum of 57.

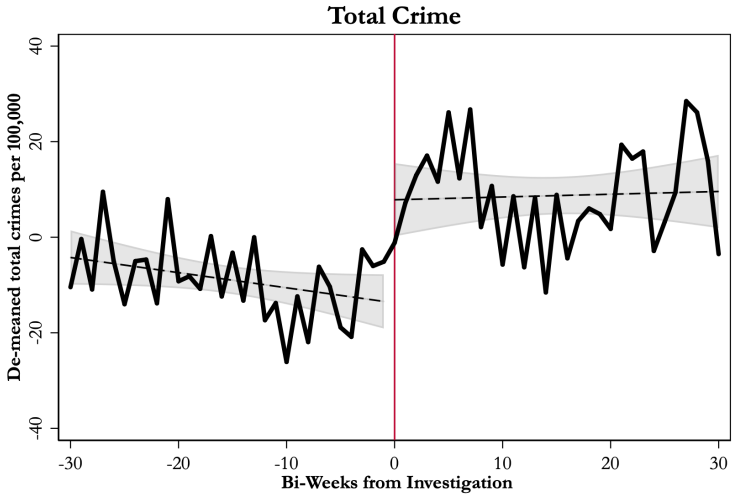
When constructing the synthetic control for media attention is the outcome variable, we did not have the universe of data as we did with crime variables. Therefore, we took the superset of the homicide and total crime donor pools and ran a search in *Factiva* as described in section A.1.3. This made up the donor pool of cities when the number of media articles is the outcome variable.

Appendix Figure 1: The Impact of Investigations on Crime with Crime Aggregated at Smaller Units of Time

Panel A: Bi-Weekly Crime Aggregation

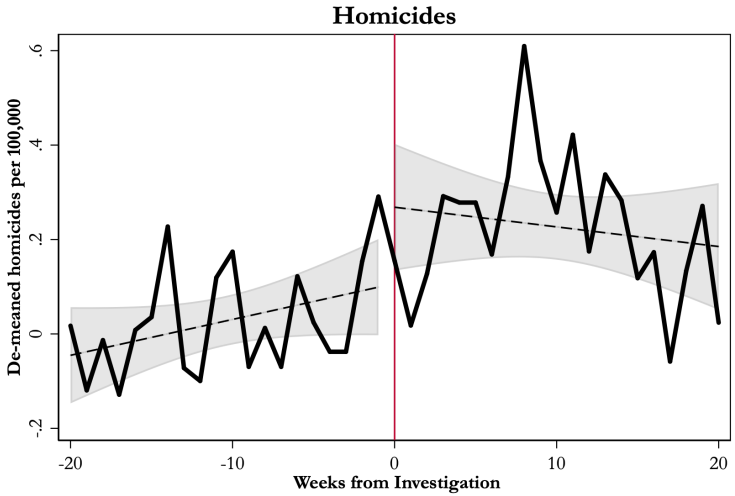


The test for no positive level break has a (one-sided) p-value of 0.000.

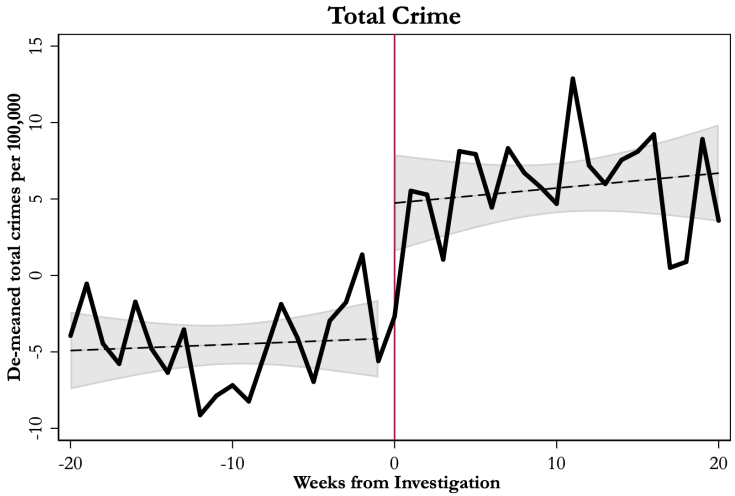


The test for no positive level break has a (one-sided) p-value of 0.000.

Panel B: Weekly Crime Aggregation



The test for no positive level break has a (one-sided) p-value of 0.020.

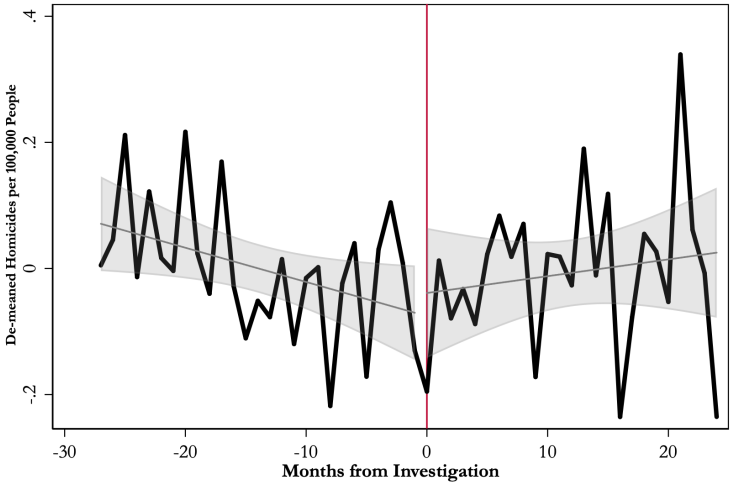


The test for no positive level break has a (one-sided) p-value of 0.000.

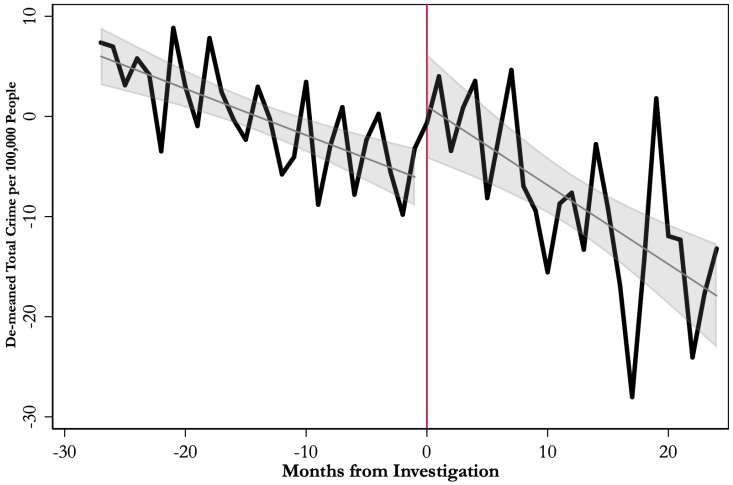
Notes: Each plot displays changes in average crime rates in cities that were investigated after a viral incident of deadly force that also have daily reports on crime levels, aggregated at the bi-weekly, and weekly levels. This includes three cities – Chicago, St. Louis and Baltimore. Crime rates are de-meaned by calendar month to account for seasonality in criminal behavior. Crime rates are collapsed to each level of aggregation from incident reports provided by the Chicago, Baltimore, and St. Louis Police Departments.

Appendix Figure 2: The Impact of Investigations on Homicide and Total Crime, Non-Principal Cities

Panel A: Difference-in-Difference, Without Controls

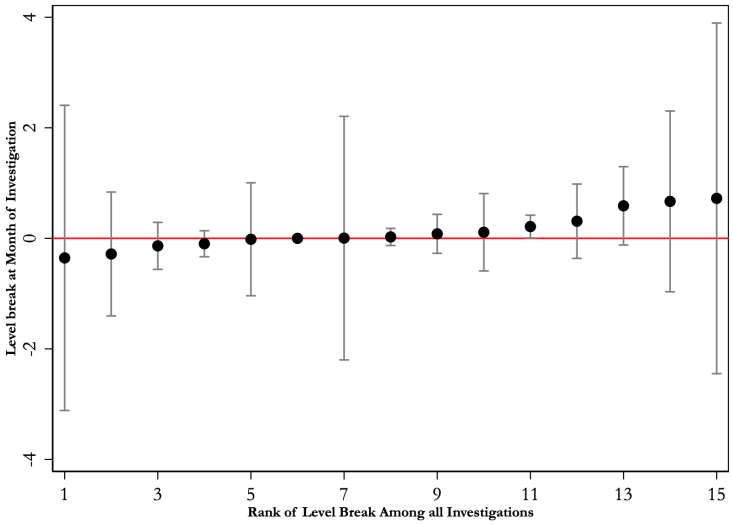


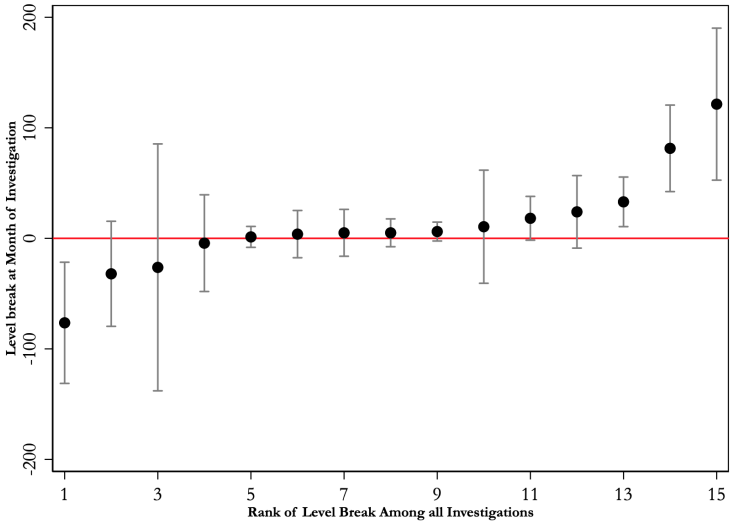
Level break: 0.037 (p-value = 0.527)
Trend break: 0.008 (p-value = 0.091)



Level break: 7.518 (p-value = 0.002)
Trend break: -0.325 (p-value = 0.075)

Panel B: Cumulative Difference, Without Controls

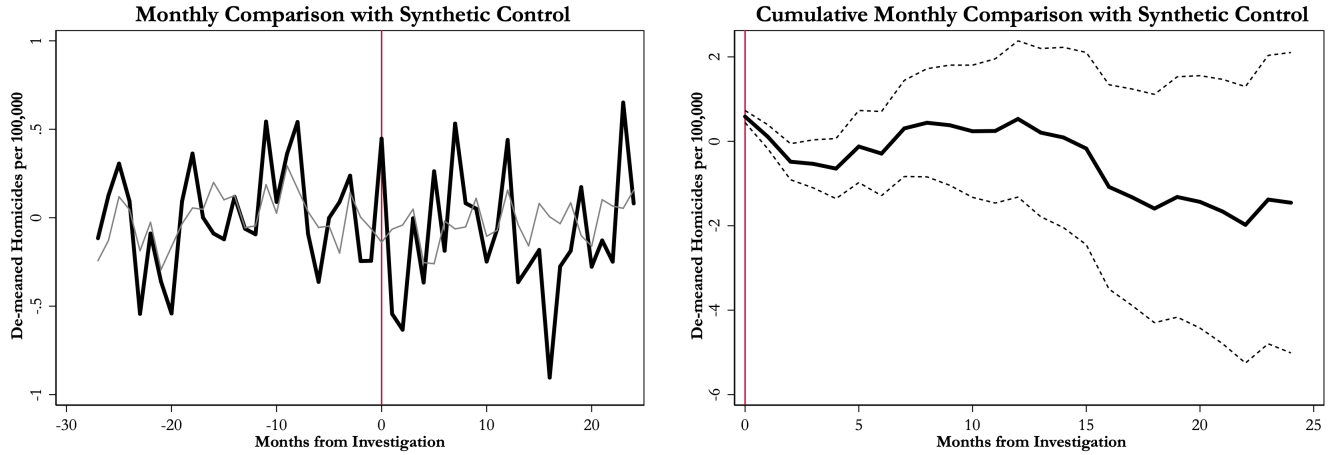




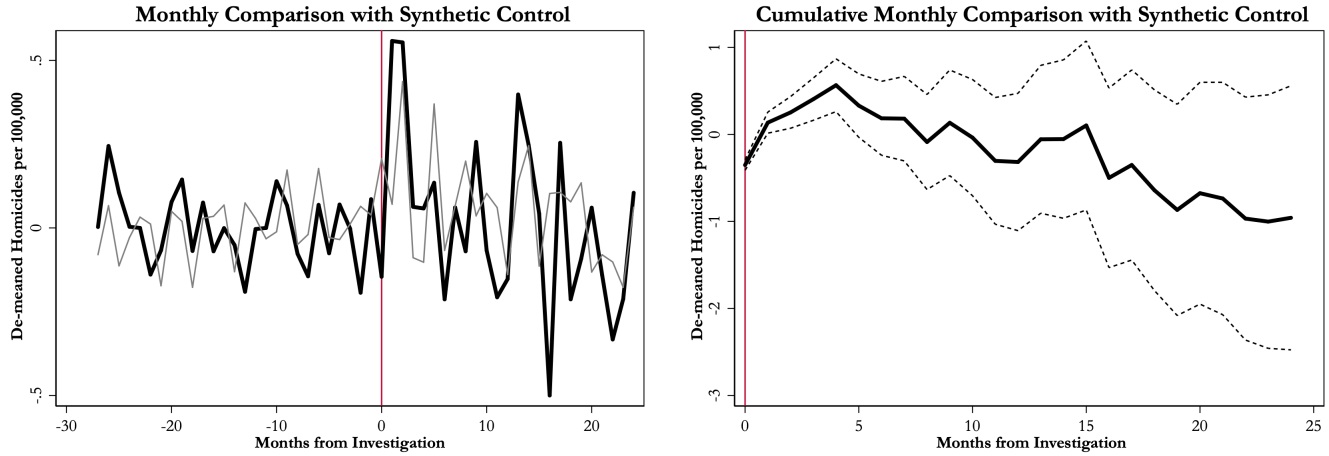
Notes: Panel A plots average outcomes for all "non-principal" cities, weighted by population, that were investigated and have available data in the relevant window. This includes 15 investigations in 15 cities. The vertical axis plots the outcome variable of interest in each month, de-meaned by the average outcome in that calender month in the pre-investigation period to account for seasonality in criminal behavior. Panel B plots the size of the level break, along with their 95% confidence intervals, at the month of the investigation in each city for all "non-principal" cities that were investigated and have available data in the relevant window. The level breaks are plotted according to increasing size. The estimate for each investigation comes from a regression of the outcome of interest (de-meaned over the pre-period) on a linear month variable, an indicator for whether or not a given month is after the investigation, and the interaction of thise two variables. The coefficient on the post indicator is plotted here.

Appendix Figure 3A: The Impact of Investigations on Homicide, Investigations Without Viral Incident of Deadly Force

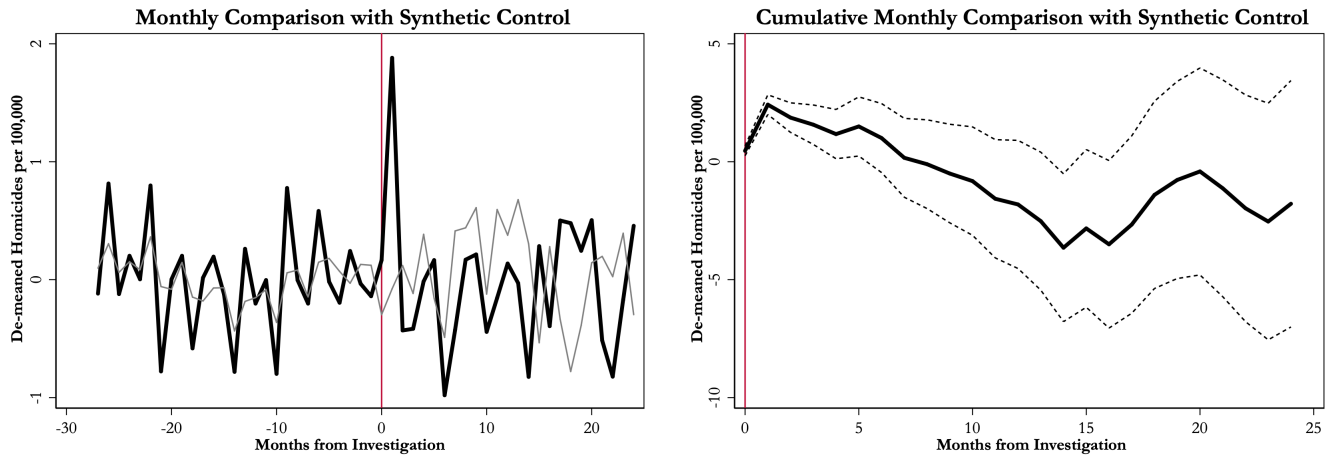
Panel 1: Albuquerque, NM



Panel 2: Austin, TX

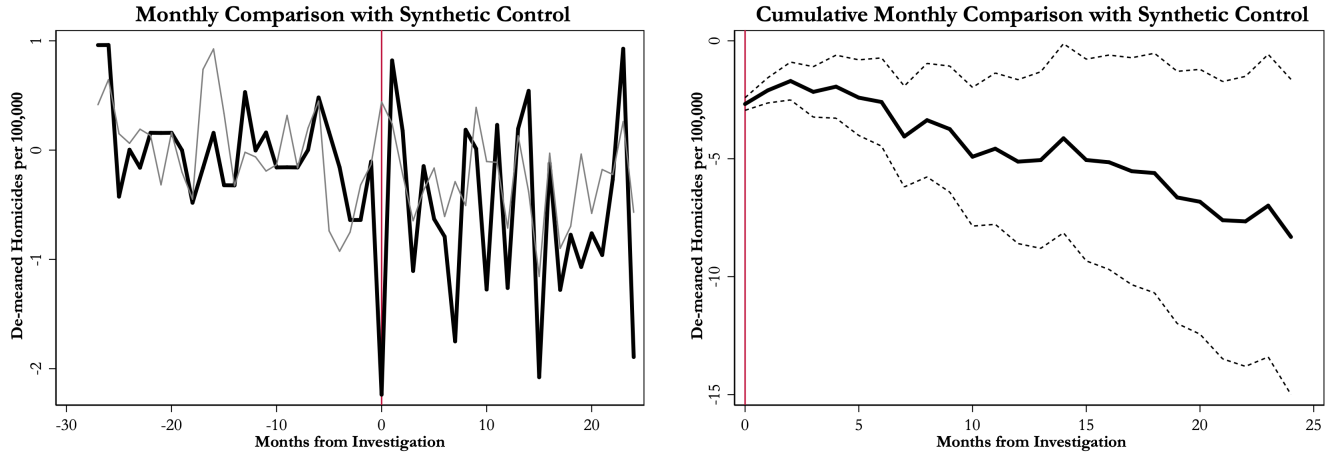


Panel 3: Bakersfield, CA

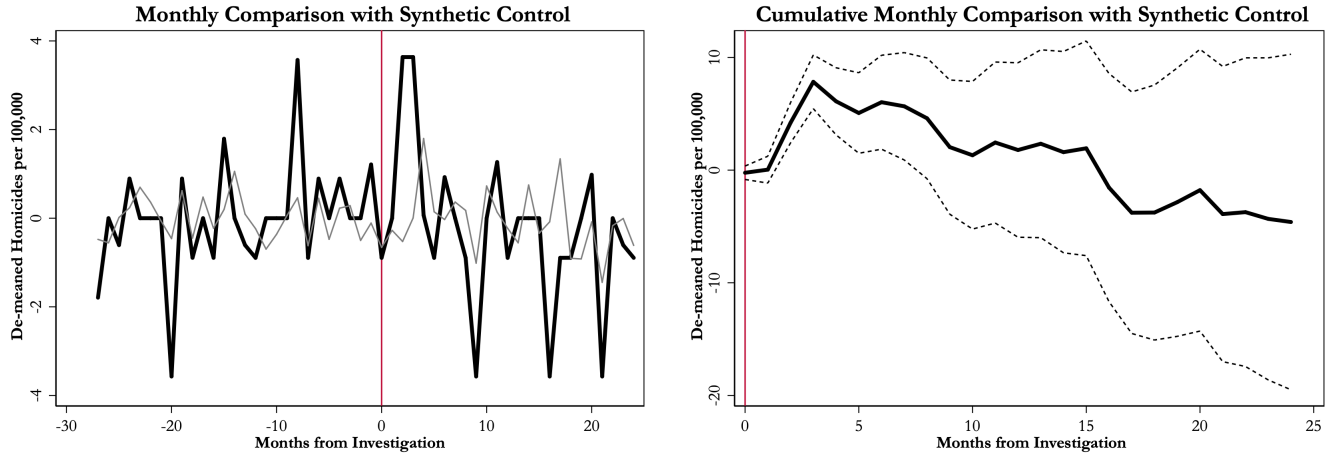


Appendix Figure 3A: The Impact of Investigations on Homicide, Investigations Without Viral Incident of Deadly Force

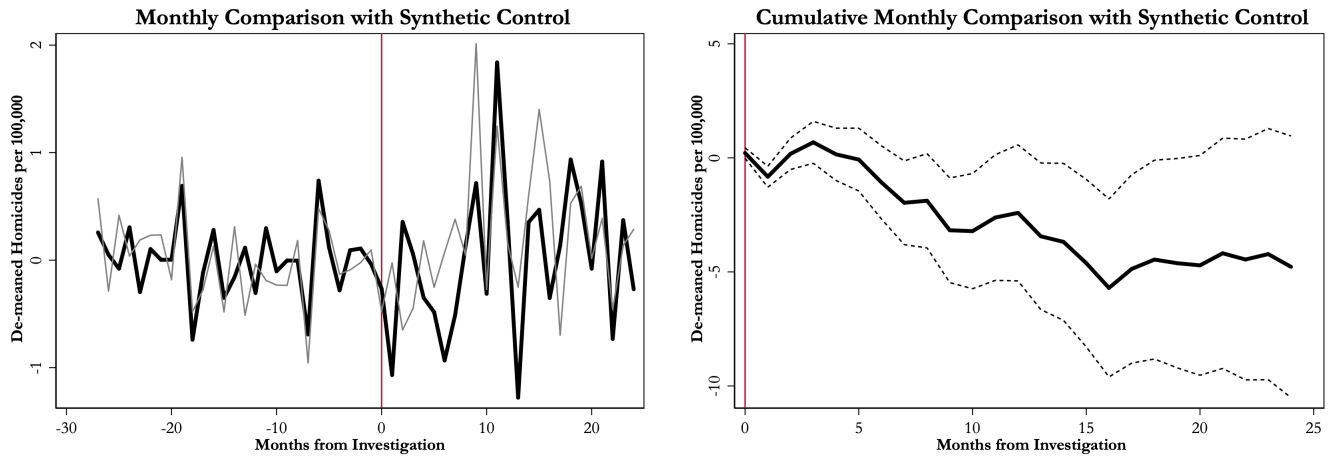
Panel 4: Buffalo, NY



Panel 5: Charleston, WV

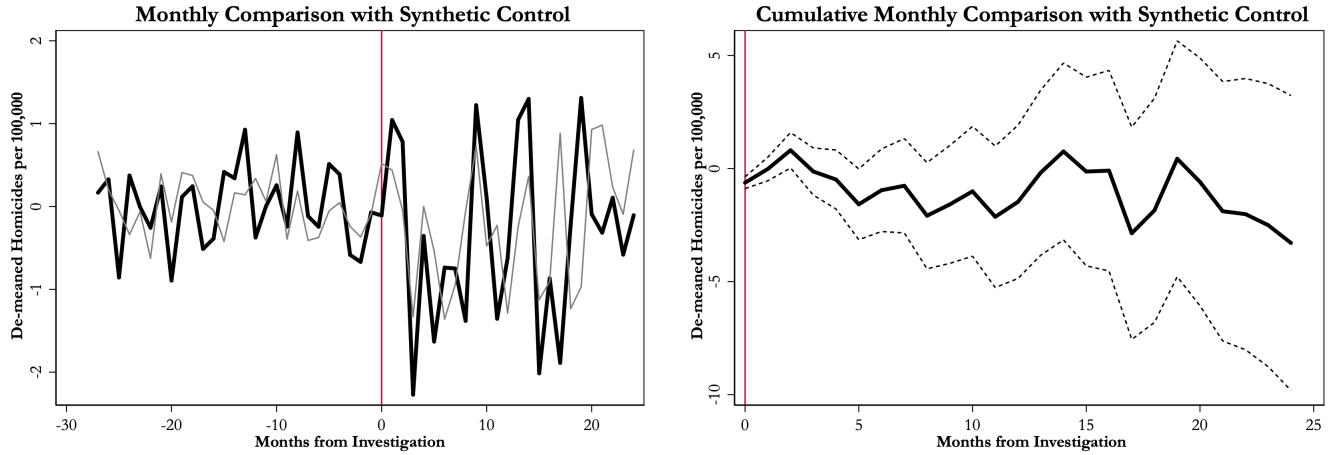


Panel 6: Cleveland, OH (First Investigation)

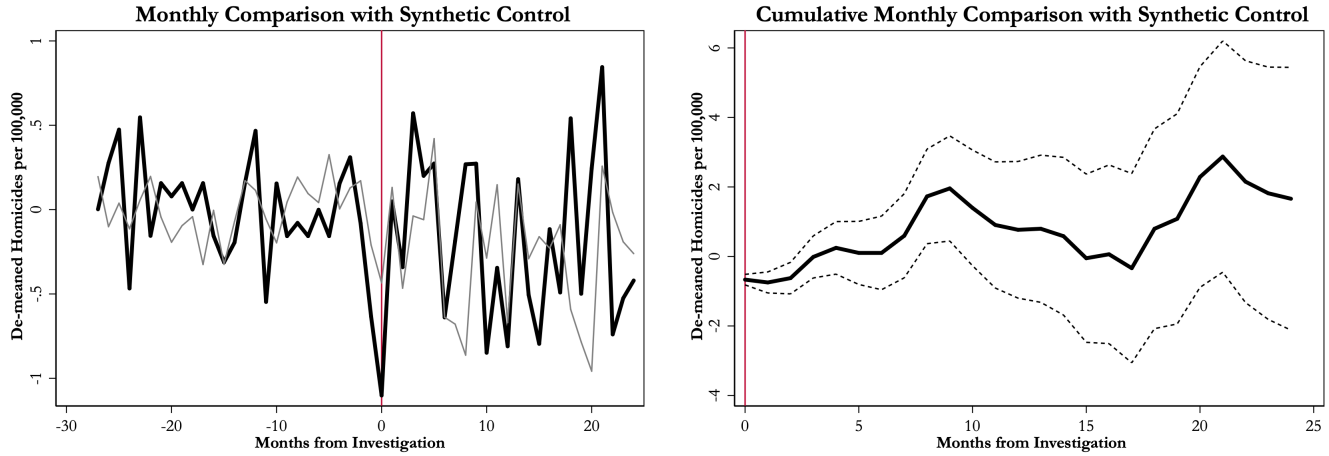


Appendix Figure 3A: The Impact of Investigations on Homicide, Investigations Without Viral Incident of Deadly Force

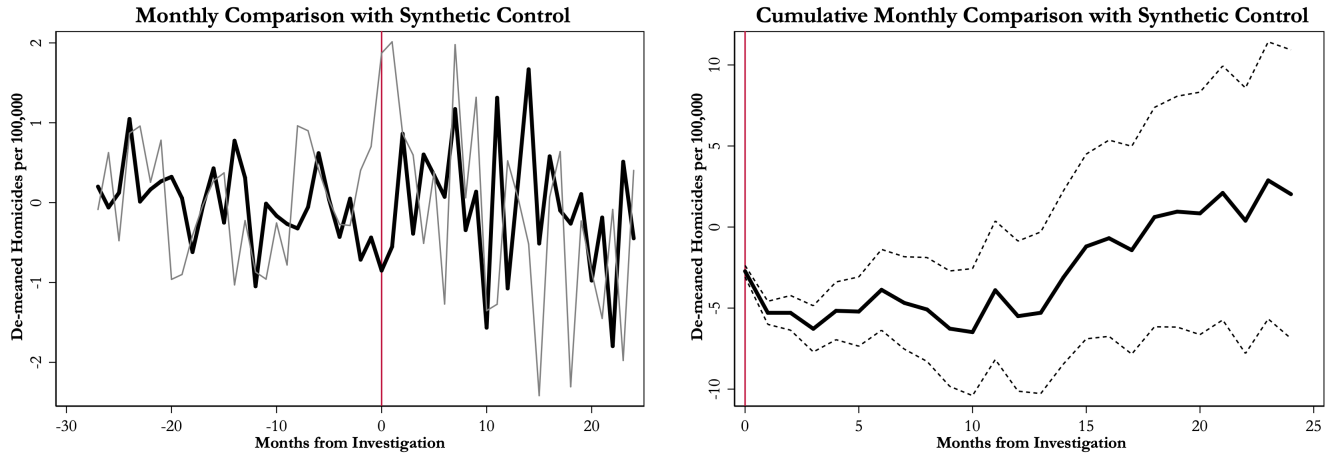
Panel 7: Cleveland, OH (Second Investigation)



Panel 8: Columbus, OH

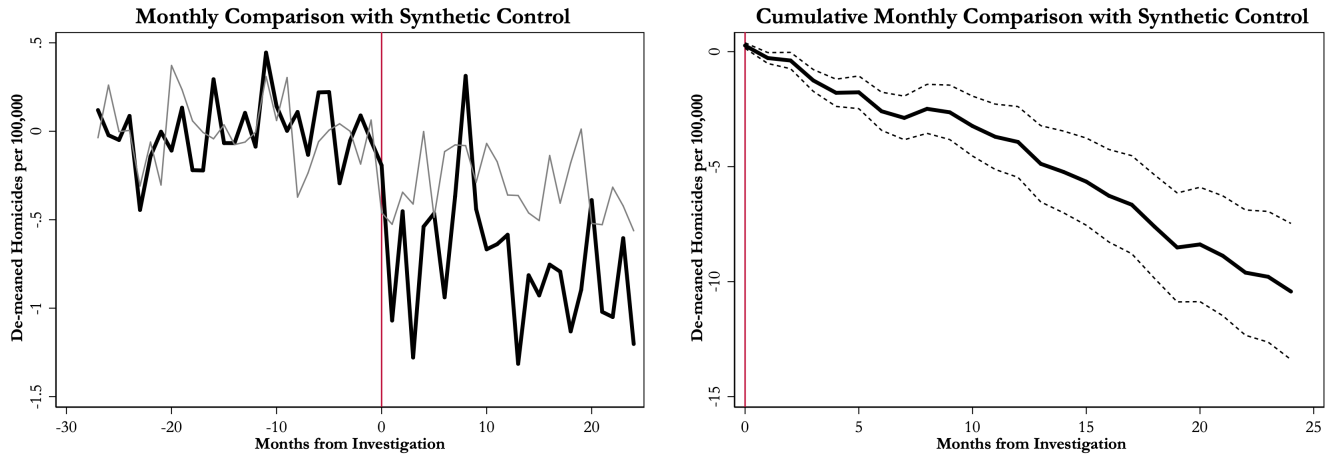


Panel 9: Detroit, MI

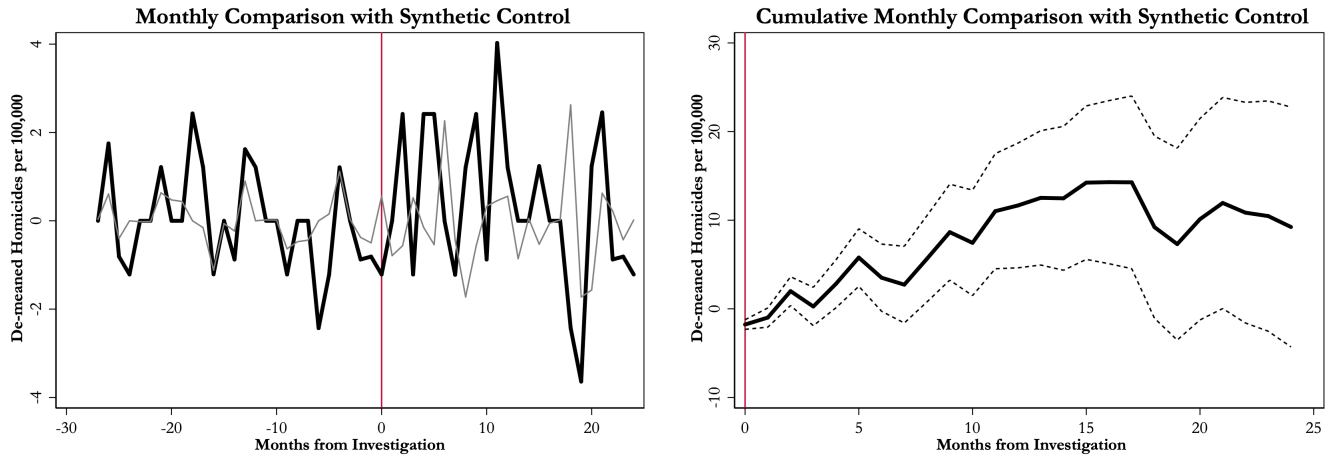


Appendix Figure 3A: The Impact of Investigations on Homicide, Investigations Without Viral Incident of Deadly Force

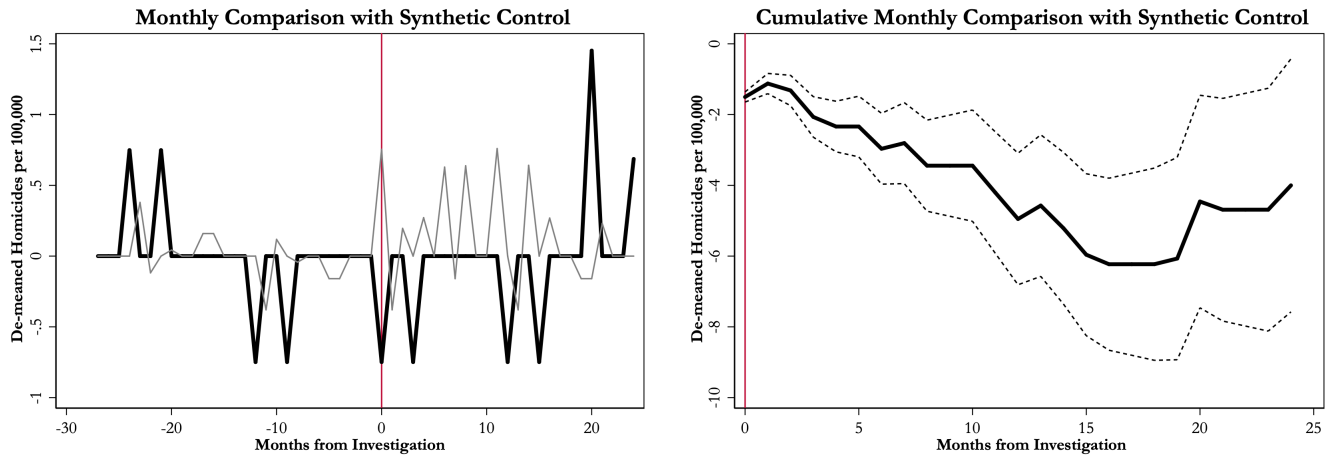
Panel 10: Los Angeles, CA



Panel 11: Meridian, MS

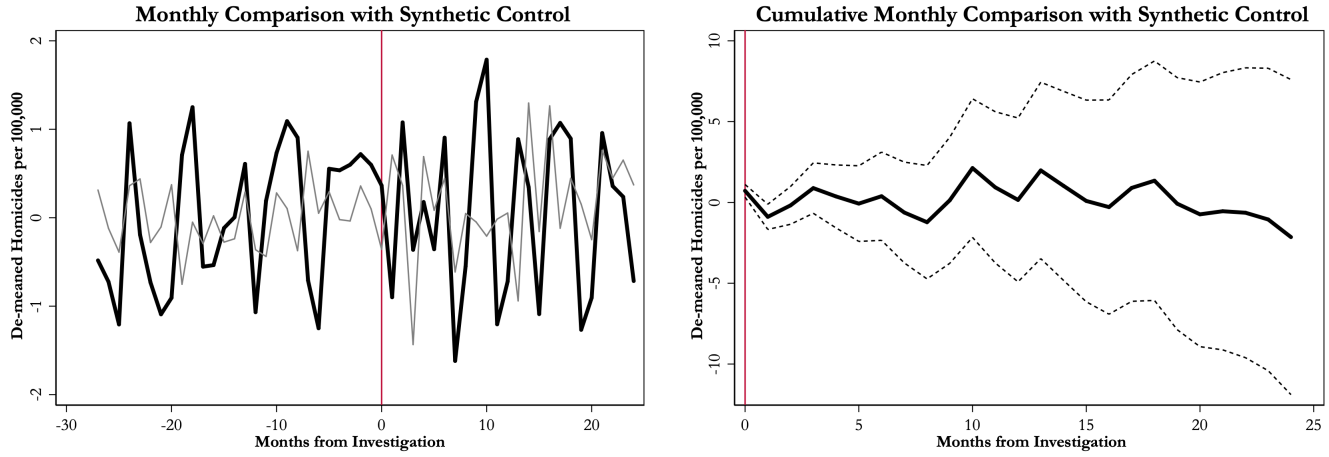


Panel 12: Missoula, MT

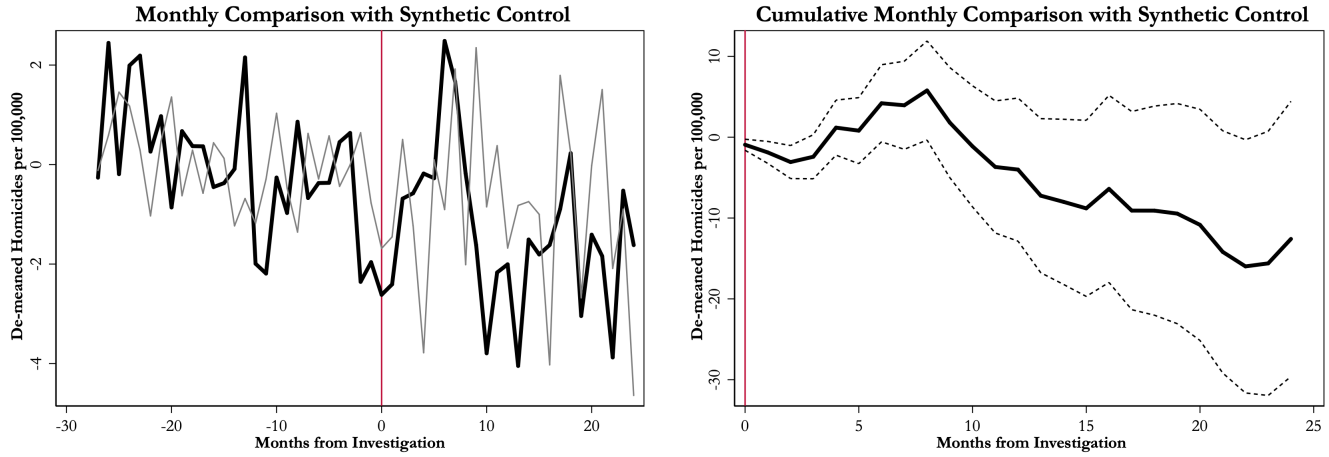


Appendix Figure 3A: The Impact of Investigations on Homicide, Investigations Without Viral Incident of Deadly Force

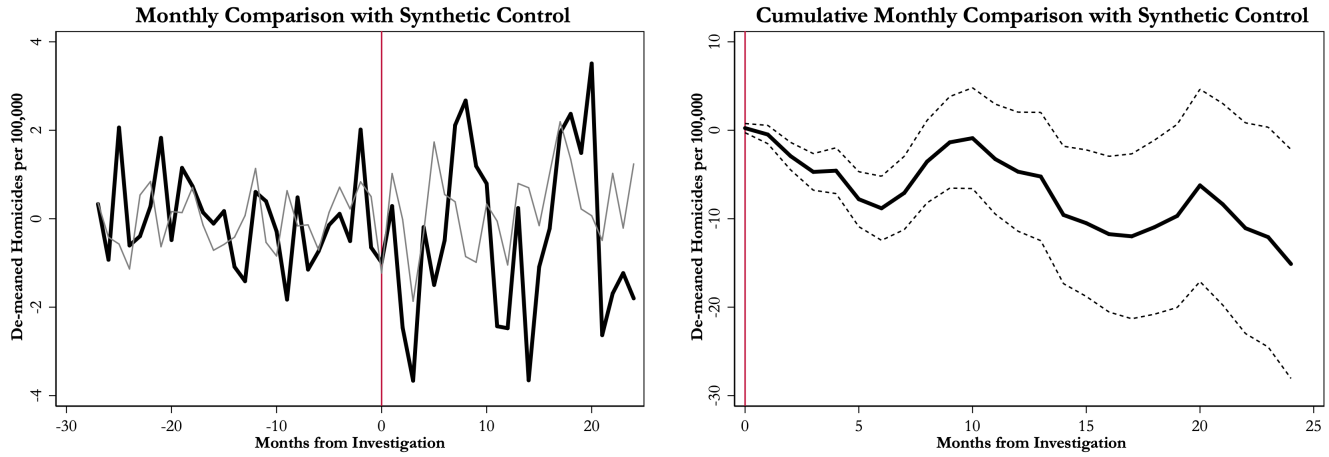
Panel 13: Newark, NJ



Panel 14: New Orleans (First Investigation)

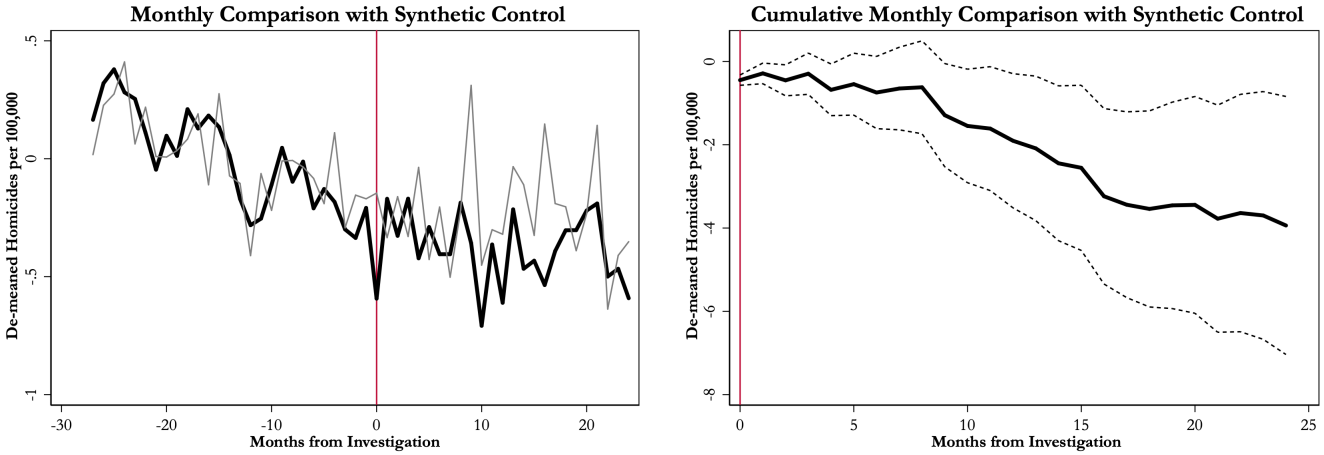


Panel 15: New Orleans (Second Investigation)

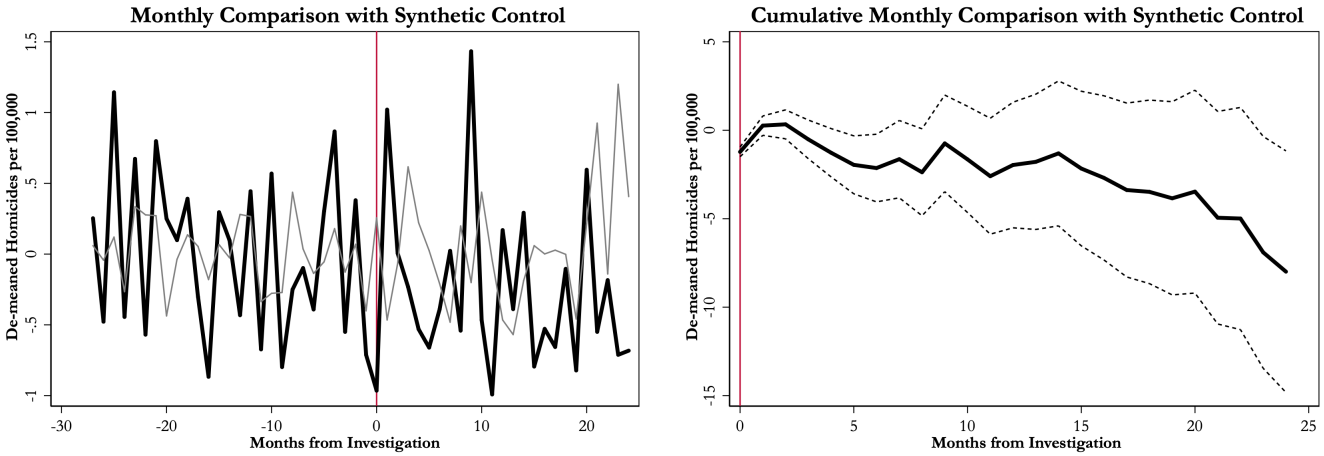


Appendix Figure 3A: The Impact of Investigations on Homicide, Investigations Without Viral Incident of Deadly Force

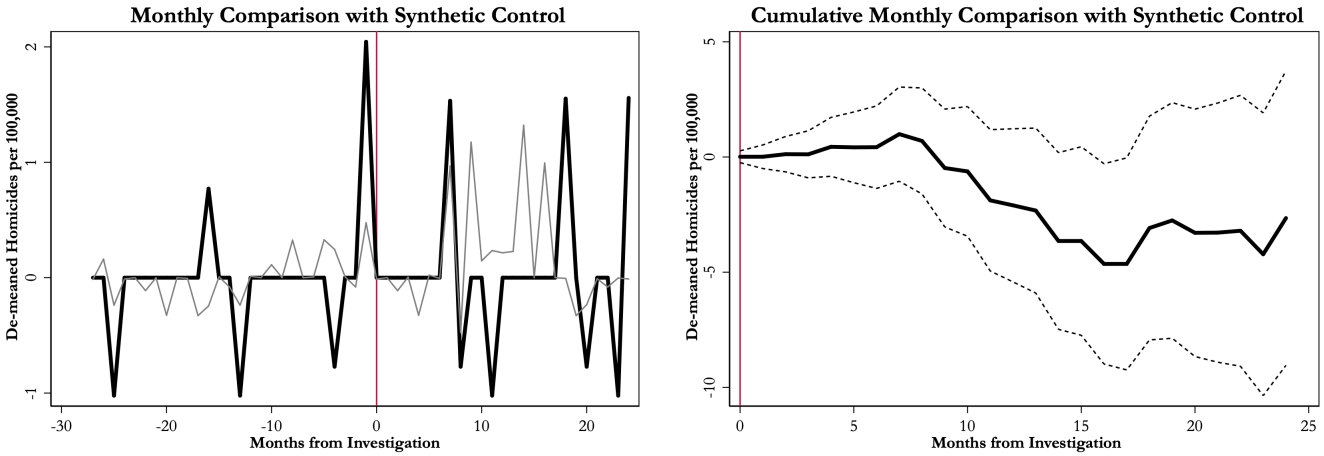
Panel 16: New York City, NY



Panel 17: Pittsburgh, PA

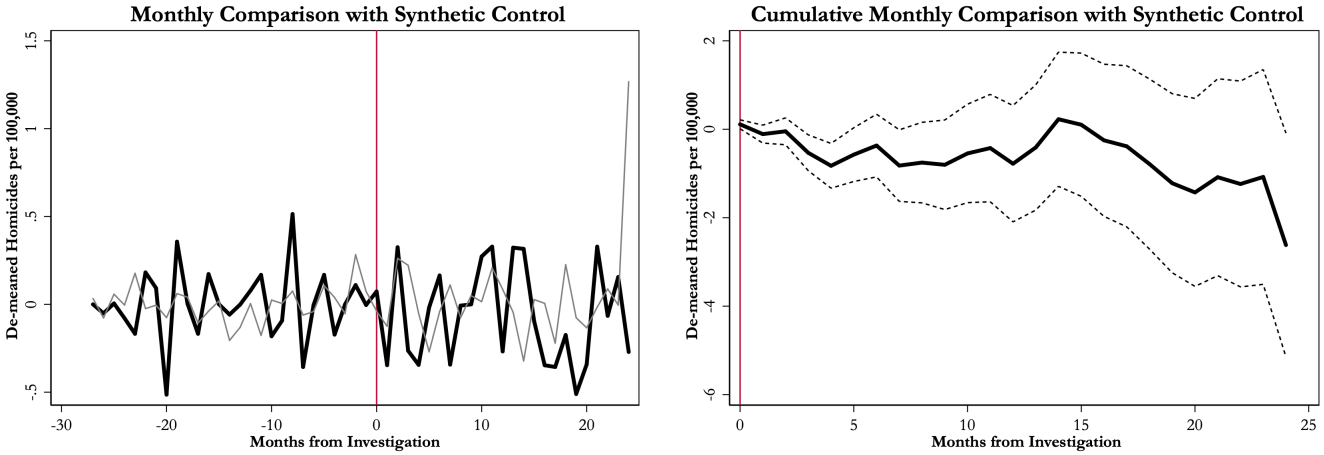


Panel 18: Portland, ME

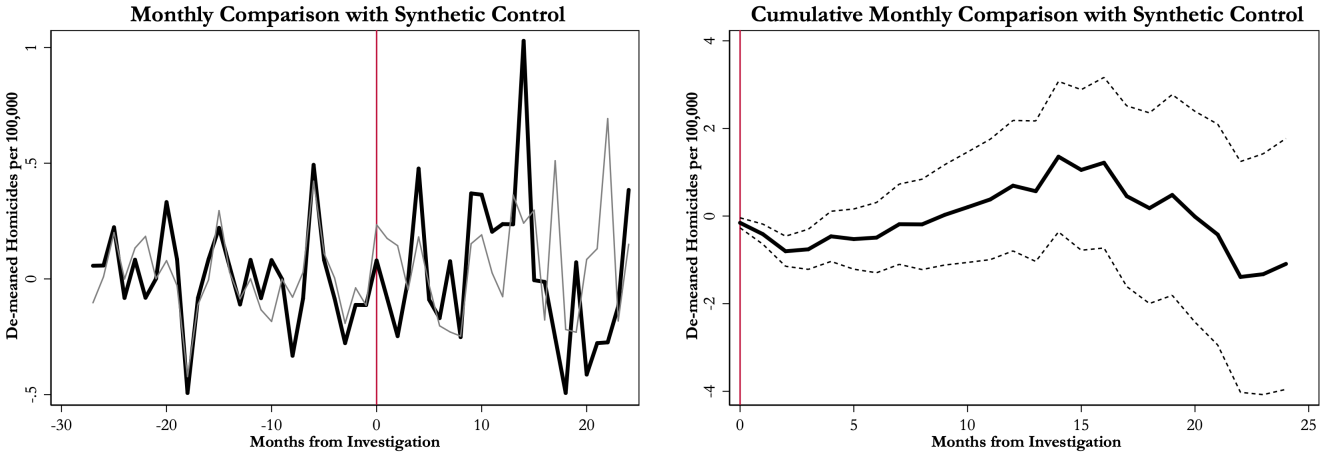


Appendix Figure 3A: The Impact of Investigations on Homicide, Investigations Without Viral Incident of Deadly Force

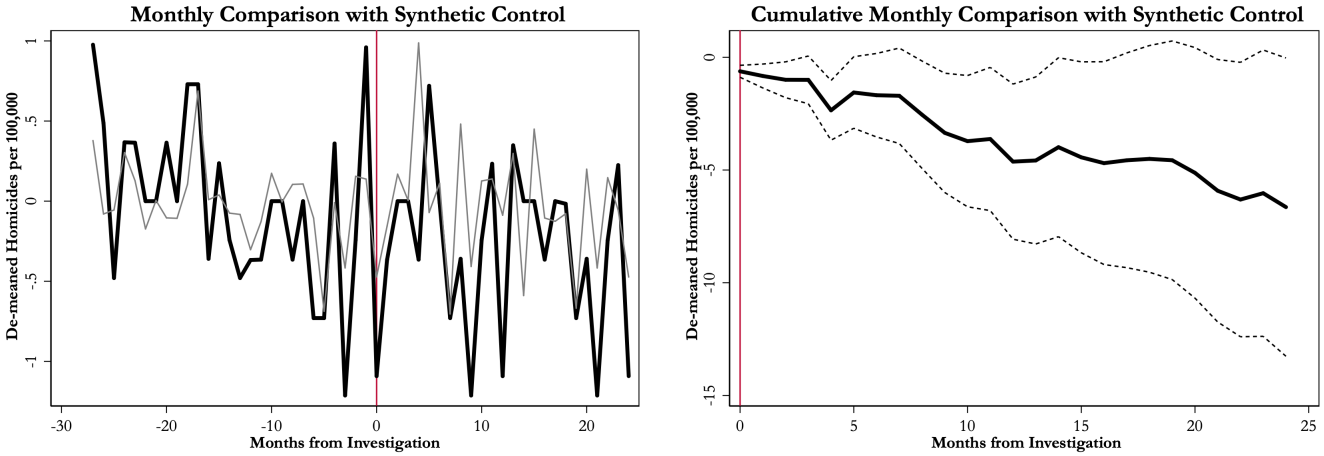
Panel 19: Portland, OR



Panel 20: Seattle, WA

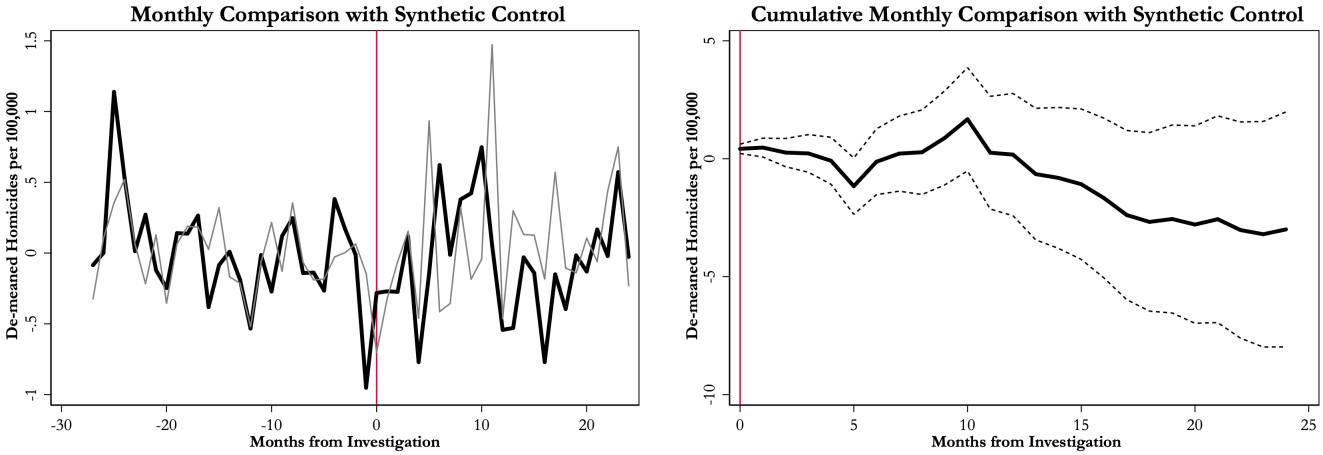


Panel 21: Torrance, CA



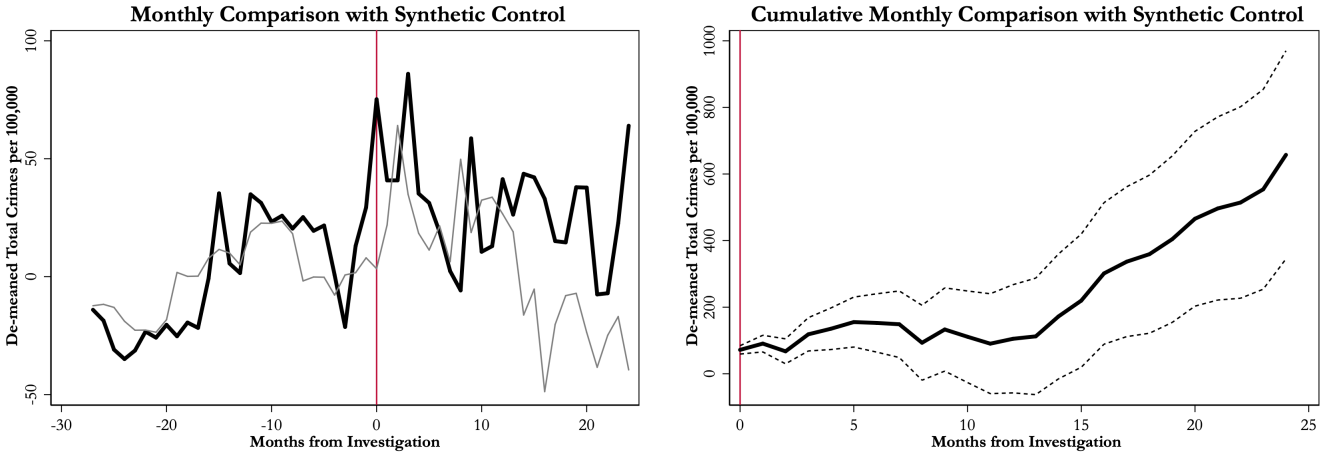
Appendix Figure 3A: The Impact of Investigations on Homicide, Investigations Without Viral Incident of Deadly Force

Panel 22: Tulsa, OK

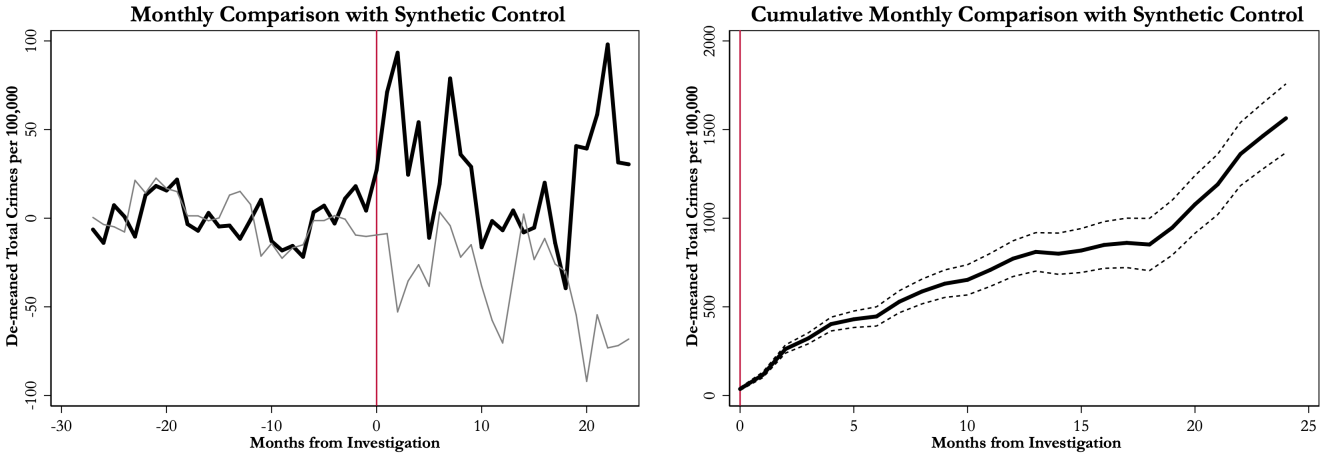


Appendix Figure 3B: The Impact of Investigations on Total Crime, Investigations Without Viral Incident of Deadly Force

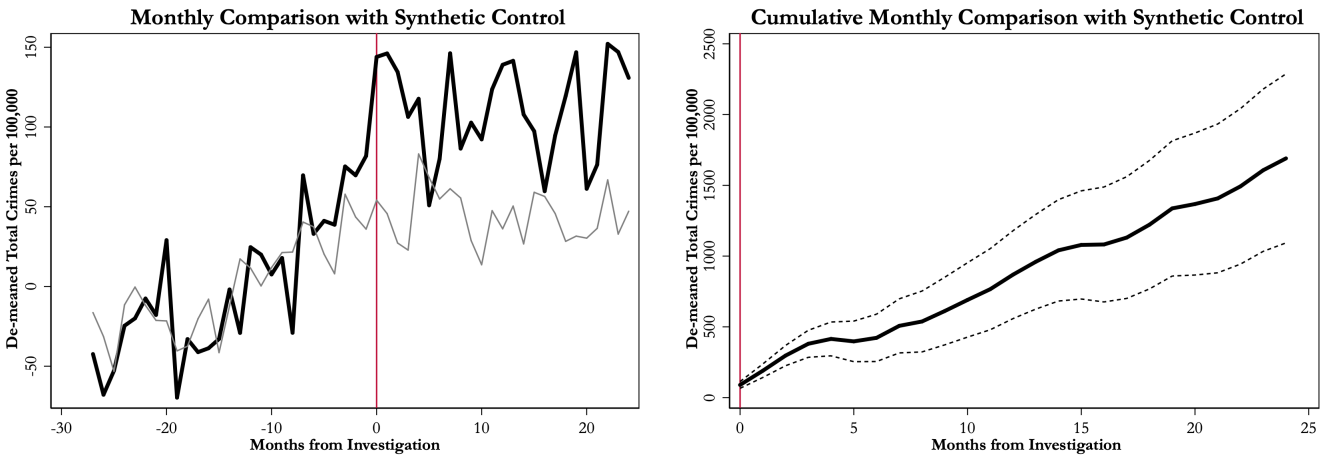
Panel 1: Albuquerque, NM



Panel 2: Austin, TX

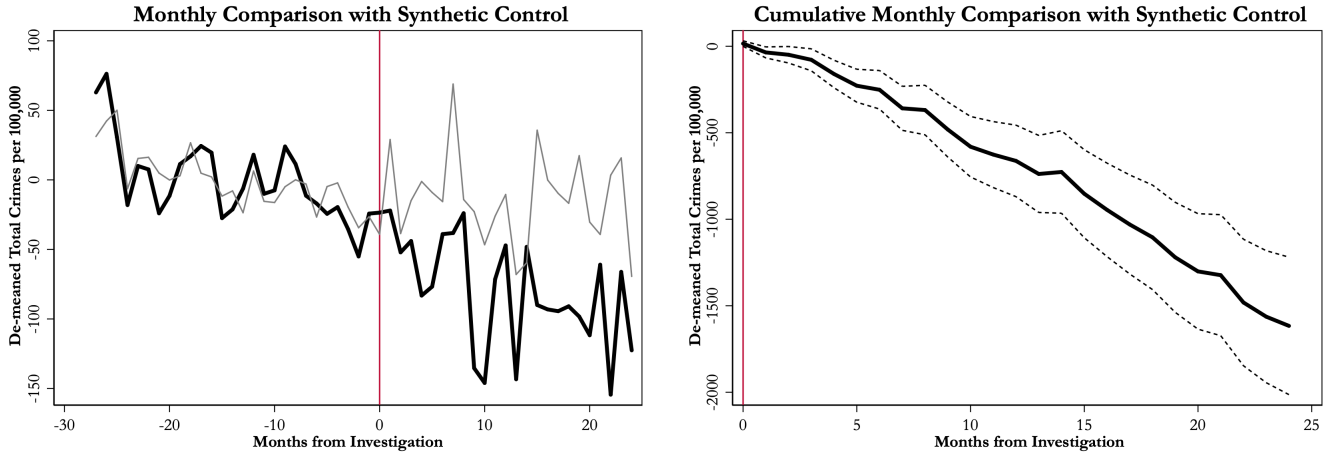


Panel 3: Bakersfield, CA

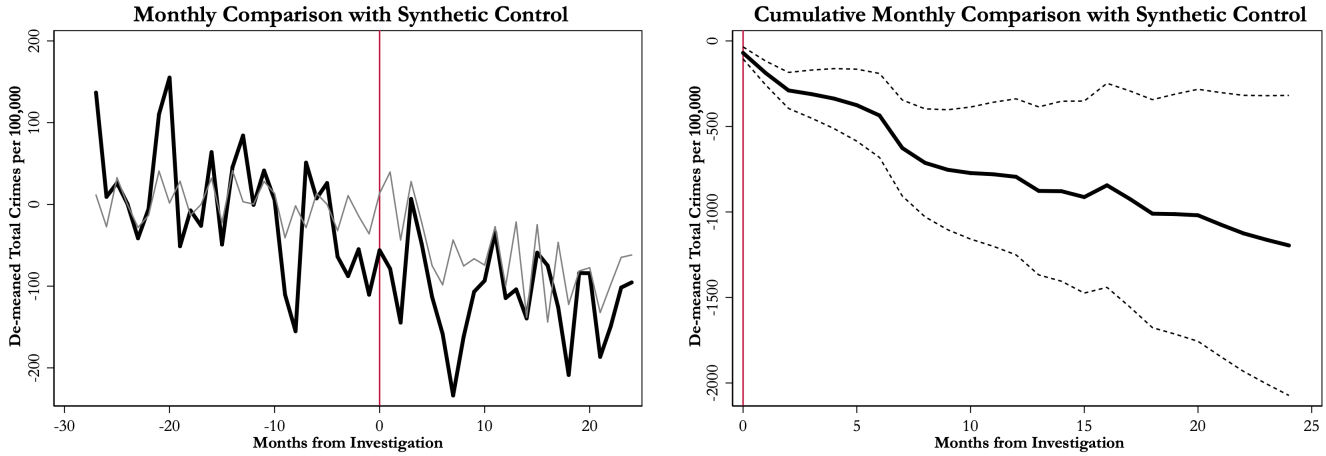


Appendix Figure 3B: The Impact of Investigations on Total Crime,Investigations Without Viral Incident of Deadly Force

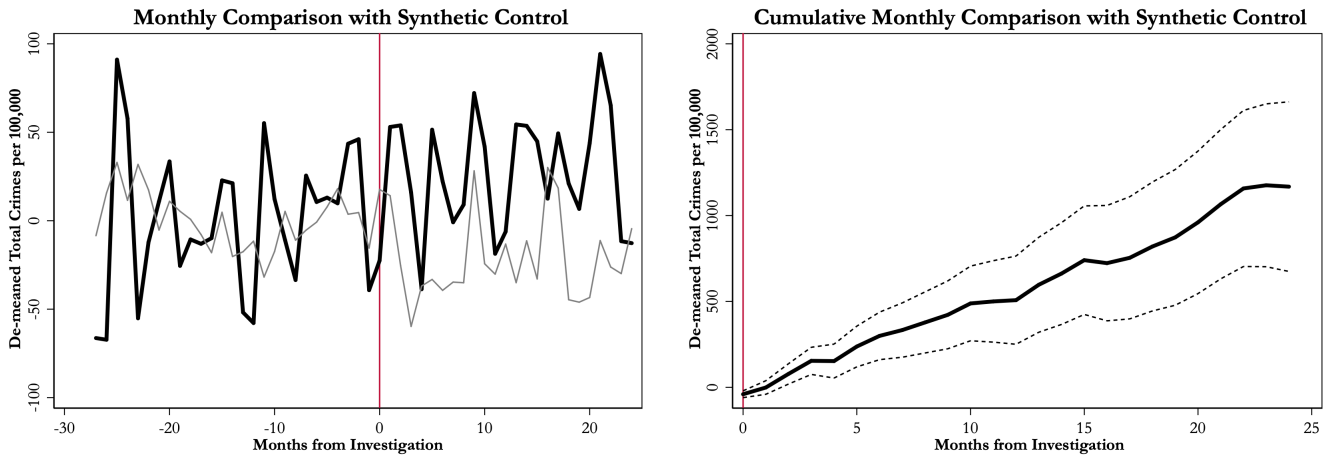
Panel 4: Buffalo, NY



Panel 5: Charleston, WV

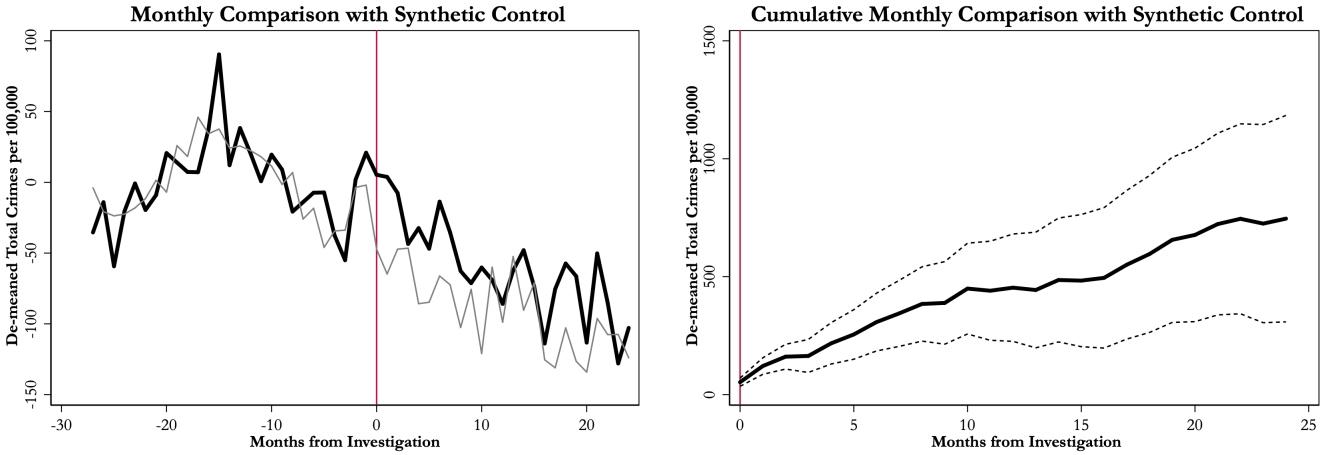


Panel 6: Cleveland, OH (First Investigation)

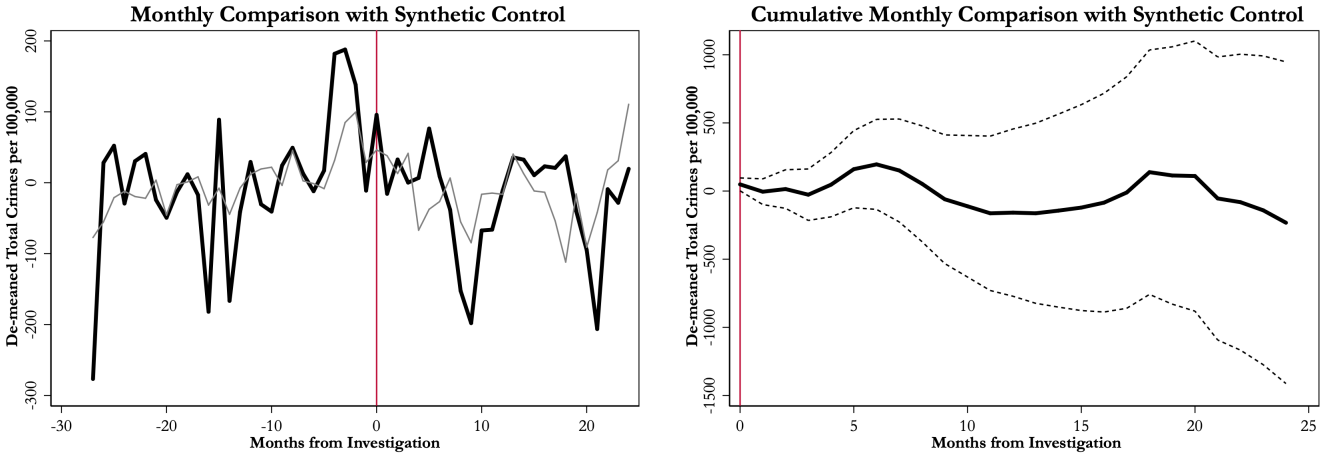


Appendix Figure 3B: The Impact of Investigations on Total Crime, Investigations Without Viral Incident of Deadly Force

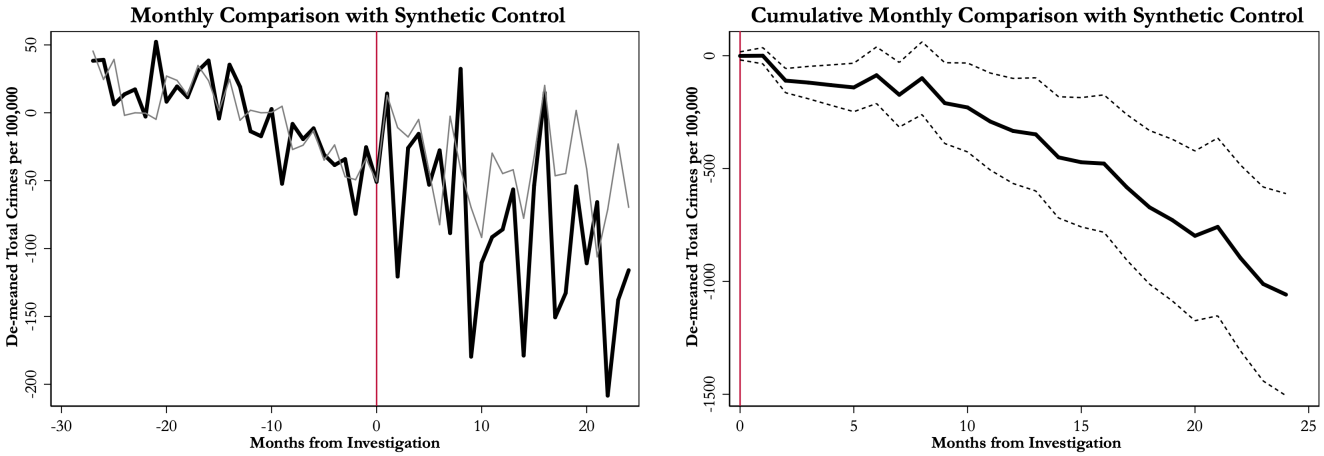
Panel 7: Cleveland, OH (Second Investigation)



Panel 8: Columbus, OH

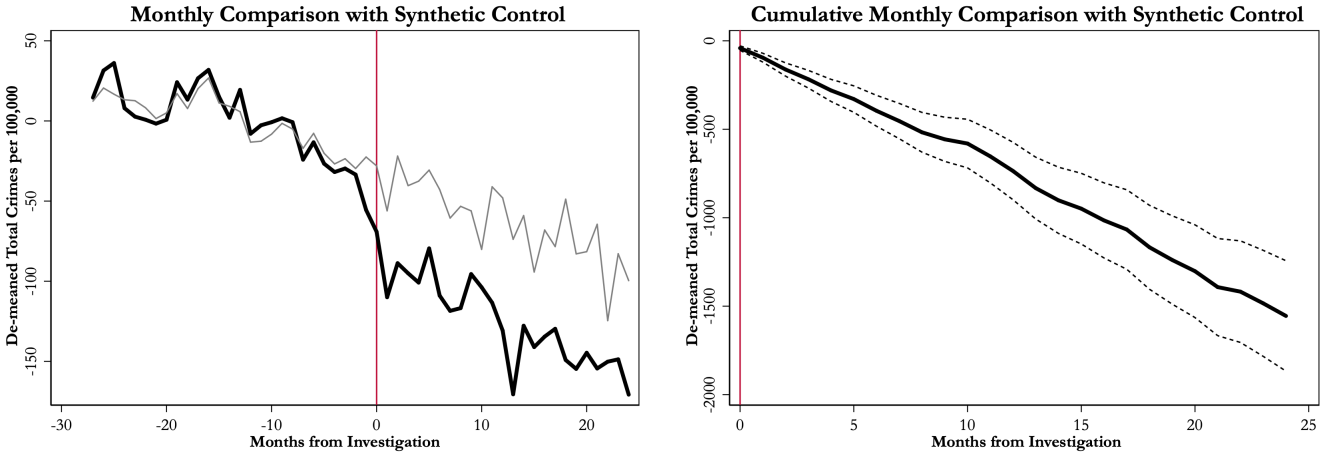


Panel 9: Detroit, MI

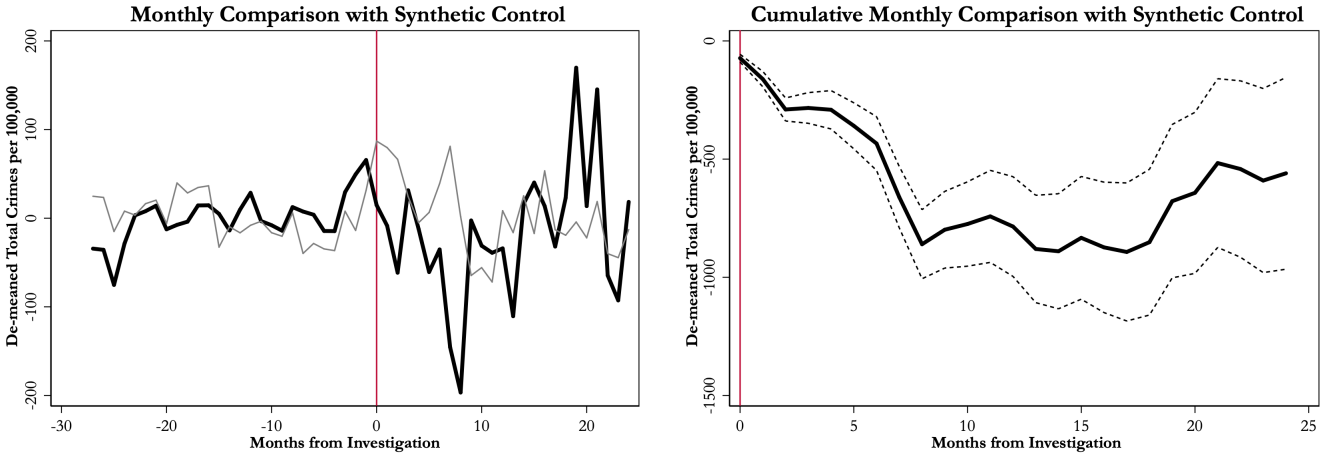


Appendix Figure 3B: The Impact of Investigations on Total Crime, Investigations Without Viral Incident of Deadly Force

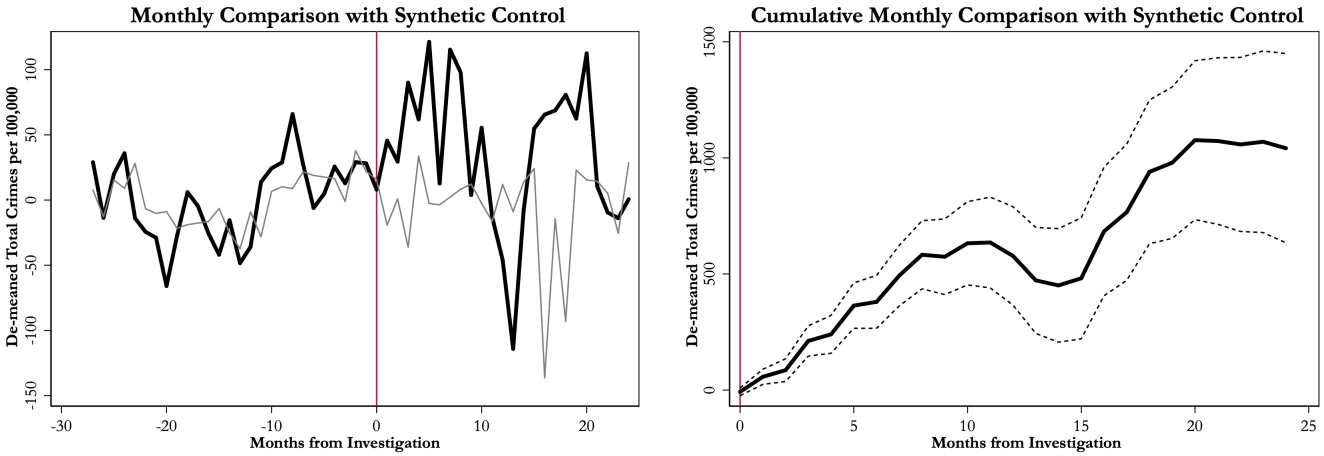
Panel 10: Los Angeles, CA



Panel 11: Meridian, MS

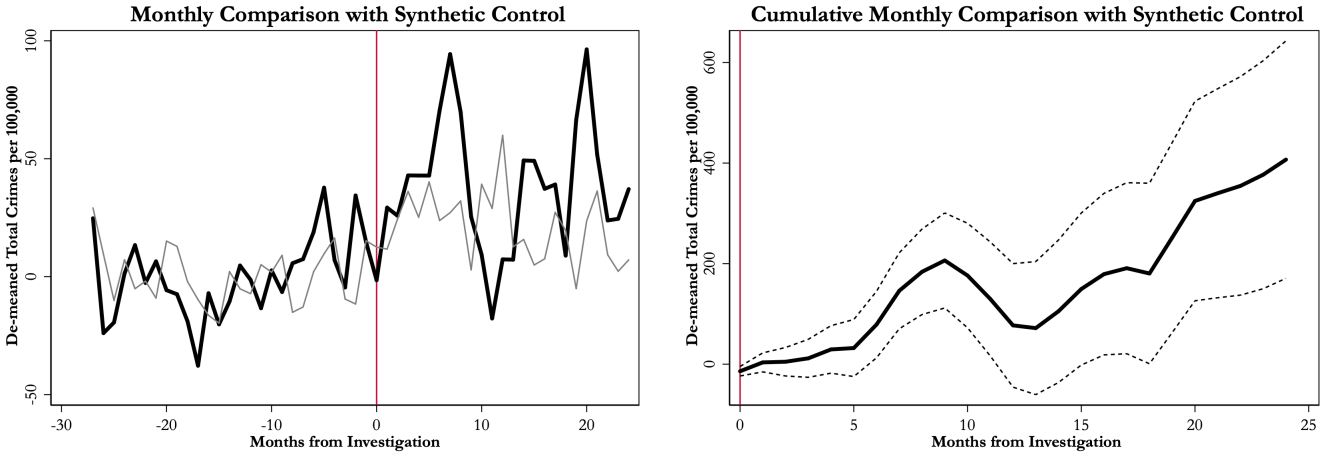


Panel 12: Missoula, MT

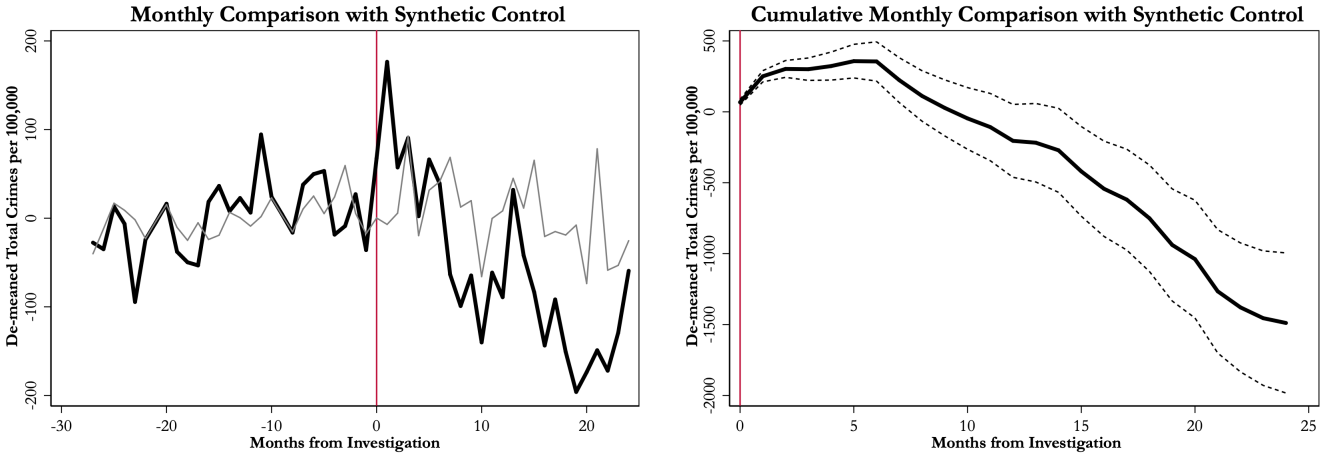


Appendix Figure 3B: The Impact of Investigations on Total Crime, Investigations Without Viral Incident of Deadly Force

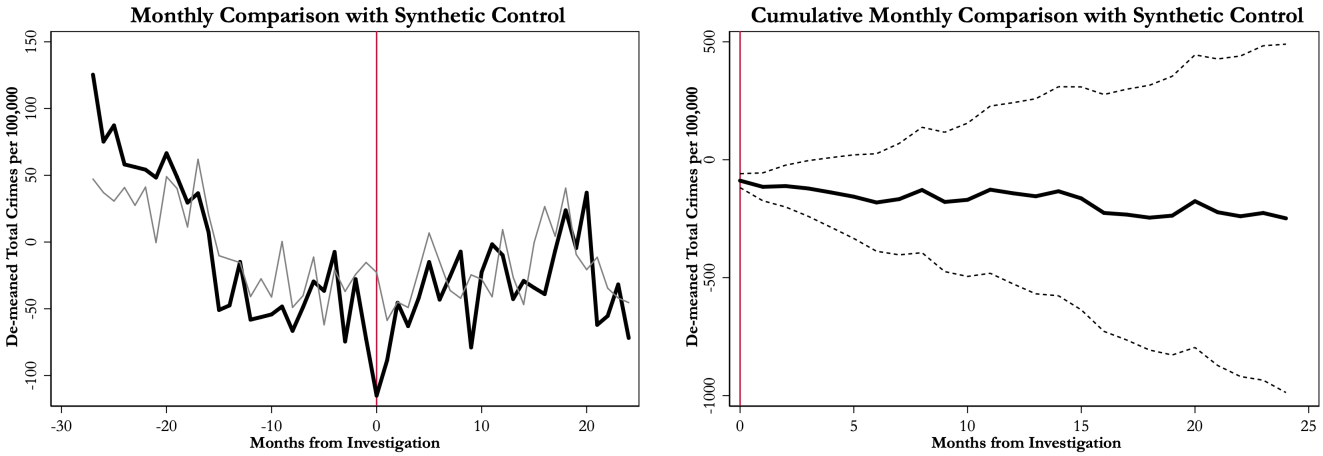
Panel 13: Newark, NJ



Panel 14: New Orleans (First Investigation)

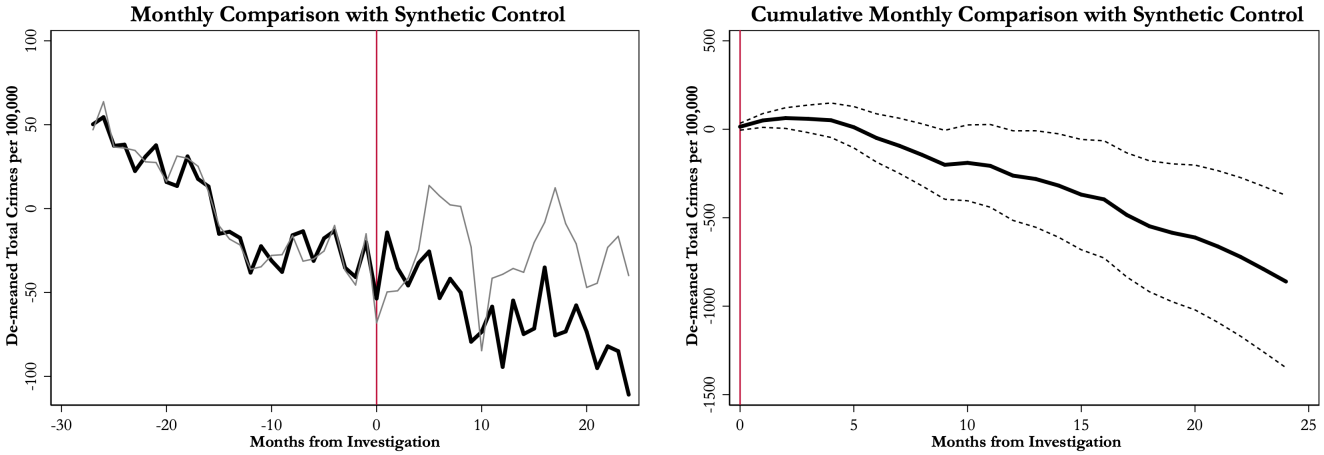


Panel 15: New Orleans (Second Investigation)

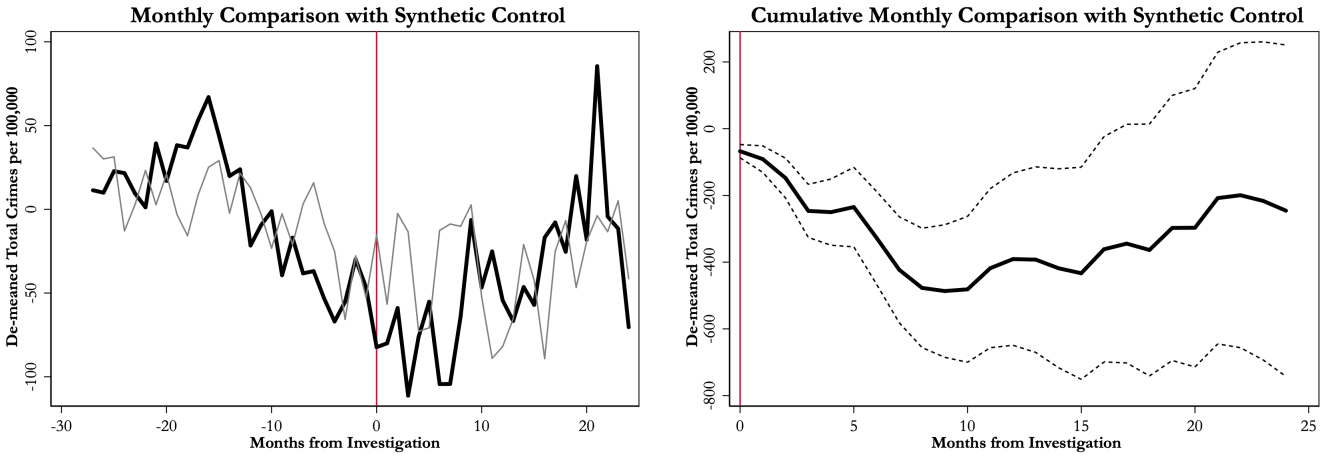


Appendix Figure 3B: The Impact of Investigations on Total Crime, Investigations Without Viral Incident of Deadly Force

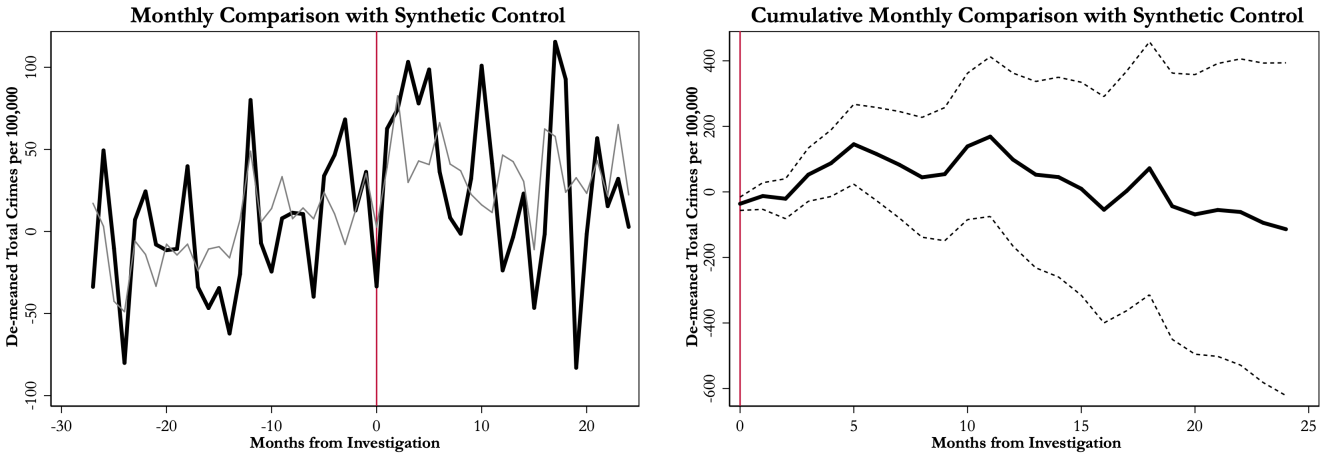
Panel 16: New York City, NY



Panel 17: Pittsburgh, PA

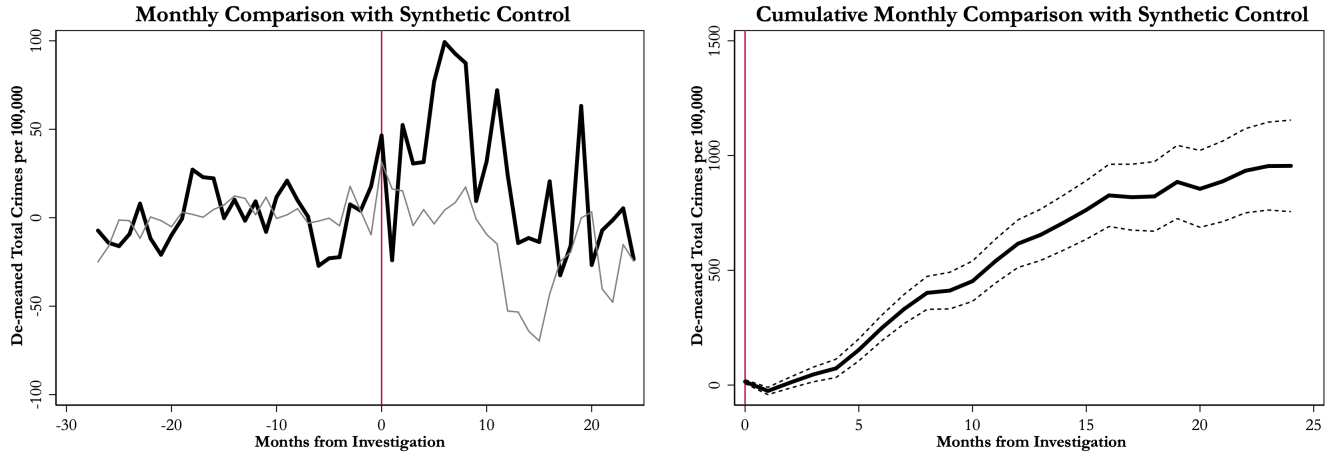


Panel 18: Portland, ME

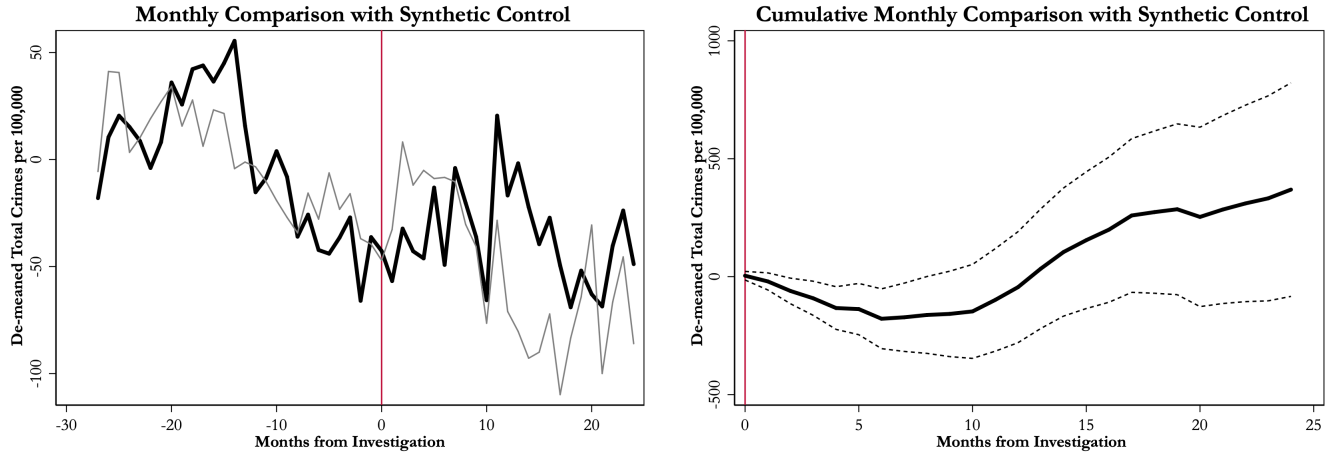


Appendix Figure 3B: The Impact of Investigations on Total Crime, Investigations Without Viral Incident of Deadly Force

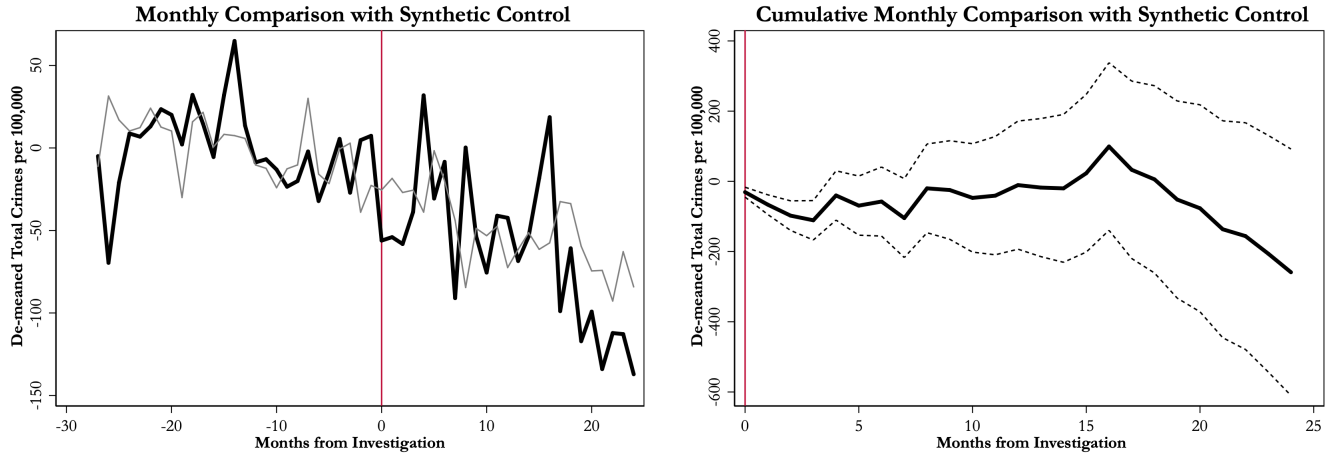
Panel 19: Portland, OR



Panel 20: Seattle, WA

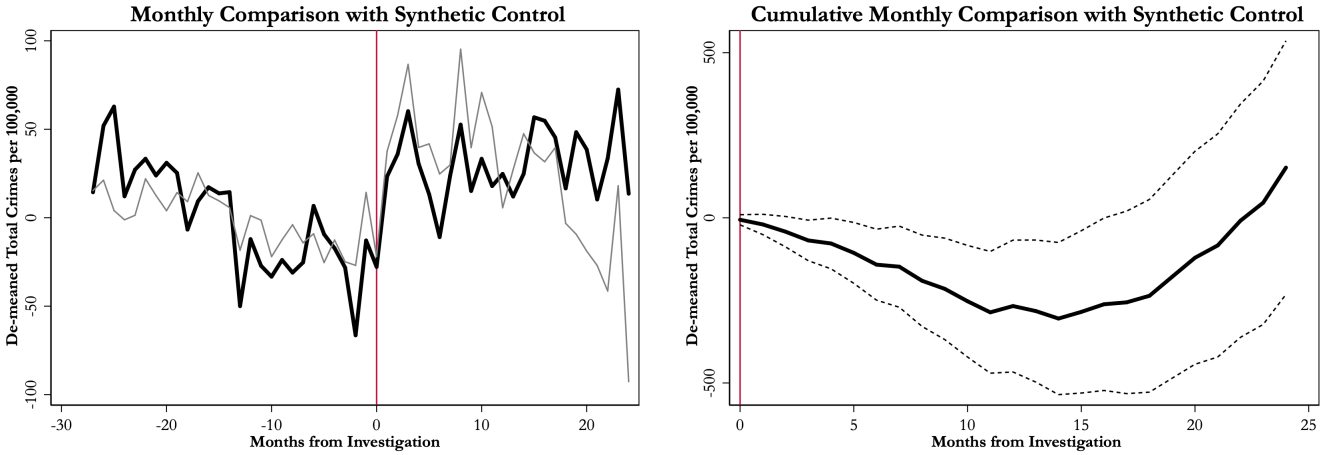


Panel 21: Torrance, CA



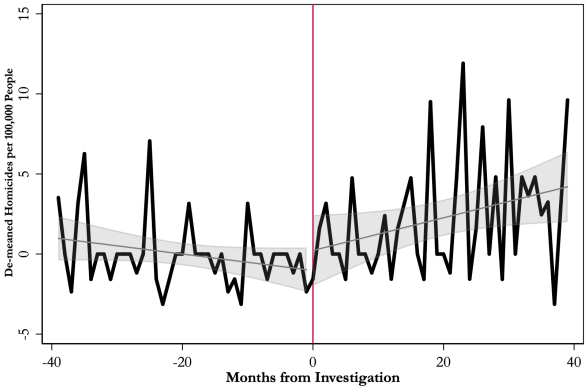
Appendix Figure 3B: The Impact of Investigations on Total Crime, Investigations Without Viral Incident of Deadly Force

Panel 22: Tulsa, OK



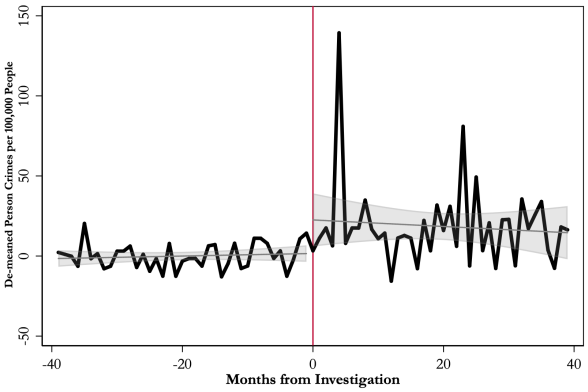
Appendix Figure 4: Estimating Level and Trend Breaks, Ferguson

Panel A: Homicides



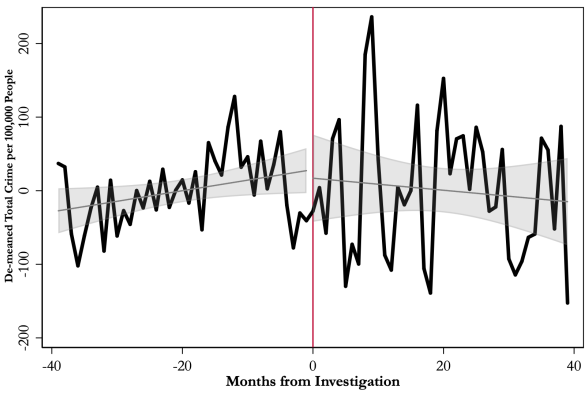
Level break: 1.250 (p-value = 0.185)
Trend break: 0.153 (p-value = 0.005)

Panel B: Person Crime



Level break: 20.939 (p-value = 0.063)
Trend break: -0.285 (p-value = 0.498)

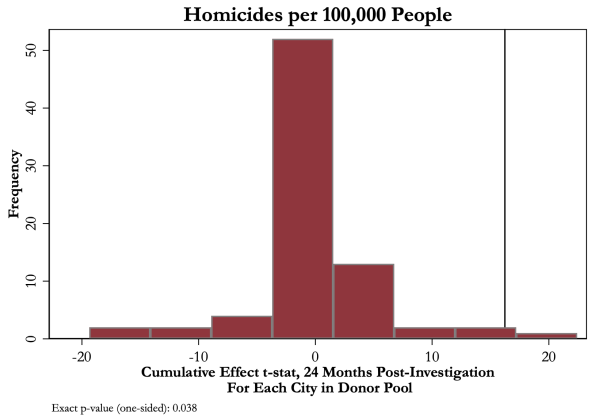
Panel C: Total Crime



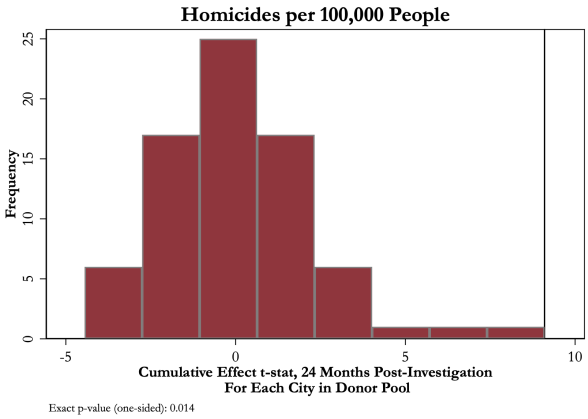
Level break: -11.691 (p-value = 0.751)
Trend break: -2.253 (p-value = 0.137)

Appendix Figure 5A: Placebo Tests for Homicide, Investigations With Viral Incident of Deadly Force

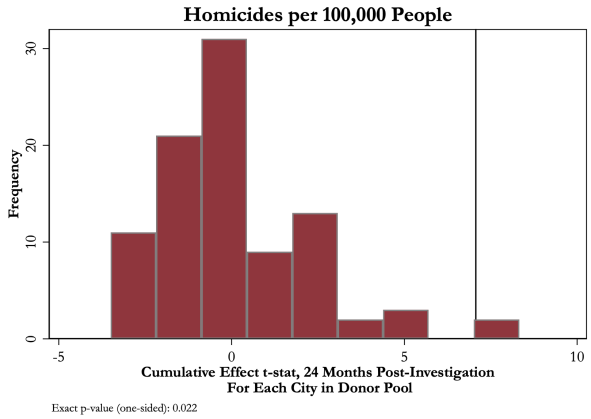
Baltimore, MD



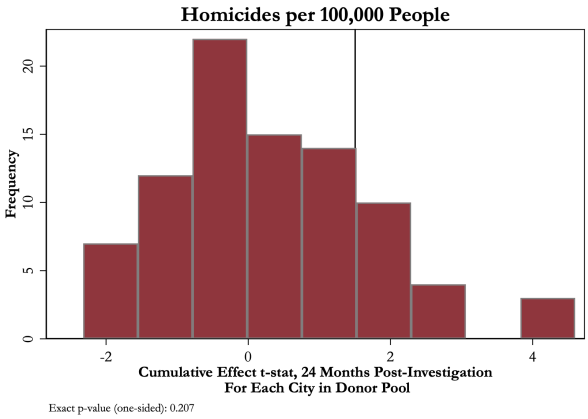
Chicago, IL



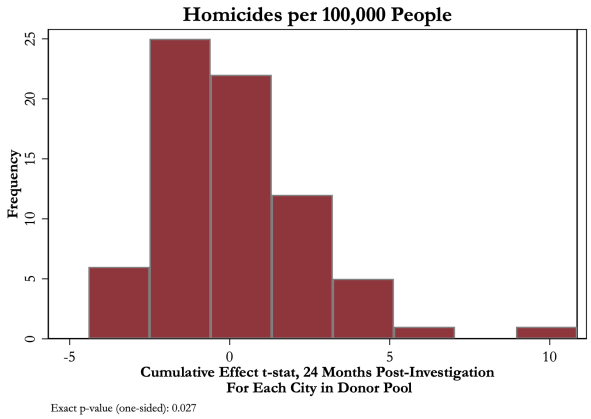
Cincinnati, OH



Riverside, CA



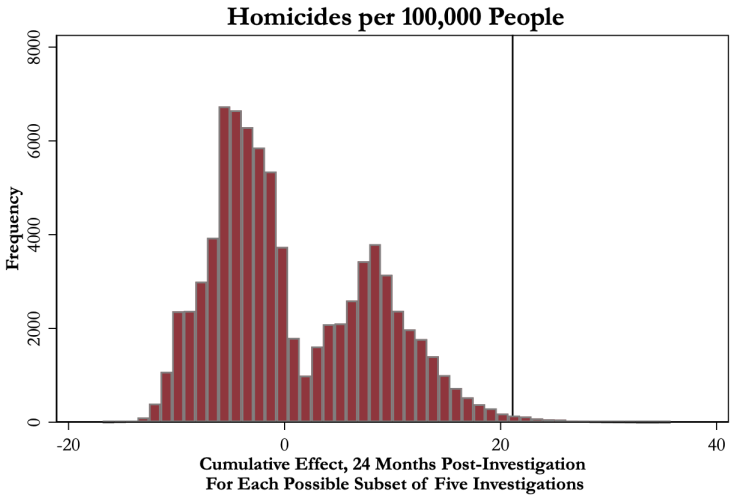
St. Louis, MO

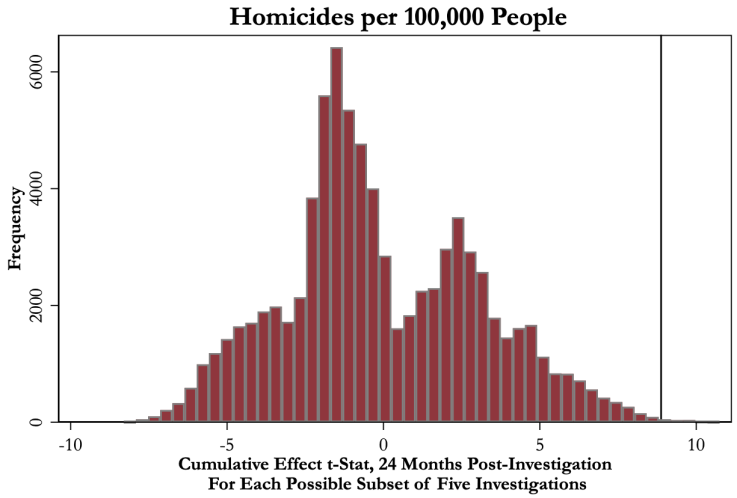


Notes: The above figures plot the distribution of t-statistic for placebo tests run for each investigation that was preceded by a viral incident of deadly force. To obtain the distribution for Baltimore, MA, we take its donor pool. We then reassign treatment randomly to one of the donor pool cities and use the synthetic control method described in Abadie et al. (2010) to construct their synthetic control unit. Then, we calculate regression-adjusted estimates of cumulative effects, 24 months post-investigation, of the treatment city. The t-statistic on the cumulative effect is noted. This process is iterated for all cities in the donor pool to achieve the full distribution. The vertical line denotes the t-statistic of the cumulative effect, 24 months post-investigation, for Baltimore, MD against its own synthetic control unit. The same process is followed for all other cities in the sample.

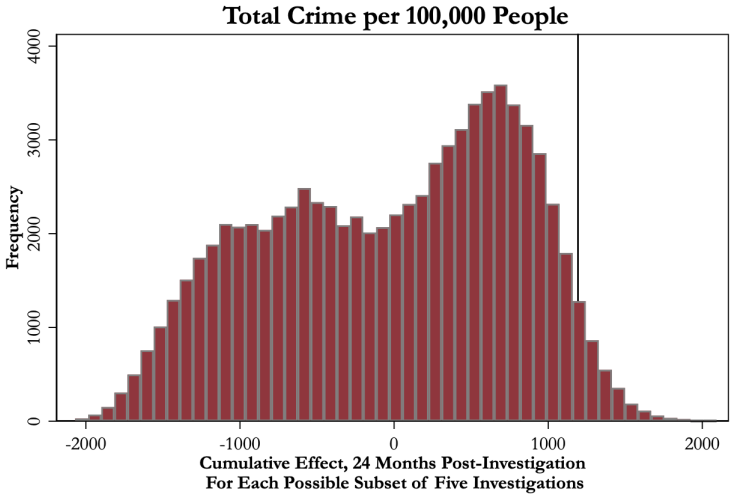
Appendix Figure 6: Permutation Tests

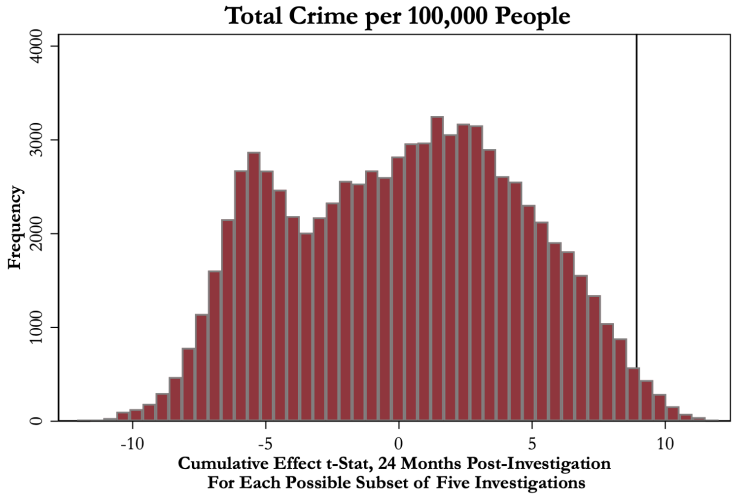
Panel A: Total Cumulative Difference Coefficient





Panel B: Total Cumulative Difference t-statistic

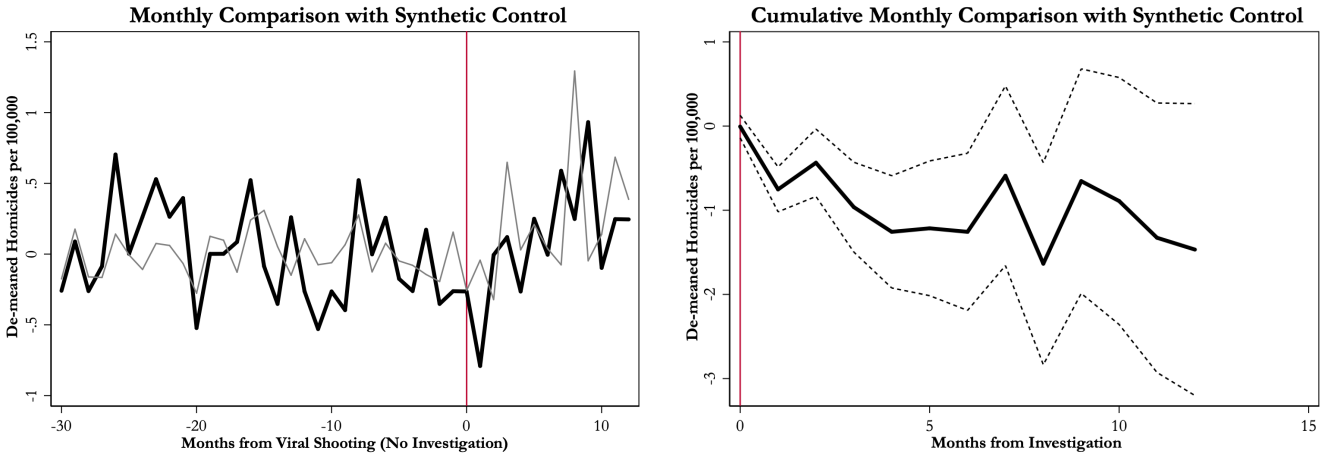




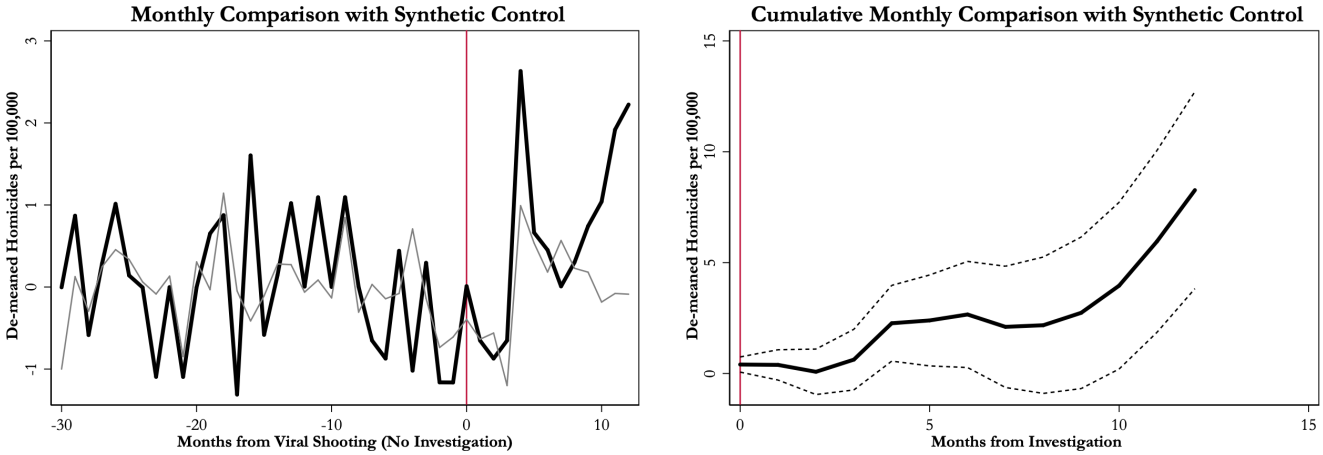
Notes: The above figures plot the distribution of regression-adjusted estimates of cumulative effects, 24 months post-investigation, of each possible subset of 3 investigated cities from the overall 27 investigations. Panel A plots the beta coefficients while Panel B plots the t-statistic of the beta coefficient. The vertical line in each figure denotes the estimate of cumulative effect, 24 months post-investigation for the 3 cities that were investigated post-Summer 2013.

Appendix Figure 7A: The Impact of Investigations on Homicides, Viral Shootings

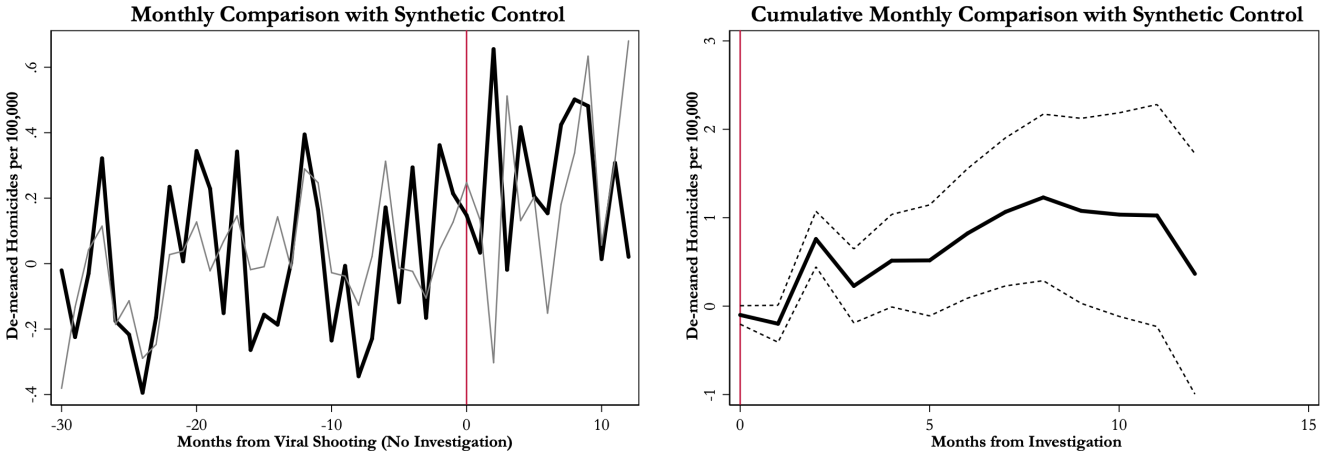
Panel 1: Arlington, TX



Panel 2: Baton Rouge, LA

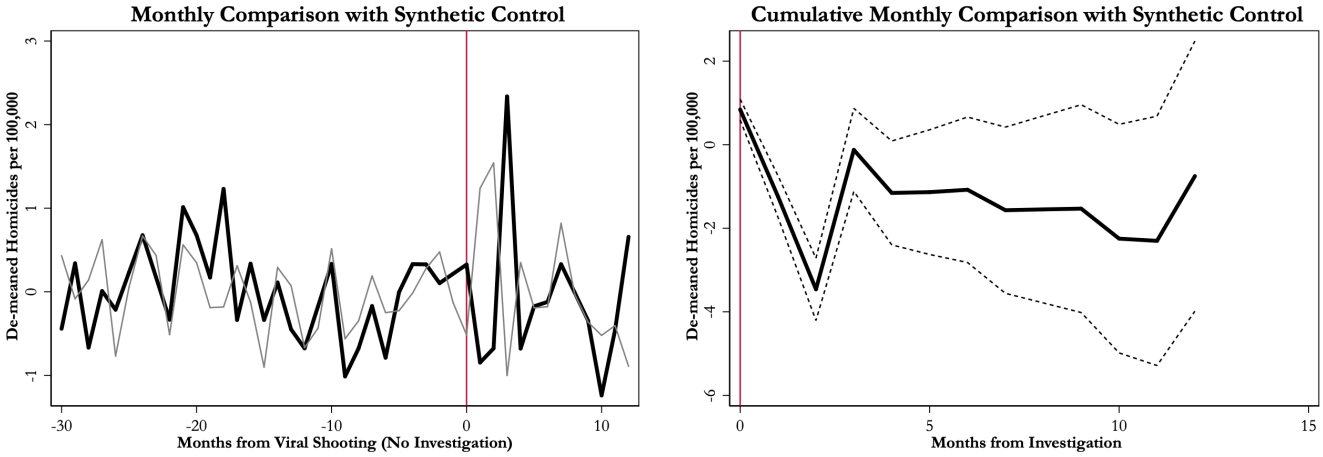


Panel 3: Charlotte, NC

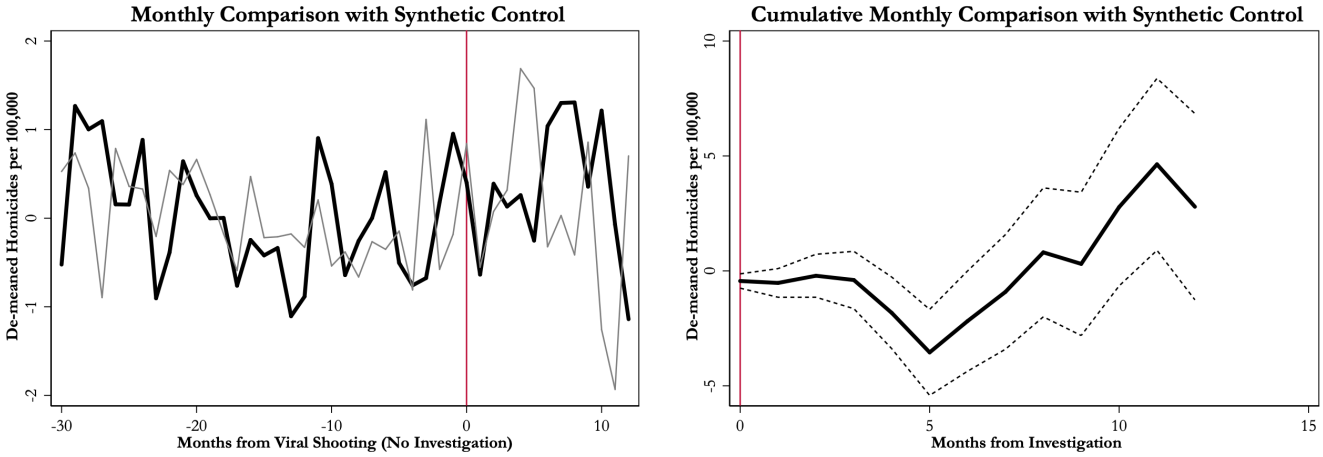


Appendix Figure 7A: The Impact of Investigations on Homicides, Viral Shootings

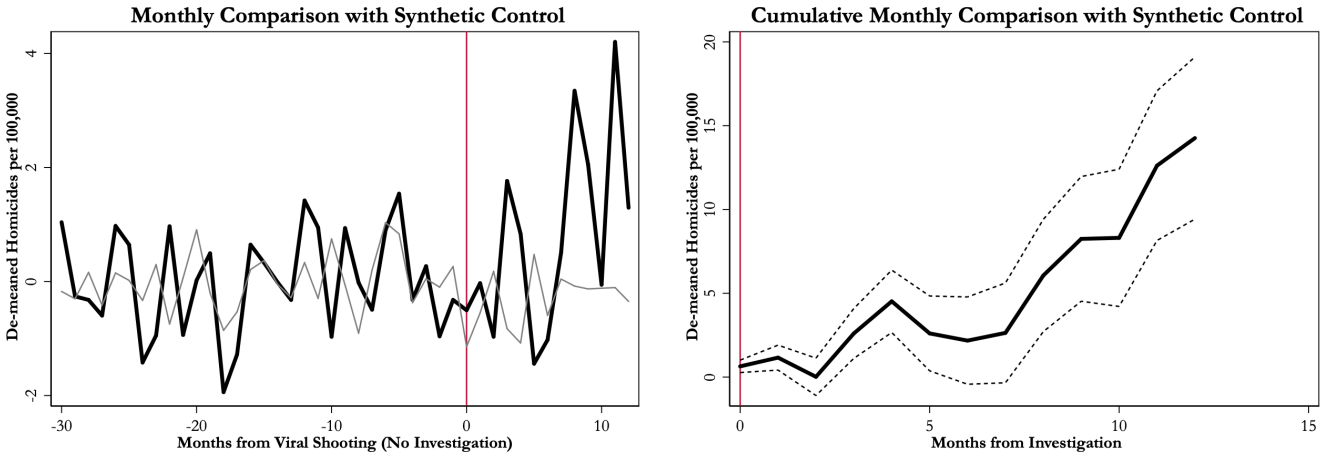
Panel 4: Cincinnati, OH



Panel 5: Cleveland, OH

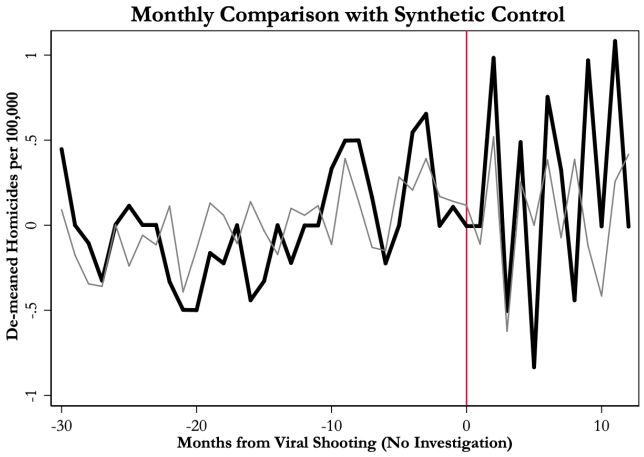


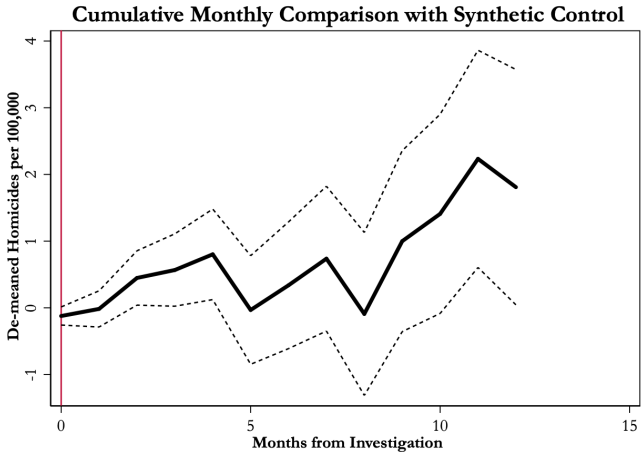
Panel 6: North Charleston, SC



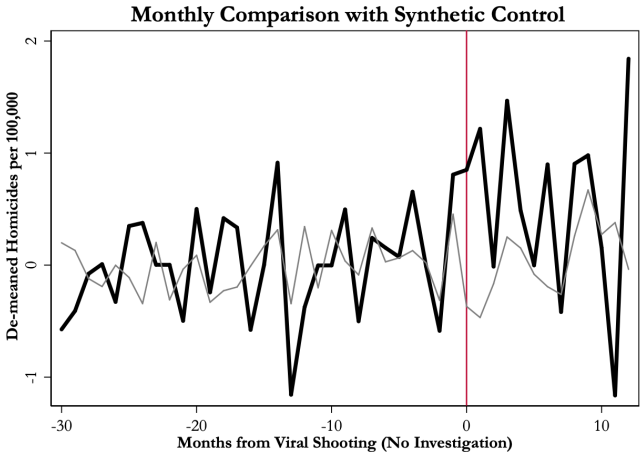
Appendix Figure 7A: The Impact of Investigations on Homicides, Viral Shootings

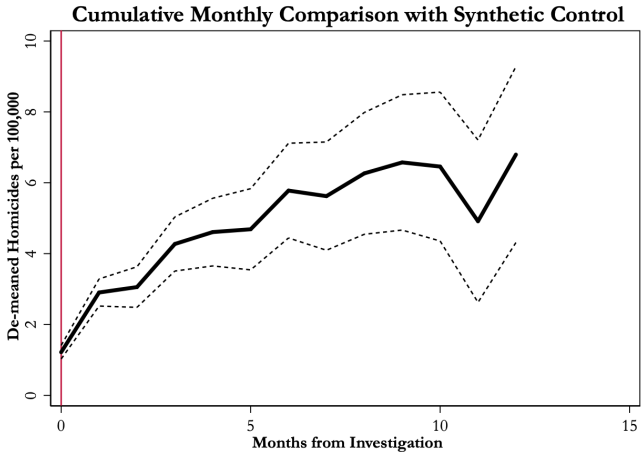
Panel 7: Saint Paul, MN





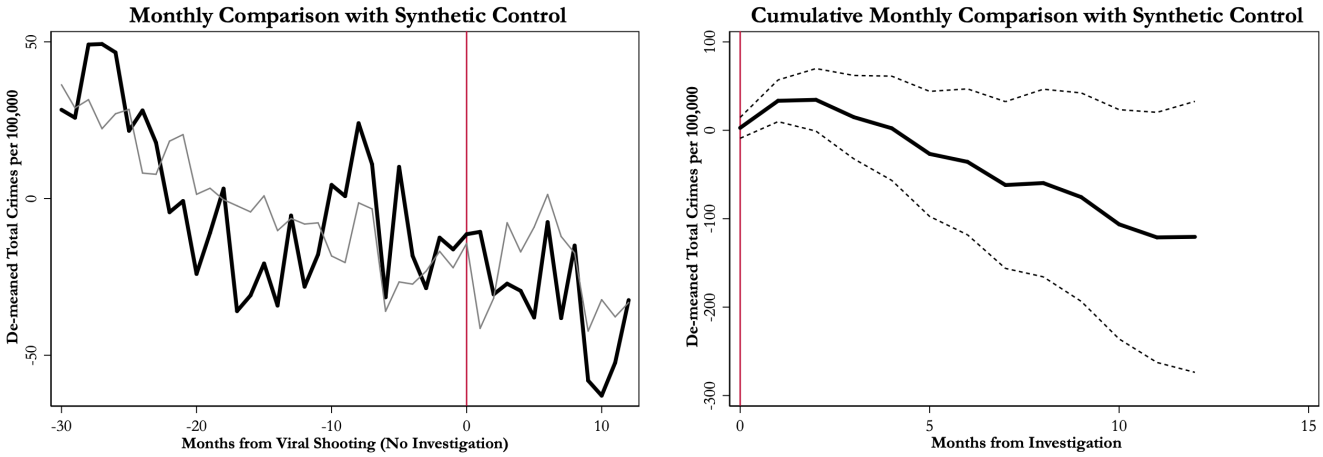
Panel 8: Tulsa, OK



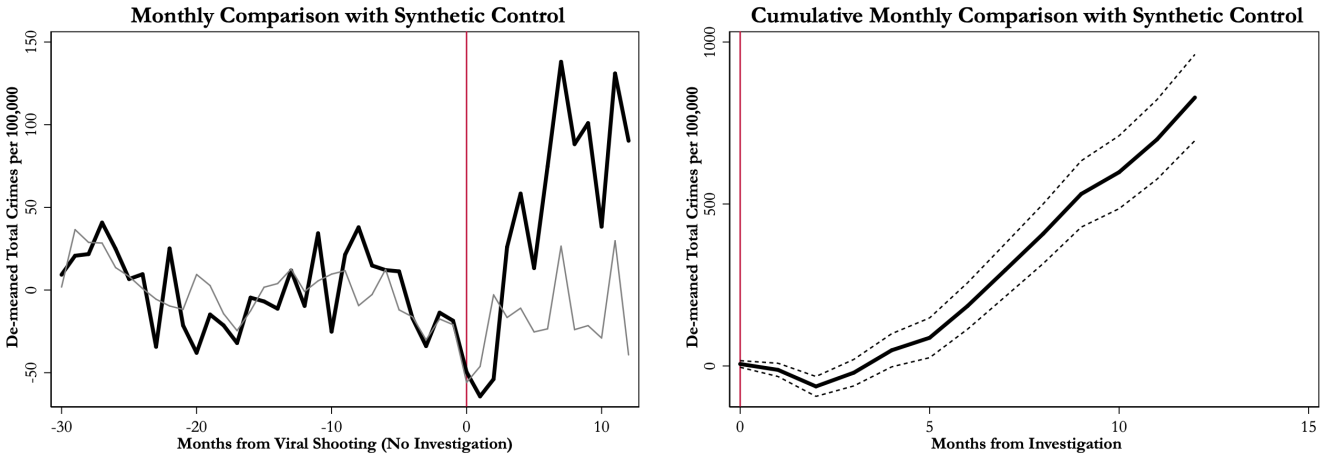


Appendix Figure 7B: The Impact of Investigations on Total Crime, Viral Shootings

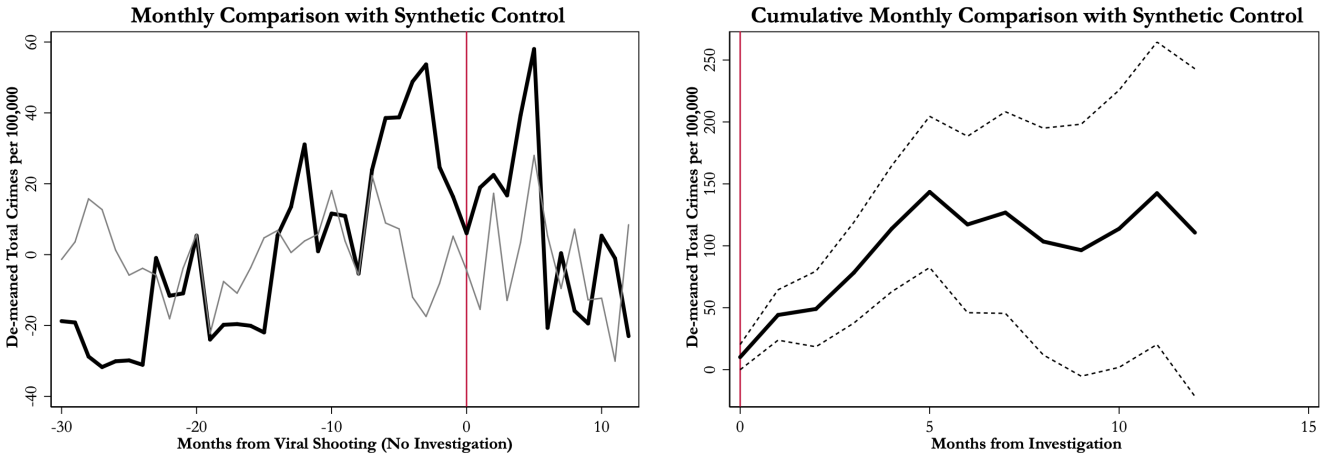
Panel 1: Arlington, TX



Panel 2: Baton Rouge, LA

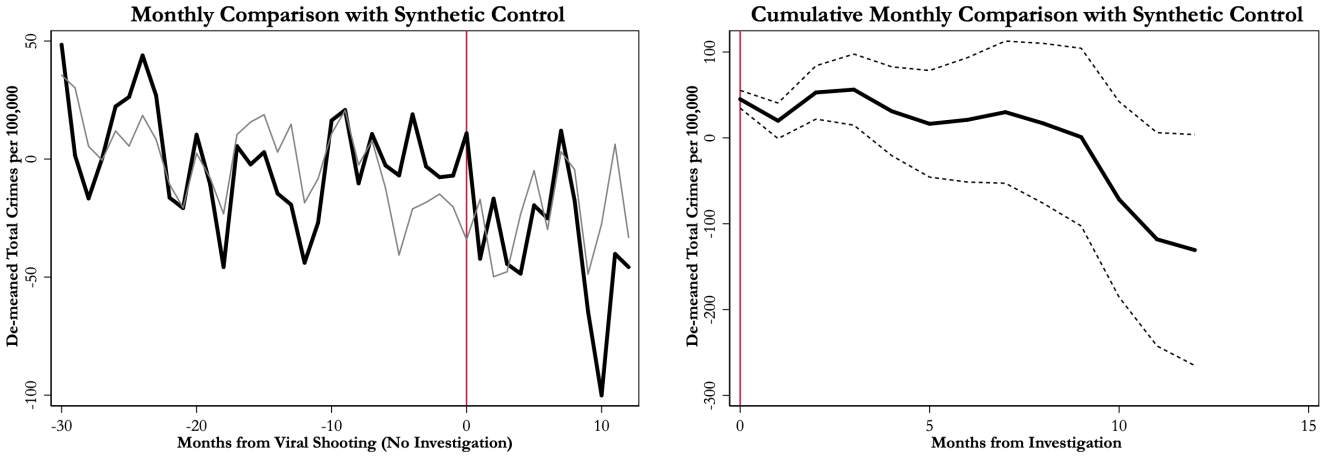


Panel 3: Charlotte, NC

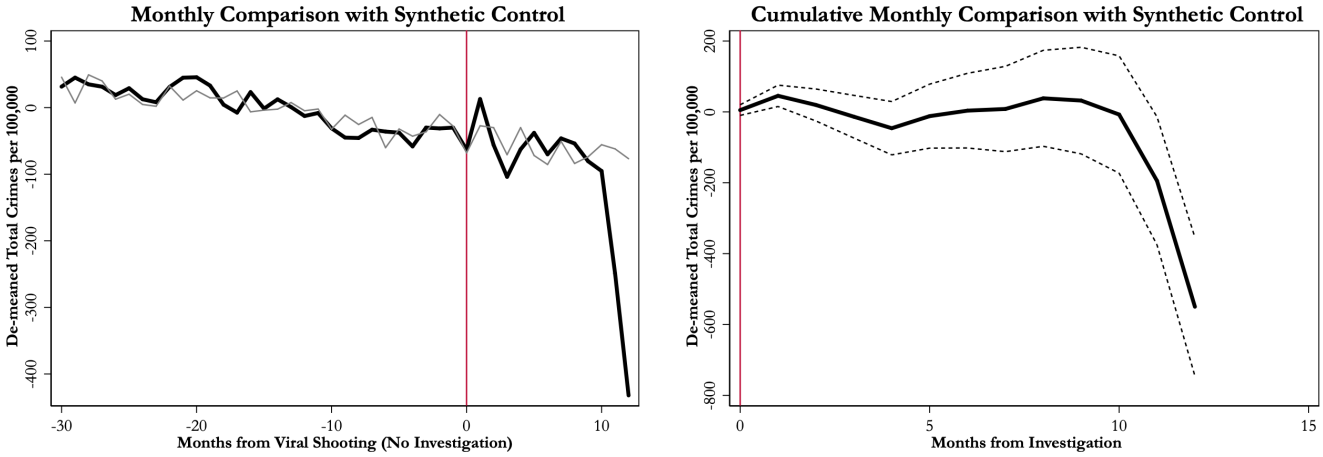


Appendix Figure 7B: The Impact of Investigations on Total Crime, Viral Shootings

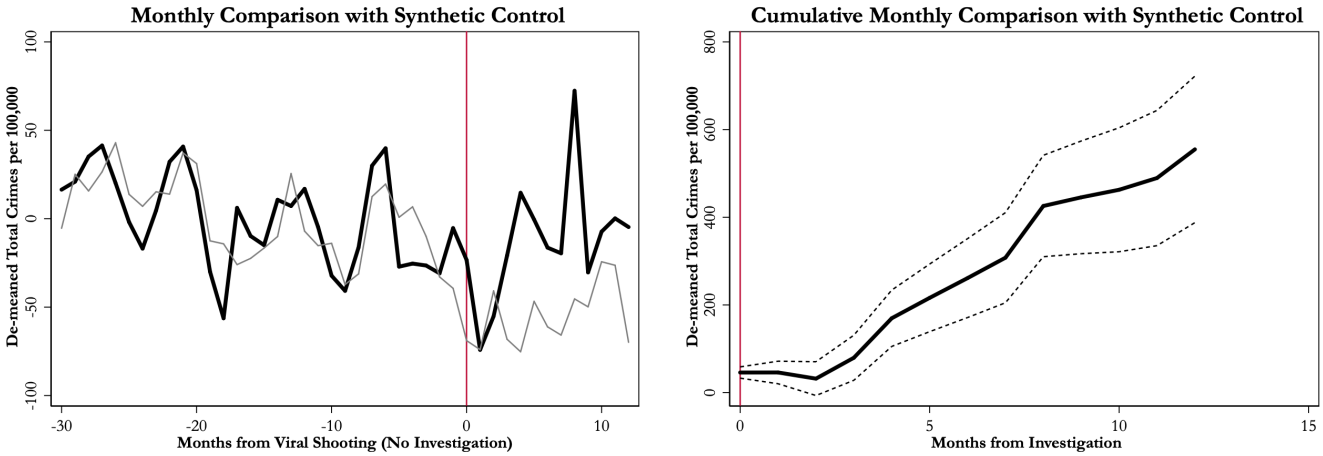
Panel 4: Cincinnati, OH



Panel 5: Cleveland, OH

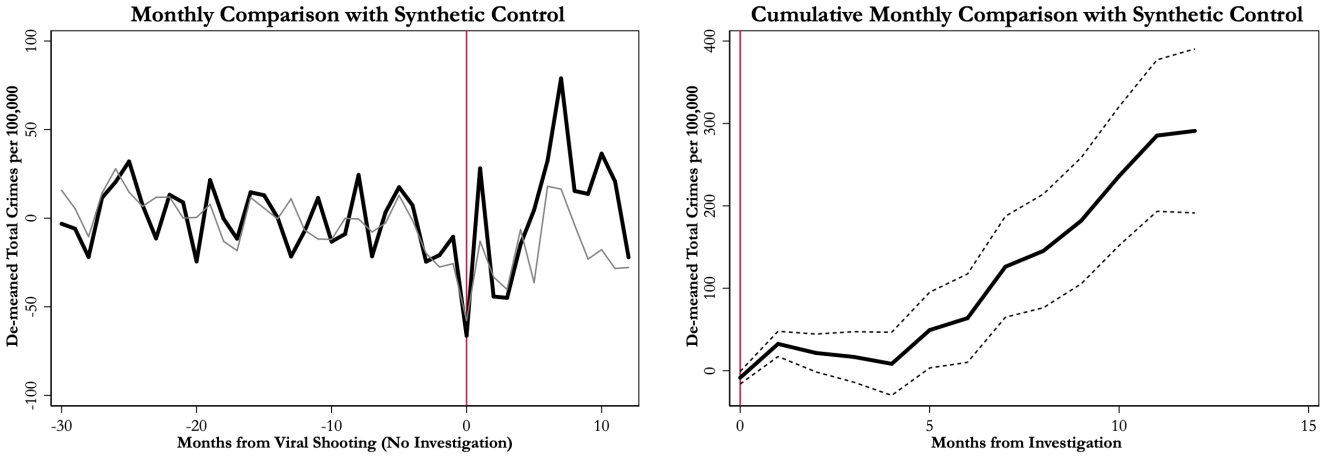


Panel 6: North Charleston, SC

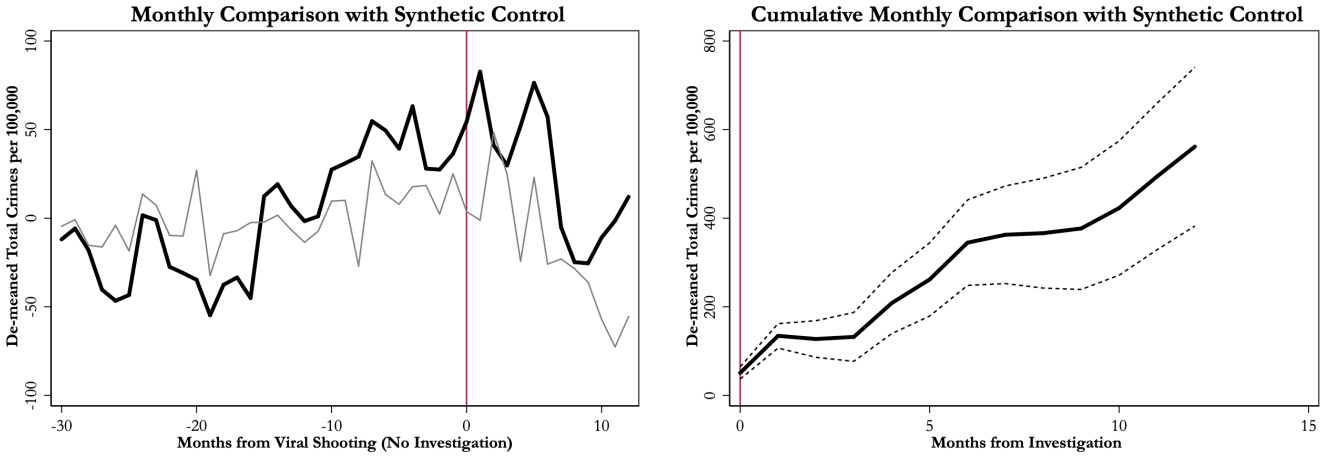


Appendix Figure 7B: The Impact of Investigations on Total Crime, Viral Shootings

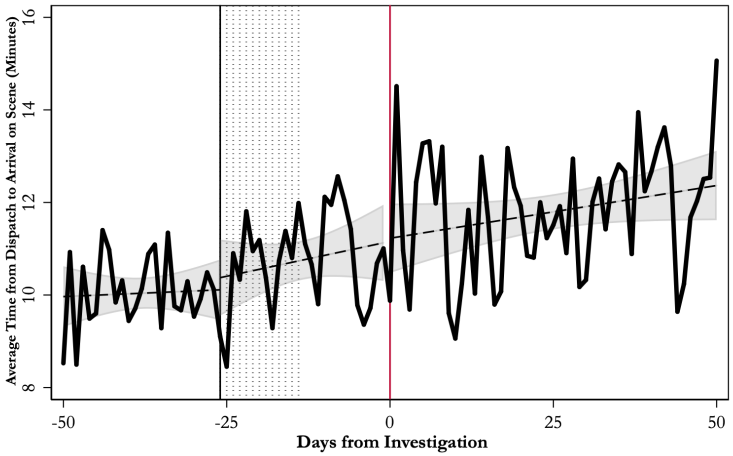
Panel 7: Saint Paul, MN



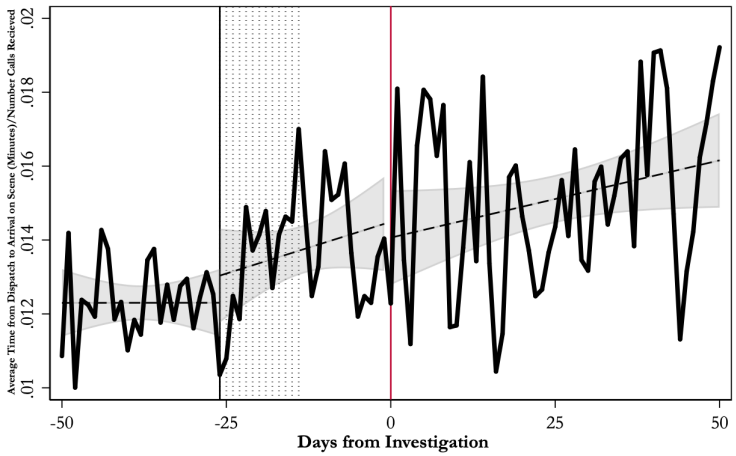
Panel 8: Tulsa, OK



Appendix Figure 8: Police Activity (Call Response Times), St. Louis, MO



Michael Brown was shot by police on August 9, 2014 -- 26 days before the investigation began.
Violent protests erupted that night, the Governor of Missouri declared a state of emergency on August 16th,
and the National Guard was called in on the 18th. The National Guard was withdrawn on August 21st.
Peaceful protests continued through early September, though several arrests were made.



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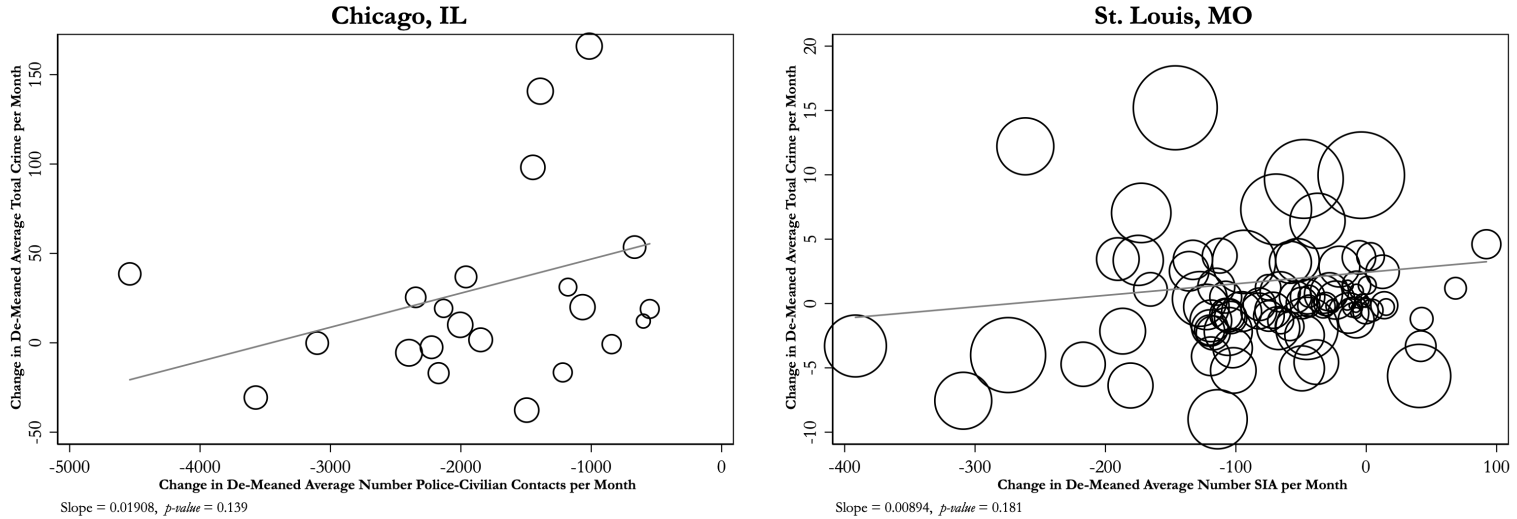
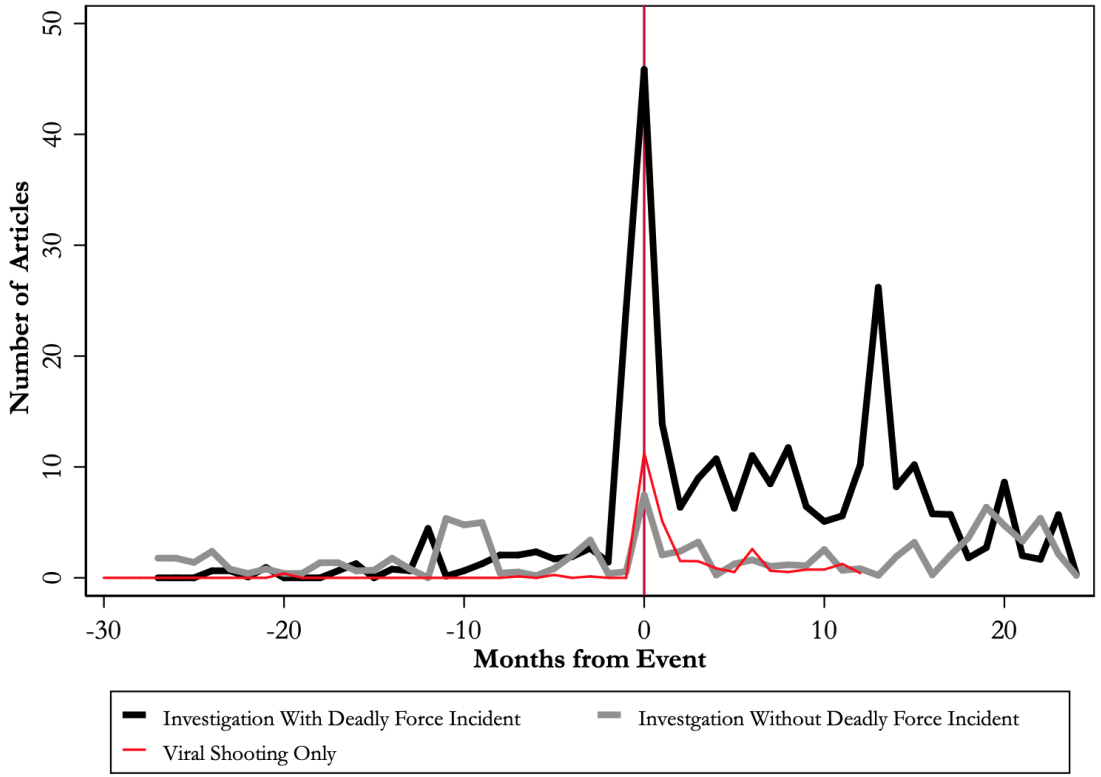
Peaceful protests continued through early September, though several arrests were made.

Appendix Figure 9: Correlation Between Police Activity and Total Crime



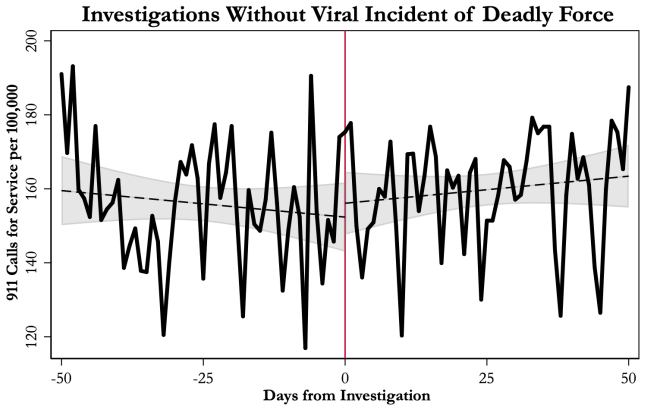
Notes: For Chicago, the vertical axis plots the difference in monthly average total crime for 14 months post investigation and monthly average total crime for 27 months pre investigation, for each of the 22 districts in Chicago, IL. The horizontal axis plots the difference in monthly average police civilian contacts for 14 months post investigation and monthly average police civilian contacts for 27 months pre investigation, for each of the 22 districts in Chicago, IL. Total crime and police civilian contacts are de-meaned by the average value in that calendar month in the pre-event period for each district to account for seasonality in criminal behavior. Each point in the graph is weighted by the average monthly total crime in the pre-event period for that district. For St. Louis, the vertical axis plots the difference in monthly average total crime for 24 months post investigation and monthly average total crime for 27 months pre investigation, for each of the 89 neighborhoods in St. Louis, MO. The horizontal axis plots the difference in monthly average self-initiated activities for 24 months post investigation and monthly average self-initiated activities for 27 months pre investigation, for each of the 89 neighborhoods in St. Louis, MO. Total crime and self-initiated activties are de-meaned by the average value in that calendar month in the pre-event period for each neighborhood to account for seasonality in criminal behavior. Each point in the graph is weighted by the average monthly total crime in the pre-event period for that neighborhood.

Appendix Figure 10: The Impact of Investigations on Media Attention

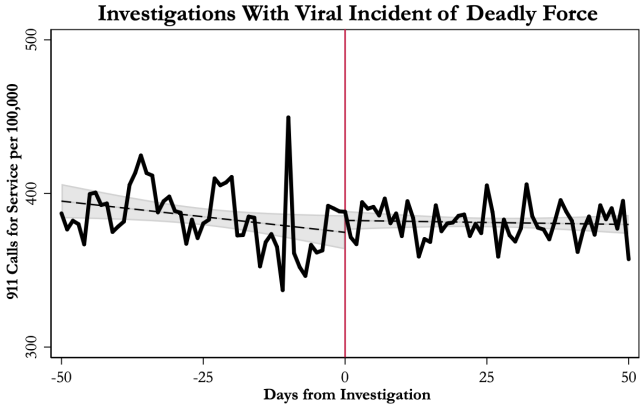


Notes: The vertical axis plots the average number of articles published about a police department in any given month away from the event (investigation or viral shooting). Details about how the articles were collected can be found in the Data Appendix. The horizontal axis plots the month away from the event (investigation or viral shooting). The black line plots the outcome for the 5 cities that were investigated after a viral incident of deadly force. The gray line plots the outcome for the 20 cities (22 investigations) that were invetigated but did not have a viral incident of deadly force preceding the investigation. The red line plots the outcome for 8 viral shooting cities.

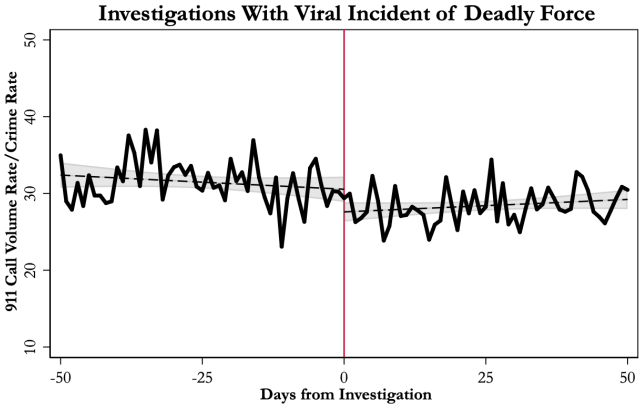
Appendix Figure 11: Community Trust (911 Calls for Service Volume)



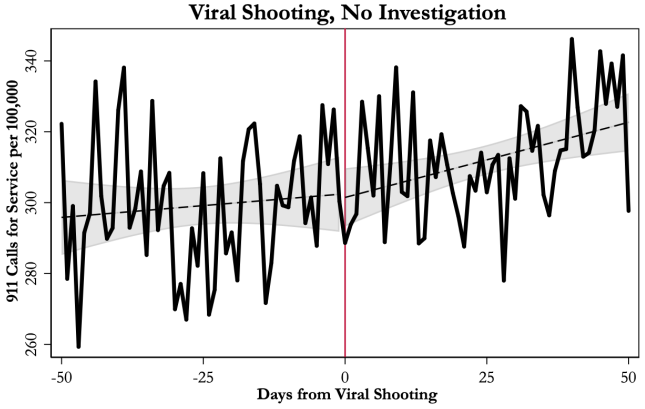
Note: Sample includes Seattle, WA only.
The test for no trend break has a (two-sided) p-value of 0.128.
The test for no discontinuity has a (two-sided) p-value of 0.737.



Note: Sample includes Chicago IL, Baltimore MD, and St. Louis MO.
The test for no trend break has a (two-sided) p-value of 0.104.
The test for no discontinuity has a (two-sided) p-value of 0.267.



Note: Sample includes Chicago IL, Baltimore MD, and St. Louis MO.
The test for no trend break has a (two-sided) p-value of 0.045.
The test for no discontinuity has a (two-sided) p-value of 0.004.



Note: Sample includes Arlington, TX and Cincinnati, OH.
The test for no trend break has a (two-sided) p-value of 0.213.
The test for no discontinuity has a (two-sided) p-value of 0.873.

Appendix Table 1: Description of Pattern-or-Practice Investigations

Law Enforcement Agency	Date	Cause of Investigation	Type of Investigation	Final Sample	Reason
Adelanto	Jun 16, 1995	Allegations	Use of force	0	Not a principal city
Alabaster	Mar 4, 2003	Allegations	Use of force	0	Not a principal city
Alamance County Sheriff	Jun 2, 2010	Allegations	Discriminatory policing - race	0	Sheriff or county PD
Albuquerque	Nov 27, 2012	Shooting	Use of force	1	
Austin	May 31, 2007	Allegations	Use of force	1	
Bakersfield	Jun 24, 2003	Allegations	Use of force	1	
Bakersfield	Dec 22, 2016	Allegations	Use of force	0	Missing data
Baltimore	May 8, 2015	Non-Shooting UOF	Use of force	1	
Beacon	Aug 3, 2004	Allegations	Use of force	0	Not a principal city
Beverly Hills	Feb 11, 1997	Allegations	Discriminatory policing - race	0	Not a principal city
Buffalo	Dec 9, 1997	Unclear	Use of force	1	
Charleston	Mar 31, 1999	Allegations	Use of force	1	
Chicago	Dec 7, 2015	Shooting	Use of force	1	
Cincinnati	May 7, 2001	Shooting	Use of force	1	
Cleveland	Aug 1, 2000	Media reports	Use of force	1	
Cleveland	Mar 14, 2013	Shooting	Use of force	1	
Colorado City Marshal	Apr 20, 2011	Unclear	Discriminatory policing - FLDS	0	Not a principal city
Columbus	Mar 13, 1998	Allegations	Use of force	1	
DC Metropolitan	Feb 5, 1999	Media reports	Use of force	0	Missing data
Detroit	May 29, 2001	Media reports	Use of force	1	
East Haven	Sep 30, 2009	Allegations	Use of force	0	Not a principal city
Easton	Oct 14, 2005	Allegations	Use of force	0	Not a principal city
Eastpointe	Mar 20, 1998	Allegations	Discriminatory policing - race	0	Not a principal city
Escambia County Sheriff	Jan 9, 2009	Allegations	Use of force	0	Sheriff or county PD
Evangeline Parish Sheriff	Apr 21, 2015	Allegations	Investigative holds	0	Sheriff or county PD
Ferguson	Sep 4, 2014	Shooting	Use of force	1	
Harvey	Dec 12, 2008	Media reports	Use of force	0	Not a principal city
Highland Park	May 18, 2000	Allegations	Discriminatory policing - race	0	Not a principal city
Illinois State	Oct 23, 1996	Allegations	Discriminatory policing - race	0	Missing data
Inglewood	Mar 11, 2009	Shooting	Use of force	0	Not a principal city
Kern County Sheriff	Dec 22, 2016	Allegations	Use of force	0	Not a principal city
Lorain	Nov 20, 2008	Allegations	Use of force	0	Not a principal city
Los Angeles	Jul 31, 1996	Allegations	Use of force	1	
Los Angeles Sheriff	Aug 19, 2011	Allegations	Discriminatory policing - race	0	Sheriff or county PD
Maricopa County Sheriff	Apr 10, 2009	Allegations	Discriminatory policing - race	0	Sheriff or county PD
Maywood	Apr 15, 2007	Request	Use of force	0	Not a principal city
Meridian	Dec 1, 2011	Allegations	Juvenile arrests	1	

Miami	May 31, 2002	Shooting	Use of force	0	Missing data
Miami	Nov 16, 2011	Shooting	Use of force	0	Missing data
Missoula	Apr 25, 2012	Allegations	Gender bias in sexual assault cases	1	
Montgomery County	Dec 12, 1996	Allegations	Use of force	0	Sheriff or county PD
Mt. Prospect	Apr 5, 2000	Allegations	Discriminatory policing - race	0	Not a principal city
New Jersey State	Apr 15, 1996	Allegations	Discriminatory policing - race	0	Missing data
New Orleans	Apr 15, 1996	Allegations	Use of force	1	
New Orleans	May 17, 2010	Request	Use of force	1	
New York City	Aug 21, 1997	Non-Shooting UOF	Use of force	1	
New York City	Mar 17, 1999	Shooting	Discriminatory policing - race	0	Overlap previous
Newark	May 9, 2011	Allegations	Use of force	1	
Orange County CA Sheriff	Dec 15, 2016	Allegations	Jailhouse informants	0	Sheriff or county PD
Orange County FL Sheriff	Apr 11, 1997	Allegations	Discriminatory policing - race	0	Sheriff or county PD
Orange County FL Sheriff	Jan 31, 2007	Unclear	Use of force	0	Sheriff or county PD
Pittsburgh	Apr 11, 1996	Allegations	Use of force	1	
Portland ME	May 6, 2002	Allegations	Use of force	1	
Portland OR Bureau	Jun 6, 2011	Shooting	Use of force - mental illness	1	
Prince George's County	Jul 1, 1999	Allegations	Use of force - canines	0	Sheriff or county PD
Prince George's County	Oct 30, 2000	Media reports	Use of force	0	Sheriff or county PD
Providence	Dec 11, 2002	Shooting	Discriminatory policing - race	0	Missing data
Puerto Rico	Jul 1, 2008	Allegations	Use of force	0	Sheriff or county PD
Riverside	Apr 15, 1999	Media reports	Discriminatory policing - race	1	
Riverside	Jul 8, 1999	Shooting	Use of force	0	Overlap previous
Schenectady	Apr 29, 2002	Unclear	Use of force	0	Missing data
Seattle	Mar 31, 2011	Allegations	Use of force	1	
Steubenville	Sep 16, 1996	Allegations	Use of force	0	Missing data
Suffolk County	Sep 1, 2009	Allegations	Discriminatory policing - race	0	Sheriff or county PD
Torrance	May 1, 1995	Allegations	Use of force	1	
Tulsa	Feb 8, 2001	Allegations	Use of force	1	
University Of Montana	Apr 25, 2012	Allegations	Gender bias in sexual assault cases	0	Not a principal city
Villa Rica	Jan 27, 2003	Unclear	Discriminatory policing - race	0	Not a principal city
Ville Platte	Apr 21, 2015	Allegations	Investigative holds	0	Not a principal city
Virgin Islands - Charlotte	Apr 15, 2004	Media reports	Use of force	0	Not a principal city
Virgin Islands - St. Croix	Mar 15, 2004	Media reports	Use of force	0	Not a principal city
Warren	Dec 8, 2004	Non-Shooting UOF	Use of force	0	Missing data
Yonkers	Aug 22, 2007	Allegations	Use of force	0	Not a principal city

Notes: This table lists all pattern-or-practice investigations begun by the Civil Rights Division of the federal Department of Justice from 1994 to 2016. Information was collected from several sources, including the Civil Rights Division website, media reports, and the Frontline *Fixing the Force* web application. For information on police departments that were dropped due to missing data, see the data appendix.

Appendix Table 2: Details of FOIA Requests

Police Department	City, State	Received Data?	Datasets Received
(1)	(2)	(3)	(4)
Alamance Police Department	Alamance, NC	Yes*	Stops
Albuquerque Police Department	Albuquerque, NM	Yes	Stops
Arlington Police Department	Arlington, TX	Yes	Stops, 911 Data
Austin Police Department	Austin, TX	No	
Baltimore Police Department	Baltimore, MD	Yes	Offenses, Stops, 911 Data
Baton Rouge Police Department	Baton Rouge, LA	No	
Charlotte Police Department	Charlotte, NC	Yes	Stops
Chicago Police Department	Chicago, IL	Yes	Offenses, Stops, 911 Data
Cincinnati Police Department	Cincinnati, OH	Yes	Stops, 911 Data
Cleveland Police Department	Cleveland, OH	No	
East Haven Police Department	East Haven, CT	No	
Ferguson Police Department	Ferguson, MO	No	
Inglewood Police Department	Inglewood, CA	No	
Lorain Police Department	Lorain, OH	No	
Los Angeles County Sheriff's Department	Los Angeles County, CA	Yes*	Stops
Los Angeles Police Department	Los Angeles, CA	Yes*	Stops
New Orleans Police Department	New Orleans, LA	No	
Newark Police Department	Newark, NJ	No	
North Charleston Police Department	North Charleston, SC	Yes*	Stops
Portland Police Department	Portland, OR	No	
Seattle Police Department	Seattle, WA	Yes	911 Data
St. Louis Police Department	St. Louis, MO	Yes	Offenses, 911 Data
St. Paul Police Department	St. Paul, MN	Yes	Stops
Tulsa Police Department	Tulsa, OK	Yes	Stops
Yonkers Police Department	Yonkers, NY	No	

Notes: Police Departments that are starred did not have their data used either because – (a) they were not a principal city and did not feature in main analyses, or (b) data did not overlap with the event window, or (c) data did not meet standards as they did not contain a signficant fraction of all observations.

Appendix Table 3: Composition of Synthetic Cities

City	Outcome	Composition of Synthetic City
Panel A: Investigations		
Albuquerque, NM	Total Crime	Phoenix, AZ [.262]; Sioux City, IA [.249]; Council Bluffs, IA [.248]; San Francisco, CA [.111]; Joplin, MO [.08]; West Allis, WI [.044]; Everett, WA [.006]
	Homicide	San Antonio, TX [.464]; Colorado Springs, CO [.235]; Modesto, CA [.191]; Corpus Christi, TX [.094]; Odessa, TX [.009]; Hemet, CA [.007]
Austin, TX	Total Crime	Tempe, AZ [.312]; Phoenix, AZ [.19]; Indianapolis, IN [.189]; Murfreesboro, TN [.15]; San Antonio, TX [.114]; Davenport, IA [.045]
	Homicide	San Diego, CA [.448]; Madison, WI [.278]; Irving, TX [.125]; Raleigh, NC [.059]; Tempe, AZ [.037]; Tyler, TX [.035]; Marietta, GA [.018]
Bakersfield, CA	Total Crime	Victorville, CA [.371]; Yuma, AZ [.225]; Paramount, CA [.157]; Hemet, CA [.143]; Lawrence, KS [.104]
	Homicide	Modesto, CA [.388]; Pomona, CA [.148]; Long Beach, CA [.147]; Peoria, IL [.092]; Battle Creek, MI [.086]; Charleston, WV [.047]; Phoenix, AZ [.046]; Salinas, CA [.026]; Berkeley, CA [.021]
Baltimore, MD	Total Crime	Mobile, AL [.454]; Memphis, TN [.23]; Montgomery, AL [.17]; Columbus, OH [.124]; Houston, TX [.022]
	Homicide	New Orleans, LA [.592]; Wilmington, DE [.19]; Philadelphia, PA [.155]; Atlanta, GA [.062]
Buffalo, NY	Total Crime	Milwaukee, WI [.346]; Jackson, MI [.18]; Cleveland, OH [.119]; Youngstown, OH [.119]; Bowling Green, KY [.105]; Hot Springs, AR [.043]; Flint, MI [.04]; Camden, NJ [.03]; Detroit, MI [.018]
	Homicide	Cleveland, OH [.416]; Muskegon, MI [.143]; Lake Charles, LA [.117]; Muskogee, OK [.117]; Bowling Green, KY [.051]; Detroit, MI [.049]; Hot Springs, AR [.036]; Temple, TX [.032]; National City, CA [.025]; Bremerton, WA [.013]
Charleston, WV	Total Crime	Lansing, MI [.289]; Gastonia, NC [.274]; Springfield, OH [.232]; Hot Springs, AR [.145]; Enid, OK [.06]
	Homicide	Evansville, IN [.525]; Jackson, MI [.167]; Hot Springs, AR [.164]; Poughkeepsie, NY [.095]; Cleveland, TN [.036]; Hobbs, NM [.013]
Chicago, IL	Total Crime	Philadelphia, PA [.286]; Bridgeport, CT [.285]; Denver, CO [.219]; High Point, NC [.14]; Fort Worth, TX [.059]; Trenton, NJ [.011]
	Homicide	Los Angeles, CA [.463]; Memphis, TN [.19]; Washington, DC [.124]; New Orleans, LA [.106]; Kansas City, MO [.061]; Wilmington, DE [.033]; Taylor, MI [.018]; Trenton, NJ [.005]

Cincinnati, OH	Total Crime	Knoxville, TN [.377]; Memphis, TN [.233]; New Orleans, LA [.173]; Jackson, MS [.081]; Portsmouth, VA [.06]; Charlottesville, VA [.029]; Cleveland, TN [.025]; Charleston, SC [.022]
	Homicide	Oklahoma City, OK [.275]; Alexandria, LA [.183]; Binghamton, NY [.128]; Danville, VA [.121]; Meridian, MS [.075]; Charlottesville, VA [.071]; Muskogee, OK [.07]; Los Angeles, CA [.043]; Bryan, TX [.033]
Cleveland, OH (1)	Total Crime	Philadelphia, PA [.284]; Port Arthur, TX [.28]; Saginaw, MI [.159]; Gary, IN [.114]; Youngstown, OH [.1]; Utica, NY [.062]
	Homicide	Buffalo, NY [.305]; New Iberia, LA [.235]; Saginaw, MI [.232]; Youngstown, OH [.076]; Port Arthur, TX [.065]; New Orleans, LA [.048]; Gary, IN [.04]; Hot Springs, AR [.001]
Cleveland, OH (2)	Total Crime	Flint, MI [.267]; Albany, GA [.165]; Youngstown, OH [.143]; Niagara Falls, NY [.103]; Chicago, IL [.094]; Gary, IN [.069]; Camden, NJ [.065]; Detroit, MI [.065]; Anderson, IN [.028]; Saginaw, MI [.001]
	Homicide	Youngstown, OH [.276]; Albany, GA [.248]; Detroit, MI [.193]; Utica, NY [.118]; Chicago, IL [.072]; Toledo, OH [.064]; Reading, PA [.03]
Columbus, OH	Total Crime	Des Moines, IA [.499]; Florence, SC [.301]; Wilson, NC [.156]; Lufkin, TX [.044]
	Homicide	Philadelphia, PA [.233]; Lexington, KY [.193]; Charlottesville, VA [.118]; Portland, OR [.111]; San Diego, CA [.1]; Harrisonburg, VA [.068]; Seattle, WA [.053]; Charleston, SC [.049]; Nashville, TN [.043]; Hagerstown, MD [.031]
Detroit, MI	Total Crime	Alexandria, LA [.207]; Philadelphia, PA [.176]; New Orleans, LA [.154]; Washington, DC [.152]; Newark, NJ [.115]; Flint, MI [.082]; Memphis, TN [.076]; Atlanta, GA [.038]
	Homicide	Saint Louis, MO [.686]; Gary, IN [.216]; Los Angeles, CA [.08]; Washington, DC [.014]; Youngstown, OH [.004]
Los Angeles, CA	Total Crime	Houston, TX [.212]; Pomona, CA [.188]; Long Beach, CA [.181]; San Antonio, TX [.148]; Phoenix, AZ [.085]; El Centro, CA [.069]; National City, CA [.057]; Hobbs, NM [.028]; Paramount, CA [.02]; Stockton, CA [.011]
	Homicide	Philadelphia, PA [.411]; Phoenix, AZ [.346]; Houston, TX [.242]; Madera, CA [.001]
Meridian, MS	Total Crime	Utica, NY [.347]; Harrisburg, PA [.261]; Alexandria, LA [.18]; Bridgeton, NJ [.12]; El Dorado, AR [.056]; Milledgeville, GA [.035]
	Homicide	Monroe, LA [.309]; Alexandria, LA [.29]; Lexington, NC [.231]; New Castle, PA [.102]; Utica, NY [.053]; Lumberton, NC [.015]
Missoula, MT	Total Crime	Bellingham, WA [.348]; La Crosse, WI [.207]; Lewiston, ME [.176]; Fall River, MA [.111]; Bay City, MI [.067]; Nampa, ID [.049]; Mcallen, TX [.042]; Springfield, OR [.001]

	Homicide	Duluth, MN [.655]; Eau Claire, WI [.21]; Albany, OR [.12]; Bay City, MI [.015]
New Orleans, LA (1)	Total Crime	Memphis, TN [.291]; Detroit, MI [.227]; Monroe, LA [.194]; National City, CA [.179]; Camden, NJ [.046]; Houston, TX [.039]; Port Arthur, TX [.023]
	Homicide	Richmond, VA [.546]; Youngstown, OH [.23]; Detroit, MI [.115]; Compton, CA [.109]
New Orleans, LA (2)	Total Crime	New Brunswick, NJ [.324]; Philadelphia, PA [.263]; Athens, GA [.147]; Gary, IN [.135]; Chapel Hill, NC [.131]
	Homicide	Detroit, MI [.573]; Youngstown, OH [.256]; Camden, NJ [.113]; Monroe, LA [.048]; Wilmington, DE [.01]
New York, NY	Total Crime	Ann Arbor, MI [.269]; Compton, CA [.265]; Pomona, CA [.226]; Philadelphia, PA [.138]; Pasadena, CA [.102]
	Homicide	Houston, TX [.598]; Pasadena, CA [.149]; Beaumont, TX [.067]; Asheville, NC [.054]; Goldsboro, NC [.05]; Danville, VA [.036]; Port Arthur, TX [.014]; Trenton, NJ [.013]; Sacramento, CA [.012]; Rocky Mount, NC [.006]
Newark, NJ	Total Crime	Long Beach, CA [.521]; Erie, PA [.272]; Paramount, CA [.113]; Muncie, IN [.091]; East Lansing, MI [.002]
	Homicide	Albany, GA [.245]; Detroit, MI [.233]; Colton, CA [.174]; Harrisburg, PA [.117]; Camden, NJ [.11]; Compton, CA [.095]; New Brunswick, NJ [.025]
Pittsburgh, PA	Total Crime	Sumter, SC [.283]; Utica, NY [.268]; Harrisonburg, VA [.206]; Knoxville, TN [.126]; Ann Arbor, MI [.05]; New Iberia, LA [.042]; Philadelphia, PA [.024]
	Homicide	Philadelphia, PA [.198]; Rome, GA [.184]; Knoxville, TN [.167]; Meridian, MS [.139]; Huntington, WV [.135]; Binghamton, NY [.088]; Lima, OH [.083]; Wilmington, NC [.006]
Portland, ME	Total Crime	Kingsport, TN [.239]; Oshkosh, WI [.195]; Dearborn, MI [.183]; Rapid City, SD [.126]; Grand Forks, ND [.12]; Bartlesville, OK [.106]; Madison, WI [.031]
	Homicide	Grand Island, NE [.31]; Kingsport, TN [.295]; Manchester, NH [.259]; La Crosse, WI [.117]; San Rafael, CA [.013]; Dearborn, MI [.006]
Portland, OR	Total Crime	Phoenix, AZ [.31]; Colorado Springs, CO [.2]; Davenport, IA [.182]; Kokomo, IN [.166]; Saint Joseph, MO [.068]; Vancouver, WA [.067]; Lincoln, NE [.005]; Glendale, AZ [.002]
	Homicide	San Diego, CA [.24]; Des Moines, IA [.158]; Owensboro, KY [.147]; Santa Monica, CA [.133]; Vancouver, WA [.108]; Waterloo, IA [.088]; Scranton, PA [.065]; Cheyenne, WY [.044]; San Francisco, CA [.017]

Riverside, CA	Total Crime	Tustin, CA [.214]; Victorville, CA [.212]; Oxnard, CA [.119]; Ontario, CA [.101]; San Diego, CA [.087]; San Jose, CA [.077]; Johnson City, TN [.045]; Chapel Hill, NC [.039]; Anaheim, CA [.007]; Chino, CA [.007]; Watertown, NY [.005]; Long Beach, CA [.004]; Ann Arbor, MI [.004]; Fullerton, CA [.003]; Salinas, CA [.003]; Fairbanks, AK [.002]; Irving, TX [.002]; Anchorage, AK [.002]; Santa Cruz, CA [.002]; Madison, WI [.002]; Sierra Vista, AZ [.002]; Cambridge, MA [.002]; Worcester, MA [.002]; Colton, CA [.002]; Danbury, CT [.002]; Redlands, CA [.002]; Fairfield, CA [.002]; Middletown, CT [.002]; Vineland, NJ [.001]; Pasadena, CA [.001]; Santa Clara, CA [.001]; Santa Maria, CA [.001]; Santa Rosa, CA [.001]; Bakersfield, CA [.001]; Redwood City, CA [.001]; Reno, NV [.001]; East Hartford, CT [.001]; Hayward, CA [.001]; Lynchburg, VA [.001]; Taylor, MI [.001]; Jefferson City, MO [.001]; Clarksville, TN [.001]; Arlington, TX [.001]; Abilene, TX [.001]; Norwalk, CT [.001]; Saint Charles, MO [.001]; Fremont, CA [.001]; Kokomo, IN [.001]; Cheyenne, WY [.001]; Midland, TX [.001]; Ventura, CA [.001]; Pittsfield, MA [.001]; Bridgeport, CT [.001]; Milpitas, CA [.001]; Stamford, CT [.001]; Allentown, PA [.001]; Cleveland, TN [.001]; Virginia Beach, VA [.001]; San Rafael, CA [.001]; Norwich, CT [.001]; Hagerstown, MD [.001]; Richardson, TX [.001]; Evansville, IN [.001]; Frederick, MD [.001]; Cerritos, CA [.001]; Alexandria, VA [.001]; San Francisco, CA [.001]; Roanoke, VA [.001]; Bellevue, WA [.001]; Santa Barbara, CA [.001]; Carrollton, TX [.001]; Baytown, TX [.001]; Wichita Falls, TX [.001]; Auburn, NY [.001]; Lexington, KY [.001]; Kenner, LA [.001]; Sparks, NV [.001]
	Homicide	Anaheim, CA [.266]; Salinas, CA [.144]; Colton, CA [.101]; Arlington, TX [.094]; Tempe, AZ [.09]; Raleigh, NC [.088]; Santa Monica, CA [.072]; Fairbanks, AK [.068]; San Diego, CA [.056]; Danbury, CT [.01]; San Jose, CA [.01]
Seattle, WA	Total Crime	Everett, WA [.319]; Arlington, TX [.258]; Kent, WA [.214]; Renton, WA [.18]; Indianapolis, IN [.028]
	Homicide	Virginia Beach, VA [.669]; San Jose, CA [.083]; Evansville, IN [.081]; Anderson, IN [.07]; Waterloo, IA [.052]; Pittsfield, MA [.031]; Taylor, MI [.014]
St. Louis, MO	Total Crime	Middletown, OH [.223]; Jackson, MS [.219]; Detroit, MI [.153]; Niagara Falls, NY [.143]; Memphis, TN [.125]; Columbus, OH [.112]; Pine Bluff, AR [.025]
	Homicide	New Orleans, LA [.389]; Dayton, OH [.357]; Compton, CA [.119]; Gary, IN [.095]; Terre Haute, IN [.04]
Torrance, CA	Total Crime	Fountain Valley, CA [.239]; Napa, CA [.208]; Beaverton, OR [.162]; Newport Beach, CA [.111]; San Jose, CA [.105]; Palo Alto, CA [.104]; Roseville, CA [.054]; Cupertino, CA [.016]
	Homicide	Arcadia, CA [.39]; Petaluma, CA [.216]; Troy, MI [.17]; Carlsbad, CA [.137]; San Jose, CA [.075]; Newport Beach, CA [.005]; South San Francisco, CA [.005]

Tulsa, OK	Total Crime	Wichita, KS [.209]; Fort Wayne, IN [.182]; Columbus, OH [.181]; Roanoke, VA [.139]; Tucson, AZ [.119]; Omaha, NE [.052]; Phoenix, AZ [.045]; Kingsport, TN [.041]; Saint Joseph, MO [.029]; Evansville, IN [.003]
	Homicide	Wichita Falls, TX [.268]; Indianapolis, IN [.239]; Mansfield, OH [.177]; Portland, OR [.121]; Oklahoma City, OK [.096]; Phoenix, AZ [.04]; Cleveland, TN [.029]; Johnson City, TN [.017]; Evansville, IN [.013]

Panel B: Viral Shootings, No Investigation

Arlington, TX	Total Crime	San Leandro, CA [.203]; Fort Worth, TX [.195]; Norfolk, VA [.176]; Bakersfield, CA [.124]; Aurora, CO [.093]; Denver, CO [.062]; Fairfield, CA [.051]; Austin, TX [.051]; Worcester, MA [.045]; Temple, TX [.001]
	Homicide	Austin, TX [.327]; Hayward, CA [.237]; Temple, TX [.233]; Warner Robins, GA [.126]; Seattle, WA [.041]; Clarksville, TN [.036]
Baton Rouge, LA	Total Crime	Tuscaloosa, AL [.249]; Asheville, NC [.245]; Valdosta, GA [.145]; Montgomery, AL [.124]; Niagara Falls, NY [.11]; Houston, TX [.066]; Jackson, MS [.062]
	Homicide	Springfield, OH [.37]; Montgomery, AL [.264]; Jackson, MS [.263]; Roanoke, VA [.047]; Houston, TX [.046]; Wilmington, DE [.01]
Charlotte, NC	Total Crime	Kansas City, MO [.264]; Nashville, TN [.252]; Sacramento, CA [.243]; Hampton, VA [.191]; Fayetteville, NC [.049]
	Homicide	Joliet, IL [.309]; Fort Worth, TX [.23]; Nashville, TN [.145]; Gardena, CA [.098]; Concord, NC [.085]; Greensboro, NC [.064]; Renton, WA [.057]; Hayward, CA [.012]
Cincinnati, OH	Total Crime	Shreveport, LA [.229]; Dayton, OH [.226]; Columbus, OH [.169]; Middletown, OH [.105]; Detroit, MI [.083]; Monroe, LA [.073]; Albany, GA [.046]; Canton, OH [.041]; Knoxville, TN [.03]
	Homicide	Columbus, OH [.25]; North Little Rock, AR [.229]; Jackson, MS [.189]; Flint, MI [.149]; Knoxville, TN [.112]; Tuscaloosa, AL [.066]; Gary, IN [.005]
Cleveland, OH	Total Crime	Detroit, MI [.267]; Canton, OH [.195]; Niagara Falls, NY [.159]; Camden, NJ [.119]; Gary, IN [.113]; Flint, MI [.078]; Youngstown, OH [.049]; Monroe, LA [.02]
	Homicide	Youngstown, OH [.33]; Detroit, MI [.272]; Canton, OH [.191]; Gary, IN [.082]; Philadelphia, PA [.062]; Dallas, TX [.053]; Reading, PA [.01]
Minneapolis, MN	Total Crime	Battle Creek, MI [.286]; Knoxville, TN [.253]; Waterloo, IA [.158]; Albany, NY [.144]; Austin, TX [.139]; Roanoke, VA [.016]; Bowling Green, KY [.004]

	Homicide	Charleston, SC [.211]; Denver, CO [.195]; Decatur, AL [.106]; Chapel Hill, NC [.101]; Peoria, IL [.091]; Asheville, NC [.084]; Taylor, MI [.066]; Sacramento, CA [.057]; Springfield, OH [.051]; Los Angeles, CA [.035]; Fort Smith, AR [.001]
North Charleston, SC	Total Crime	Jackson, MS [.388]; Springfield, OH [.141]; Marietta, GA [.118]; Jackson, TN [.113]; Stockton, CA [.066]; Tyler, TX [.066]; Baytown, TX [.054]; Berkeley, CA [.054]
	Homicide	Greensboro, NC [.306]; Trenton, NJ [.215]; Richmond, VA [.166]; Rocky Mount, NC [.164]; Pittsburgh, PA [.135]; Jackson, MS [.008]; Charleston, SC [.005]
St. Paul, MN	Total Crime	Boston, MA [.278]; Lansing, MI [.193]; Columbia, MO [.17]; Long Beach, CA [.126]; Waterloo, IA [.09]; Johnson City, TN [.084]; Erie, PA [.042]; Burlington, NC [.018]
	Homicide	Grand Rapids, MI [.281]; Asheville, NC [.179]; Long Beach, CA [.165]; Victoria, TX [.163]; Champaign, IL [.095]; Johnson City, TN [.048]; Roanoke, VA [.03]; Chapel Hill, NC [.025]; New York, NY [.014]
Tulsa, OK	Total Crime	Fort Smith, AR [.357]; Oklahoma City, OK [.265]; Charleston, WV [.14]; Norfolk, VA [.095]; Houston, TX [.068]; Tacoma, WA [.037]; Columbus, OH [.036]; Berkeley, CA [.002]; Niagara Falls, NY [.001]
	Homicide	Oklahoma City, OK [.475]; Pittsburgh, PA [.213]; Evansville, IN [.102]; Fort Smith, AR [.099]; Stockton, CA [.095]; Longview, TX [.017]

Notes: This table displays the makeup of each synthetic city utilized in the analysis. Each synthetic city is constructed using the procedure described in Abadie, Diamond, and Hai
package for Stata. The resulting makeup of each synthetic city is displayed here, with the weights of each city entering the synthetic city in brackets. The donor pool for the synthet
by restricting to the set of 1309 principal cities in the US as defined in the 2010 census. Cities were dropped from the donor pool for a specific event if they did not have full crime d
remaining set of cities was ordered by a set of variables that we wanted to match on: total population, percent black, poverty rate, and the average crime rate in the pre-event period. I
the event on *all* four dimensions, it entered the donor pool. The variables used in the synthetic control calculation are percent black, white, and Hispanic, percent of the population a
median household income, and total population, along with lagged values of the outcome variable (3, 6, and 9 months before the investigation). Cities in italics have not responded to
time. When synthetic cities are not complete, cities with available data are re-weighted to sum to one but maintain the same proportions.

Appendix Table 4: Summary Statistics

	Investigated Cities	Synthetic Cities (Homicide)	Synthetic Cities (Total Crime)	Non-Utilized, Non-Investigated	*p-value* (1)=(2)=(3)	*p-value* (1)=(4)
	(1)	(2)	(3)	(4)		
Pct. Black	0.300	0.281	0.246	0.120	0.592	0.000
Pct. Hispanic	0.118	0.118	0.130	0.099	0.911	0.461
Pct. White	0.521	0.547	0.568	0.737	0.650	0.000
Pct. Population Ages 15-24	0.156	0.159	0.169	0.169	0.214	0.013
Poverty Rate	0.204	0.199	0.198	0.175	0.941	0.031
Unemployment Rate	0.093	0.093	0.091	0.080	0.964	0.061
Median Household Income (2011 dollars)	44,498	44,468	44,898	43,864	0.987	0.786
Total Population	842,995	458,763	325,714	42,709	0.094	0.006
Pct. Population with High School Degree	0.770	0.761	0.766	0.792	0.918	0.185
Pct. Population with 4-Year College Degree	0.250	0.196	0.190	0.191	0.101	0.035
Pct. Families with a Single Parent	0.433	0.413	0.402	0.341	0.626	0.000
Pct. Receiving Public Assistance Income	0.090	0.084	0.086	0.057	0.931	0.010
Pre-Invest. Monthly Homicides per 100,000	1.544	1.396	1.117	–	0.324	–
Pre-Invest. Monthly Total Crimes per 100,000	476	476	472	–	0.994	–
p-value, joint F-test					0.170	0.002
Number of Investigations/Cities	27	27	27	1049		

Notes: This table reports summary statistics for each group of cities considered in the main analysis, at the investigation level. Column (1) includes 27 investigations in 25 cities. In cities with more than one investigation, the two event windows do not overlap. Columns (2) and (3) include the 27 corresponding synthetic cities when the outcome variable is the homicide rate and total crime rate, respectively. Column (4) includes cities that were never investigated and are not included in any synthetic control city. Census variables in the first twelve rows are taken from the 1990 and 2000 Long Form samples and the 2011 ACS 5-year sample. In Columns (1)-(3), each investigation is assigned the value of that variable from the most recent census year before the investigation. In Column (4) each city is assigned the average value across all three iterations of the census. Means of each variable across all investigations/cities are presented. Crime variables in the last two rows come from the FBI UCR records. In Column (1)-(3) these variables are averaged over the 27 months leading up to the investigation. The variables used in the synthetic control calculation are percent black, white, and Hispanic, percent of the population ages 15-24, poverty and unemployment rates, median household income, and total population, along with lagged values of the outcome variable (3, 6, and 9 months before the investigation). To calculate the p-values in the last two column we divide the mean of the variable by the square root of the average of the within investigated city and comparison city variances, following Morgan and Winship (2007). We then regress the adjusted variable on a dummy variable for an investigated city or synthetic city (non-investigated, non-utilized city for the last column). The p-value on the dummy indicator is calculated using bootstrapped standard errors of 1000 replications (Efron, 1979).

Appendix Table 5: Consent Decree Aggressiveness,
Investigations Without and With Viral Incidents of Deadly Use of Force

	Without Viral Incident Of Deadly Force	With Viral Incident Of Deadly Force	*p-value*
	(1)	(2)	(3)
Number of Major Sections	12.308	13.750	0.702
Number of UOF Sections (Major + Sub Sections)	4.692	4.250	0.879
Number of Stops Sections (Major + Sub Sections)	1.385	4.500	0.137
Total Pages	48.238	66.948	0.435
Pages, UOF Sections (Conditional on Having UOF Section)	13.846	17.167	0.656
Pages, Stops Sections (Conditional of Having Stops Section)	6.277	13.250	0.291
Number of Investigations	13	4	

Notes: Columns (1) and (2) display average characteristics of consent decrees in for investigations that were not preceded by viral shootings and those that were, respectively. Column (3) displays the p-value of the test that the two means are equal. The sample includes all pattern-or-practice investigations that had a consent decree or memorandum of agreement and are included in the final sample (i.e. are able to be matched to a synthetic control). Note that the city of Chicago has not yet signed an agreement with the Department of Justice (as of January 2018). Consent decrees are available at the Civil Rights Division of the federal Department of Justice webpage. Page and section counts were recorded by the authors, along with formatting details to allow for a comparison across documents. For details, see the data appendix.

Appendix Table 6: Event-Study Estimates of the Effect of Investigations on Crime Compared with Synthetic Controls of Other Outcomes

	De-meaned Homicides per 100,000			De-meaned Total Crime per 100,000		
	(1)	(2)	(3)	(4)	(5)	6)
Panel A: All Investigations						
Constant	-0.000	-0.000	0.010	-0.000	-0.096	13.130***
	(0.000)	(0.000)	(0.050)	(0.000)	(0.059)	(4.895)
Investigated	0.000*	-0.000	-0.010	-0.000	0.030	4.887
	(0.000)	(0.000)	(0.057)	(0.000)	(0.093)	(4.763)
Post-Event	-0.060	-0.059	-0.059	-11.729*	-11.125*	-11.166*
	(0.049)	(0.066)	(0.066)	(6.102)	(6.644)	(6.641)
Post-Event x Investigated	0.098	-0.054	-0.054	0.716	-28.015	-27.993
	(0.141)	(0.195)	(0.195)	(12.839)	(18.951)	(18.966)
R-squared	0.002	0.007	0.037	0.014	0.127	0.173
Panel B: Investigations Without Viral Incident of Deadly Force						
Constant	-0.000**	-0.000	0.072	-0.000	-0.121	15.222***
	(0.000)	(0.000)	(0.044)	(0.000)	(0.076)	(5.101)
Investigated	0.000**	-0.000	0.059	-0.000	0.063	9.393*
	(0.000)	(0.001)	(0.039)	(0.000)	(0.114)	(5.422)
Post-Event	-0.108**	-0.133*	-0.133*	-11.872	-16.840***	-16.935***
	(0.052)	(0.069)	(0.070)	(7.246)	(6.045)	(5.982)
Post-Event x Investigated	-0.107	-0.236**	-0.237**	-7.901	-37.011**	-36.940**
	(0.091)	(0.107)	(0.107)	(14.251)	(16.544)	(16.564)
R-squared	0.017	0.098	0.113	0.029	0.222	0.279
Panel C: Investigations With Viral Incident of Deadly Force						
Constant	-0.000	0.000	-0.375**	-0.000	-0.029	-6.874
	(.)	(0.000)	(0.138)	(0.000)	(0.032)	(19.064)
Investigated	0.000	-0.000	-0.116	0.000	-0.072	0.736
	(0.000)	(0.000)	(0.097)	(0.000)	(0.108)	(3.043)
Post-Event	0.150	0.191**	0.192**	-11.099	4.050	4.083
	(0.087)	(0.072)	(0.072)	(8.992)	(8.896)	(8.890)
Post-Event x Investigated	1.002**	0.823***	0.822***	38.632	21.550	21.536
	(0.335)	(0.215)	(0.216)	(23.883)	(12.260)	(12.289)
R-squared	0.314	0.363	0.414	0.123	0.137	0.175
Population Weights	N	Y	Y	N	Y	Y
Additional Controls	N	N	Y	N	N	Y

Notes: This table presents difference-in-difference results for our main event study. Standard errors, reported in parentheses, are clustered by city x investigation (54 clusters). The dependent variables are reported total crimes and homicides, respectively, per 100,000 people, which are de-meaned over the pre-investigation period in each city by calendar month to account for seasonal trends in criminality. Observations are investigation x month-from-investigation cells. The event window is from 28 months before the start of the investigation to 19 months after the investigation. The sample includes investigated cities and their corresponding synthetic cities created using the other crime outcome as an outcome variable i.e. for homicide, total crime is used as the outcome for construction of synthetic cities and for total crime, homicide is used as the outcome for construction of synthetic cities. Synthetic cities are constructed using the procedure described in Abadie, Diamond, and Hainmueller (2010) using the companion *Synth* package for Stata. The synthetic cities are the omitted category in all specifications. In panel A, the sample includes all 27 investigations since 1994 with available data and their synthetic cities. In panel B, this is restricted to the 22 investigations that were not preceded by any viral incident of deadly force and in panel C, to the 5 investigations that were preceded by viral incidents of deadly use of force. In panel A, N = 2808, in panel B, N = 2288, and in panel C, N = 520 in all specifications. Columns (2), (3), (5), and (6) weight the estimates by the population of the city in the given year. Columns (3) and (6) include the following additional controls: education, crime, and race indices taken from the US Census in the most recent year before the investigation. For details on variable construction see the data apendix. Crime data comes from FBI UCR crime reports collated by ICPSR and from www.openicpsr.org.