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Documenting and Explaining the 2015 Homicide Rise: Research Directions

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EXECUTIVE SUMMARY

The debate over the size, scope and causes of the homicide increase in 2015 has been largely free of systematic evidence. This paper documents the scale of the homicide increase for a sample of 56 large U.S. cities. It then examines three plausible explanations of the homicide rise: an expansion of urban drug markets fueled by the heroin epidemic, reductions in incarceration resulting in a growing number of released prisoners in the nation's cities, and a "Ferguson effect" resulting from widely publicized incidents of police use of deadly force against minority citizens. The paper concludes with a call for the more frequent and timely release of crime information to address crime problems as they arise.

The homicide increase in the nation's large cities was real and nearly unprecedented. It was also heavily concentrated in a few cities with large African-American populations. Empirical explanations of the homicide increase must await future research based on year-end crime data for 2015. Several empirical indicators for assessing the explanations under consideration here are discussed. For example, if the homicide increase resulted from an expansion in urban drug markets, we should observe larger increases in drug-related homicides than those committed under other circumstances. If returning prisoners fueled the homicide increase, that should be reflected in growing numbers of homicides committed by parolees.

It will be more difficult to empirically evaluate the so-called Ferguson effect on crime increases, depending on the version of this phenomenon under consideration. The dominant interpretation of the Ferguson effect is that criticism of the police stemming from widely publicized and controversial incidents of the use of force against minority citizens caused the police to disengage from vigorous enforcement activities. Another version of the Ferguson effect, however, switches the focus from changes in police behavior to the longstanding grievances and discontent with policing in African-American communities. In this interpretation, when activated by controversial incidents of police use of force, chronic discontent erupts into violence.

The de-policing interpretation of the Ferguson effect can be evaluated with data on arrests and other forms of self-initiated activity by the police. De-policing should be reflected in declining arrest rates in cities experiencing homicide increases. Tracing the pathways from chronic levels of discontent to an escalation in homicide will ultimately require ethnographic studies in minority communities that reveal, for example, whether offenders believe they can engage in crime without fear that residents will contact the police or cooperate in police investigations. Such studies could also disclose other linkages between discontent, police use of force and criminal violence.

In summary, the following research questions for documenting and explaining the 2015 homicide rise, at a minimum, should be pursued when the requisite data become available:

- How large and widespread was the homicide increase in 2015? Did other crimes also increase?

- What conditions drove the homicide increase? Candidate explanations must account for the timing as well as the magnitude and scope of the increase.
- What role, if any, did the expansion of drug markets play in the 2015 homicide increase? Was there a relative increase in drug arrests and drug-related homicides?
- Did declining imprisonment rates contribute to the 2015 homicide rise? Was the increase greater in cities with more returning prisoners and among parolees?
- What role did the Ferguson effect play in the homicide rise? If de-policing contributed to the increase, arrest rates should have declined in cities experiencing the largest homicide increases. An open question is how to evaluate the role, if any, of community discontent with the police. Ethnographic studies, among other methods, should be high on the list of research approaches to identify the mechanisms linking police legitimacy and escalating levels of violence.

Researchers would have been in a better position to begin addressing the 2015 homicide rise, with evidence rather than speculation, if timely crime data had been available as the increase was occurring. We would have known whether the homicide rise was confined to large cities, whether other crimes were also increasing, and whether arrest rates were falling. The debate over the homicide increase would have been better informed. Technical impediments to the monthly release of crime data no longer exist. A large and worrisome increase in homicide should be the catalyst to finally bring the nation's crime monitoring system into the 21st century.

INTRODUCTION

Early in 2015, the local press in several U.S. cities reported that the decades-long crime decline had been reversed by a sizable increase in homicide. Then, late in the summer, the *New York Times* broke the story nationwide (Davey and Smith 2015). Shortly after the *Times* account appeared, Attorney General Loretta Lynch called big city mayors and police chiefs to a meeting in Washington, D.C., to discuss the homicide rise (Byrne 2015). It was there that FBI Director James Comey first publicly speculated that the increase may have been driven by widely publicized reports of police use of force that resulted in de-policing. Director Comey repeated the claim a few days later in a speech at the University of Chicago, where he called attention to a "chill wind" blowing through the nation's police departments. He also pointed out, however, that he did not have the evidence necessary to confirm de-policing or any other explanation of the homicide rise (Schmit and Apuzzo 2015).

A lively debate in the press soon erupted over the size of the putative homicide increase and its causes. On one side were commentators who argued that the increase was real and caused by widespread public criticism of the police, which had made police officers hesitant to engage in the proactive policing strategies that reduce crime (Mac Donald 2015).[1] On the other side were skeptics who argued that the homicide rise had been overblown and, whatever its magnitude, did not result from a "Ferguson effect" on vigorous policing (Bialik 2015; Coates 2015; Friedman, Fortier, and Cullen 2015).

Notably absent from the conflicting accounts of the 2015 homicide rise was comprehensive evidence needed to evaluate the two issues that framed the debate: (1) Did homicide rates increase and, if so, how large and widespread was the upturn? and (2) Was the increase caused by hesitancy on the part of police to carry out their crime-fighting mission? This paper is organized accordingly.

I begin by documenting the homicide increase in 2015 with data on year-end homicide rates in 56 U.S. cities.[2] I then present three plausible explanations of the homicide rise: expanding urban drug markets, declining imprisonment rates, and the so-called Ferguson effect on policing. Only the latter explanation has received significant attention in the debate over the homicide increase, but prior research has tied crime rate changes to the violence surrounding urban drug markets and to prison expansion (e.g., Blumstein 1995; Levitt 1996; Rosenfeld 2011a). In addition, there are at least two ways in which the Ferguson effect may have unfolded. The dominant interpretation is that the publicity surrounding recent controversial police killings resulted in de-policing. A second equally plausible explanation is that, regardless of their effect on police behavior, the police killings in Ferguson and elsewhere activated longstanding grievances in minority communities concerning the police and the criminal justice system as a whole, resulting

[1] Mac Donald later attributed the homicide increase, in part, to statements made by President Obama that she believed were unduly critical of the police (Mac Donald 2016).

[2] I am grateful to Max Ehrenfreund of *The Washington Post* and Darrel W. Stephens of the Major Cities Chiefs Police Association for providing the crime data used in this study.

in a "legitimacy crisis" that spurred crime increases. Researchers have also attributed homicide increases to declining institutional legitimacy (LaFree 1998; Roth 2009).

I present several empirical indicators that can be used to evaluate the alternative explanations for the 2015 homicide rise. Unfortunately, the evidence needed to carry out the pertinent research is unavailable as of this writing, and will not be available until September or October of 2016 when the FBI releases its Uniform Crime Reports (UCR) for yearend 2015. In the final section of the paper, I argue that it should not be necessary, well into the 21st century, to wait nine months after the collection year to learn whether crime rates are increasing and gain some insight into the underlying causes. The press and advocacy organizations have done due diligence in compiling crime data from local police departments, but these sporadic and necessarily incomplete efforts are no substitute for the timely release of comprehensive crime and arrest statistics by the responsible federal agencies. Had the official crime data been released on a monthly basis during 2015, the debate over the homicide rise might have produced less heat and more light.

My focus is on homicide for two reasons. First, with few exceptions (e.g., Friedman, Fortier, and Cullen 2015), the public debate has largely turned on whether and why homicide rates may have increased during the past year. Second, homicide is the most serious and reliably measured crime type for which trend data are available. None of the arguments in the debate over the homicide rise, however, including the explanations examined here, is limited to homicide. A Ferguson effect, expanding drug markets or declining imprisonment rates might have been expected to lead to increases in other violent crimes or in property crime. The first order of business for future research on the 2015 homicide increase is to extend the range of offenses under consideration beyond homicide.[3]

DOCUMENTING THE INCREASE

The data used to determine the size and scope of the homicide increase in 2015 are from the police departments in 56 large U. S. cities (see fn. 2). The cities are listed in the Appendix. With the exception of Salt Lake City, Utah (population 190,884), the population of each city exceeded 250,000 in 2014. The 56-city sample, therefore, constitutes the bulk of cities in the UCR's Group I category of cities with populations greater than 250,000. The sample accounted for fully 92 percent or 4,873 of the 5,305 homicides in the Group I cities in 2014.[4]

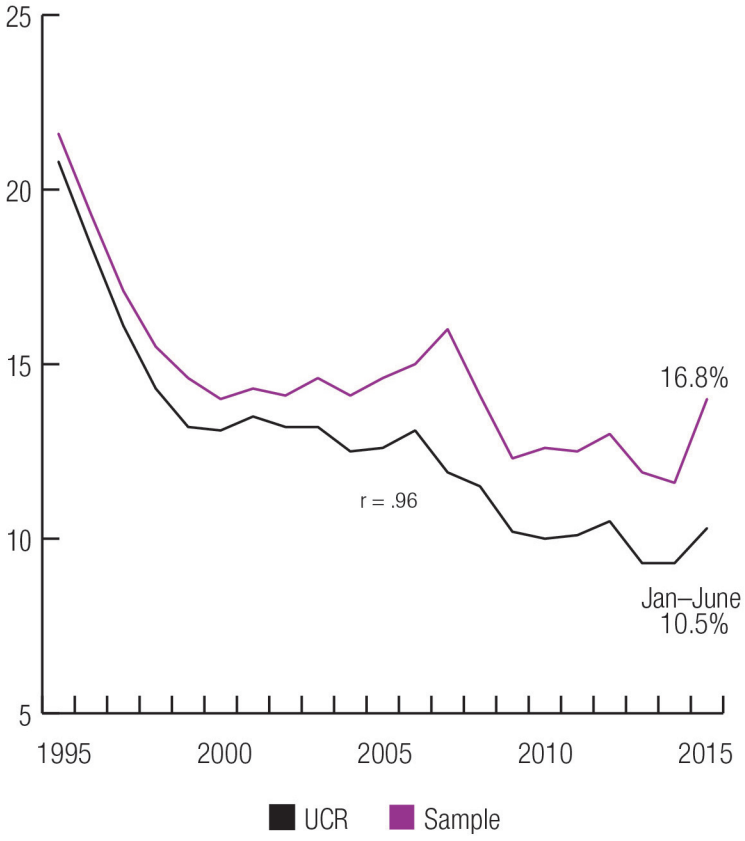
In addition, as shown in Figure 1, the average homicide rates in the 56-city sample and the UCR Group I cities have trended together for the past two decades. The correlation (r) between the two trends is an impressive .96. Both series declined through the end of the

[3] A good start is a study by Pyrooz et al. (2016) that examined changes in each of the FBI's Part I violent and property crimes in relation to a possible Ferguson effect.
[4] See the 2014 UCR at https://www.fbi.gov/about-us/cjis/ucr/crime-in-the-u.s/2014/crime-in-the-u.s.-2014.

1990s, flattened for a few years, rose slightly through 2007, and fell again through 2009. Another slight dip followed until 2015, when both series exhibited a notable increase.

The 56-city sample used in this study is clearly a reasonable proxy for the 70-80 cities that typically constitute the UCR Group I cities with populations over 250,000. At the same time, the results of this study are limited to those cities and cannot be generalized to smaller cities, towns and rural areas, where average homicide rates are lower. With that limitation in mind, we observe that the homicide rate in the sample rose by 16.8 percent over the previous year. According to preliminary UCR figures, the homicide rate in the Group I cities increased by 10.5 percent during the first six months of 2015 over the same period in 2014.[5] Depending on the reliability of the homicide data obtained directly from police departments, a best guess is that the year-end 2015 homicide rate for the Group I cities will be close to the 16.8-percent rise over 2014 observed in the sample. The question now is whether an increase of that magnitude merits the attention it has received from pundits, advocates and federal officials.

Figure 1: Change in Homicide Rates for 56-City Sample and UCR Group I Cities Over 250,000 Population, 1995-2015



National attention to homicide increases in U.S. cities is not new, even during the period of the crime drop since the early 1990s. A recent example is the National Violent Crime Summit hosted by the Police Executive Research Forum

[5] Computed from data presented in https://www.fbi.gov/about-us/cjis/ucr/crime-in-the-u.s/2015/preliminary-semiannual-uniform-crime-report-januaryjune-2015/tables/table-1. The 2015 six-month preliminary UCR figures for smaller cities also reveal sizable increases over the previous year. For example, homicides in cities with populations between 50,000 and 99,000 went up by 8.9 percent.

(PERF) in Washington during August of 2006 to discuss rising violent crime[6] rates across the nation. PERF issued a report, provocatively titled *A Gathering Storm — Violent Crime in America*, that highlighted crime increases in a sample of 55 cities. According to the report, "For a growing number of cities across the United States, violent crime is accelerating at an alarming pace" (Police Executive Research Forum 2006; Somers 2006). The Department of Justice initiated an investigation of crime changes in selected cities, but never publicly issued a report summarizing the results (Rosenfeld 2007).

To gain perspective on the significance of the 2015 homicide increase, it is useful to compare it with the increases featured in the PERF report. Between 2004 and 2006, national violent crime rates rose by 3.5 percent and homicide rates increased by 5.4 percent. The comparable increases for Group I cities were .4 percent and 4.8 percent, respectively. Violent crime and homicide rates then dropped in 2007.[7] These homicide increases are not trivial but they are considerably smaller than those recorded for 2015, and they were relatively short lived. If increases of this magnitude garnered the attention of public officials, including the Attorney General (Somers 2006), in 2006, it is not surprising that the double-digit percentage increase in big-city homicide registered in 2015 would also spark the interest of public officials and the press.

Was the homicide increase in large cities during 2015 "statistically significant"? A study by Pyrooz et al. (2016) examined crime rates in 81 large cities 12 months before and 12 months after the killing of Michael Brown by a police officer in Ferguson, Missouri, on August 9, 2014. They concluded that the difference in homicide trends between the two periods was not statistically significant, although they did find a significant increase in robbery after the Ferguson incident. By comparison, the difference between the 2015 and 2014 homicide rates for the 56-city sample in the current study is just significant at the conventional 5 percent threshold in a one-tailed test ($p = .05$, $t = 1.66$).

A closer look at the results of the Pyrooz et al. study, however, reveals a somewhat different conclusion. Table 2 in that study reports a coefficient on the post-Ferguson trend in homicide of .015 and a standard error of .009, which yields a t-statistic of 1.67, nearly identical to that in the current study. Given the differences between the two studies in sample size, sample composition and estimation methods, it is difficult to directly compare the results. Moreover, tests of statistical significance are technically unwarranted because neither sample is a random draw from a population. Nonetheless, it seems reasonable to conclude that the homicide increases revealed in both studies are at least roughly comparable.

Pyrooz et al. (2016) did acknowledge that homicide had increased in "selected cities" during the period they investigated and called attention to the elevated variance in city homicide rates after the Ferguson incident. The results of the current study are similar. Figure 2 (see page 9) displays the percentage change between 2014 and 2015 in homicides for the 56-city sample. There is marked variation in these one-year changes. Forty cities experienced homicide increases and 16 saw declines or, in one case, no

[6] Violent crimes include homicide, rape, robbery and aggravated assault.
[7] See https://www.fbi.gov/about-us/cjis/ucr/ucr.

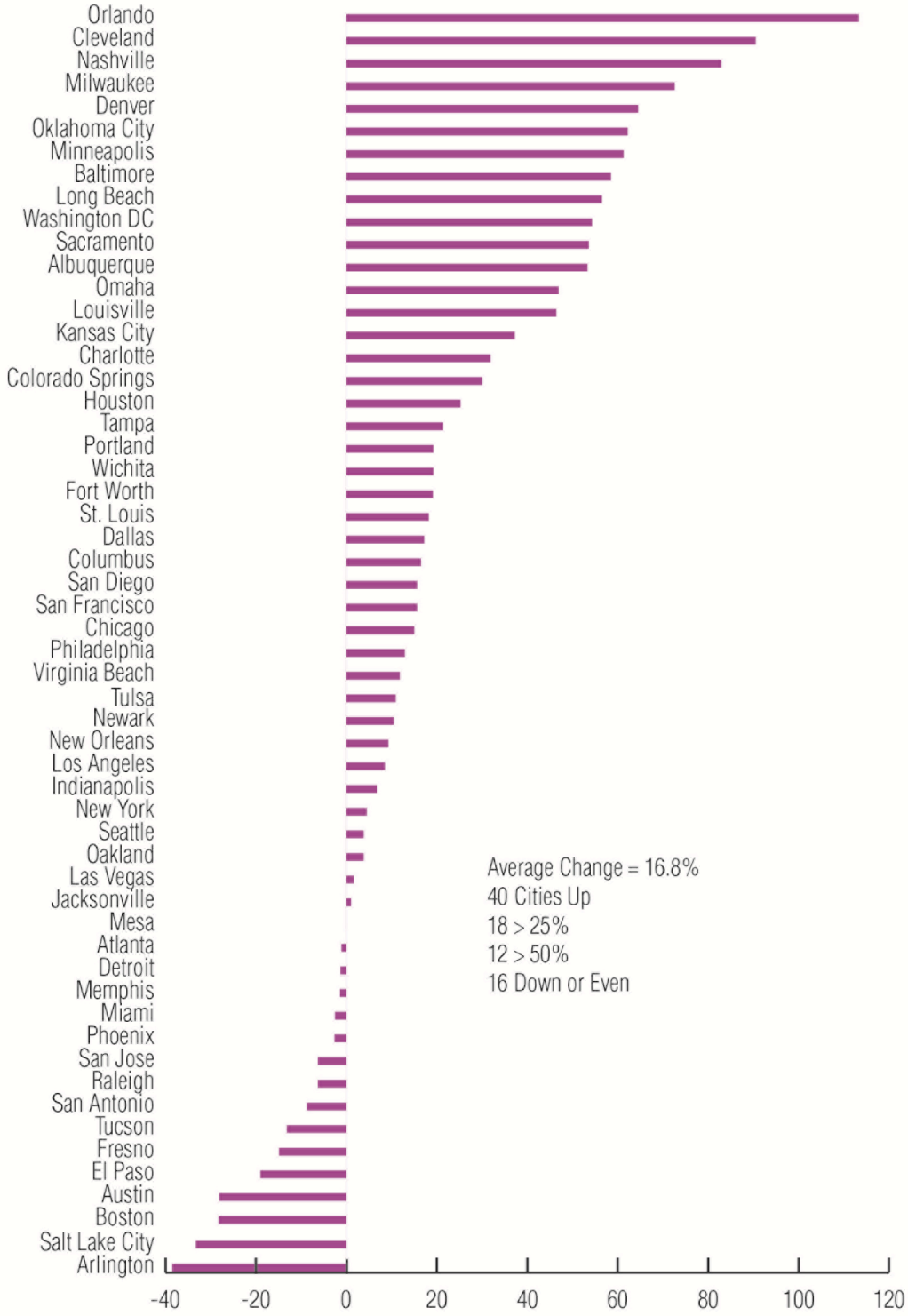
change. Homicides in 18 of the cities increased by more than 25 percent; the increase exceeded 50 percent in 12 cities. The skewed distribution of the homicide changes indicates that a relatively small number of cities accounted for most of the increase in the sample. In fact, just 10 cities accounted for two-thirds of the total homicide increase between 2014 and 2015, as shown in table 1.

Table 1 displays the 10 cities that contributed the largest number of homicides to the total increase in 2015. Together, the increases in these cities constituted 66.7 percent of the total increase in the 56-city sample. Had homicides not risen in these cities, it is likely that the homicide increase of 2015 would have generated far less attention and controversy. The remainder of this section focuses on these "top ten" contributors to the homicide rise in large U.S. cities.

Table 1: Ten Cities With Largest Absolute Homicide Increases, 2014-2015

City	Absolute Increase	% Increase	Cum % of Total Increase
Baltimore	127	58.5	15.5
Chicago	61	15.0	22.9
Houston	61	25.2	30.3
Milwaukee	61	72.6	37.8
Cleveland	57	90.5	44.7
Washington DC	57	54.3	51.6
Nashville	34	82.9	55.8
Philadelphia	32	12.9	59.7
Kansas City	29	37.2	63.2
St. Louis	29	18.2	66.7

Figure 2: Percentage Change in Homicide in 56 Cities, 2014-2015



THE TOP TEN

The top ten cities not only produced two-thirds of the big-city homicide increase in 2015, they also experienced a far larger percentage increase than the sample as a whole. The percentage increases in the top ten ranged from 90.5 percent in Cleveland to 12.9 percent in Philadelphia. The average homicide increase over 2014 in the top ten was 33.3 percent, compared with a 16.8-percent rise for the sample as a whole. One-year increases of this magnitude in the nation's large cities, although not unknown, are very rare. Cities in the top ten had experienced one-year percentage increases in homicide that exceeded their increase in 2015 on only 15 occasions since 1985. The increase in 2015 was greater than 95 percent of the yearly increases these cities had experienced during the previous three decades.[8] If not unprecedented, then, the 33.3-percent homicide rise in the top ten cities certainly deserves further scrutiny.[9]

The top ten cities differ from other large cities in other ways as well. As shown in Figure 3 (see page 11), with an average population of roughly one million, the top ten cities are somewhat larger than the others in the 56-city sample.[10] They also have somewhat higher poverty rates (24.6 percent versus 20.8 percent). The largest difference between the top ten and other cities in the sample, however, is their race/ethnic composition. The top ten have larger black populations and smaller Hispanic populations than the other cities. The relative size of the black population in the top ten is double that in the other cities (40.8 percent versus 19.9 percent). By contrast, Hispanics make up just 15.2 percent of the population in the top ten compared with 26.4 percent of the population of the remaining cities in the sample. As we move to a consideration of explanations for the homicide rise in 2015, these race/ethnic differences merit prominent attention.

In summary, the homicide rise in 2015 in the nation's large cities was real and, while not unprecedented, comparatively large. Whether the increase extended beyond the largest cities remains unknown, although preliminary UCR data for the first six months of 2015 reveal sizable increases in smaller cities as well (see fn. 5). Homicides in the 56-city sample used in this study increased by 16.8 percent over 2014. Ten cities accounted for two-thirds of this increase, and together they experienced a 33.3-percent jump in homicide. These cities have considerably larger black populations and smaller Hispanic populations than the other cities in the sample. We now turn to three plausible explanations of the homicide rise: the expansion of urban drug markets, falling imprisonment rates, and the effects of widely publicized and controversial incidents of the use of force by the police against minority citizens.

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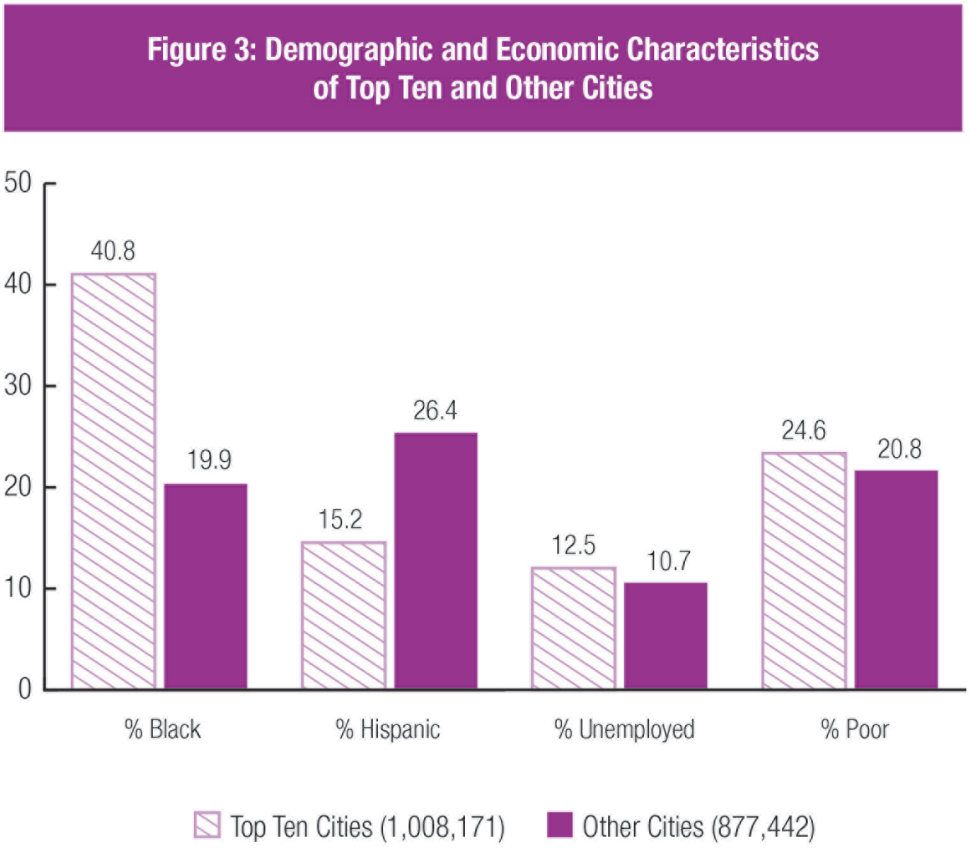
[8] The 2015 percentage increase in four of the cities (Cleveland, Washington, Milwaukee and Baltimore) was greater than the increase they experienced during any year since 1985. The 15 yearly homicide increases that exceeded the percentage increase in 2015 were concentrated in the remaining six of the top ten cities and constituted just 5.0 percent of the 300 possible yearly increases during the 30-year period (10 cities x 30 years).

[9] The 33.3-percent rise in homicides in the top ten cities is statistically significant in a one-tailed test ($p = .04$; $t = 1.99$).

[10] The data shown in Figure 3 are from the 2010-2014 combined files of the American Community Survey (www.census.gov/programs-surveys/acs/)



Source: American Community Survey, 2010-2014

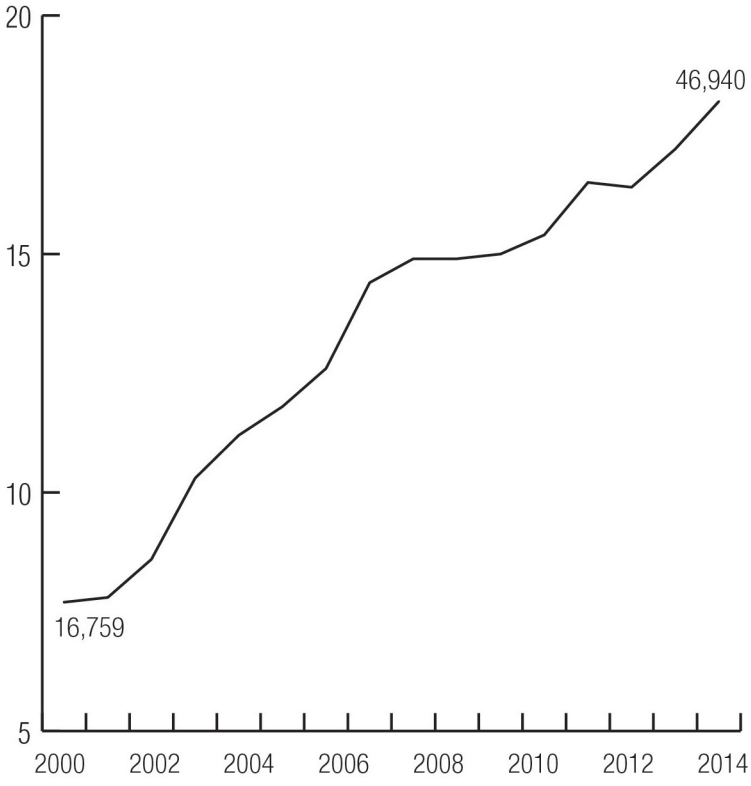
EXPLAINING THE INCREASE

The study of crime trends is as old as criminology itself. A large body of contemporary research literature is devoted to explaining the causes and correlates of changing crime rates (Blumstein and Wallman 2006; Rosenfeld 2011a). The current task, however, is not to explain a long- or even short-run trend in crime rates, but rather a *trend reversal* in the nation's large cities. Some of the explanatory factors that have been emphasized in the crime trends literature are poor candidates for explaining the homicide rise of 2015. Shifts in age composition or the consequences of exposure to lead, for example, unfold gradually over time and cannot explain why homicide rates would suddenly increase after falling for over two decades. The same is true of economic conditions, except for the relatively abrupt changes in income and employment that occur during a recession. The last recession in the United States, however, ended at least five years before the current upturn in homicide (see www.nber.org/cycles/main.html). Some evidence suggests that a drop in consumer confidence contributed to the increase in violent crime in 2005 and 2006 (Rosenfeld and Oliver 2008). Consumer confidence, however, rose from 2014 to

2015.[11] Crime increases also tend to correspond with rising inflation rates (Rosenfeld and Levin 2016), but U.S. inflation rates fell from 2011 through the end of 2015.[12]

It is reasonable to assume that whatever factors lay behind the 2015 homicide rise should themselves have exhibited comparably abrupt changes at the same time or shortly before. Among the explanatory factors featured in research on crime trends, the three that are examined here appear better able than others, at least in principle, to explain the recent homicide increase. We begin by considering whether the comparatively sudden uptick in homicide in large cities might have been spurred by a recent expansion in urban drug markets. The discussion then turns to the possible role of recent changes in imprisonment rates and, finally, to the Ferguson effect, in both its de-policing and "legitimacy" versions. Throughout the discussion, several empirical indicators are described that can be used to evaluate the contribution of these factors to the homicide increase, once the requisite data become available.

Figure 4: Drug-Related Deaths per 100,000 Population Age 15 and Over, 1999-2014



Source: Rudd et al. (2016)

DRUG MARKETS

The United States is in the midst of a major drug epidemic. An important indicator of rising drug use and abuse is the death rate from drug overdose. Figure 4 displays the trend in drug overdose deaths from 1999 to 2014. The overdose death rate more than doubled over the period. In 2014, more persons died from drug overdose than during any previous year on record (Rudd et al. 2016). The increase in drug deaths, in turn, was driven largely by the growth in deaths related to the non-

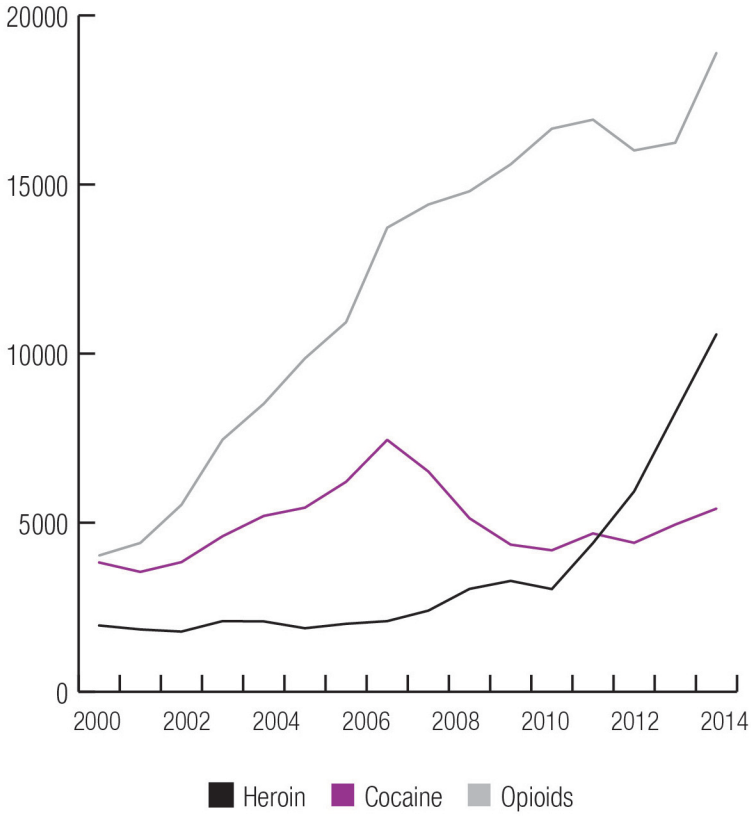
[11] The University of Michigan's Index of Consumer Sentiment rose from a value of 84.1 in 2014 to 92.9 in 2015 (http://www.sca.isr.umich.edu/tables.html). See Rosenfeld and Fornango (2007) for a study of crime trends and consumer sentiment.
[12] See http://www.usinflationcalculator.com/inflation/historical-inflation-rates/.

medical use of opioid analgesics (e.g., Oxycontin, Vicodin) and heroin, as shown in Figure 5. By 2014, opioid and heroin deaths accounted for 61.0 percent of all drug overdose deaths in the United States (Rudd et al. 2016). Cocaine overdose contributed an additional 5,415 drug deaths in 2014, but the number of cocaine deaths peaked in 2006. Beginning in 2012, the number of heroin overdose deaths overtook the number of cocaine deaths; by 2014, the number of heroin deaths was nearly twice as large (see Figure 5).

As more users enter the market for illicit drugs, the opportunities and incentives for drug sellers also expand. Disputes among sellers over access to customers, and between sellers and buyers over price, purity and other terms of trade, often end in violence in illicit markets where participants have no legal means to resolve disputes (Reuter 2010). In an influential paper, Blumstein (1995) linked youth homicide increases to the emergence and spread of the crack cocaine markets in U.S. cities during the 1980s and early 1990s. As the demand for crack grew, young sellers were recruited into the markets because of their reduced legal liability. They carried guns to protect themselves from rivals, customers and street robbers. As the violence connected to the crack markets escalated, other youth acquired guns to protect themselves from an increasingly dangerous inner-city environment. A classic arms race ensued and youth firearm homicide rates rose (see also Blumstein and Rosenfeld 1998).

Subsequent research has confirmed the "Blumstein hypothesis" linking homicide and the diffusion of guns to the expansion of urban drug markets (e.g., Cork 1999; Messner et al. 2005; Ousey and Lee 2002). The question is whether similar dynamics were at play in the homicide rise of 2015.

Figure 5: Number of Drug Deaths by Drug Type, 1999-2014



Source: Rudd et al. (2016)

There are reasons, and some evidence, for and against this hypothesis. Urban drug markets are, or at least were, violent locales. As more buyers and sellers come into contact in these "stateless" locations, homicide rates should be expected to rise. But some evidence suggests that changes in illicit drug market transactions, such as the use of cell phones to connect with customers and effective law enforcement initiatives to shut down open air street markets, have reduced drug market violence (see Zimring 2011). In addition, the population groups fueling the growing demand for heroin differ from the largely inner-city African-American consumers of crack cocaine during the initial years of the crack era. As shown in Table 2, heroin use rates among non-Hispanic whites more

Table 2: Heroin Use Rates[a] by Demographic and Behavioral Characteristics, 2002-2013

	2002-04	2005-07	2008-10	2011-13	% Change
Total	1.6	1.8	2.3	2.6	62.5%
Sex					
Male	2.4	2.6	3.3	3.6	50%
Female	0.8	1.0	1.5	1.6	100.0%
Age					
12-17	1.8	1.3	1.4	1.6	-11.1%
18-25	3.5	4.9	5.3	7.3	108.6%
26 and over	1.2	1.3	1.9	1.9	58.3%
Race-Ethnicity					
Non-Hisp. White	1.4	1.6	2.6	3.0	114.3%
Other	2.0	2.2	1.9	1.7	-15.0%
Residence					
Large City[b]	1.8	2.0	2.4	3.0	66.7%
Other	1.4	1.5	2.3	2.1	50.0%
Substance Use[c]					
Opioids	17.8	25.1	34.0	42.4	138.2%
Cocaine	48.9	57.6	68.3	91.5	87.1%

a Per 1,000 persons age 12 and over
b Core Based Statistical Area ≥ one million population
c Past year non-medical use
Source: Jones et al. (2015)

than doubled between 2002 and 2013, while heroin use actually fell somewhat among other race and ethnic groups (see Jones et al. 2015). Prior research has shown that, during the crack era, the link between expanding drug markets and homicide was strongest in cities with high levels of economic disadvantage and racial segregation (Ousey and Lee 2002). Evidence that the current heroin epidemic has been confined to the white population also may be one reason why it has been defined largely as a public health challenge rather than a criminal justice problem (Cohen 2015).

But the major reason to be skeptical of the view that the expansion of the heroin markets led to the homicide increase of 2015 is that the heroin epidemic took off several years before the homicide rise. Heroin overdose deaths were essentially unchanged between 1999 and 2006. They rose gradually over the next few years and then increased sharply beginning in 2011 (see Figure 5). It is not obvious why the increase in homicide would lag at least five years behind the explosive growth in the demand for heroin, if the expansion of urban drug markets spurred the homicide rise.

Whether the homicide rise was produced by drug market expansion or other factors is ultimately an empirical question for which we do not yet have answers. Strong conclusions will require ethnographic studies of contemporary drug markets, like those written about the crack era, that take a close look at the ways in which they may, or may not, give rise to the violence associated with the crack markets a generation ago (Bourgois 2003; Contreras 2013). In the meantime, however, several empirical indicators can be used to gauge whether the recent expansion of drug markets was implicated in the homicide increase of 2015.

The most obvious indicator for assessing a rise in drug-related crime is the drug arrest rate. Drug arrests reflect enforcement policy and do not necessarily correspond with changes in drug law violations. Prior research, however, has revealed a close relationship between drug arrest rates and other indicators of drug use, such as hospital admissions for drug overdose (Rosenfeld and Decker 1999). Expanding drug markets should produce increases in arrests for both drug sales and possession. Arrests for drug abuse violations actually fell nationwide between 2011 and 2014, when the heroin epidemic was underway, but the aggregate data combine arrests for all drug types, including marijuana.[13] Researchers can query local police departments for data that partition drug arrests by drug type. Comparably detailed data for large cities will be available when the 2015 UCR files are archived.

A more sensitive indicator of the possible role of drug market expansion in the 2015 homicide increase is the fraction of homicides that are drug related. Most big city police departments code homicides by circumstance, including whether the killing was related to drug use or a drug transaction. The FBI's Supplementary Homicide Reports also classify homicides by drug circumstance. Obviously, such classifications require considerable discretion on the part of crime analysts, but we should expect to see a rise in the proportion of drug-related homicides if expanding drug markets were a major contributor to the homicide increase.

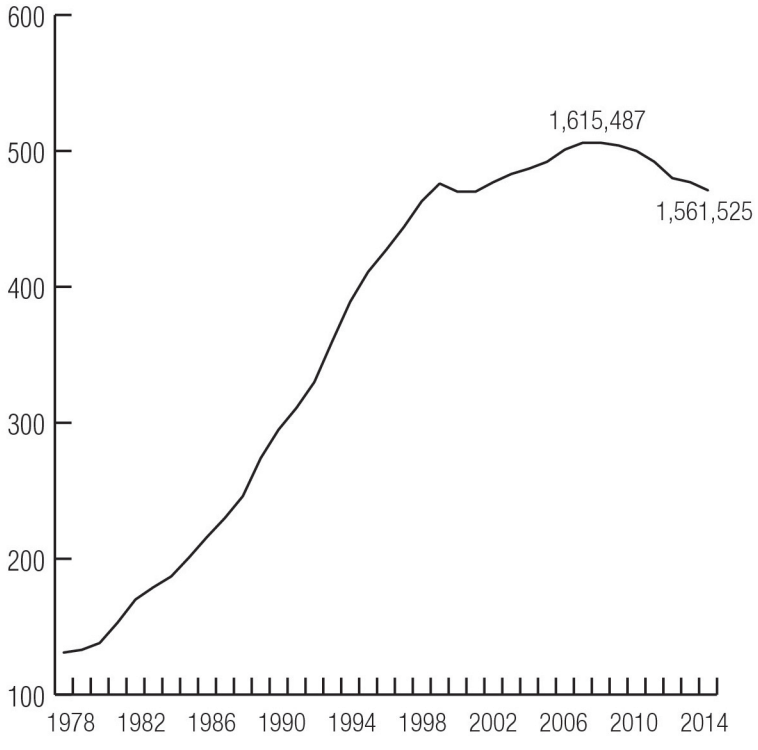
[13] See http://www.bjs.gov/index.cfm?ty=datool&surl=/arrests/index.cfm.

IMPRISONMENT

After rising continuously for several decades, the number of state and federal prisoners in the United States peaked in 2009 and began to decline modestly, as shown in Figure 6 (for source data, see http://www.bjs.gov/index.cfm?ty=nps). In 2014, 1.56 million persons were serving time in prison, down from the peak of 1.62 million in 2009. Rising imprisonment rates are associated with declining crime rates, although debate exists regarding the strength and policy implications of the relationship, as shown by the recent National Research Council report, *The Growth of Incarceration in the United States: Exploring Causes and Consequences* (Travis, Western, and Redburn 2014). Falling imprisonment rates might then trigger crime increases, assuming the relationship between imprisonment and crime is symmetrical. Did the growing number of ex-prisoners returning home contribute to the 2015 homicide increase?

As with the drug market hypothesis, there are reasons for and against assuming that declining imprisonment was a major contributor to the 2015 homicide rise. Ex-prisoners have high recidivism rates; the most recent data indicate that two-thirds will be arrested within three years after release (Cooper, Durose, and Snyder 2014). The arrest rates of released prisoners are far greater than those of general population groups of the same age and race (Rosenfeld, Wallman, and Fornango 2005). As more released prisoners re-enter the population, other things equal, crime rates should rise. But all else is rarely equal, if for no other reason than some number of persons will be entering prison at the same time others are released. The crimes committed by the latter should be discounted by the crimes the former would have committed had they remained free. A reasonably accurate indicator of the net

Figure 6: U.S. Imprisonment Rate per 100,000 Population, 1978-2014



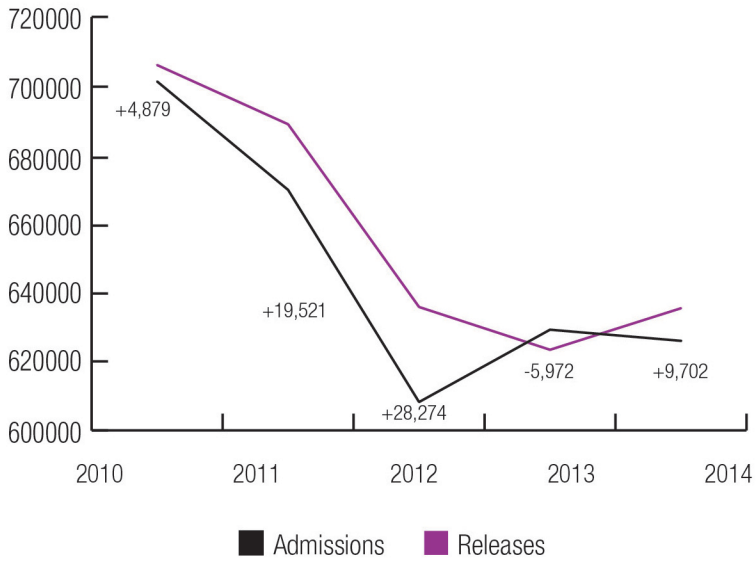
Source: Bureau of Justice Statistics

contribution of imprisonment to crime, therefore, is the number of persons released from prison minus the number entering prison during a given period. Figure 7 displays these figures for the period 2010 to 2014.

With the exception of 2013, prison releases exceeded prison entries during the five-year period shown in Figure 7. But the net increase in returning prisoners varied considerably, from fewer than 5,000 in 2010 to more than 28,000 in 2012. The large net increase in ex-prisoners in 2012 may have contributed to the homicide rise three years later, but the time lag requires additional explanation. The results of a recent study are generally supportive of a time lag between imprisonment rates and crime rates. Rosenfeld and Levin (2016) found that imprisonment rates have nonsignificant effects on crime rates in the short run but significant effects that unfold over several years. That study, however, focused on robbery and property crime rates; it is unknown whether similar results exist for homicide.

Future research on the role of imprisonment in the 2015 homicide rise must address the variation in prison releases and admissions across states and cities (see http://www.bjs.gov/index.cfm?ty=nps). Three instructive empirical indicators for assessing the contribution of imprisonment to the homicide increase are (1) the net change in the number of prisoners released from and entering prison, (2) the number of persons on parole and (3) the fraction of homicides committed by persons on parole.

Figure 7: Prison Releases and Admissions, 2010-2014



Source: Bureau of Justice Statistics

The first two indicators essentially depict the flow and stock, respectively, of ex-prisoners in the jurisdiction. Published data on parolees at the state level are available from the Bureau of Justice Statistics' (BJS's) yearly probation and parole surveys.[14] County-level data from the surveys would have to be obtained under special arrangement with BJS or directly from state corrections departments. The third indicator provides evidence of

[14] See http://www.bjs.gov/index.cfm?ty=tp&tid=1521. The surveys, of course, do not include ex-prisoners who have "maxed out" their sentences and are not under community supervision.

change over time in the involvement in homicide, both as offenders and victims, of ex-prisoners under community supervision. If ex-prisoners contributed significantly to the homicide increase, researchers should observe a corresponding increase in the homicide rate of persons on parole and in the proportion of homicides committed by parolees in those cities exhibiting large increases in homicide. These data will have to be compiled from the records of local law enforcement agencies.

FERGUSON EFFECT

What has become known as the "Ferguson effect" on the homicide increase, as noted, is subject to considerable controversy and evidence-free rhetoric. The term is also unfortunate, because it does not only apply to the police killing in Ferguson and because its precise meaning is unclear. The dominant de-policing interpretation is that highly publicized incidents of police use of deadly force against minority citizens, including but not limited to the Ferguson incident, caused police officers to disengage from their duties, particularly proactive tactics that prevent crime. Interestingly, however, that is not the interpretation of the individual who evidently coined the term. Sam Dotson, Chief of the St. Louis Metropolitan Police Department, used the term in an interview with a reporter in November of 2014, three months after Michael Brown was killed. "It's the Ferguson effect," Dotson said. "I see it not only on the law enforcement side, but the criminal element is feeling empowered by the environment" (Byers 2014).

It is important to emphasize both arguments Chief Dotson advanced in the interview.[15] He stated that the police in St. Louis were redeployed from their normal and more proactive responsibilities to address protest activities and civil disorder in Ferguson and elsewhere in the St. Louis area during the months immediately following Brown's death. As conditions returned to normal, so did police activity. For example, arrest rates returned to pre-Ferguson levels after decreasing during the late summer and fall of 2014.

In the view of the St. Louis police chief, changes in police deployment patterns did result in crime increases in St. Louis in the immediate aftermath of the Ferguson incident. But he does not believe that his officers engaged in de-policing in the conventional sense of a work slowdown or reluctance to engage in vigorous, proactive enforcement. That is where the second point becomes relevant. The Ferguson effect, in his view, was not simply a matter of altered police behavior. Criminals, according to Chief Dotson, became "empowered" by the police killing in Ferguson and ensuing protests and civil unrest. The question then becomes how such feelings and beliefs might have triggered a homicide increase that persisted at least another year after Ferguson.

Intentionally or not, the St. Louis police chief invoked an important strain of sociological and criminological thinking in his explanation of the Ferguson effect: the idea that violence escalates when individuals and communities are alienated from the legitimate means of social control. When persons do not trust the police to act on their behalf and to treat them fairly and with respect, they lose confidence in the formal apparatus of social

[15] The discussion in this section is based on Byers (2014) and personal communication with Chief Dotson.

control and become more likely to take matters into their own hands. Interpersonal disputes are settled informally and often violently. Honor codes develop that encourage people to respond with violence to threats and disrespect (Anderson 1999). Predatory violence increases because offenders believe victims and witnesses will not contact the police. Individuals engage in "self-help" and entire communities become "stateless" social locations (Black 1983, 2010).

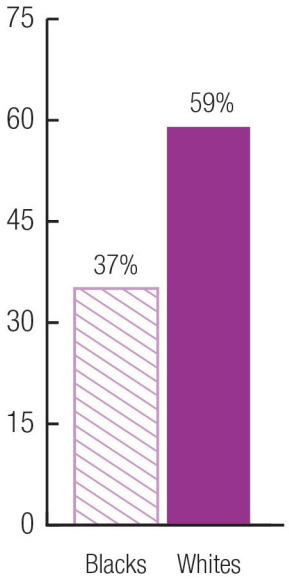
Randolph Roth (2009) has distinguished the proximate and ultimate causes of historical changes in U.S. homicide rates. Proximate causes refer to conditions that criminologists typically point to as risk factors for violence (e.g., economic disadvantage, firearm carrying, drug and alcohol use). Ultimate causes are the more or less widespread popular beliefs that government and the legal system are legitimate and worthy of respect, and that government officials can be trusted. When the perceived legitimacy of government and trust in officials erode, according to Roth, homicide rates increase. Such historical periods include the years immediately preceding the American Revolution and the Civil War. Both Roth (2009) and Gary LaFree (1998) have attributed the rise in homicide during the 1960s and 1970s to the declining legitimacy of U.S. political institutions.

The police are the front line of government in disadvantaged urban communities. Following Roth (2009), the ultimate cause of violence in these communities is lack of confidence in the police. When the police are called to respond to a crime, they arrive at the scene late or not at all. They do not follow up with vigorous and thorough investigation, even of the most serious crimes (Leovy 2015). They harass innocent youth. And, too often, they use force unnecessarily and indiscriminately. What matters is not the factual accuracy of these beliefs in every instance; what matters is that they can metastasize into a pronounced "legal cynicism," especially in disadvantaged African-American communities (Sampson and Bartusch 1998). When people believe the procedures of formal social control are unjust, they are less likely to obey the law (Tyler 2006).

If this complex of "feelings and beliefs," in Roth's (2009) terms, is the ultimate cause of escalations in homicide, the more proximate cause could be widely publicized incidents of police use of force that seem to confirm the validity of the underlying belief system. Lack of confidence in the police among African-Americans predates the recent police killings in Ferguson, Cleveland, New York and elsewhere. But it is likely to be activated by such incidents, transforming longstanding latent grievances into an acute legitimacy crisis. If that led to the 2015 homicide increase, we should expect at least four empirical conditions to hold: (1) the increase should be concentrated in cities with large African-American populations, (2) the timing of the increase should correspond closely to controversial incidents of police use of force against African-Americans, (3) confidence in the police should be substantially lower among African-Americans than other groups and (4) the homicide increase should be greater among African-Americans than other groups.

The available evidence supports the first two expectations. We have seen that 10 cities with relatively large African-American populations accounted for two-thirds of the

Figure 8: Percentage of Adults With "a Great Deal/ Quite a Lot" of Confidence in the Police (2011-2014)

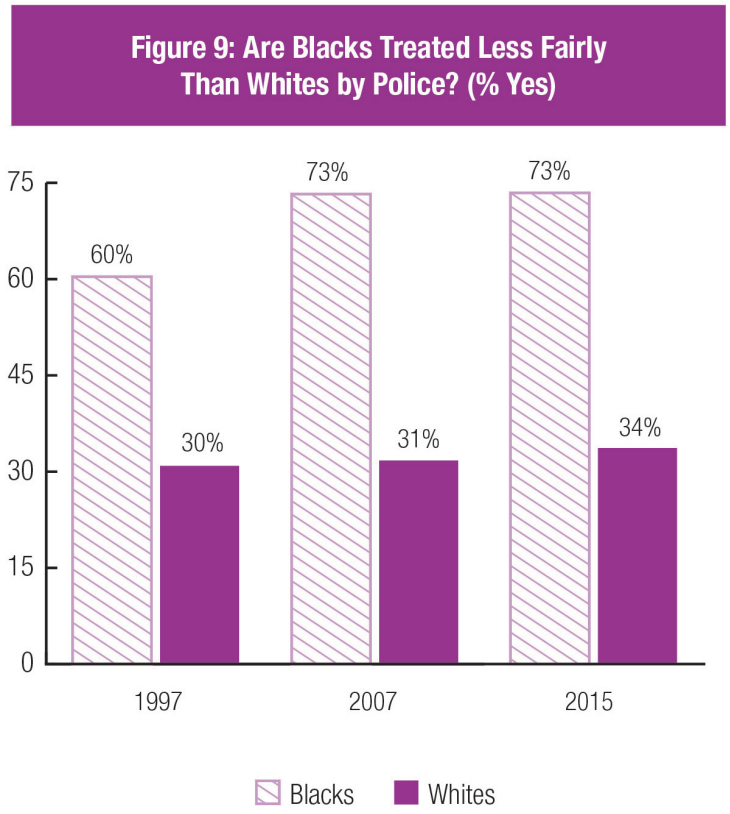


Source: Gallup Poll

big-city homicide increase in 2015 (see Table 1 and Figure 3). Further, the homicide increase occurred in the immediate aftermath of controversial police use-of-force incidents. The timing of the increase provides stronger support for the Ferguson effect explanation, in either of its versions, than for explanations attributing the homicide rise to expanding drug markets or declining imprisonment. Neither hypothesis can easily account for the sheer abruptness of the increase in 2015 or, in the case of the drug market explanation, for why homicide rates did not begin to rise several years earlier. At the same time, researchers must be open to the possibility that the homicide increase predated the Ferguson events, at least in some cities (Rosenfeld 2015).

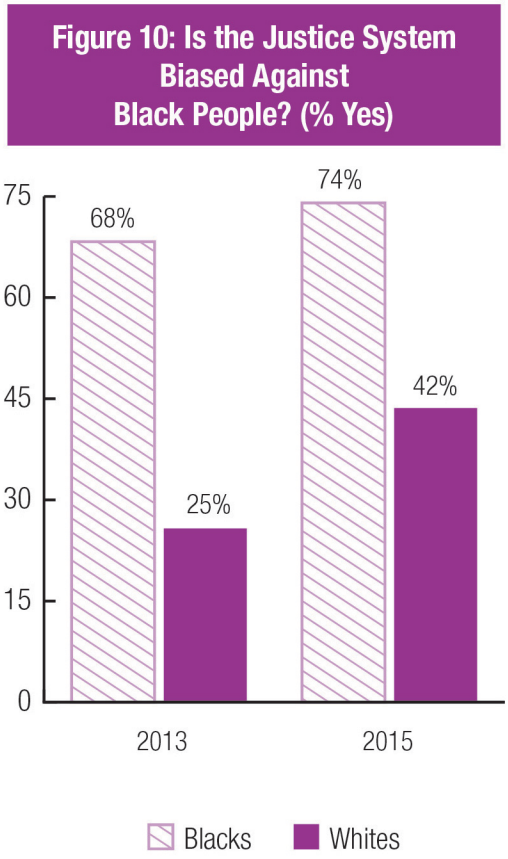
There is ample evidence in support of the third expectation regarding African-Americans' lack of confidence in the police. As shown in Figure 8, just 37 percent of blacks compared with 59 percent of whites expressed "a great deal" or "quite a lot" of confidence in the police in Gallup surveys conducted between 2011 and 2014.[16] The sizable racial gap in attitudes toward the police is not the result of Ferguson or other recent events. For example, in 1997, 60 percent of blacks compared with 30 percent of whites answered "yes" when asked in Gallup surveys whether the police treat blacks less fairly than whites, as shown in Figure 9 (see page 21). The racial difference in responses to this item increased over the next 10 years. Interestingly, the racial gap did not change appreciably between 2007 and 2015, the year after the Ferguson incident and other controversial episodes of police use of deadly force against African-Americans. Finally, the difference between blacks and whites in attitudes toward the police extends to the justice system as a whole, as shown in Figure 10 (see page 22). Fully two-thirds of black respondents and just a quarter of whites told Gallup in 2013 they believe the justice system is biased against blacks. After Ferguson in 2015, the percentage of blacks who believe the justice system is biased increased to 74 percent, although the comparable increase among whites was larger, rising to 42 percent.

[16] For source data for Figures 8-10, see http://www.gallup.com/poll/175088/gallup-review-black-white-attitudes-toward-police.aspx.



There is little question that blacks and whites differ greatly in their confidence in the police, belief that the police treat blacks less fairly than whites, and belief that the justice system is racially biased. The racial gap in attitudes toward the police is not a recent development. Tensions between the police and the black community triggered the urban civil disorders of the 1960s (Report of the National Commission on Civil Disorders 1968). Lack of confidence in the police represents a smoldering reservoir of discontent among African-Americans that is ignited by heavily publicized episodes of police use of force — the ultimate and proximate causes, respectively, of the escalation of violence. This hypothesis regarding the recent homicide rise merits close scrutiny by researchers, along with the alternative version of the Ferguson effect that attributes the homicide increase to de-policing. Finally, if the legitimacy crisis explanation is correct, we should observe larger increases in homicide among African-Americans than whites or other groups. Further, the increases should be concentrated in the disadvantaged black communities of large cities where legal cynicism is most pronounced (Sampson and Bartusch 1998).

It will be easier to empirically evaluate the de-policing hypothesis than the legitimacy crisis explanation of the 2015 homicide increase. If de-policing was the operative mechanism, we should observe larger drops in arrests and other self-initiated police activities in cities that experienced the greatest homicide increases. The arrest data are readily available from the UCR, or will be when the 2015 UCR data are released in the fall of 2016. Data on pedestrian and traffic stops, building checks, and other self-initiated police activity will have to be obtained from local police departments. It should be noted, however, that the de-policing hypothesis presupposes a very large effect of policing on crime, large enough to explain homicide increases from de-policing of 50 percent or more in some cities. Effect sizes of that magnitude far surpass those revealed in research on the most effective policing strategies to prevent crime (Braga, Papachristos, and Hureau 2014).



Testing the hypothesis that a police legitimacy crisis caused the homicide increase will be more difficult. The four empirical expectations discussed above are necessary but not sufficient conditions to rule out other explanations. The key question that must be answered concerns the mechanisms that translate community discontent with the police into escalating levels of violence. Very little is known about this hypothesized relationship. Does widespread discontent lead offenders to believe they can commit crime with impunity? That seems to be what the St. Louis police chief meant when he said criminals became "empowered" by the Ferguson events. Is community discontent with the police fertile soil for "stop snitching" campaigns? Even more basic criminological questions are at issue. Was the homicide increase fueled primarily by offenders and victims with extensive criminal records or did the violence spread beyond the already criminally involved population? In other words, was the increase spurred by a growing prevalence of criminal violence or by a heightened incidence of violence among active offenders?

The latter question might be addressed with data from ongoing longitudinal studies of delinquency and crime (e.g., Berg et al. 2016; Loeber and Farrington 2011). To determine whether discontent with the police reduced the willingness of African-Americans to report crimes to the police, police reporting rates by race can be accessed from the National Crime Victimization Survey when BJS releases the 2015 data and the results can be compared with those for previous years and across differing community types. The best and perhaps only way to address other questions pertaining to the hypothesized police legitimacy crisis is through ethnographic research in African-American communities that seeks to disclose how chronic discontent with the police may be activated by controversial incidents of police use of force and, in turn, may lead to a rise in violence.

In summary, there are several empirical indicators and methods to evaluate alternative explanations of the 2015 homicide rise. It may turn out that the three considered here, as well as others yet to be proposed, are not competing hypotheses so much as interacting components of a broader explanation. For example, we might expect offenders to feel

especially "empowered," not only in the context of community discontent and anger, but when they also believe, correctly or not, that the police have backed off as a result. Homicide increases owing to a Ferguson effect might have been greater in cities with expanding drug markets and a larger pool of recently released prisoners than elsewhere. The necessary research will take time to carry out and must await the release of key empirical indicators.

TOWARD A 21ST CENTURY CRIME INFORMATION SYSTEM

At several points in this discussion, reference has been made to the need to wait for the release of data needed to document and explain the recent homicide increase. The FBI's UCR data cannot answer all of the empirical questions raised here, but they can be used to address some important ones, such as whether arrest rates fell in the large cities registering homicide increases or, indeed, whether the homicide increase extended beyond the large cities. FBI Director Comey has pointed to the importance of the data his agency compiles for understanding and responding to the homicide rise, noting that "without more reliable data, the task of identifying trends and remedies to fix them is far more challenging. . . . [I]t's important, because it gives us the full picture of what's happening" (Schmit and Apuzzo 2015).

Imagine how the public debate over the homicide rise might have differed had the FBI released monthly UCR data one or two months after the collection period. We would have known whether other crimes in addition to homicide were increasing. We would know whether smaller cities were experiencing crime increases. We would not have had to rely on newspaper reporters and policy advocates to gather data from small and nonrepresentative samples. Assuming the Supplementary Homicide Reports data were not far behind, researchers would have had some indication of whether drug-related homicides were on the rise. The debate over de-policing could have been informed by comparative data on arrest rates. Better and timelier data would not have ended the debate, but they would have placed it on sounder empirical footing.

There are no longer technical impediments to timely release of the nation's crime and arrest data by the FBI. That is largely because the national UCR program no longer compiles data directly from the 18,000 law enforcement agencies in the country. Rather, most of the data are compiled, checked and submitted by state UCR programs.[17] Many of the state programs submit the data on a monthly basis and those that do not can be encouraged to do so. Even if the FBI was able to release timely data for just five percent of the nation's law enforcement agencies, roughly 900 jurisdictions, that would constitute a much larger number of cases than currently available. Researchers could then construct reasonably representative samples from those data that would be far more useful than the

[17] According to the UCR Data Quality Guidelines: "For the most part, agencies submit monthly crime reports, using uniform offense definitions, to a centralized repository within their state. The state UCR Program then forwards the data to the FBI's UCR Program" (www.fbi.gov/about-us/cjis/ucr/data-quality-guidelines-new/#_ftn2).

samples of a few dozen cities that journalists and policy advocates have been able to stitch together.

The dissemination of timelier crime data that are useful for addressing crime problems as they arise would require that the FBI return to a practice it abandoned more than 80 years ago. During the 1930s, the FBI released crime data on a monthly basis (Rosenfeld 2011b). Admittedly, there were fewer law enforcement agencies in the 1930s, but the data were entered in pen and ink or on manual typewriters and then sent by the local post office to Washington. If the FBI could release monthly data under those conditions, surely it can do so in an age of electronic data transfer when local police departments routinely post recent crime information on their public websites.

Fortunately, the FBI is now working closely with BJS to modernize the nation's police-based crime data infrastructure.[18] A high priority in this cooperative effort should be to disseminate crime and arrest data on a schedule that makes the data useful for addressing emerging crime problems. Otherwise, we can be certain that the press and advocacy organizations will attempt to fill the information void with data of uncertain reliability — the very problem to which FBI Director Comey has directed attention in his comments on the recent crime rise. The nearly unprecedented homicide increase of 2015 should be all that is necessary to finally move the nation's crime monitoring system into the 21st century.

[18] See, e.g., http://www.bjs.gov/content/pub/pdf/NCS-X_FBI_BJS%20Joint_Statement.pdf.

APPENDIX: CITY SAMPLE

New York City	Columbus	Las Vegas	Raleigh
Los Angeles	Fort Worth	Louisville	Miami
Chicago	Charlotte	Milwaukee	Oakland
Houston	Detroit	Albuquerque	Minneapolis
Philadelphia	El Paso	Tucson	Tulsa
Phoenix	Seattle	Fresno	Cleveland
San Antonio	Denver	Sacramento	Wichita
San Diego	Washington DC	Long Beach	St. Louis
Dallas	Memphis	Kansas City	New Orleans
San Jose	Boston	Mesa	Arlington
Austin	Nashville	Atlanta	Tampa
Jacksonville	Baltimore	Virginia Beach	Newark
San Francisco	Oklahoma City	Omaha	Orlando
Indianapolis	Portland	Colorado Springs	Salt Lake City

City Sample (N = 56)

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