



POLICING & PUBLIC SAFETY

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ABSTRACT

I review the empirical literature on the effects of police staffing, the deployment of police officers and styles of police enforcement. The evidence suggests that investments in law enforcement are a scalable and effective strategy to maintain public safety in US cities. When cities put more police officers on the street, crime and violence decline.

What's more is that when more police officers are hired and deployed to high-crime areas, crime tends to decline without a corresponding increase in arrests for the types of serious offenses that are most likely to lead to imprisonment. Investments in police therefore have the potential to produce a "double dividend" for society, reducing crime without driving up incarceration rates. At the same time, every interaction between a police officer and a citizen carries a risk that violence will occur. Likewise, when cities have hired more police, those officers have ended up making many more low-level "quality of life" arrests for minor crimes which often do not have a clear victim. While these arrests are often made in response to service calls by community members, research suggests that the public safety value of many of these arrests is unlikely to be high. Perhaps even more important, while arresting people for low-level crimes is intended to make communities safer, new evidence suggests that prosecuting people for non-violent misdemeanor offenses and detaining them in jail during the pendency of their case can backfire. Investments in policing thus carry costs as well as benefits. The benefits can be maximized and the costs can be minimized when police eschew strategies which revolve explicitly around making large numbers of stops and arrests and instead focus their efforts on more precise and problem-oriented approaches.



INTRODUCTION

The demand for public safety is as old as civilization itself. While the modern institution of policing was created in the United Kingdom in the 18th and 19th centuries (Mulone, 2018), institutions which can broadly be described as performing police work can be found in antiquity from Egypt's Middle Kingdom (Dumitrescu, 2012) to the Roman Empire (Reynolds, 1928). When formal law enforcement institutions have not been feasible, informal institutions have typically arisen to take their place, inhabiting many forms from night watchmen (Reynolds, 1998) to criminal organizations that use violence and skirt the law but also provide safety and an informal justice system for communities under their control (Arias and Rodrigues, 2006; Sobel and Osoba, 2009).

Policing, by its very nature, is an institution that provides benefits and imposes costs. On the one hand, safety is a basic human need (Maslow, 1943). If government does not provide citizens with safety, people must fend for themselves, a state of the world in which social harmony, free commerce and strong communities typically cannot thrive. On the other hand, by enforcing the law police officers are explicitly empowered to deprive people of their liberty. Since this is a disagreeable outcome for many people with whom the police have contact, the police are authorized to use force to ensure that people comply with the law. In their dual roles as sentinels and apprehension agents (Nagin et al., 2015), police officers will inevitably make mistakes and, because much of what police do isn't easily monitored by social planners, without proper oversight — and even with proper oversight — there is a wide scope for policing to become corrupt or abusive. Indeed progressive era reforms made to US policing in the early 20th century were undertaken with the explicit goal of professionalizing the police and reducing the scope for bribery, abuse of power and political corruption (Walker, 1977).

The salience of policing — including the scope of both its potential benefits and its potential costs — is inevitably magnified by social inequality. Communities which are poor and socially-isolated and which suffer from cycles of endemic violence require more police resources to maintain order but also disproportionately suffer the harms of aggressive policing. When policing is ineffective at delivering benefits, disadvantaged communities can suffer the dual plagues of over-policing and under-protection (Leovy, 2015), a perfect storm for police legitimacy and a state of affairs that can become stubbornly self-perpetuating despite noble efforts to institute meaningful reforms and improve the quality of police service.

Following increased public attention on police shootings and the growth of social movements like *Black Lives Matter*, American support for law enforcement is currently at its lowest point in nearly thirty years despite the dramatic decline in crime since the 1990s. The large drop in overall support for law enforcement is compounded by a widening race gap in support for police, with 19% of Black Americans expressing confidence in police relative to 56% of White Americans.¹ This differing experience of policing across race groups manifests in striking differences in fear of the police (Pickett et al., 2021) and is notably described by Bratton and Anderson (2018) as the “great divide in American policing.”

This paper provides a brief review of the academic literature on the impacts of policing on public safety, criminal justice system contact and several outcomes outside the criminal justice domain when they are available. I begin with a review of the literature that studies the effect of investments in police staffing. Next, I consider what happens when those resources are directed to high crime areas, focusing on the role of police presence as well as on two different styles of policing — 1) mass enforcement and 2) more precise policing tactics that are commonly employed against criminal gangs. I summarize with a brief accounting of what remains unknown.



POLICE STAFFING AND PRESENCE

What happens to public safety and the enforcement of the law when cities hire more police officers and deploy those officers to high-crime communities? In this section, I review the empirical evidence, focusing attention primarily on recent literature that employs randomized or strong quasi-experimental research designs.

POLICE STAFFING

What effects do changes in police force levels have on public safety and police enforcement? In large part because there is abundant and readily-accessible national data to study this question, this has become one of the most widely studied topics in criminal justice research on policing.² The early literature tended to report small effects that were rarely distinguishable from zero and sometimes even positive, suggesting perversely that police officers *increase* crime.³ The ensuing discussion in the literature — and correspondingly in policy circles — was whether police reduce crime at all. Indeed the dominant view among researchers in the 1970s is that while police responded to lawlessness, they did not actually prevent crime or disorder (Wilson and Kelling, 1982). This view continues to find support in recent metaanalyses by Lee et al. (2016) and Eck et al. (2017) but it is critical to note that these reviews lean heavily on the older literature which is beset by outdated approaches to empirical research and severe methodological problems.

Beginning with Marvell and Moody (1996) and Levitt (1997), an emerging quasi-experimental literature has argued that simultaneity bias — the idea that police staffing might respond

to crime just as crime might respond to police staffing — was the culprit for the small effect sizes in the older literature. The specific concern is that if police are hired in anticipation of an upswing in crime, then there will be a positive bias in regression models of the effect of police on crime, masking a true negative effect. The recent literature has sought to overcome this bias by focusing on natural experiments in which police staffing has changed for reasons that are arguably arbitrary or which are unlikely to be related to crime. The dominant approach, in particular, has been to identify an *instrumental variable* for police staffing — that is a variable which shifts police hiring but which does not have any direct effect on crime. By focusing on variation in police staffing that is predicted by this instrumental variable and discarding the other variation which is regarded as more suspect, the research appeals to an underlying research design rather than simply applying a statistical model to some data.⁴

The two most common instrumental variables in the modern literature include variation in firefighter employment (Levitt, 2002; Kaplan and Chalfin, 2019) and the distribution of federal Community Oriented Policing Services (COPS) grants awarded to cities to promote police hiring (Evans and Owens, 2007; Worrall and Kovandzic, 2010; Weisburst, 2019; Mello, 2019; Chalfin et al., 2022). The underlying argument is that police hiring shifts along with the hiring of firefighters and the availability of federal public safety grants but that these changes do not have any direct effect on crime, except through policing.^{5,6}

These papers consistently demonstrate that larger police forces do reduce crime.⁷ While the estimated elasticities display a wide range — roughly -0.1 to -2 , depending on the study and the type of crime — overall, the pattern of the cross-crime elasticities favors a larger effect of police on violent crimes than on property crimes, with especially large effects of police

on murder, robbery, and motor vehicle theft. The most recent estimates in this literature come from Chalfin et al. (2022) which finds that there is one murder abated per year for every 10-17 police officers hired in large US cities. Owing to the demography of homicide victimization, the lives saved by increased police hiring are about twice as likely to be Black as they are White.

A related question is what happens to the enforcement of laws when there are more police officers available to make arrests? To many, the logical answer to this question would seem to be that since police officers make arrests in carrying out their duties, with more police, arrests must surely rise. However, the effect of police on arrests is, in fact, theoretically ambiguous. On the one hand, given that police officers are empowered to make arrests whenever they observe evidence of law-breaking, more expansive police surveillance would, other things equal, mean that more arrests will be made. On the other hand, to the extent that police presence — and potentially also police proactivity — deters crime from happening in the first place, a larger police force might have the counterintuitive effect of leading to fewer arrests.

This idea — that police can theoretically reduce both crime and arrests — is incredibly appealing as it suggests that, by investing in police, society can enjoy a “double dividend” of increased safety and reduced incarceration (Durlauf and Nagin, 2011). This theory has been advanced by Bratton and Kelling (2015) referring to reductions in both crime and jail populations in NYC and less directly by Cook and Ludwig (2011) who argued that higher incarceration rates versus higher crime rates is the wrong question precisely because, through deterrence, society can potentially have the best of both worlds. Implicit in this argument is the idea that criminal justice investments that deter crime from happening in the first place have the potential to reduce both crime and incarceration.

What does the evidence say about the effect of police staffing on arrests? While the evidence remains somewhat mixed, a partial understanding is beginning to emerge. Leveraging both federal COPS grants (Owens, 2013; Chalfin et al., 2022) and firefighter hiring (Chalfin et al., 2021) as instrumental variables, research has found that when police manpower increases, index crime arrests — arrests for serious crimes like robbery, felony assaults and burglary — either do not change (Owens, 2013; Kaplan and Chalfin, 2019) or decline (Chalfin et al., 2022). There is no research, to my knowledge, which suggests that police force growth leads to more arrests for index crimes. Interestingly, the decline in index crime arrests arising from greater investments in policing reported by Chalfin et al. (2022) has been found to be four to six times larger for Black Americans than White Americans, which suggests that investments in policing are unlikely to have contributed to the massive and racially disparate growth in the scale of incarceration in the United States during the last four decades.

On the other hand, prison sentences are not the only way in which investments in police can widen the net of the criminal justice system. Approximately 80% of the arrests that US police officers make are not for index crimes. A large number of arrests are for lowerlevel “quality-of-life” offenses, crimes that often do not have an identified victim but that lead to a criminal record and sometimes a jail sentence, each of which can substantially disrupt people’s lives. In some cases, these arrests — which typically involve a great deal of officer discretion — are thought to be a source of broken trust between police officers and citizens, particularly in communities that are predominantly low-income and Black (Tyler and Fagan, 2012; Fagan et al., 2016). Do larger police forces lead to a proliferation of arrests for “quality-of-life” offenses and is there a racial gradient to the effects? Recent research by Chalfin et al. (2022) suggests that the answer to both questions is yes, with each additional police officer hired making between 7 and 22 additional arrests for such crimes. With respect to arrests for liquor law violations and drug possession, two leading arrest charges for which police usually have tremendous discretion, that research finds particularly large and racially disparate impacts, with arrests three times larger among Black civilians.

Finally, it is worth mentioning that we do not yet have evidence on the effect of police force growth on several other important outcomes of interest. Most notably, due to a paucity of reliable national data on police killings, we do not know whether larger police forces lead to greater use of force, including out-of-policy lethal force. While direct claims cannot be made at this point, there is at least a breadcrumb to guide us. Using data from Dallas, TX, research by Weisburst (2019) finds that racial disparities in use of force incidents stem from differences in the initial likelihood of arrest and that, conditional on an arrest, there is little evidence of racial bias. These results suggest that while police may not specifically target Black arrestees for use of greater force (Devi and Fryer Jr, 2020), Black-White arrest disparities have the mechanical effect of leading to racial disparities in the use of force. Since larger police forces do, in fact, make more arrests, it is reasonable to suspect that increases in force may follow.



POLICE PRESENCE

In this section, I review a companion literature that considers the sensitivity of crime to the deployment of police officers. Simply put, when there are more police officers in an area, does crime decline? There are two dominant approaches in the literature. First, over the last fifty years and especially over the last twenty-five years, criminologists have designed an impressive number of randomized field experiments to study the concentration of additional police officers in crime “hot spots.” Second, a companion literature in economics has identified a variety of natural experiments in which police personnel have been shifted to different areas of a city for reasons that are credibly unrelated to public safety. I review each of these literatures separately though their findings are complimentary to one another and are, on the whole, strikingly similar.

Hot Spots Policing Experiments

“Hot spots” policing — the concentration of police personnel in high crime areas — is motivated by the so-called “law of crime concentration,” the empirical regularity that an outsize share of crimes cluster in a small number of *ex ante* predictable places (Weisburd et al., 2004; Weisburd, 2015). Enabled by improvements in the ability to collect and disseminate data and inspired by the development of data-driven management strategies such as COMPSTAT (Walsh, 2001), in the 1990s US police departments began to concentrate resources to a greater degree and with more intentionality in known hot spots. Some of the earliest experiments in criminology study the deployment of additional police patrols to crime hot spots. Happily, this remains one of the few areas in social science research on public safety where experiments represent a sizable share of the evidence base.

Inspired by an early experiment in patrolling hot spots in Kansas City (Larson, 1975), the first experimental test of policing crime hot spots in the modern era may be found in a 1995 randomized experiment conducted by Sherman and Weisburd (1995) in Minneapolis. That experiment tested whether doubling the intensity of police patrols in crime hot spots resulted in a decrease in crime and found that crime declined by approximately 10 percent in experimental places relative to control places. No evidence of crime displacement was found. Findings in Sherman and Weisburd (1995) have now been replicated in a variety of other places and contexts. A recent review of the literature by Braga et al. (2019) identified 27 experiments and 38 quasi-experimental evaluations of hot-spots policing. Overall, nearly 80% of tests in the literature reported effect sizes that favor an impact of police presence on crime.⁸ Notably, the crime reductions are found for violent crimes as well property crimes and the presence of disorderly conduct. Overall, the mean standardized effect size reported in the literature is 0.1.

Of course, adding police resources to locations within a city raises the possibility that crime might be displaced to other areas. From a policy perspective, measuring spatial crime displacement is critically important as shifting crime from one location to another does not ultimately make a city better off even if it does demonstrate that crime is sensitive to police deployments. A majority of the literature finds no evidence of displacement of crime to adjacent neighborhoods and, on balance, the review by Braga et al. (2019) found greater evidence of diffusion of benefits to adjacent areas than spatial displacement. However, the largest hot spots policing study to date and the study which is most sophisticated in its search for spatial displacement — that of Blattman et al. (2021) which studied an intervention in Bogota, Colombia — found little evidence of overall crime reduction, once displacement was accounted for. A potential reason why this study is an outlier in the literature is that the size of the intervention areas was very small, thus making it easier for crime to spill over into nearby areas.

Though there is strong evidence that hot spots policing reduces crime in affected areas, several related questions remain under open consideration. First, is it simply greater police presence which reduces crime in hot spots or does it matter what the police do there? Because this is such a difficult question to answer, the evidence remains somewhat limited. But there are several useful data points. First, a seminal experiment by Braga and Bond (2008) in Lowell, MA found that while greater police presence reduced crime, the strongest crime-prevention gains were generated by situational prevention strategies rather than by misdemeanor arrests or social service strategies. In a systematic review of the literature by Braga et al. (2014), the authors compared the effectiveness of traditional hot spots policing interventions which increased police presence at hot spots to problem-oriented policing approaches in which the available police presence became more focused on solving particular crime problems. The principle finding is that problem-oriented approaches led to a larger mean effect size than traditional hot spots policing approaches which concentrated more manpower in an area.⁹ The implication is that while manpower matters, the intelligent deployment of available manpower may matter even more.

Finally, given that hot spots policing experiments find strong evidence of crime reduction, a natural question is whether they improve community life for residents. On the one hand, public polling shows widespread support for police presence in high-crime communities among both White and Black Americans.¹⁰ On the other hand, as targeted policing approaches may widen the net of the justice system (Goldkamp and Vilcica, 2008; Jabri, 2021), crime benefits may ultimately be outweighed by costs to the community. Ultimately whether communities view targeted policing approaches as beneficial is a difficult question to answer because survey data, the only source of data on community well-being, is expensive. However several studies have addressed some closely related questions. Overall, there is little evidence that hot spots policing has led to a decrease in fear or an increase in subjective well-being in high-crime communities (Rosenbaum, 2006; Ratcliffe et al., 2015; Kochel and Weisburd, 2017; Weisburd et al., 2011).¹¹

Natural Experiments

Alongside the hot spots policing experiments in criminology, a parallel literature — primarily in economics — has sought to identify natural experiments in police deployments. This literature is conceptually similar to the hot spots literature with two exceptions. First, the identifying variation is naturally occurring in contrast to experimental manipulation, which is often artificially-generated for the purpose of a scientific study. Second, several of the natural experiments identify the impact of a diffuse reduction in resources, rather than a concentration of resources at particular crime hot spots.

Researchers have studied three different types of natural experiments in police deployments. The first approach leverages the re-deployment of police due to terror attacks. This includes research by Di Tella and Schargrodsky (2004) who studied what happened to crime when police in Argentina were sent to target-harden the country's synagogues in the aftermath of the bombing of a Jewish community center in Buenos Aires, Klick and Tabarrok (2005) who studied the effect of a change in terror alert levels in Washington DC and Draca et al. (2011) who studied what happened to crime when police were deployed in considerably larger numbers to central London shortly after the 2005 London tube bombings and later retrenched. Each of these papers finds that at least some type of crime was responsive to changes in police presence. The types of crime that declined vary and include property crimes in the Buenos Aires and Washington DC papers and street crimes, including those which are violent in the London paper.¹²

A second approach leverages geographic discontinuities in the presence of police, sometimes around university campuses. Research by MacDonald et al. (2016) focusing on the University of Pennsylvania and Heaton et al. (2016) focusing on the University of Chicago leverage the fact that within a fixed zone around a college campus, there are often two police forces operating: municipal police and campus police. Comparing crimes on blocks just within and



just outside of campus police patrol zone boundaries, both of these papers find large differences in street crimes, an indication that crime is responsive to the level of police presence. In a similar effort, Cheng and Long (2018) study the effect of the addition of an anti-crime task force in New Orleans' French Quarter. They find that increasing police presence reduced crime by between 13 and 37 percent. Most recently, Piza and Connealy (2022) studied the evolution of crime in Seattle's Capital Hill Occupation Protest (CHOP) zone during the period between June 8th and July 1st, 2020 when the Seattle police department abandoned routine police patrols in the city's East precinct. They found that crimes increased in the CHOP zone during the period in which patrols ceased.

A third approach exploits more general natural variation in police presence. Cohen and Ludwig (2003) identify short-term variation in the intensity of police patrols by day of the week in several different Pittsburgh patrol areas. They found that shootings were lower in areas and on days that received more intensive police patrols. Weisburd (2021) studies what happened to crime when police officers in Dallas, TX are called away from their assigned patrol beat to respond to a serious car accident. The principal finding is that a 10% decrease in police presence at that location results in a 7% increase in crime, a finding that is strikingly similar to the police staffing research. In a similar contribution, Facchetti (2021) studied what happened to crime when austerity cuts led to the closure of certain police stations in London, finding that violent crimes rose in locations that experienced a reduction in police presence. Finally, a new working paper by Jabri (2021) leverages a subtle shift in PredPol's predictive policing algorithm in an unnamed US city that led to a discrete change in hot spot grids to which officers were deployed. That paper found that algorithm-induced police presence reduced both violent and property crimes and that greater police presence also led to disproportionate racial impacts on arrests in traffic incidents. This finding also closely mirrors findings from the city-level police manpower research.

POLICING TACTICS

The preceding section discusses research on the effects of the visibility and presence of police officers. But as any police officer or police executive will tell you, to understand the effects of policing, it is critical to identify what the police are actually doing with their time and energy. While it is impossible to provide a complete characterization of the effectiveness of all of the different styles of policing and policing strategies and tactics, in this section, I discern between two high-level approaches to policing: 1) mass enforcement policing regimes which are characterized by a reliance on large numbers of stops and arrests to incapacitate those who offend and deter crime and disorder and 2) problem-oriented "precision policing" tactics that are more surgical and are sometimes employed against criminal gangs.

MASS ENFORCEMENT REGIMES

Often referred to as "broken windows," mass enforcement or order maintenance policing is an approach to law enforcement that centers around a proactive approach to surveilling high-crime communities. The principal tools of this policing regime are large numbers of street stops and arrests which are intended to incapacitate those who commit



low-level offenses before they have the opportunity to commit a more serious crime and to deter more serious offending by signaling police vigilance. While stops and arrests are, of course, an important and necessary part of police work in any policing regime, what distinguishes mass enforcement policing is that stops and arrests are explicitly used by management as markers of police productivity.¹³

A mass enforcement policing regime seeks to promote public safety through the recognition that incivilities, left unchecked by law enforcement, can potentially devolve into more serious crime problems. There are numerous mechanisms through which such a concern could play out. For instance, arresting a turnstile jumper for the minor crime of “theft of services” might yield an illegal firearm that might have been subsequently used in a violent crime. Likewise, arresting people who create disorderly conditions on public streets — for example, people who consume alcohol in public or who gamble on the street — might incapacitate individuals who will go on commit a serious crime or become the victim of one. More generally, the approach might send a signal to more motivated actors that police are taking crime seriously and that the certainty of a criminal sanction — a key input into the manufacture of criminal deterrence (Nagin, 2013) — has risen.

There is a wide array of evidence that disorder, in general, does tend to beget further disorder (Keizer et al., 2008) and that crime and violence are responsive to a reduction in disorderly conditions (MacDonald, 2015; Branas et al., 2016, 2018; MacDonald et al., 2019).

While this evidence does not necessarily support the proposition that mass enforcement of disorderly conduct by police will bear fruit, it does suggest that mass enforcement policing has credible theoretical underpinnings. At the same time, mass enforcement regimes may ultimately compromise public safety by squandering valuable police officer time on low-value activities, reducing police legitimacy in the eyes of community members and by creating needless conflict between police officers and the communities they serve.

In the scientific literature, evaluations of mass enforcement policing are operationalized by testing whether making more low-level arrests results in greater public safety. The majority of early research, much of it using data from NYC, suggested that today’s misdemeanor arrests do, in fact, prevent tomorrow’s felony crimes (Kelling and Sousa, 2001; Corman and Mocan, 2005; Messner et al., 2007). However, a persuasive re-analysis by Harcourt and Ludwig (2006) reveals a number of methodological shortcomings of the early research — namely the failure to properly account for gravitation to the mean due to the receding of NYC’s “crack epidemic” and the difficulty involved in identifying a credible comparison group for areas in a city that experienced greater exposure to order maintenance policing.

More recent scholarship paints a less rosy — albeit still notably mixed — view of the effects of mass enforcement policing, as proxied by the quantity of stops and arrests. There are two approaches to studying the effects of a shift in the intensity of policing. The first approach studies shifts in managerial attitudes towards policing tactics. These papers study intentional shifts in policy and practice from on high as well as shifts that are driven by middle management — police precinct captains. The second approach studies what happens to public safety during police “slowdowns,” periods of time when police officers intentionally reduce their level of proactivity in response to an unfavorable collective bargaining outcome, the killing of a police officer or the fallout from a policing scandal or a riot. The latter literature has been cited by some pundits as evidence of a co-called “Ferguson effect,” a reference to the potentially chilling effect of greater scrutiny of policing in the aftermath of the death of Michael Brown in Ferguson, Missouri. But there are, in fact, two types of potential Ferguson effects — police pullbacks as well as a legitimacy crisis that creates a larger rift between citizens and police. I survey the police slowdowns literature, paying careful attention to the distinction between a slowdown that is driven by federal oversight or a scandal and slowdowns that occur for other reasons.

Regime Shifts

Four recent papers study the effect of intentional changes to the policing regime, either locally or citywide. The first paper, a working paper by Bacher-Hicks and de la Campa (2021), exploits changes in police precinct-level leadership, finding that changes in the number of stops and arrests made by police officers follows changes in leadership at the precinct-level. Critically, when a new precinct captain encourages beat officers to make more stops and arrests, there is no observable change in major crimes.

A second set of papers study the impact of civil gang injunctions in Los Angeles — court orders which empower the police to stop suspected gang members and make arrests for behaviors — for example, wearing gang colors or associating with other suspected gang members — that would otherwise be completely legal. Gang injunctions thus empower more proactive policing in these communities, with an especially large emphasis on certain individuals living in these communities. Areas that were subject to a gang injunction experienced more street stops and arrests in the ensuing years. Importantly though, crime, including violent crime, fell by between 5-18% in these areas as a function of a gang injunction (Grogger, 2002; Ridgeway et al., 2019).

In a particularly salient and longer-run test of order maintenance policing, MacDonald et al. (2016) studied *Operation Impact*, the NYPD's signature policy initiative that sent large numbers of rookie police officers to several dozen "impact zones" with orders to demonstrate proactivity by making stops and arrests. Stops and arrests increased precipitously and with great fanfare in these areas and, while Operation Impact modestly reduced street crimes, the effects were concentrated in communities in which the stops were of higher average quality and were more likely to be constitutional. Overall though, crime reductions in these areas are modest and are unlikely to explain a large share of the city's decline in serious crimes during the study period. It also bears noting that Operation Impact changed police presence as well as police tactics.

Police Slowdowns

A second approach to studying the public safety value of mass enforcement policing regimes is to consider what happens to major crimes when the police engage in an intentional slowdown in proactive policework for political reasons or due to a scandal. Because police slowdowns sometimes happen for reasons that are unrelated to public safety and because they can lead to extraordinarily large changes in police behavior, they represent a key identification strategy to study the public safety value of street stops and low-level arrests.

Police slowdowns happen for a variety of reasons including a police union's failure to secure an attractive collective bargaining agreement (Mas, 2006; Chandrasekher, 2016), in response to the killing of a police officer (Cho et al., 2021) and to in order to protest the general perception that a city's political leadership does not support its police officers (Chalfin et al., 2021).¹⁴ Findings from this literature are heterogeneous but the dominant finding is that there is little short-run impact of even a large slowdown of proactive police work, as proxied by the number of tickets written and stops and low-level arrests made. This includes research from NYC which experienced a nine-month slowdown in ticket writing in 1997 (Chandrasekher, 2016) and a six-week slowdown in which police reduced the number of street stops by approximately 50% in December 2014 and January 2015 (Chalfin et al., 2021) as well as a national study of policing in the aftermath of a killing of a police officer. As documented by Cho et al. (2021), in the months following the felonious killing of an on-duty police officer, the number of arrests for low-level crimes fall considerably without any evidence of an increase in crime or a change in victim reporting through 911 calls. The exception to these findings is that of Mas (2006) which finds that in the months after New Jersey police officers lose in arbitration, arrest rates decline and crime reports rise relative to when the police win in arbitration.

Police slowdowns also occur after highly-publicized police scandals usually involving the killing of an unarmed civilian by a police officer (Shi, 2009; Devi and Fryer Jr, 2020; Premkumar, 2020; Cheng and Long, 2022). In recent years, this scenario is often referred to as a "Ferguson effect," a reference to the tendency of police officers in the metro St. Louis area — and also other cities — to "pull back" from performing proactive police work in Black communities in the aftermath of the killing of Michael Brown. While the evidence in favor of a national increase in crime due to events in Ferguson, MO is somewhat mixed (Pyrooz et al., 2016; Gaston et al., 2019; Rosenfeld and Wallman, 2019; Cheng and Long, 2022), research does indicate

that, in the aftermath of a highly-publicized police killing, local police officers become less willing to partner with the community (Wolfe and Nix, 2016) and make fewer stops and arrests (Premkumar, 2020; Cheng and Long, 2022). With respect to crime, the most geographically expansive analyses — those of Premkumar (2020) and Devi and Fryer Jr (2020) find that police slowdowns that follow viral incidents are followed by an increase in violent crimes, including murders.¹⁵

With respect to order maintenance policing generally and the value of the marginal police stop or low-level arrest specifically, the evidence, while somewhat mixed, offers some valuable lessons about the effect of mass enforcement policing. On the one hand, when police are specifically empowered by a shift in policy to be more proactive especially in high-crime communities — for example, via *Operation Impact* in NYC or through gang injunctions in Los Angeles — crime has fallen. On the other hand, when police officers cut back the number of stops and low-level arrests that they make over some discrete period of time (usually a few weeks or a few months), increases in major crime often do not follow. This is even true when proactive police activity declines by as much as 50%. But, when the slowdown follows a highly-publicized police killing, the effects can be quite different with slowdowns accompanying an important increase in violence. This finding may be magnified in the presence of a federal investigation (Devi and Fryer Jr, 2020).

The fact that police slowdowns can have such divergent effects depending on the circumstances of the slowdown suggests either that violence rises during these periods as a result of a decline in perceived police legitimacy or that scandals serve as explicit cues that de-policing will follow. These highly visible cues might erode the deterrence value of law enforcement or might cause people to fear that violence will rise when the police pull back from public spaces. Each of these stories is highly speculative as the research has been unable to convincingly disentangle the operational mechanisms. However, research by Ba and Rivera (2019) offers a tantalizing clue. This paper studies the effect of changes in policing in Chicago after a scandal as well as after the release of a private memo issued to Chicago police officers by their police union, warning officers to take greater care in performing their duties. The paper's principal finding — that self-monitoring triggered by police union memos did not affect crime or police effort but that, after a scandal, crime rates rise — suggests that higher crime rates following heightened oversight results from policing and civilian behavior simultaneously changing. While the deeper dynamics are difficult to pin down, there is clearly something unique about public safety dynamics in the aftermath of a scandal.

PRECISION POLICING

In addition to being highly concentrated among a small number of places, violent crime, especially lethal violence, is concentrated intensively among a small number of young men in a small number of social networks within those communities (Papachristos et al., 2012; Green et al., 2017). This is especially true of gang and group-related violence which drives an outsize amount of retaliatory violence in the most challenged urban neighborhoods (Papachristos et al., 2013; Chalfin et al., 2021). Can law enforcement meaningfully reduce crime by identifying the key players in a given community and more surgically targeting those key players through gang sweeps or by building major cases? While gang enforcement has been a routine part of police work for more than fifty years, the last twenty years have featured some of the most exciting innovations.

Focused Deterrence

Intensive policing of hot spots is one way that police can potentially deter crime. Another strategy is that of focused deterrence. Broadly speaking, this strategy entails generating deterrence by making high-risk individuals explicitly aware of the risks of serious criminal involvement while, at the same time, offering those individuals social supports to help them to change their lives. While focused deterrence is a law enforcement strategy, it is not only a law enforcement strategy and instead can be understood as a hybrid approach to crime reduction that involves police as well as considerable non-police resources.

Undoubtedly the most well-known evaluation of focused deterrence as a problem-oriented policing approach is that of Boston's Operation Ceasefire by Kennedy et al. (2001) and later by Braga et al. (2014). That intervention involved a multifaceted approach and included efforts to disrupt the supply of illegal weapons to Massachusetts as well as



messages communicated by police directly to gang members that authorities would use every available “lever” to punish gangs collectively for violent acts committed by individual gang members. In particular, police indicated that the stringency of drug enforcement would hinge on the degree to which gangs used violence to settle business disputes. The result of the intervention was that youth violence fell considerably in Boston relative to other US cities included in the study. Indeed, the perception of Ceasefire has been overwhelmingly positive and accordingly it has given rise to a number of similarly motivated strategies that are collectively referred to as “pulling levers.”

There are now dozens of evaluations of pulling levers strategies in the literature. A 2012 review of the literature by Braga and Weisburd and an updated review six years later (Braga et al., 2018) suggests that pulling-levers strategies have been effective in reducing serious violent crime, with nearly all reviewed studies finding negative point estimates, many of which were statistically significant. While evaluations of pulling levers strategies produce promising results, confidence in these findings is invariably complicated by a lack of randomized experiments and the inherent difficulty in identifying appropriate comparison cities and communities. These concerns are especially salient given that effect sizes are smaller for evaluations with more rigorous research designs (Braga et al., 2018).¹⁶ Identification problems are additionally compounded by the difficulty in identifying mechanisms as each pulling-levers strategy is complex, multifaceted, and situation dependent, often involving changes in both the intensity of law enforcement as well as sentencing (e.g., Project Exile in Richmond, VA, as well as Project Safe Neighborhoods).

Gang Takedowns

In response to concerns about the collateral consequences of mass enforcement regimes, one of the most salient changes in American policing in recent years is the shift to a more surgical form of policing in which law enforcement focuses available resources on a small number of individuals who are thought to be the primary drivers of violence (Taylor et al., 2011; Bratton and Anderson, 2018). Made possible by the same data-mining technologies that have been used to target law enforcement to high-crime locations (Ratcliffe, 2004; Johnson et al., 2008; Braga et al., 2014), targeting enforcement to high-risk individuals is a strategy that has been employed by a number of large law enforcement agencies during the last decade. However nowhere has the shift from mass enforcement to precision policing been more prominent than in New York City.

During the period from 2002-2011, the number of official street stops made by NYC police officers each year increased by nearly an order of magnitude from 97,000 to 680,000. In the aftermath of federal litigation which declared these and other related practices to be unconstitutional, the number of stops made by NYPD officers each year declined to just 12,000 five years later. Around the same time, the NYPD, in partnership with local and federal prosecutors, began to invest more heavily in targeted enforcement actions against criminal gangs, often centered around the City’s public housing communities (Howell, 2015). These “gang takedowns,” as they often referenced colloquially, refer mainly to coordinated raids in which members of criminal gangs were arrested for specific felony crimes or, commonly, for conspiracy charges related to their alleged membership in a criminal organization that is under investigation.

New research by Chalfin et al. (2021) evaluates the effectiveness of the City’s targeted gang raids in reducing crime, finding that shootings in public housing communities fell by approximately one third in the aftermath of a gang takedown and that the reduction in shootings persists for up to 18 months after a gang takedown occurs. Critically, the takedowns were not followed by a further increase in police enforcement, indicating that law enforcement was able to meaningfully reduce gun violence in some of the city’s most disadvantaged areas without exposing an ever-increasing number of people to the criminal justice system through more arrests.¹⁷



Gang enforcement is, of course, no panacea. Critics of the new approach have raised a number of challenges including that gang enforcement, while effective in the short run, offers only an “uneasy peace” Sharkey (2018) and that the approach, continues to generate substantial due process and fairness concerns, roping in people whose gang ties are only very tenuous or possibly non-existent (Howell, 2018). In other words, while gang enforcement is a more precise policing strategy than the prior regime, gang sweeps, by their very nature, do not lend themselves easily to precision prosecution.

CONCLUSION

There is a reasonably strong consensus among crime researchers that investments in policing tend to yield important public safety benefits.¹⁸ New evidence suggests that investments in police are an unlikely driver of mass imprisonment but that hiring more police and concentrating them in high crime areas does drive racial and socioeconomic disparities in criminal justice system contact. While some low-level arrests, especially those that are targeted towards suspected gang members have important public safety dividends — as is evidenced by the crime reductions seen after the implementation of gang injunctions — most research finds that the marginal quality of life arrest does not contribute much to public safety, at least in the short-run. Because criminal justice contact can have deleterious impacts on criminal defendants’ human capital, for some individuals — especially first time defendants — an arrest can make future arrests more likely (Agan et al., 2021).

While problem-oriented policing approaches including person-focused approaches to law enforcement at crime hot spots have important public safety benefits (Grogger, 2002; Groff et al., 2015; Ridgeway et al., 2019), the available evidence suggests that police can probably make fewer low-level arrests without appreciably compromising public safety. When officers are empowered to use their arrest powers to deal with problematic individuals and are rewarded for making good arrests but not necessarily as many arrests as possible, police can produce public safety more efficiently and potentially with greater legitimacy. Relatedly, emerging research from NYC suggests that the benefits of policing can be maximized and the costs can be minimized when police eschew strategies which revolve around making large numbers of stops and arrests and instead focus their efforts on building major cases against the relatively small number of individuals who drive an outsize share of the violence.

There is still a lot that we do not know and we should be extremely cautious about internalizing the stylized story contained in the previous two paragraphs as gospel. Here, I briefly note several critical unknowns in mapping the prior literature on to the current policy environment. First, empirical research is intrinsically backward-looking. Researchers analyze data to understand the past but it is always difficult to draw conclusions about what will work in an unknown — and unknowable — future. In particular, as the majority of the literature analyzes data collected during the past thirty years — an era in which crime was either in decline or in steady state — we have very little evidence of what works specifically in a time of rising crime and violence. Thus while the quality of the research has improved over time, its applicability to present conditions remains frustratingly uncertain.

Second, the landscape of policing is rapidly shifting due to the emergence of new technologies including predictive policing software (Hunt et al., 2014; Saunders et al., 2016; Jabri, 2021), body-worn cameras (Braga et al., 2021; Lum

et al., 2019; Williams Jr et al., 2021), license plate readers (Koper et al., 2013; Willis et al., 2018) and facial recognition technology (Purshouse and Campbell, 2019). Policing is also impacted by the rapid expansion of both private and public surveillance cameras (Piza et al., 2015) as well as the mass availability of high-quality cell phone cameras amongst the general public which has led to a proliferation of viral videos that document police misconduct. How these innovations will shape policing policies and the effectiveness of police is difficult to predict.

Third, the effectiveness of police is not a fixed quantity. Instead police effectiveness invariably depends on what types of officers that police departments are able to recruit (Linos, 2018). Popular journalism as well as new scholarship points to emerging difficulties that police departments face in recruiting (Linos and Riesch, 2020; Dazio et al., 2021) and retaining (Mourtgos et al., 2022) sworn police personnel. A concern is that these problems may be especially severe with respect to the recruitment of Black police officers who may engage in different styles of policing than their White counterparts (Ba et al., 2021) and who might even be uniquely suited to abate Black homicide victimization (Harvey and Mattia, 2021). To the extent that police recruiting changes in important ways, prior research may either underestimate or overestimate the efficacy of investments in municipal policing.

Fourth, national research is inevitably designed to identify what is true on average rather than what is true in a given city at a given point in time. While the evidence suggests that investments in policing are, on average, a decent bet to reduce lethal violence, it is not a bet that will pay dividends all of the time. Crime fluctuates for many reasons. While policing is a meaningful input into the crime production function, at any point in time, its effects can be overwhelmed by other factors. Indeed in 2020 lethal violence rose in nearly every US city regardless of changes in investments in policing by local policymakers. While investments in police may be protective, on average, a larger police force was not sufficient to avoid the tidal wave of violence that co-occurred with the COVID-19 pandemic.

Finally, with respect to the costs of policing, some gaps in the literature are being filled while others remain. On the one hand, emerging research documents the average harms of policing including the incidence and racially disparate experience of lethal force used by police (Edwards et al., 2019) and its effects on student achievement (Gershenson and Hayes, 2018; Ang, 2020). Research has likewise begun to rigorously examine how lethal force has changed over time (Ouss and Rappaport, 2020) and the link between the salience of police use of force and citizens' willingness to interact with police (Cohen et al., 2019; Ang et al., 2021). This research compliments decades of ethnographic accounts of racially disparate experiences with US police officers that have contributed to the "great divide in American policing" (Bratton and Anderson, 2018). On the other hand, there is comparatively little research on the *marginal* harms that accrue from further investments in policing or changes in policing strategies. In other words, when we invest greater resources in policing or change the tactics that police use to fight crime, what effects do these shifts have on the collateral costs of policing? While it is unlikely that police take more lives than they save, a precise and holistic understanding of the tradeoffs remains, for now, beyond our grasp.



END NOTES

- 1 See: <https://news.gallup.com/poll/317114/black-white-adults-confidence-divergespolice.aspx>.
- 2 This literature has been summarized, at various points in time, by Cameron (1988), Nagin (1998), Eck and Maguire (2000), Skogan and Frydl (2004), Levitt and Miles (2006), (Nagin, 2013), Carriaga and Worrall (2015), Lee et al. (2016), Eck et al. (2017), Chalfin and McCrary (2017) and McCrary and Premkumar (2019), all of which provide extensive references.
- 3 The earliest empirical papers such as Wilson and Boland (1978) focused on the cross-sectional association between police and crime — simply asking whether cities with more police officers have lower crime rates. A subsequent innovation was to use longitudinal data, asking whether crime responds to a *change* in police staffing levels — see e.g., Greenberg et al. (1983).
- 4 The first instrumental variable to study the effect of police manpower on crime was proposed by Levitt (1997). Leveraging data on the timing of mayoral and gubernatorial elections, Levitt notes that in the year prior to a municipal or state election, police manpower tends to increase, presumably due to the desire of elected officials to appear to be “tough on crime.” While the findings of this paper were later discredited by McCrary (2002) which found that the paper’s results could not be replicated due to a coding error in the original paper, Levitt (1997) ultimately inspired series of related papers that seek to identify a national effect of police manpower on crime by isolating conditionally exogenous within-city variation in police staffing levels.
- 5 For supporting evidence that the distribution of federal police grants is conditionally random, see Weisburst (2019).
- 6 A related paper by Chalfin and McCrary (2018) uses the natural variation in police staffing levels, recognizing that point-in-time measures of police personnel at the city level are often measured with error and that correcting data errors can itself yield a viable research design. There is also a paper by Lin (2009) which instruments for changes in police manpower using the idea that US states have differential exposure to exchange-rate shocks depending on the export intensity of local industry.
- 7 Historical research by Bindler and Hjalmarsson (2021) considers what happened to crime after the formation of the London Metropolitan Police service in the 19th century. The principal findings of this paper is that violent crimes fell as a result, though not property crimes.
- 8 Low statistical power is a persistent problem in this literature as it is in all studies of area-level interventions.
- 9 In a recent experiment in Philadelphia, Groff et al. (2015) randomized treated hot spots into three conditions: 1) foot patrol only, 2) problem-oriented policing strategies and 3) person-focused strategies. The principal finding is that the declines in crime among treated hot spots were driven by the sites receiving an person-focused strategy. While the high-level finding suggests a clear answer, the authors are careful to point out that the pattern of results may have been driven by variation in the quality of implementation across different experimental conditions.
- 10 See, e.g.,: <https://newyork.cbslocal.com/2014/08/27/quinnipiac-poll-most-new-yorkers-support-broken-windows-policing/> and <https://safercitiesresearch.com/the-latest/new-poll-how-do-voters-understand-public-safety>.



- 11 While this is a sobering finding that suggests the limitations of police-driven approaches to crime control, it is also important to bear in mind that variables like subjective well-being and fear are often stock variables that represent a lifetime of lived experience. These variables therefore might simply respond slowly to a change in policing and safety. Long-run changes in community well-being as a function of changes in police activity are likely to be extraordinarily difficult to capture.
- 12 Notably, the result of Di Tella and Schargrodsky (2004) — that motor vehicle thefts declined on protected blocks — has been called into question by Donohue et al. (2013), who reanalyze the original data and report evidence that is more consistent with spatial displacement of crime rather than crime reduction. However, with respect to identifying behavioral changes among offenders, both stories are equally consistent with deterrence.
- 13 This practice contrasts with advice famously laid out by Sir Robert Peel, the founder of the London Metropolitan police service who urged police to recognize that the test of police efficiency is the absence of crime and disorder and not the visible evidence of police action.
- 14 Chalfin et al. (2021) replicates a paper published in *Nature Human Behaviour* which finds that proactive policing causes major crimes to rise. Unfortunately this paper is not credibly estimated and the results are almost certainly incorrect. I therefore cite findings from my replication of that paper which suggests that the evidence is most consistent with little impact of NYC's 2014-15 police slowdown on public safety.
- 15 Devi and Fryer Jr (2020) studies what happens to crime when police departments are subject to greater federal oversight. When that oversight coincides with a highly-publicized police killing, proactive policing as proxied by stops and arrests declines and violent crimes, including murders rose. There is also older research by Shi (2009) which found that crime in Cincinnati increased after a highly-publicized police killing.
- 16 Concerns regarding identification have led Skogan and Frydl (2004) to conclude that such research is “descriptive rather than evaluative.”
- 17 These findings are mirrored to an extent by new research by Domínguez (2021) who studied the application of gang sweeps in Barcelona, finding that large-scale arrests of criminal gangs reduced serious crimes in impacted areas and, importantly, decreased offending among individuals who were in the social networks of those arrested but were not arrested themselves.
- 18 Two-thirds of criminal justice researchers polled by the Criminal Justice Expert Panel agreed that investments in police resourced reduce crime and violence. See: <https://www.niskanencenter.org/policing-and-public-safety-what-do-the-experts-think/>

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