Crime plays a major role in the well-being of a community. It can influence where people live, where businesses locate and how local economies perform. Identifying causal effects, however, is difficult for a number of reasons. Still, a considerable amount of recent economic literature examines many aspects of crime. Part one of our *Economic Brief* series focuses on the impact of crime on communities, the relationship between crime and policing and how policing affects deterrence.

One of our goals as a Research Department in a Regional Fed is to better understand and offer constructive solutions to issues that our District's residents face. This is especially important for the economic vitality of both individuals and our communities.

A force that looms large is crime. At a high level, crime and policing matter for where people live, how local economies perform, how healthy cities are and what differences exist between rural and urban areas in our District and beyond. In this two-part *Economic Brief*, we review recent literature that examines crime, policing and community well-being as well as connections among the three. In this first part, we focus on four areas:

- Measuring crime
- Crime control policies
- The relationship between crime and policing
- The deterrence effects of policing

**Measuring Crime**

Before we begin our review of the literature, it's important to discuss how crime is measured, as this can impact studies and their results. When gauging crime, most studies rely primarily on crime measurements provided by local police departments as part of the
FBI's Uniform Crime Reporting (UCR) Program. This reliance is understandable. These data have been compiled and categorized for decades (the UCR program started in 1930), and this information is readily available at the local level.¹ The data, however, are subject to well-known limitations.²

One such limitation is that crime data reliably measure crime activity only as long as resident and police reporting behaviors remain consistent over time. If reporting changes over time, crime statistics may not consistently reflect crime levels and would require supplemental information to provide more accurate measures of criminal activity and of policing effectiveness.

Data on crimes reported by victims — separate from police reports — are one supplemental source. The National Crime Victimization Survey (NCVS) is an annual, nationally representative survey that provides information on:

- Nonfatal personal crimes, such as rape/sexual assault, robbery, aggravated/simple assault and personal larceny
- Household property crimes, such as burglary/trespassing for the purpose of shoplifting, and motor vehicle and other theft

The NCVS also asks if these crimes were reported to the police. However, a shortcoming of these data is that they are not representative at the local level.

Recently, several law enforcement agencies have made their crime statistics openly available through online portals as part of the Police Data Initiative (PDI). While the UCR not only gathers data from various agencies, but also attempts to make them uniform and comparable, data reporting through the PDI follows the submitting agency's own criteria and includes more data on a wider variety of crimes than the UCR. Currently, 130 U.S. police agencies participate.

These data may be used along with officially reported crime statistics to identify changes in reporting behavior as well as police behavior: The number of crimes that the police themselves notice and report may serve as a proxy of police engagement (or "effort") and may not closely align with police numbers.

**Crime Control Policies and Community Well-Being**

Crime limits the ability of cities and neighborhoods to prosper by negatively affecting the quality of life of residents, causing people to leave the city and generating social and economic decline. Understanding the effectiveness of crime control policies is, therefore, key for communities.

The impact of crime on neighborhoods has been heavily researched. The literature shows that crime (especially violent crime) negatively affects neighborhood growth, increases racial segregation and lowers housing prices.³
Furthermore, affluent residents are very sensitive to crime: They are willing to pay (relatively) more for housing at locations where this problem is less severe. Due to generally high crime rates in central cities, higher-income households tend to locate in the suburbs, as seen in a 1979 paper by William Frey and a 1999 paper by Julie Berry Cullen and Steven Levitt. And a 2005 paper by Arthur O’Sullivan noted that income segregation occurs to the extent that high-income residents are willing to pay more to reside at places with lower crime rates.

At the same time, an unsafe and more dangerous local environment can have significant impact on residents' incomes and opportunities as well. A substantial amount of research suggests that neighborhoods and the social interactions within them influence individuals' economic opportunities later in life. Growing up in neighborhoods with high levels of violent crime affects individuals' criminal behavior and reduces upward mobility, as noted in a 2018 paper by Raj Chetty and Nathaniel Hendren and a 2017 paper by Patrick Sharkey and Gerard Torrats-Espinosa. Peer effects may also reinforce income and racial segregation, leading to further deterioration of the local environment.

Crime also has a significant impact on where businesses operate, which can directly affect neighborhood opportunities and well-being. For example, a 2010 paper by Stuart Rosenthal and Amanda Ross showed that retailers and entrepreneurs choose nonviolent environments when deciding where to establish their operations.

**Relationship Between Crime and Policing**

With crime having so many impacts on community well-being, a natural question may be: To what extent can police reduce crime? Several papers attempt to quantitatively assess how changes in police force size affect crime rates. Identifying such causal effect is, however, extremely challenging for several reasons:

*Measurement Error*

In general, the number of police and crime are not measured accurately, as noted in a 2018 paper by Aaron Chalfin and Justin McCrary. Moreover, reporting and recording different types of crime are likely affected by the number of active police officers. For example, changes in the size of the police force may affect the police department's propensity to record victim crime. Examples include not having enough police officer staffing to take statements from victims and fully document crime for reporting purposes.4

*Police Intensity*

Changes in the intensity of policing are generally not random: Places with more crime tend to have more police, almost certainly in part as a response aimed at mitigating crime.

*Deterrence Versus Incapacitation*
Criminal justice policies reduce crime through both deterrence and incapacitation:

- Deterrence implies that a policy change stops individuals from committing crimes they would have otherwise.
- Incapacitation takes place when offenders are removed from broader society (pretrial detention or incarceration).

More police could act as a deterrent, and since police make arrests during their regular activities, more police could also lead to higher levels of incarceration. Distinguishing between these two effects associated with policing is challenging.

**Probability of Arrest**

Actual and perceived risks of committing a crime matter, especially when using the number of police to measure deterrence. If the number of police in a community aligns with the number that people think are in the community, then using the number of police to measure the effect of size on deterrence is straightforward. However, if an increase in police numbers doesn't dissuade potential offenders, this approach would not offer sensible conclusions.

**Reporting Bias**

Studies that use reported crime data to evaluate the effectiveness of policing policies may provide biased results if the reporting and recording of crime is also affected by the policies. A larger police force may encourage residents to report more crimes if residents believe crimes are more likely to be solved. If such bias is present, reported crime rates may increase with the size of the police force, even if the true victimization rate is falling.

**Displacing Crime to Other Areas**

More police in one area may simply displace crime to other areas. The impact of an increase in police size would therefore depend on the size of the area considered in the analysis and whether it accounts for potential displacement.

**Deterrence Effects of Policing**

After controlling for most of these issues, the economics literature supports the view that a larger police force generally reduces the index level of crime. The effect seems to be larger for violent crime (especially murder) than for property crime. A 1998 paper by Levitt suggests that the deterrent effect of policing — as opposed to incarceration — appears to be the relatively more important factor, mostly for property crime. Other work that relies on exogenous shocks to police presence finds similar results.5

Some studies suggest that investments in police may both deter crime and reduce incarceration. Investment in police could therefore be a relatively more efficient means of crime control. A 2019 paper by Chalfin and Jacob Kaplan, for instance, finds that
investments in law enforcement are unlikely to markedly increase state prison populations and may even lead to a modest decrease in the number of state prisoners. In other words, the deterrent effects of policing are strong enough to reduce crime, and a lower number of criminals in turn imply less people going to prison.

Certain types of crime — such as drug dealing and shootings — can be highly concentrated in very small areas of cities. "Hot-spot" police tactics — which include a substantial increase in police visibility in those zones — have been shown to reduce crime in those areas, and there is little evidence of a spatial "relocation" or displacement of crime.

Upcoming: Race, Policies and Policing

While these studies generally show that an increase in police results in favorable outcomes, many other factors come into play that could affect these results. One that looms especially large in light of recent events is race. In the second part of this series, we’ll examine what the literature says about race in terms of policing and crime reporting. We’ll also review studies that have examined various efforts and policies aimed at addressing issues in policing.

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1 Law enforcement agencies representing roughly 95 percent of U.S. population participate in the program.

2 The annual crime indexes reported by UCR include crimes reported and known to the police, but does not include, for instance, crimes at jails or prisons. Also, these crimes have been recorded and tabulated by local police agencies, allowing them considerable discretion at this stage.

3 Several papers shows these findings, including a 2001 paper by Edward Glaeser, Jed Kolko and Albert Saiz, a 2010 paper by Keith Ihlanfeldt and Tom Mayock, a 2011 paper by Kelly Bishop and Alvin Murphy, a chapter by Vania Ceccato and Mats Wilhelmsson (PDF) in a 2011 book, a 2012 paper by Devin Pope and Jaren Pope, a 2013 paper by Paolo Buonanno, Daniel Montolio and Josep Maria Raya-Vilchez, a 2013 paper by Joshua Congdon-Hohman and a 2016 paper by Patrick Bayer, Robert McMillan, Alvin Murphy and Christopher Timmins.

4 A few studies (for instance, a 2012 paper by Ben Vollaard and Joseph Hamed) conclude that the impact of measurement error in police statistics is large and cannot be ignored when assessing the impact of police size on crime.

5 This work includes a 2004 paper by Rafael Di Tella and Ernesto Schargrodsky (which uses a 1994 terrorist attack on the main Jewish center in Buenos Aires, Argentina, as the exogenous shock), a 2005 paper by Jonathan Klick and Alexander Tabarrok (which measures the effects of
changes in the terror alert levels on police presence in Washington, D.C.) and a 2019 paper by Steven Mello (which uses the increased funding for the Community Oriented Policing Services hiring grant program from the American Recovery and Reinvestment Act).

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