DOI: 10.1111/1745-9133.12519

CRIMINOLOGY & Public Policy

THE 2020 STOCKHOLM PRIZE

Thinking about gun violence

Philip J. Cook

Sanford Professor Emeritus of Public Policy and Economics, Sanford School of Public Policy Duke University, Durham, NC 27708

Correspondence
Philip J. Cook, Sanford Professor Emeritus of Public Policy and Economics Sanford School of Public Policy Duke University, Durham, NC 27708.
Email: pcook@duke.edu

Abstract

The Stockholm Prize for 2020 was awarded for research on gun violence and its prevention, and recognizes the growing depth and scope of this field. I am honored to be a co-recipient, together with Franklin E. Zimring. This essay focuses on three of the topics that have been on my agenda over the course of the last 45 years: how best to conceptualize and measure the problem of gun violence; the availability of guns to violent offenders; and how and why to improve police investigations of criminal shooting incidents, including assaults and homicides.

KEYWORDS

clearance rates, costs of crime, Firearms, gun violence, instrumentality, underground markets

The Stockholm Prize for 2020 was awarded for research on gun violence and its prevention. I am honored to share the prize with Franklin Zimring, who published the first systematic empirical findings in this field. His seminal work demonstrated that the type of weapon used by the perpetrator of a violent attack is not just an incidental detail, but has a plausibly causal effect (over and above the intent of the perpetrator) on whether the victim lives or dies (Zimring, 1968, 1972). My first contribution to the field (Cook, 1976) extended this "instrumentality" argument to robbery, documenting that target choice, mode of intimidation, likelihood of injury, and amount stolen were all shaped by whether the robbers used a gun. Since then I have undertaken a variety of other projects related to gun violence, and scores of other researchers have contributed as well. Indeed, the research desert that Zimring discovered 50 years ago has blossomed; scholars from criminology, public policy, economics, public health, law, and other fields have joined in the effort to develop a strong evidence base for understanding and reducing the heavy burden of gun violence (Cook & Donohue, 2017; Hemenway, 2017). The 2020 Stockholm Prize is implicit recognition of the growing depth and scope of this field[1].

In this brief essay I focus on three of the issues that I have found particularly compelling over the years.[2] The first is how best to conceptualize and measure the problem of gun

violence, a problem that I worked on with another economist, Jens Ludwig (Cook & Ludwig, 2000). While the usual measure of the "problem" starts with the number of people shot and killed or wounded, that approach only illuminates one aspect of the social burden imposed by gun violence, and the "body count" is not necessarily proportional to the overall burden. One implication of our "social cost" perspective is that while the majority of gun deaths are suicides, the greater part of the "problem" is associated with the wide-ranging effects of the criminal misuse of guns. Furthermore, much of the cost is not directly linked to actual victims; it is the *anticipation* of victimization that engenders widespread anxiety, disinvestment in impacted communities, and costly efforts to avoid and mitigate attacks. This point is illustrated all too well by one example, mass shootings in schools, which are far more important than they appear in the victimization statistics—these events are very rare (fewer than 1 in 100,000 schools per year are attacked), but most children are taught to be concerned about them and schools devote substantial time and scarce funds to school safety drills in preparation for an active-shooter event.

The second topic is the availability of guns to violent offenders. One conclusion from my research has been that even in America, with 300 million guns in private hands, offenders often face substantial barriers to obtaining one. Among other things, the scarcity of guns helps explain why most perpetrators do not use a gun in robbery, despite the evident advantage of attempting to control their intended victim with a gun rather than knife, club, or fists (Cook, 1976, 1987, 2009). The availability of guns to offenders differs widely among individual offenders, and also across communities, where it is linked to the general prevalence of gun ownership. Despite this well-established linkage, the typical transactions that provide guns to offenders are quite different than the transactions that arm the general public. In particular, while a majority of gun-owning households obtained their guns by purchase from a licensed gun dealer, that is rarely the proximate source of guns used in crime (Cook, 2018b). In large part the supply of guns to offenders involves the diversion of guns from legal commerce and ownership, a process that is facilitated in a community where gun ownership is prevalent. There is, in short, a substantial negative externality to licit gun ownership (Cook & Ludwig, 2006a).

Third, I discuss a relatively new (for me) research program on how and why to improve police investigations of criminal shooting incidents, including assaults and homicides. There has been a secular decline in homicide clearance-by-arrest rates in recent decades, and arrest rates tend to be particularly low in cities and neighborhoods with high rates of violence. Police departments have emphasized crime prevention through proactive methods (Leovy, 2015; Weisburd & Majmundar, 2018), while detective work receives lower priority. Indeed, police investigations have been disparaged as reactive, occurring after the damage has been done. But that characterization ignores the established mechanisms by which solving past crimes prevents future crimes: deterrence, incapacitation, and possibly interruption of private revenge cycles (Cook & Ludwig, 2019b, 2019c). Recent research has provided suggestive evidence that homicide clearance rates can be increased by improved management techniques and other reforms (Braga & Dusseault, 2018; Wellford, Lum, Scott, Vovak, & Scherer, 2019), and that with additional resources it is feasible to increase clearance rates for shootings even without reforming investigation practices (Cook, Braga, Turchan, & Barao, 2019).

These three topics illustrate that my gun violence research agenda, and the field more generally, has been shaped from the beginning by policy concerns. The project is not science for its own sake; rather, scholars in this arena typically seek to provide a scientific basis for shaping policy. For the most part the agenda is focused on reducing the harms caused by the misuse of guns. It is important to note that for millions of Americans, guns provide a source of

recreation or peace of mind, and that there are thousands of instances every year in which guns are used virtuously, in self-defense against criminal threats. Indeed, the practice of keeping handguns in the home for defense against intruders was privileged by the U.S. Supreme Court in *District of Columbia v. Heller* (2008) as protected by the Second Amendment (Blocher, 2014). But like other valuable commodities, such as motor vehicles, alcoholic beverages, and legal opiates for pain management, guns are frequently misused, causing great harm along with the benefit. A reasonable guide for policy design is to reduce harmful misuse while preserving the positive aspects of gun possession and use, acknowledging the tradeoffs when they exist.

It is challenging to preserve scientific objectivity when researching topics that are closely tied to the fractious debate over gun policy. To a large extent that debate is about values, including the relative value of individual freedom and public safety, or the proper interpretation of the Second Amendment—issues that can be informed, but not ultimately resolved, by the application of normative frameworks offered by economics, public health, and political theory (Cook, Braga, & Moore, 2011; Cook, Ludwig, & Samaha, 2009). But inevitably, questions of value are commingled with claims that are, at least in principle, factual, and it is in the factual domain that science has the stronger claim for public attention. The foundations of the factual domain in gun policy include a basic understanding of how weapon type affects crime and self-harm; the extent to which the availability of guns influences the choice of weapon in criminal violence and suicide attempts; and how the criminal justice system's response to shooting cases, both fatal and nonfatal, influences rates of criminal gun violence. In researching such questions, I have aspired to scientific norms of neutrality and objectivity, as have other serious scholars in this field who are prepared to publish the results of their inquiries without regard to which advocacy groups will denounce or embrace them (Cook, 2013).

1 | SOCIAL BURDEN OF GUN VIOLENCE

Scholarly articles on gun violence typically begin with statistics on the number of people killed by gunfire. Such statistics are easy to understand, quite accurate, readily compared with other causes of death, and, at least for the United States, large. The victim counts are larger yet if we add nonfatal gunshot injuries, which are much more common than fatal injuries. But mortality statistics, even when coupled with injury, actually do not reveal much about the nature, scope, or magnitude of the burden that gun violence imposes on society. Indeed, much of the social cost does not stem directly from the loss or impairment of the lives of actual victims, but rather from the public's anticipation of gun violence, which can be traumatic and engender costly efforts to avoid and prevent victimization.

I am writing this essay while in the midst of the global lockdown instigated to reduce the flow of COVID-19 cases. As with gun violence, the burden of that pandemic is also characterized in terms of the number of deaths, but that characterization misses the cost of the massive effort to prevent still more deaths—to "flatten the curve" by shutting down much of the economy and limiting normal activities. Furthermore, mortality statistics are not an adequate representation of the burden of concern for all who worry about themselves or loved ones becoming sick. In other words, in assessing the value of eliminating the virus as a threat (perhaps through an effective vaccine), an analyst must count not only the value of lives saved, but also the value of recovering a normal social and economic life without all the costly precautions and anxiety. The analogy to the burden of gun violence is clear.

Before developing that argument, it is useful to say more about what we do and do not learn from statistics on gunshot injuries, and explain the case for treating gunshot injuries as distinct from injuries by other weapons.

1.1 | Gun deaths and injuries

Using mortality statistics as a guide, we might conclude:

- The gun violence "problem" is about the same magnitude as the problem of motor vehicle crashes; they both tallied almost 40 thousand deaths in 2018.[3]
- The "problem" of gun violence is primarily one of suicide, since 61% of gunshot deaths were suicides compared to 35% for homicides in 2018. (The remaining 4% of deaths were unintentional or unclassified by the National Vital Statistics System.)
- Mass shootings constitute a small sliver of the "problem." Just 337 of the deaths (less than 1%) were in the context of "mass shootings."[4]

If nonfatal shooting injuries are added to the count, interpersonal violence (mostly crime) rises to the fore, surpassing suicide and self-inflicted injuries. The reason for this reordering is that suicide attempts by firearm have relatively few survivors. The case fatality rate for suicide is about 90% (Conner, Azrael, & Miller, 2019), but less than 20% for interpersonal violence, with about four survivors treated for gunshot wounds for every gun homicide (Cook, 1985; Cook, Rivera-Aguirre, Cerda, & Wintemute, 2017). Thus while there were at least 70 thousand interpersonal-shooting victims (fatal or nonfatal) in 2018, the count for victims of intentional self-inflicted gunshot was 27 thousand. Also, with the addition of nonfatal injuries a huge gap opens up between shootings and highway crashes, since there were 2 million nonfatal injuries in crashes.[5] What remains unchanged is the relative rarity of mass shootings, which account for a very small portion of gunshot injuries.

In efforts to quantify the "problem" analysts sometimes give more texture to "body count" statistics of this sort, taking account of the age and other characteristics of victims. For just one example, the fact that 58% of firearms homicide victims in 2018 were African American (with a population-adjusted rate over eight times as high as for whites) indicates that interpersonal gun violence contributes to the White-Black gap in life expectancy, a gap that is problematic over and above the total number of victims.

Victim counts and other victim-centric measures have value as a partial guide to the nature and scope of the gun violence problem. And for some purposes, such as tracking trends and differences across jurisdictions and demographic groups, the victim count serves as a useful statistical indicator. But for other comparisons, such as judging the relative importance of mass shootings compared with more routine violence, the number of victims may be profoundly misleading.

1.2 | Instrumentality

Before turning to the social cost perspective, herewith is a brief detour to consider another sort of challenge to the use of mortality statistics. It makes little sense to treat gun homicides separately from knife homicides if the type of weapon is an incidental detail, akin to whether the perpetrator wore a hat. To say it differently, if removing guns from violent encounters had no effect on the

outcomes, then the fact that there were nearly 14,000 gun homicides in 2018 would be of little distinct interest; the focus would rightfully be on the 18,830 total homicides. Zimring's (1968, 1972) early research addressed this issue directly, and made a strong case that the type of weapon in fact had a strong causal effect on the outcome of interpersonal violence. This "instrumentality" effect ultimately justifies consideration of the gun homicide rate as an indicator of the gun "problem." It also justifies policies intended to separate guns from violence, including legal restrictions on carrying guns in public, and on state sentencing codes that specify longer prison sentences for gun robbery than knife robbery (Abrams, 2012; Cook & Nagin 1979).[6]

It should be noted that Zimring's research, and confirmatory research since then, has not settled the issue for everyone. Recently, a team at RAND surveyed "experts" who had published on gun violence (Morral, Schell, & Tankard, 2018). The respondents were readily sorted into two groups based on their answers to questions about whether they personally favored "permissive" or "restrictive" regulation of firearms transactions and carrying. Interestingly, these two groups also differed on their belief about weapon substitution, which is to say instrumentality. The "permissive" group indicated their belief that if regulations were effective in reducing the gun homicide rate, it would have little effect on the overall homicide rate because perpetrators would accomplish the same result using other weapons. The "restrictive" group, on the other hand, indicated that an effective gun regulation would reduce the overall homicide rate by almost one for one with the reduction in the gun homicide rate, suggesting that the type of weapon had a large causal effect on the outcome independent of the perpetrator's intent. This clash of beliefs suggests that doubts about instrumentality, which in principle could be settled by empirical research, remains controversial. What is not controversial is that instrumentality is a foundational issue in the national gun debate.

My early research on robbery and robbery murder found that victims were three times as likely to die if the robbers used a gun rather than a knife or razor. That difference is suggestive of the instrumentality effect, but not definitive evidence. More telling was an analysis of robbery rates over time for 43 large cities. My results from a regression analysis of robbery homicide demonstrated a close relationship between robbery and robbery murder rates. More specifically, an increase of 1,000 gun robberies resulted in three or more times as many additional deaths as an increase of 1,000 non-gun robberies (Cook, 1987). It appears, then, that murder is a probabilistic byproduct of robbery, and that the probabilities depend on the lethality of the weapon.

Recently, Anthony Braga and I returned to the instrumentality issue by replicating Zimring's, 1972 contribution, which identified a sort of natural experiment regarding the causal effect of weapon type on outcome. We analyzed a detailed data set of fatal and nonfatal shootings in Boston over a five-year period. The two groups of victims (survivors and decedents) were similar in all observable respects, and the circumstances of the attacks were similar with one minor exception (whether the attack occurred indoors or out). An unusual feature of these Boston data was that for most of the shooting victims we knew the caliber of weapon. Caliber is an important determinant of the power and intrinsic lethality of the gun since other things equal a wound inflicted with a larger bullet does more physical damage. We limited the analysis to handguns, since use of rifles or shotguns is very rare in Boston criminal assault. The caliber of handgun was not correlated with any observable feature of the attack, but it had a close association with the principal outcome—whether the victim lived or died (Braga & Cook 2018). One way to summarize our results is this: If all criminal shootings in Boston had been with the smallest common caliber (.22), rather than the actual mix that was dominated by larger caliber handguns (.38 revolvers, 9 mm pistols, etc.), the homicide rate would have been 40% lower for the period 2010–2014. That is a measure of the importance of just one dimension of instrumentality in interpersonal violence.

These results are not based on a controlled experiment. It is logically possible that the large difference in fatality rates among different caliber guns is not due to the difference in the caliber per se but rather some difference in another, unobserved factor that happens to be correlated with caliber. Yet our evidence goes a long way to ruling out the more obvious candidates for that "unobserved factor" including the skill or intent of the shooter. If shooters who use a .45 caliber pistol tend to have a greater intent to kill their victim when they shoot him, then we would expect to find that more shots are fired or more wounds inflicted to vital areas in shootings with .45s than with smaller handguns. But that is not the case.

My confident conclusion from this and other evidence is that the type of weapon matters in criminal violence in a variety of ways including whether the victim of an attack lives or dies. Guns are the most lethal of the weapons in common use, and more powerful guns are more lethal than less powerful guns. The old slogan that "Guns don't kill people, people kill people" is profoundly misleading; guns, unlike other weapons, kill quickly, without much effort or skill, and at a distance. It is far easier to kill someone with a gun than, say, a knife. Gun use in violent crime is much more prevalent in America than in other wealthy nations, which explains much of the observed gap in homicide rates (Grinshteyn & Hemenway 2019; Zimring & Hawkins 1997).

1.3 | Social cost

When a substantial proportion of robberies and assaults are committed with guns, as in the United States, the result is that the violence is intensified—it is far deadlier and harder to avoid or defend against. The sound of gunfire can be terrifying to neighborhood residents. There are no drive-by knifings, or people killed by stray clubs. The full range of impacts is not captured by metrics based on the number of actual victims. For example, no president has been shot since 1981, yet the annual cost of protecting the president, for whom the main physical threat is being shot, runs to billions of dollars.[7] It is the *threat* of gun violence, and in particular the efforts to avoid and mitigate that threat, that constitute much of the social burden.

For routine gun violence in heavily impacted communities, the entire community experiences the threat of gun violence, which engenders anxiety or even trauma and motivates costly avoidance activities. Children who are exposed to gun violence have psychological problems and perform worse in school (Sharkey, 2018). Mothers suffer from high blood pressure and obsess about keeping their children safe from stray bullets (Cook & Ludwig, 2002). Victims of gun robbery are not usually shot, but the fear of that possibility is real and may cause lasting trauma from gun robbery victimization. Those households with the financial means of living in a safe neighborhood typically do not buy into neighborhoods where gunfire is common. And by one estimate, 70 residents leave for every homicide in a neighborhood (Cook & Ludwig, 2000). As a result, these communities suffer from disinvestment and the resulting lack of employment and retail options. Fortunately, that process can be reversed, as suggested by the New York "Miracle" when the extraordinary reduction in violence starting in the early 1990s created the foundation for a new renaissance in Harlem and other impacted areas of the city (Sharkey, 2018; Zimring, 2011).

In sum, interpersonal gun violence is a public health problem but also an urban disamenity. It penalizes the standard of living for all who are threatened or suffer from neighborhood decline. Much of the burden is associated with the threat of gun violence—with the lack of public safety—rather than the direct casualties.[8]

Given this understanding, the cost of homicide and gun assault is amplified relative to suicide, which despite the sometimes devastating emotional effects on loved ones does not destroy

neighborhoods. The same reasoning suggests that the victim count is a poor guide to the social costs of mass shootings in schools. These vivid, tragic events create a source of stress for parents and school children nationwide, and drive an enormous investment in school safety measures and disruptions of the school day for live shooter drills. Although there were only a handful of active shooter cases in schools, over 4 million school children were affected by a school shooting lockdown during the 2017/2018 school year,[9] and far more were required to rehearse such events.

For some purposes it is useful to quantify the social burden of gun violence in dollar terms. Thomas Schelling (1968), who went on to win the Nobel Prize in Economics, laid out the appropriate conceptual framework for placing a value on risks to life and limb, adopting a forward looking perspective that focuses on public safety rather than on actual victims, and acknowledging that a large part of the cost is subjective. Placing a value on public safety is difficult but necessary in order to have a common metric for balancing costs and benefits in guiding public policy. Should a city council allocate scarce funds to a gun violence prevention program in violence-ridden neighborhoods? If effective, it would have a variety of positive consequences, including a reduction in the number of gunshot assault victims, but also including the salutary effects from a reduction in the threat of gun violence to the community: reduced trauma and blood pressure, improved school performance, the possibility of economic revitalization. The public is willing to pay for public safety, and the amount that they are willing to pay is a measure of the value of the program.

Willingness to pay (WTP) could be inferred, at least in part, by increases in property value following the adoption of an effective program (Linden & Rockoff, 2008; Thaler, 1978), although in practice analysts have a difficult time in sorting out the effect of a particular policy innovation from other influences on real estate markets. Instead, Cook and Ludwig (2000) utilized the "contingent valuation" method to determine WTP, implemented through a national survey. To the questionnaire for the 1998 wave of the General Social Survey, we added several questions that followed best practice for implementing the contingent-valuation method.

> *"Suppose that you were asked to vote for or against a new program in your state to reduce gun thefts and illegal gun dealers. This program would make it more difficult for criminals and delinquents to obtain guns. It would reduce gun injuries by about 30% but taxes would have to be increased to pay for it. If it would cost you an extra [$50/$100/$200] in annual taxes would you vote for or against this new program?"*

Respondents were assigned at random to the three versions of the question, differing only by the amount of the tax increase. We found that the likelihood of the respondent indicating a positive vote was inversely related to the specified tax increase. Based on these responses we were able to estimate the average household valuation of a 30% reduction in gun violence as $240.[10] Presumably responses reflected a judgment about the value of personal safety and safety of family and friends, as well as the respondent's sense about possible public savings in medical care and criminal justice from a reduction in gun violence (Ludwig & Cook, 2001). The likelihood of voting "yes" was higher for respondents with children, and increased with household income.

The contingent valuation method that we applied to assessing the cost of gun violence is accepted in principle by economists,[11] but quite at odds with the standard Cost of Illness (COI) approach that has long been used in the public health field for monetizing the social burden of disease and injury. That approach adds the dollar amount of medical costs, lost earnings, and (in some versions) subjective value of life of those injured or killed. The COI approach is the monetary equivalent of counting victims, and does not account for anticipation, avoidance, fear, community disinvestment, and other life-distorting consequences of the threat of gun violence (Cook &

Ludwig, 2019b; Cook & Ludwig, 2000; Follman, Lurie, Lee, & West, 2015). The basic flaw with the COI approach is not that it necessarily underestimates the magnitude of the problem; rather, it misrepresents the nature of the problem, and if taken literally would be a misleading basis for directing public policy.[12]

2 | GUN AVAILABILITY: THE SUPPLY SIDE

In the United States, federal law allows most adults to own and possess as many guns as they wish, while banning possession by the minority who are disqualified due to their criminal record or other attributes specified in the 1968 Gun Control Act.[13] About 300 million guns are in private hands, enough to provide every adult with at least one gun (Azrael, Hepburn, Hemenway, & Miller, 2017), and 15–20 million new guns are sold each year (Cook, 2018b). Given this gun-rich environment, it is reasonable to question the feasibility of keeping disqualified people from obtaining them, especially given the haphazard enforcement of the relevant regulations. It is frequently asserted that in America most anyone can get a gun with ease, including youths, members of violent gangs, felons, and others who are disqualified and at high risk for misuse (Cook, Ludwig, Venkatesh, & Braga, 2007; Jacobs, 2002; Polsby, 1994; Wright, 1995). If true, the effort to keep guns away from dangerous people by regulating transactions has failed and is doomed to fail (Cook & Leitzel, 1996). But this is an opinion, not a fact.

Much of my research career has been focused on exploring questions related to gun availability. My conclusions, in a nutshell, are that gun availability has an important influence on weapon choice in violent crime, that gun availability differs widely among states, and that the federal regulatory framework shapes the availability of guns to disqualified people.

My focus has been on the transactions by which offenders obtain their guns. There is another topic of interest, namely, the extent to which someone who possesses a gun has immediate access—which means, when gun possessors are away from home, that it is on their persons or in their vehicles. Availability in this sense of "immediate access" has been studied in the context of evaluating regulations governing gun carrying. As recently as the 1970s, carrying a concealed gun was banned or closely regulated in most states and cities, but since then most such regulations have been repealed or liberalized, in part with the hope of deterring crime. The effect of this deregulation trend on homicide and other types of crime has been extensively studied (Donohue, Aneja, & Weber, 2019; Lott, 2000; Lott & Mustard, 1997; Ludwig, 1998; Wellford et al., 2005), with no credible demonstration that "right to carry" laws actually do reduce crime, and some evidence that they increase violence. There is a stronger consensus that police patrols directed against illegal gun carrying reduce gun crime, especially in hot spots (Koper & Mayo-Wilson, 2012; Sherman & Rogan, 1995; Weisburd & Majmundar, 2018).[14]

2.1 | Evidence from aggregate data

The FBI's Uniform Crime Reports provide a breakdown by weapon type of the principal categories of violent crime. It is an intriguing fact that well less than half of robberies known to the police (38.5% in 2018) are committed with guns.[15] Given that use of a gun makes robbery more lucrative and discourages victim resistance (Cook, 1976; Cook, 2009), why is gun use in robbery not more common? At least in part, the answer, contrary to the "guns are everywhere" view, may be that many robbers do not have direct access to a gun or cannot afford one.[16]

When I began working on the problem of gun availability in the 1970s, I thought it likely that availability to offenders was related to the local prevalence of gun ownership. In a community where most households had a gun, it would be easier for an offender to buy, borrow, or steal one than in communities where gun ownership was rare. This intuition was based on a presumption, since confirmed, that most robbers and other violent offenders do not buy their guns from licensed dealers, and instead seek to obtain them through personal connections. To test the hypothesis that gun use in robbery was affected by the prevalence of gun ownership required data on the prevalence of gun ownership. While there are national survey estimates (Schell et al., 2020; Smith & Son, 2019), there is no direct and routinely available measure of local or state gun ownership. I proposed an index of gun ownership based on gun use in suicide and homicide (Cook, 1981); it was later simplified and validated by Deborah Azrael and Matthew Miller (Azrael, Cook, & Miller, 2001, 2004; Kleck, 2004), and in its current form has been widely utilized to study how gun violence relates to the prevalence of gun ownership. The index is the fraction of suicides committed with a firearm, FS/S.[17]

My first finding was that in a cross-section analysis of the 50 largest cities, the percentage of robberies with a gun increased directly with the prevalence of gun ownership, although the overall rate of robbery was not discernibly affected (Cook, 1981). That result has been replicated (Cook et al., 2007) and extended in various ways (Cook & ludwig, 2003; Cook & Ludwig, 2004; Hemenway, Azrael, Conner, & Miller, 2019; Miller, Azrael, & Hemenway, 2001, 2002;). More importantly, gun prevalence, as indexed by FS/S, is directly linked to gun homicide and overall homicide rates; the best evidence is from panel regression analysis on both states and large counties (Cook & Ludwig, 2006a, 2019a). Our conclusion is that other things equal, the gun homicide rate and overall homicide rate (but not the non-gun homicide rate) increase with the fraction of households that own a gun. Thus legal gun ownership has a substantial negative externality.[18]

2.2 | Evidence from surveys of offenders and other sources

The evidence from aggregate data thus demonstrates that the choice of weapons by robbers and other violent offenders, as well as by suicidal people, is positively linked to the household prevalence of gun ownership. A plausible mechanism is gun availability—that offenders find it more difficult to obtain guns in Massachusetts, New Jersey, or Hawaii, where household gun prevalence is less than 15%, than in Alaska, Montana, or Wyoming, where it is over 60% (Schell et al., 2020). That interpretation receives some support from surveys of inmates and ethnographic research. Here I review the evidence on sources of guns to offenders, transactions costs for offenders, and regulations that are focused on increasing the transactions costs.

2.2.1 | Sources of guns to criminal offenders

My intuition that offenders are unlikely to buy their guns in stores has been confirmed by surveys of inmates and arrestees, as well as ethnographic research. Of particular importance has been a series of national surveys of inmates conducted by the U.S. Department of Justice. The most recent of these that have been made available for public use was conducted in 2004 (federal and state prisons) and 2002 (jails), but there is no reason to think that the basic patterns have changed since then. Most state inmate respondents who reported possessing a gun at the time of their most recent crime said that they obtained that gun from their family, network of acquaintances, or "street"

sources.[19] Only 10% indicated they had acquired the gun at a store (Cook, Parker, & Pollack, 2015). Surveys of the public, on the other hand, find that about 60% of gun owners obtained their most recent gun at a store (Cook, 2017; Cook & Ludwig 1997; Miller, Hepburn, & Azrael, 2017).

Why do offenders avoid retail outlets?[20] For any customer there are a number of advantages to buying from a licensed retailer rather than from an acquaintance or local drug dealer or other "street source." Licensed retailers offer a choice of guns in a known location with a warranty. Ammunition that fits the selected gun is readily available from the same source. And the clerk is unlikely to be an undercover police officer. On the other hand, the clerk is obligated to follow state and federal regulations for the transaction, and in particular to ask for identification and run a background check, or (in some states) require a government-issued permit—denying sales to those who are legally disqualified. So one plausible answer to why offenders tend to accept the inconvenience and uncertainty of obtaining their guns from other sources is simply that most of them are legally disqualified due to age or criminal record, and anticipate that legitimate retailers would refuse to sell to them.[21]

There are other reasons to avoid stores as well. Licensed retailers are required to keep a permanent record of the sale that could be accessed by law enforcement. And in some jurisdictions, commercial prices may be higher than street prices, though that can go either way (Cook et al., 2007; Hureau & Braga, 2018). For some buyers there may be alternative off-the-books sources, such as gun shows and online listings, that offer convenience and variety, but the inmate surveys find that offenders rarely access such sources.

The role of retailers is further limited by the fact that gun offenders do not necessarily buy their guns. In the national inmate surveys, only about half of the transactions by which the respondent acquired his most recent gun involved a purchase or trade. Other types of transactions include gifts and sharing arrangements (borrow, rent, hold). Only 4% reported that they stole their most recent gun; the surprising finding that theft is rarely a proximate source of guns to offenders has been replicated in offender surveys in Chicago and elsewhere (Cook, 2018c; Cook et al., 2015; Cook, Pollack, & White, 2019).

2.2.2 | Transactions costs

For some offenders it is difficult to arrange a satisfactory gun transaction in the informal market.[22] Surveys of inmates and arrestees on this topic help map out the diversity of experience: some respondents say that it would take them (or did take them) less than a day, while others in the same jurisdiction estimate weeks or months. That heterogeneous pattern makes sense since a large percentage of the transactions are through the offenders' personal network (Roberto, Braga, & Papachristos, 2018). For members of gun-involved gangs, other gang members or the gang itself may serve as a ready source. In other cases the connection is with someone who is legally qualified to buy from a dealer and will make the "straw purchase" for a fee. (This transaction is illegal but the ban on straw purchases is rarely backed up by criminal prosecution.) Sudhir Venkatesh's ethnography of Chicago's underground gun market discovered the existence of professional "brokers" offering to connect willing buyers and sellers who are unknown to each other, again for a fee (Cook et al., 2007).

Money prices tend to be heterogeneous as well. The ethnographer David Hureau established a trusting relationship with two Boston gangs and was able to inspect their guns and document the prices they paid, finding that while there was some correlation with the estimated price from the Blue Book of Gun Values, there was a good deal of what appeared to be random variation

(Hureau & Braga, 2018). In Boston, as in Chicago, the informal market is not working well, and the "law of one price" touted in textbook economics does not apply, presumably due to scarcity of information on sources and quality.

After a multi-method study of the informal ("underground") market for guns in Chicago, our research team proposed a theory to explain high and variable transactions costs (Cook et al., 2007). On the one hand, the transactions are illegal and receive some attention from the police, so it is not prudent for would-be buyers or sellers to advertise on Craigslist or other social media. On the other hand, there are simply not that many transactions—the market is "thin"—so it is not profitable for neighborhood sellers to establish themselves prominently in the business of selling guns, as is the case for the far more active market in illicit drugs. The combination—thin and illegal—means that the information needed to facilitate gun transactions is scarce.

While scholars typically stress findings suggesting that some offenders have ready access to guns, there is less acknowledgment of the evidence that others would not be able to obtain one quickly or easily (Sheley & Wright, 1998; Wright & Rossi, 1994, Ch. 12). Here is a sampling of survey results:

- The 1996 and 1997 gun addendum to the Drug Use Forecasting surveys of arrestees in 22 cities (Cook et al., 2007): In Chicago, for example, just 20% of respondents had owned a handgun, but one quarter of the remainder expressed an interest in having a gun. Of those, 61% estimated that it would take them more than a week to make the connection (Cook et al., 2007).
- The Chicago Inmate Survey of 221 gun-involved prison inmates from Chicago asked how long it took for them to obtain their most recent gun: 30% of respondents said less than a day, but 40% said it had taken more than a week (Cook, Pollack, & &White, 2018).
- A survey of 108 high-risk gun-involved adults in Brooklyn and the Bronx were asked how long it would take them to get a gun if needed: 37% of the gang members and 29% of the others said they could obtain a gun the same day, but the others said it would take longer than that (Braga et al., forthcoming).

There is a plausible case, then, that the scarcity of guns to (some) offenders accounts for the fact that they are armed for less of their criminal career than they would be otherwise. In other words, while the regulation of gun transactions and possession is not entirely effective, neither is it entirely ineffective.

2.2.3 | The rationale for focusing on transactions

The focus in this discussion has been on transactions rather than possession. The federal regulatory framework covers both, but systematic regulatory enforcement is limited to transactions.[23] And the reality is that criminal misuse of firearms tends to be closely linked to transactions, in the sense that guns used in crime have typically been in the possession of the offender only a few weeks or months. For example, the Chicago Inmate Survey asked respondents when they had obtained the gun they possessed at the time of their most recent arrest; the median time from acquisition to crime was just two months (Cook et al., 2019). Their spotty record of gun possession suggests that if transfers to disqualified people were effectively blocked, then the bulk of all offenders in Chicago would soon be disarmed.

The importance of transactions can be understood in the context of a criminal career. Talking to inmates and arrestees about their guns provides a window on the instability of their lives

(Cook, Molliconi, & Cole, 1995). A gun may be an important tool for the drug trade or robbery, and a perceived source of physical security, but it is also a financial asset that can be sold or exchanged as needed. Others may not "own" a gun but be able to borrow one or access the stash of guns controlled by their gang. If they are arrested and jailed, then someone close to them may hold their guns for a while. The result may be high turnover and periods when they are unarmed.

If the goal is to disarm dangerous people and reduce gun crime, this perspective illuminates the potential effectiveness of transactions regulations. The extent to which regulations are actually effective must be determined on a case-by-case basis.

2.3 | Evidence from policy experiments

The last major federal initiative to regulate transactions was the Brady Handgun Violence Prevention Act, which instituted a national requirement that licensed dealers conduct a background check on customers before completing a sale. The Brady Act was implemented in 1994 as an amendment to the Gun Control Act of 1968. For all gun sales, federally licensed dealers (including all legitimate retailers) had been required to ask customers for identification, ask them to sign a form stating that they did not have any of the disqualifying attributes specified in federal law, and ask that they follow additional requirements imposed by state laws. The Brady Act took this process one step farther by requiring that dealers conduct a background check to verify the customers' claim that they were not disqualified by felony conviction record or otherwise. States collaborated with the FBI in establishing a system that supported "instant" checks initiated by retail dealers. Since the instant check system was put in place in 1998, over 3 million customers have been denied because they were found to be disqualified, and currently about 1.2% of all federal background checks result in denial.[24]

While the Brady Act has been successful in blocking some disqualified customers, it suffers from a gaping loophole. As discussed above, something like 90% of the guns used in crime are not acquired through purchase from a licensed dealer, and hence are not subject to the background-check requirement. The expected impact on gun crime would thus be negligible, a prediction confirmed by the results that Jens Ludwig and I found in our impact evaluation (Ludwig & Cook, 2000). Our analysis was quasi-experimental, exploiting the fact that dealers in some states were not directly affected by the new federal background check requirement because they had an equivalent requirement in place already. But we found that the gun homicide rates in the states that were affected by the new federal regulation, and began conducting background checks, did not appear to benefit, but rather experienced a similar homicide trajectory as the "control group" of states that were already requiring them as a matter of state law.

A next step in regulating transactions, then, is to extend the background check requirement to undocumented sales and other transfers (gifts, loans, sharing arrangements) in the informal market (Miller et al., 2017). Twenty-one states have instituted permit or license requirements (many of them long-standing) that accomplish that purpose, and there is some evidence from impact evaluations, not definitive, that they can be effective in reducing gun use in crime (Rudolph, Stuart, Vernick, & Webster, 2015; Webster, Crifasi, & Vernick, 2014). But other systems of universal background checks, such as requiring that all transactions be channeled through licensed dealers, have been ineffective, perhaps due to a lack of systematic enforcement (Castillo-Carniglia et al., 2019; Castillo-Carniglia, Webster, & Wintemute, 2019; Kagawa et al., 2018).[25]

2.3.1 | Availability matters

This review of research on availability is far from exhaustive, but is intended to provide some of the evidence that has led me to a set of conclusions about availability. In sum, guns are not freely available, even in a nation with 300 million in private hands. The availability of guns to offenders differs widely across jurisdictions, and among differently situated offenders within the same jurisdiction, and that variation is reflected in weapon choice in violent crime. Availability can be usefully defined in terms of transactions costs of obtaining a gun, including price, search time, and legal risk. Transactions costs to offenders are closely linked to the prevalence of legal gun ownership in the community, due at least in part to the fact that offenders usually obtain their guns used, through their social network and other informal sources, rather than by buying them from a licensed dealer at a gun store; in communities in which gun ownership is common, it is easier for offenders to make a connection with a source. That would not be so true if guns could be readily purchased online or at retail outlets, with no questions asked, but those sources are blocked to most offenders by federal government regulations. In short, while the federal system for regulating the sales of new guns is not perfect, there appears to be a high level of compliance with it. Some states have adopted additional regulations on transactions and possession. A number of scholars are engaged in extending the evidence base to provide guidance on cost-effective regulation and regulatory enforcement.

3 | PREVENTION THROUGH LEGAL ACCOUNTABILITY

Offenders who do have access to a gun have a choice about whether to use it in crime, such as robbing a gas station, threatening and attacking rivals, or providing protection while dealing drugs or breaking in to a residence. That choice may be influenced by the perceived likelihood of legal consequences. Indeed, there is a strong case to be made that effective law enforcement undergirds gun violence prevention. But research on how to improve the law enforcement response to criminal misuse has been largely neglected, by me and other scholars concerned with gun violence, until recently.

Holding perpetrators of serious crime accountable through arrest, conviction, and punishment is a primary responsibility of the police and courts, which have been increasingly unsuccessful in this task. The secular decline in arrest rates for homicide and other serious violence has been well documented (Wellford et al., 2019). In Chicago, for example, homicide arrests dropped from 80% in 1990, to 40% in 2005, to 25% in 2016. The arrest rate for *nonfatal* shootings is still lower, dropping to 5% in Chicago in 2016 (Cook et al., 2019; Kapustin et al., 2017). One possible explanation, in Chicago and elsewhere, is the shift toward proactive policing, such as community policing and preventive patrol in "hot spots," with relatively fewer resources devoted to solving cases (Leovy, 2015; Weisburd & Majmundar, 2018; Wellford et al., 2019). While this trend has not been fully explicated, it appears to be the result of a devaluation of detective work, coupled by police executives' embrace of crime prevention through other means.

Criminologists contributed to the skeptical assessment of detective work. In the 1970s, a prominent team of RAND researchers issued a series of reports on police investigations with negative conclusions about their productivity (Chaiken, Greenwood, & Petersilia, 1976; Greenwood, Chaiken, & Petersilia, 1977; Wellford et al., 2019). The RAND team found that criminal cases deemed highly "solvable" resulted in a quick arrest, while detective investigations of the

remaining crimes were rarely successful. That conclusion, while controversial even at the time, may have discouraged research on police investigation (Wellford et al., 2019).

The proposition that crime investigations by detectives tend to be unproductive has been challenged in recent years. One source of evidence is a comparison of fatal and nonfatal shooting cases. Typically, the police solve a much higher percentage of fatal than nonfatal cases, despite the similarity with respect to the distributions of circumstances and victim characteristics (Braga & Cook, 2018). Interviews with 17 investigators in Durham, NC documented their belief that resources matter: Homicide investigators have a higher success rate in part because they have a lighter caseload and better access to other resources (Cook, Ho, & Shilling, 2017). A systematic analysis of shooting cases in Boston found that while the arrest rates for fatal and nonfatal shootings were identical for the first two days of the investigation, they diverged thereafter. Homicide investigations were more sustained and intensive than investigations of nonfatal shootings, and continued to generate arrests weeks or months after the shooting (Cook et al., 2019). Effort matters.

While this analysis suggests that devoting additional resources to shooting investigations would increase arrest and conviction rates, policy makers need guidance on the most cost-effective investigation methods, and assurance concerning the crime prevention effects. One promising approach is a partnership between police and researchers. For example, in 2012 the Boston Police Department, working with criminologist Anthony Braga, launched a series of reforms, including hiring additional detectives and providing improved training and management oversight of investigations. An evaluation (Braga & Dusseault, 2018; Braga, Turchan, & Barao, 2019) found evidence that these reforms were productive in terms of increasing homicide clearance rates. The Boston evaluation has a stronger design than most of this literature, and represents a promising beginning. Other projects to improve clearance and conviction rates for gun violence are underway. The revival of research interest in criminal investigation reflects the recognition by city leaders that the secular decline in clearance rates has facilitated violence and harmed the reputation of the police in minority communities.

The two justifications for investments in improving clearance and conviction rates come down to justice and crime prevention. The two are linked. Gang violence in particular is often about settling scores privately. In a context where the police and courts are unlikely to deliver justice, the retributive cycle will continue, while reinforcing the belief that the failure of law enforcement is a reflection of officials' lack of interest in the lives of minority males (Leovy, 2015). The resulting distrust of the police will then make investigations still more difficult. This vicious cycle is entirely plausible, but the evidence is more qualitative than quantitative. On the other hand, the evidence in support of two other mechanisms—deterrence and incapacitation—is quite well developed.[26]

We live in a time of broad consensus that too many Americans are locked up in prisons and jails (Opportunity Agenda, 2014). Any proposed reform that creates a prospect of increasing prison sentences must meet a high standard of public value. To my mind, reforms that would make the police and courts more effective in solving homicides and nonfatal shootings meet that standard, given the great burden that violence imposes on many low-income minority communities. And it is possible that an increase in the likelihood of conviction will reduce gun violence rates so much as to actually reduce the number of convictions and prison admissions.[27] A comprehensive research agenda would include an assessment of both benefits and costs of reforms intended to reverse the long-term decline in arrest and conviction rates.

4 | CONCLUDING THOUGHTS

Firearms, like a variety of other consumer products, have a variety of valued—even virtuous—uses, but are also widely misused, imposing a heavy burden on our standard of living. The question of how acquisitions, possession, and use of firearms should be regulated and policed has long been passionately debated in the United States. The debate is sometimes framed by contrasting interpretations of the Second Amendment right to "keep and bear arms," but to date the relevant U.S. Supreme Court decisions have only invalidated a few outlier ordinances that banned possession of handguns (Blocher & Miller, 2018). While we await more definitive word from the courts, the actions that determine the regulatory framework continue to be in the realm of politics and public opinion. The debate encompasses conflict over the valuation of individual freedom versus public safety, as well as conflicting claims regarding the consequences of the private ownership of guns in America and of particular policies intended to reduce misuse of those guns. For the last half century, systematic research has informed the gun debate, especially with respect to issues that are, at least in principle, matters of fact.

The foundational issues that have concerned me during my long research career in this domain are instrumentality, availability, and accountability. Among the "bullet" points that come out of my work, and which (frustratingly!) remain controversial:

- *Instrumentality*: The type of weapon used in robbery and criminal assault matters, and matters over and beyond the offenders' intentions and the circumstances of the crime. Most importantly, guns increase the lethality of attacks compared to knives and clubs, and larger caliber guns increase the lethality relative to smaller calliber.
- *Availability*: The general availability of guns, as indicated by the prevalence of private gun ownership, has a direct effect on weapon choice by violent offenders. (The linkage is primarily through the diversion of guns from legitimate private possession.) In particular, the use of guns in robbery and assault increases with the prevalence of gun ownership. An increase in gun availability ultimately increases the gun homicide rate, and the overall homicide rate. The availability of guns does not have a consistent effect on the rate of violent crime or burglary. Guns do not increase the amount of violent crime, they increase the deadliness.
- *Accountability*: A growing body of criminological research indicates that other things equal, criminal gun violence rates are inversely related to the likelihood (perceived and actual) of arrest and conviction. Contrary to some previous findings, arrest and conviction rates for criminal shootings can be increased through more resource intensive investigations. We are beginning to learn about specific reforms that could increase success rates for police investigations.

Looking forward, I urge scholars and commentators to refrain from perpetrating certain myths, however well intentioned:

- The myth that since the suspension of federal research funding through the Centers for Disease Control and Prevention in 1996 (the Dickey Amendment), research on gun violence prevention has ceased. In fact this has continued to be a vigorous field of research, with a particular surge following the Sandy Hook massacre in 2012 (Cook & Donohue, 2017). The research has been conducted by criminologists, economists, public health researchers, legal scholars, and others, funded by universities, private foundations, and the National Institute of Justice. Despite the meager role of federal funding in this mix (Stark & Shah, 2017), the evidence base for policy

analysis has continued to expand and cannot credibly be ignored. I am glad that the CDC is back in the business of funding research, at least for this year; given the impact of gun violence on public safety and the quality of life, nothing could be more appropriate. But the effect of CDC's reentry will not be to revive a dormant field, but rather to accelerate an already productive field of research.

- The myth that guns are readily available to anyone who wants one, including youths and active criminals. The reality is that while some offenders are able to access guns, others face high transactions costs and go without. This diversity plays out both across and within jurisdictions. For the United States as a whole, most robberies and other assaults do not involve guns, and the difficulty for some of obtaining a gun is part of the explanation.
- The myth that the scale, scope, and seriousness of the gun violence problem is reliably indicated by the number of Americans who are shot dead each year. Contrary to the mortality statistics, the gun violence problem is first and foremost a problem of criminal misuse, and of preventing and avoiding criminal misuse. Suicide is also a serious problem, and merits the research attention it receives and far more besides; the unnecessary loss of life due to the sort of impulsive suicide facilitated by a gun is often tragically unnecessary and devastating to loved ones. But the greater part of the social burden of gun violence is not associated with suicide, but rather the threat and actuality of assault, robbery, assassination, and mass shootings. Social cost is not proportional to death rates.

For graduate students looking for a research specialty in a variety of disciplines, there is a strong case for gun violence and its prevention. More than with most topics, there is a broad audience for research findings, reflecting the salience of the topic and the intensity of the national debate. (It is definitely important to have a thick skin.) The field is relatively new, and even foundational issues have not been entirely settled. The growth in research funding in recent years, together with new data sources, opens the door to ever more ambitious projects. The high quality programs in public policy, criminology, law, and public health at the University of Chicago, the University of California, Johns Hopkins, Harvard, Northeastern, and RAND (among others) have created guided paths to getting started. I have never regretted devoting so much of my career to understanding gun violence and its prevention, and hope you will join me in the development of the evidence needed for cost-effective policy. There is much work still to be done.

CONFLICT OF INTEREST STATEMENT

The authors confirm that he has no conflict of interest to decalre.

ACKNOWLEDGEMENTS

I am greatly honored by the award of the Stockholm Prize in Criminology, and wish to thank the prize jury and in particular its co-chairs, Professor Lawrence Sherman, University of Cambridge and University of Maryland, and Professor Jerzy Sarnecki, Stockholm University. This essay benefited from comments from a number of colleagues of friends. I wish to particularly thank Deb Azrael, Joseph Blocher, Jake Charles, John Donohue, Jim Leitzel, Jens Ludwig, Matthew Miller, Andrew Morral, Joel Wallman, and Daniel Webster for their helpful comments and suggestions.

ENDNOTES

[1] I would like to acknowledge my many collaborators, who share in the honor of this year's Stockholm Prize. I would also like to thank Lois Mock of the National Institute of Justice, Deborah Leff as President of the Joyce

Foundation, and Joel Wallman of the Harry Frank Guggenheim Foundation for their encouragement and some vital funding along the way.

[2] At Michael Tonry's invitation I had the opportunity to write a more comprehensive memoire of my gun research, although it ends in 2012 (Cook, 2013). Also, with my colleague Kristin Goss I've published a primer, *The Gun Debate* (Cook & Goss, 2020), which characterizes the available evidence in question-and-answer format.

[3] The primary source for statistics on injury deaths is the National Vital Statistics System, as reported on an interactive web site maintained by the Centers for Disease Control and Prevention: CDC.gov/injury/WISQARS/index.html

[4] https://www.gunviolencearchive.org/ Accessed May 1, 2020. The definition of a mass shooting used by Gun Violence Archive is more inclusive than most, incorporating all incidents in which at least four people were shot (not including the shooter) in the same incident, without regard to how many died. For a general discussion, see Duwe (2020).

[5] https://www.iii.org/fact-statistic/facts-statistics-highway-safety

[6] The instrumentality effect also appears to be important in suicide; the evidence for that claim begins with the observation that the likelihood that a suicide attempt will result in death is far higher if a gun is used than for most other means (Miller, Azrael, & Barber, 2012). There is strong evidence that the ready availability of guns increases both the gun suicide rate and the overall suicide rate (Studdert et al., 2020).

[7] All four U.S. presidents who were assassinated (Lincoln, Garfield, McKinley, Kennedy), and both presidents who were wounded in an assassination attempt (T. Roosevelt and Reagan), were shot. https://en.wikipedia.org/wiki/List_of_United_States_presidential_assassination_attempts_and_plots

[8] Blocher and Siegel (2020) make a similar argument in the context of Second Amendment litigation, suggesting that effective gun laws, by reducing the threat of being shot, facilitate participation in a wide range of publically valued activities: "Gun laws protect bodies from bullets—and Americans' freedom and confidence to participate in every domain of our shared life, whether to attend school, to shop, to listen to a concert, to gather for prayer, or to assemble in peaceable debate."

[9] See https://www.washingtonpost.com/local/millions-of-kids-fear-being-killed-at-school-its-time-for-adults-to-say-enough/2018/12/27/faa0cf62-0a06-11e9-88e3-989a3e456820_story.html?utm_term=.2527fa10965a

[10] We used survey responses and an assumption about functional form to estimate a "demand curve" for a 30% reduction in gun violence. The average value of $240 is the area under that demand curve. That calculation takes account of the notion that respondents who vote "yes" must value the reduction at some amount greater than or equal to the amount of the tax increase.

[11] Arrow et al. (1993) report the views of a group of eminent economists on how best to conduct a contingent valuation study. We followed their guidance.

[12] Cook and Ludwig (2000) estimate the overall cost of criminal gun violence as $80 billion in 1998. The COI estimate is very sensitive to what estimate is used for the value of lives lost to fatal gunshot injury, and depending on the choice, may be larger or smaller.

[13] The law stipulates a minimum age to buy or possess a gun, and bans purchase and possession by adults who have a felony conviction or are under indictment, have a misdemeanor conviction for domestic violence, or have been involuntarily committed to a mental health facility or declared mentally incompetent. Other provisions ban possession by illegal aliens, users of illegal drugs, and those under a domestic violence restraining order. Of the grounds for disqualification, the most common reason purchases are blocked following background checks is felony conviction (https://www.thetrace.org/2015/07/gun-background-checks-nics-failure/). Some states supplement this list of disqualifications; California, for example, stipulates that those with a misdemeanor conviction for a violent crime within the previous 10 years are disqualified. States may restore gun rights to those who have been disqualified due to state criminal record. See https://lawcenter.giffords.org/gun-laws/policy-areas/who-can-have-a-gun/categories-of-prohibited-people/.

[14] The effects on crime are only one aspect of a complete evaluation of either "right to carry" laws, or of "stop, question, and frisk" policies.

[15] https://ucr.fbi.gov/crime-in-the-u.s/2018/crime-in-the-u.s.-2018/tables/robbery-table-3.xls

[16] Wright and Rossi (1994) interviewed a large (but unrepresentative) sample of prison inmates about their use of guns, and specifically asked why they sometimes did not use a gun. Some (21%) mentioned that it was too much trouble to get one; others mentioned lack of familiarity and possible legal consequences.

[17] Using several sources of survey data and index data, a team from RAND recently created sophisticated estimates of household gun prevalence for each of the 50 states (Schell et al., 2020). I computed the cross-section correlation between their estimate and FS/S to be .91, which demonstrates that FS/S is a valid alternative to the RAND estimates. It should be noted that there is some disagreement in the literature about whether FS/S is a valid indicator for trends in gun prevalence over time (Kleck, 2004); I believe that the answer is yes, based in part on the validation exercise reported in Cook and Ludwig (2006a).

[18] This result is in contrast to one of the best known claims from gun research, summarized in the book title *More Guns, Less Crime* (Lott, 2000). Lott's findings have been challenged by other economists (Donohue, Aneja, & Weber, 2019) and by an expert panel of the National Academy of Sciences (Wellford et al., 2005).

[19] We limited the sample to those who had been "in" for less than two years. Hence the respondents represented the flow of new inmates rather than the stock, where the latter is heavily weighted toward those with long sentences.

[20] To be clear, some licensed dealers are implicated in selling guns that regularly turn up in the hands of offenders—usually not through a direct, documented sale, but by sale to an intermediary (trafficker, straw purchaser) or undocumented sale (Braga, Wintemute, Pierce, Cook, & Ridgeway 2012; Cook, Harris, Ludwig, & Pollack, 2014; Koper, 2014; Sorenson & Vittes, 2003; Webster & Vernick, 2013; Wintemute, 2017).

[21] The evidence, based on characteristics of arrestees, supports the presumption that a majority of those who end up using a gun in violent crime had prior criminal records or other characteristics that disqualified them (Braga & Cook, 2016; Cook, Ludwig, & Braga, 2005).

[22] "Informal" is a standard term for markets that operate "off the books," typically in an effort to avoid regulatory requirements or taxation. The informal market is also referred to as the "underground" market (Cook, Ludwig, Venkatesh, & Braga, 2007) and the "secondary" market (Cook, Molliconi, & Cole, 1995).

[23] State laws barring gun possession by those with a criminal record or other disqualifying condition can lead to arrest when the police discover a gun in conjunction with a pedestrian or traffic stop. At the federal level, 18 U.S.C. § 922(g) prohibits certain persons from shipping, transporting, possessing, or receiving a firearm or ammunition while subject to a prohibition from doing so, most commonly because of a prior conviction for a felony offense. In 2012 there were 5,768 convictions in federal court for these "felon in possession" cases. https://www.ussc.gov/sites/default/files/pdf/research-and-publications/quick-facts/Quick_Facts_Felon_in_Possession_of_a_Firearm.pdf

[24] https://www.fbi.gov/file-repository/2018-nics-operations-report.pdf/view

[25] Jacobs and Fuhr (2019), in their book assessing the 2013 New York State SAFE Act, observe that the actual effect of the strong regulations has been undercut by the lack of enforcement, and that this is a common problem in firearms regulation.

[26] Direct evidence that urban gun crime is deterrable comes from a series of experiments and quasi-experiments with focused deterrence, and in particular the practice of delivering a personalized threat of legal consequences for gun misuse to members of a violent gang during "call ins" organized by the police and social service agencies (Braga et al., 2019; Kennedy, Piehl, & Braga, 1996; Weisburd and Majmundar, 2018). The evidence indicates that gangs with this "treatment" reduce gun violence in comparison with control gangs. Thus a hypothetical legal consequence deters gun misuse by violent gangs. Relatedly, recent evidence suggests that the same sort of call-in treatment reduces gun violence involvement by criminal associates (members of the same social network) (Wood & Papachristos, 2019).

[27] The logic is straightforward. For example, if the probability that shooters are arrested and convicted increases from 20% to 40%, and as a result the shooting rate is cut in half, then the number of convictions would remain the same (Durlauf & Nagin, 2011; Kleiman, 2010).

REFERENCES

Abrams, D. S. (2012). Estimating the deterrent effect of incarceration using sentencing enhancements. *American Economic Journal: Applied Economics*, *4*(4), 32–56.

Arrow, K., Solow, R., Portney, P. R., Leamer, E. E., Radner, R., & Schuman, H. (1993). *Report of the NOAA panel on contingent valuation*. Retrieved from https://www.researchgate.net/publication/235737401_Report_of_the_NOAA_panel_on_Contingent_Valuation

Azrael, D., Cook, P. J., & Miller, M. (2001). *State and local prevalence of firearms ownership: Measurement, structure, and trends* (NBER Working Paper W8570). Cambridge, MA: National Bureau of Economic Research.

Azrael, D., Cook, P. J., & Miller, M. (2004). State and local prevalence of firearms ownership: Measurement, structure, and trends. *Journal of Quantitative Criminology*, *20*(1), 43–62.

Azrael, D., Hepburn, L., Hemenway, D., & Miller, M. (2017). The stock and flow of US firearms: Results from the 2015 National Firearms Survey. *Russell Sage Foundation Journal of Social Science*, *3*(5), 38–57.

Blocher, J. (2014). Gun rights talk. *Boston University Law Review*, *94*, 813–833.

Blocher, J., & Miller, D. A. H. (2018). *The positive Second Amendment: Rights, regulation, and the future of Heller*. New York: Cambridge University Press.

Blocher, J., & Siegel, R. (2020 forthcoming). Why regulate guns? *Journal of Law, Medicine & Ethics*, *48*(4).

Braga, A. A., Wintemute, G. J., Pierce, G. L., Cook, P. J., & Ridgeway, G. (2012). Interpreting the empirical evidence on illegal gun market dynamics. *Journal of Urban Health*. *89*(5), 779–793.

Braga, A. A., Brunson, R., Cook, P. J., Turchan, B., & Wade, B. (forthcoming). Underground gun markets and the flow of illegal guns into the Bronx and Brooklyn: A mixed methods analysis. *Journal of Urban Health*,

Braga, A. A., & Cook, P. J. (2016). The criminal records of gun offenders. *The Georgetown Journal of Law and Public Policy*, *14*(1)

Braga, A. A., & Cook, P. J. (2018). The association of firearm caliber with likelihood of death from gunshot injury in criminal assaults. *JAMA Network Open*, *1*, 1–10.

Braga, A. A., & Dusseault, D. (2018). Can homicide detectives improve homicide clearance rates? *Crime & Delinquency*, *64*(3), 283–315.

Braga, A. A., Turchan, B., & Barao, L. (2019). The influence of investigative resources on homicide clearances. *Journal of Quantitative Criminology*, *35*(2), 337–364.

Braga, A. A., Zimmerman, G., Barao, L., Farrell, C., Brunson, R. K., & Papachristos, A. V. (2019). Street gangs, gun violence, and focused deterrence: Comparing place-based and group-based evaluation: Methods to estimate direct and spillover deterrent effects. *Journal of Research in Crime & Delinquency*, *56*(4), 524–562

Castillo-Carniglia, A., Kagawa, R. M. C., Cerda, M., Crifasi, C. K., Vernick, J. S., Webster, D. W., & Wintemute, G. J. (2019). California's comprehensive background check and misdemeanor violence prohibition policies and firearm mortality. *Annals of Epidemiology*, *30*, 50–56

Castillo-Carniglia, A., Webster, D. W., & Wintemute, G. J. (2019). Effect on background checks of newly-enacted comprehensive background check policies in Oregon and Washington: A synthetic control approach. *Injury Epidemiology*, *6*, 45.

Chaiken, J. M., Greenwood, P. W., & Petersilia, J. (1976). *The criminal investigation process: A summary report*. Santa Monica: RAND Corporation.

Conner, A., Azrael, D., & Miller, M. (2019). Suicide case fatality rates in the United States, 2007 to 2014: A nationwide population-based study. *Annals of Internal Medicine*, *171*(12), 885–895. https://doi.org/10.7326/M19-1324

Cook, P. J. (1976). A strategic choice analysis of robbery. In W. Skogan (Ed.), *Sample surveys of the victims of crimes* (pp. 173–187). Cambridge, MA: Ballinger.

Cook, P. J. (1981). The effect of gun availability on violent crime patterns. *The ANNALS of the American Academy of Political and Social Science*, *455*(1), 63–79.

Cook, P. J. (1985). The case of the missing victims: Gunshot woundings in the National Crime Survey. *Journal of Quantitative Criminology*, *1*, 91–102.

Cook, P. J. (1987). Robbery violence. *Journal of Criminal Law & Criminology*, *78*(2), 357–376.

Cook, P. J. (2009). Robbery. In M. Tonry (Ed.), *Oxford handbook on crime and public policy* (pp. 102–114). Oxford University Press.

Cook, P. J. (2013). The great American gun war: Notes from four decades in the trenches. *Crime and Justice: A Review of Research*, *42*(1), 19–73.

Cook, P. J. (2017). At last, a good estimate of the magnitude of the private-sale loophole for firearms. *Annals of Internal Medicine*, *166*(4), 301–302.

Cook, P. J. (2018b). Gun markets. *Annual Review of Criminology*, *1*(1), 359–377.

Cook, P. J. (2018c). Gun theft and crime. *Journal of Urban Health*, *95*(3), 305–312.

Cook, P. J., Braga, A. A., & Moore, M. H. (2011). Gun control. In J. Q. Wilson & J. Petersilia (Eds.), *Crime and Public Policy* (2nd ed., pp. 257–292). New York: Oxford University Press.

Cook, P. J., Braga, A. A., Turchan, B. B., & Barao, L. M. (2019). Why do gun murders have a higher clearance rate than gunshot assaults? *Criminology & Public Policy*, *18*(3), 525–551.

Cook, P. J., & Donohue, J. J. (2017). Policy forum: Gun-violence research: Saving lives by regulating guns: Evidence for policy. *Science*, *358*(6368), 1259–1261.

Cook, P., & Goss, K. A. (2020). *The gun debate: What everyone needs to know* (2nd Ed.). New York: Oxford University Press.

Cook, P. J., Harris, R. J., Ludwig, J., & Pollack, H. A. (2014). Some sources of crime guns in Chicago: Dirty dealers, straw purchasers, and traffickers. *Journal of Criminal Law & Criminology*, *104*(4), 717–760.

Cook, P. J., Ho, J., & Shilling, S. (2017). *Criminal investigations of gun assaults and murders in Durham, 2015: The challenge of securing victim and witness cooperation*. Durham: Duke University Sanford School of Public Policy.

Cook, P. J., & Leitzel, J. (1996). Perversity, futility, jeopardy: An economic analysis of the attack on gun control. *Law and Contemporary Problems*, *59*(1), 91–118.

Cook, P. J., & Ludwig, J. (1997). *Guns in America: National survey on private ownership and use of firearms* (Research in Brief). Rockville, MD: U.S. Department of Justice, Office of Justice Programs, National Institute of Justice.

Cook, P. J., & Ludwig, J. (2000). *Gun violence: The real costs*. New York: Oxford University Press.

Cook, P. J., & Ludwig, J. (2002). The costs of gun violence against children. *The Future of Children*, *12*(2), 86–99.

Cook, P. J., & Ludwig, J. (2003). The effects of gun prevalence on burglary: Deterrence vs inducement. In J. Ludwig & P. J. Cook (Eds.), *Evaluating gun policy* (pp. 74–118). Washington, DC: Brookings Institution Press.

Cook, P. J., & Ludwig, J. (2004). Does gun prevalence affect teen gun carrying after all? *Criminology*, *42*(1), 27–54.

Cook, P. J., & Ludwig, J. (2006a). The social costs of gun ownership. *Journal of Public Economics*, *90*(1–2), 379–391.

Cook, P. J., & Ludwig, J. (2019a). The social costs of gun ownership: A reply to Hayo, Neumeier and Westphal. *Empirical Economics*, *56*(1), 13–22.

Cook, P. J., & Ludwig, J. (2019b). Understanding gun violence: Public health vs. public policy. *Journal of Policy Analysis and Management*, *38*(3), 788–795.

Cook, P. J., Ludwig, J., & Braga, A. A. (2005). Criminal records of homicide offenders. *Journal of the American Medical Association*, *294*(5), 598–601.

Cook, P. J., Ludwig, J., & Samaha, A. M. (2009). Gun control after *Heller*: Threats and sideshows from a social welfare perspective. *UCLA Law Review*, *56*(5), 1041–1093.

Cook, P. J., Ludwig, J., Venkatesh, S. A., & Braga, A. A. (2007). Underground gun markets. *The Economic Journal*, *117*(524), 588–618.

Cook, P. J., Molliconi, S., & Cole, T. (1995). Regulating gun markets. *Journal of Criminal Law and Criminology*, *86*(1), 59–92.

Cook, P. J., & Nagin, D. (1979). *Does the weapon matter? An evaluation of a weapons-emphasis policy in the prosecution of violent offenders*. Washington, DC: Institute for Law and Social Research.

Cook, P. J., Parker, S., & Pollack, H. A. (2015). Sources of guns to dangerous people: What we learn by asking them. *Preventive Medicine*, *79*, 28–36.

Cook, P. J., Pollack, H. A., &White, K. (2018). *Results of the Chicago inmate survey of gun access and use*. Chicago: University of Chicago Crime Lab.

Cook, P. J., Pollack, H. A., & White, K. (2019). The last link: From gun acquisition to criminal use. *Journal of Urban Health*, *96*, 784–791.

Cook, P. J., Rivera-Aguirre, A., Cerda, M., & Wintemute, G. J. (2017). Constant lethality of gunshot injuries from firearm assault: United States 2003–2012. *American Journal of Public Health*, *107*(8), 1324–1328.

Donohue, J. J., Aneja, A., & Weber, K. D. (2019). Right-to-carry laws and violent crime: A comprehensive assessment using panel data and a state-level synthetic control analysis. *Journal of Empirical Legal Studies*, *16*(2), 198–247.

Durlauf, S. N., & Nagin, D. S. (2011). Imprisonment and crime: Can both be reduced? *Criminology & Public Policy*, *10*(1), 13–54.

Duwe, G. (2020). Patterns and prevalence of lethal mass violence. *Criminology & Public Policy*, *19*(1), 17–35.

Follman, M., Lurie, J., Lee, J., & West, J. (2015). The true costs of gun violence. *Mother Jones*,

Greenwood, P. W., Chaiken, J. M., & Petersilia, J. (1977). *The investigation process*. Lexington: Lexington Books.

Grinshteyn, E., & Hemenway, D. (2019). Violent death rates in the US compared to those of the other high-income countries, 2015. *Preventive Medicine*, *123*, 20–26.

Hemenway, D. (2017). *Private guns, public health* (2nd ed.). Ann Arbor: University of Michigan Press.

Hemenway, D., Azrael, D., Conner, A., & Miller, M. (2019). Variation in rates of fatal police shootings across US states: The role of firearm availability. *Journal of Urban Health*, *96*, 63–73.

Hureau, D. M., & Braga, A. A. (2018). The trade in tools: The market for illicit guns in high-risk networks. *Criminology*, *56*(3), 510–545.

Jacobs, J. B. (2002). *Can gun control work?* New York: Oxford University Press.

Jacobs, J. B., & Fuhr, A. (2019). *The toughest gun control law in the nation: The unfulfilled promise of New York's SAFE Act*. New York: New York University Press.

Kagawa, R. M. C., Castillo-Carniglia, A., Vernick, J. S., Webster, D., Crifasi, C., Rudolph, K. E., … Wintemute, G. J. (2018). Repeal of comprehensive background check policies and firearm homicide and suicide. *Epidemiology*, *29*(4), 494–502.

Kapustin, M., Ludwig, L., Punkay, M., Smith, K., Speigel, L., & Weigus, D. (2017). *Gun violence in Chicago, 2016*. Chicago: University of Chicago Crime Lab.

Kennedy, D. M., Piehl, A. M., & Braga, A. A. (1996). Youth violence in Boston: Gun markets, serious youth offenders, and a use-reduction strategy. *Law and Contemporary Problems*, *59*(1), 147–196.

Kleck, G. (2004). Measures of gun ownership levels for macro-level crime and violence research. *Journal of Research in Crime and Delinquency*, *41*(1), 3–36.

Kleiman, M. A. R. (2010). *When brute force fails: How to have less crime and less punishment*. Princeton: Princeton University Press.

Koper, C. S. (2014). Crime gun risk factors: Buyer, seller, firearm, and transaction characteristics associated with gun trafficking and criminal gun use. *Journal of Quantitative Criminology*, *30*(2), 285–315.

Koper, C. S., & Mayo-Wilson, E. (2012). Police strategies to reduce illegal possession and carrying of firearms: Effects on gun crime. *Campbell Systematic Reviews*, *8*(1), 1–53.

Leovy, J. (2015). *Ghettoside: A true story of murder in America*. New York: Spiegel & Grau.

Linden, L., & Rockoff, J. E. (2008). Estimates of the impact of crime risk on property values from Megan's Laws. *American Economic Review*, *98*(3), 1103–1127.

Lott, J. R. (2000). *More guns, less crime* (2nd ed.). Chicago: University of Chicago Press.

Lott, J. R., & Mustard, D. B. (1997). Crime, deterrence, and right-to-carry concealed handguns. *Journal of Legal Studies*, *26*(1), 1–68.

Ludwig, J. (1998). Concealed-gun-carrying laws and violent crime: Evidence from state panel data. *International Review of Law and Economics*, *18*(3), 239–254.

Ludwig, J., & Cook, P. J. (2000). Homicide and suicide rates associated with implementation of the Brady Handgun Violence Prevention Act. *Journal of the American Medical Association*, *284*(5), 585–591.

Ludwig, J., & Cook, P. J. (2001). The benefits of reducing gun violence: Evidence from contingent-valuation survey data. *Journal of Risk and Uncertainty*, *22*(3), 207–226.

Miller, M., Azrael, D., & Barber, C. (2012). Suicide mortality in the United States: The importance of attending to method in understanding population-level disparities in the burden of suicide. *Annual Review of Public Health*, *33*, 393–408.

Miller, M., Azrael, D., & Hemenway, D. (2001). Firearm availability and unintentional firearm deaths. *Accident Analysis and Prevention*, *33*, 477–484.

Miller, M., Azrael, D., & Hemenway, D. (2002). Rates of household firearm ownership and homicide across US regions and states, 1988–1997. *American Journal of Public Health*, *92*(12), 1988–1993.

Miller, M., Hepburn, L., & Azrael, D. (2017). Firearm acquisition without background checks: Results of a national survey. *Annals of Internal Medicine*, *166*, 233–239.

Morral, A. R., Schell, T. L., & Tankard, M. (2018). *The magnitude and sources of disagreement among gun policy experts*. Santa Monica, CA: RAND.

Opportunity Agenda (2014). *An overview of public opinion and discourse on criminal uustice issues*. Retrieved from https://www.prisonpolicy.org/scans/2014.08.23-CriminalJusticeReport-FINAL_0.pdf

Polsby, D. (1994, March). The false promise of gun control. *The Atlantic*.

Roberto, E., Braga, A. A., & Papachristos, A. V. (2018). Closer to guns: The role of street gangs in facilitating access to illegal guns. *Journal of Urban Health*, *95*(3), 372–382.

Rudolph, K. E., Stuart, E. A., Vernick, J. A., & Webster, D. W. (2015). Association between Connecticut's permit-to-purchase handgun law and homicides. *American Journal of Public Health*, *105*(8), e49–e54.

Schell, T. L., Peterson, S., Vegetabile, B. G., Scherling, A., Smart, R., & Morral, A. R. (2020). *State-level estimates of household firearm ownership*. Santa Monica, CA: RAND.

Schelling, T. C. (1968). The life you save may be your own. In S. B. Chase (Ed.), *Problems in public expenditure analysis* (pp. 127–162). Studies of Government Finance. Washington: The Brookings Institution.

Sharkey, P. (2018). *Uneasy peace: The great crime decline, the renewal of city life, and the next war on violence*. New York: W.W. Norton.

Sheley, J. F., & Wright, J. D. (1998). *High school youth, weapons and violence: A national survey* (National Institute of Justice Research in Brief). Washington, DC: National Institute of Justice.

Sherman, L. W., & Rogan, D. P. (1995). Effects of gun seizures on gun violence: "Hot spots" patrols in Kansas City. *Justice Quarterly*, *12*(4), 673–693.

Smith, T. W., & Son, J. (2019). *Trends in gun ownership in the United States, 1972–2018*. Chicago: NORC.

Sorenson, S. B., & Vittes, K. A. (2003). Buying a handgun for someone else: Firearm dealer willingness to sell. *Injury Prevention*, *9*, 147–150.

Stark, D. E., & Shah, N. H. (2017). Funding and publication of research on gun violence and other leading causes of death. *JAMA*, *317*(1), 84–85.

Studdert, D. M., Zhang, Y., Swanson, S. A., Prince, L., Rodden, J. A., Holsinger, E. E., … Miller, M. (2020). Handgun ownership and suicide in California. *New England Journal of Medicine*, *382*, 2220–2229

Thaler, R. (1978). A note on the value of crime control: Evidence from the property market. *Journal of Urban Economics*, *5*(1), 137–145.

Webster, D. W., Crifasi, C. K., & Vernick, J. S. (2014). Effects of the repeal of Missouri's handgun purchaser licensing law on homicides. *Journal of Urban Health*, *91*, 293–302.

Webster, D. W., & Vernick, J. S. (2013). Spurring responsible firearms sales practices through litigation: The impact of New York City's lawsuits against gun dealers on interstate gun trafficking. In D. W. Webster & J. S. Vernick (Eds.), *Reducing gun violence in America: Informing policy with evidence and analysis* (pp. 123–131). The Johns Hopkins University Press.

Weisburd, D. L., & Majmundar, M. K. (Eds.). (2018). *Proactive policing: Effects on crime and communities*. Washington, DC: The National Academies Press.

Wellford, C. F., Lum, C., Scott, T., Vovak, H., & Scherer, J. A. (2019). Clearing homicides: Role of organizational, case, and investigative dimensions. *Criminology & Public Policy*, *18*(3), 553–600.

Wellford, C. F., Pepper, J. V., & Petrie, C. V. (Eds.). (2005). *Firearms and Violence: A Critical Review*. Washington, DC: The National Academies Press.

Wintemute, G. J. (2017). Firearms licensee characteristics associated with sales of crime-involved firearms and denied sales: Findings from the Firearms Licensee Survey. *RSF The Russell Sage Foundation Journal of the Social Sciences*, *3*(5), 58–74.

Wood, G., & Papachristos, A. V. (2019). Reducing gunshot victimization in high-risk social networks through direct and spillover effects. *Nature Human Behaviour*, *3*(11), 1164–1170.

Wright, J. D. (1995). Ten essential observations on guns in America. *Society*, *32*, 62–68.

Wright, J. D., & Rossi, P. H. (1994). *Armed and considered dangerous: A survey of felons and their firearms* (2nd ed.). Hawthorne, NY: Aldine de Gruyter.

Zimring, F. E. (1968). Is gun control likely to reduce violent killings? *University of Chicago Law Review*, *35*, 721–737.

Zimring, F. E. (1972). The medium is the message: Firearm caliber as a determinant of death from assault. *The Journal of Legal Studies*, *1*, 97–123.

Zimring, F. E. (2011). *The city that became safe: New York's lessons for urban crime and its control*. New York: Oxford University Press.

Zimring, F. E., & Hawkins, G. (1997). *Crime is not the problem: Lethal violence in America*. New York: Oxford University Press.

AUTHOR BIOGRAPHY

Philip J. Cook is Professor Emeritus of public policy and economics at Duke University. Much of his research has been focused on understanding how and why to separate guns from violence

through effective regulation and law enforcement. He has co-authored Gun Violence: The Real Costs (with Jens Ludwig) and The Gun Debate: What Everyone Needs to Know, 2nd ed. (with Kristin Goss). He is also author or co-author of books on alcohol control (Paying the Tab), state lotteries (Selling Hope), and the increasing inequality of income (The Winner-Take-All Society, a New York Times "Notable Book of the Year"). He has served as a consultant with the U.S. Department of Justice Criminal Division and the U.S. Department of Treasury Enforcement Division. Cook is an elected member of the National Academy of Medicine and a fellow of the American Society of Criminology.

How to cite this article: Cook PJ. Thinking about gun violence. *Criminol Public Policy*. 2020;19:1371–1393. https://doi.org/10.1111/1745-9133.12519