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Gun Control

**Phil Cook, Mark Moore, and
Anthony Braga**

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Philip J. Cook
Duke University

Mark H. Moore
Harvard University

Anthony A. Braga
Harvard University

Philip J. Cook
Sanford Institute of Public Policy
Box 90245
Duke University
Durham, NC 27708
(919) 613-7360
fax (919) 681-8288
cook@pps.duke.edu
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Abstract:

The purpose of this essay is to provide a foundation for understanding the "Great American Gun War," and to consider the next steps that could be taken in the search for an effective gun-control policy. We begin with a review of the more-or-less uncontroversial facts about trends in gun ownership and use, and the reasons why Americans are inclined to arm themselves. A discussion follows of the more contentious issues, whether and how guns influence levels or seriousness of crime. We then identify the important values at stake in adopting any gun-control policy, and go on to describe the existing policies and the mechanisms by which they and other such measures have their effect. Finally, we make recommendations about promising next steps.

Philip J. Cook
Sanford Institute of Public Policy
Box 90245
Duke University
Durham, NC 27708
(919) 613-7360
fax (919) 681-8288
cook@pps.duke.edu
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In the search for public safety, establishing more stringent controls on gun commerce and use has the broad support of the American public. Thousands are killed by gunfire each year (including almost 12,000 homicides in 1998) and hundreds of thousands more are threatened or injured in robberies and assaults. Developing and implementing government programs to make guns less readily available, especially to those inclined toward violence, deserve a high priority in the quest to save lives and reduce the burden of crime on our society.

But not everyone accepts this perspective on guns. Some argue that guns are the mere instruments of criminal intent, with no more importance than the brand of shoes the criminal wears. If the weapon type does not matter, then policy interventions focused on guns are futile. Another path leading to the same conclusion of futility posits that in a society already saturated with guns, it is simply not feasible to prevent determined criminals from obtaining a gun if they want one. Furthermore, if guns provide law-abiding citizens with an important means of self-defense against crime, then government attempts to restrict gun availability may be perverse rather than merely futile. Of course each of these assertions about the actual or potential consequences of gun control has been extensively debated.

But the debate over gun control is not only concerned with factual issues. If this were true, empirical research might, in principle at least, resolve the matter, and the proper choice of gun-control measures would become clear. In reality, however, there are important value conflicts as well, conflicts concerning the proper relationship between the individual, the community, and the state. Even a definitive empirical demonstration that a gun-control measure would save lives will not persuade someone who believes in an absolute individual right to keep and bear arms.

The purpose of this essay is to provide a foundation for understanding the "Great American Gun War," and to consider the next steps that could be taken in the search for an effective gun-control policy. We begin with a review of the more-or-less uncontroversial facts about trends in gun ownership and

use, and the reasons why Americans are inclined to arm themselves. A discussion follows of the more contentious issues, whether and how guns influence levels or seriousness of crime. We then identify the important values at stake in adopting any gun-control policy, and go on to describe the existing policies and the mechanisms by which they and other such measures have their effect. Finally, we make recommendations about promising next steps.

Gun Ownership, Use, and Misuse

Guns are versatile tools, useful in providing meat for the table, eliminating varmints and pests, providing entertainment for those who have learned to enjoy the sporting uses, and protecting life and property against criminal predators. They are an especially common feature of rural life, where wild animals provide both a threat and an opportunity for sport. As America has become more urban and more violent, however, the demand for guns has become increasingly motivated by the need for protection against other people.

Patterns of Gun Ownership

The annual General Social Survey, conducted by the National Opinion Research Center, has long included questions on gun ownership. In 1999 just 36 percent of American households owned at least one firearm, down from near 50 percent in 1980 (Smith 2000, p. 55). Surprisingly, there is no such trend in the prevalence of individual ownership among adults, which has remained near 30 percent since 1980. The drop in household ownership reflects the trend in household composition during this period; households are less likely to include a gun because they have become smaller and, in particular, less likely to include a man.

The *number* of guns in private hands has been increasing rapidly. Since 1970, total sales of new guns have accounted for over half of all the guns sold during the 20th Century, and the total now in circulation is on the order of 200 million (Cook and Ludwig 1996). The influx of new guns has been more than needed to equip the expanding population. The “extra” guns have gone to

increase the number of guns in the average owner's arsenal (Wright 1981). The most detailed national survey on the subject (the National Survey of the Private Ownership of Firearms, or NSPOF) found that gun owning households average 4.4 guns in 1994, up substantially from the 1970s (Cook and Ludwig, 1996).¹

One addition for many gun-owning households has been a handgun. The significance of this trend toward increased handgun ownership lies in the fact that while rifles and shotguns are acquired primarily for sporting purposes, handguns are primarily intended for use against people, either in crime or self-defense. The increase in handgun prevalence corresponds to a large increase in the relative importance of handguns in retail sales: The Bureau of Alcohol, Tobacco, and Firearms (ATF) estimated that half of the new guns sold in the United States in the early 1990s were handguns, up from one-third in the early 1970s. In the late 1990s, however, the handgun share of all new gun sales fell back to about 40 percent (ATF, 2000a).

Some of the increased handgun sales have been to urban residents who have no experience with guns but are convinced they need one for self-protection, as suggested by the surges in handgun sales after the Los Angeles riots and other such events (Kellermann and Cook, 1999). But while the prevalence of handgun ownership has increased substantially over the past three decades, it remains true now as earlier that most who possess a handgun also own one or more rifles and shotguns. The 1994 NSPOF found that just 20 percent of gun-owning individuals have only handguns, while 36 percent have only long guns and 44 percent have both.

These statistics suggest that people who have acquired guns for self-protection are for the most part also hunters and target shooters. Indeed, only 46 percent of gun owners say that they own a gun *primarily* for self-protection against crime and only 26 percent keep a gun loaded. Most (80 percent) grew up in a household with a gun.

The demographic patterns of gun ownership are no surprise: most owners are men, and the men who are most likely to own a gun reside in rural areas or small towns and were reared in such places (Kleck 1991). Blacks are

less likely to own guns than whites, in part because the black population is more urban.² The likelihood of gun ownership increases with income and peaks in middle age.

The fact that guns fit much more comfortably into rural life than urban life raises a question. In 1940, 49 percent of teenagers were living in rural areas; by 1960 that percentage had dropped to 34 and by 1990, to 27. What will happen to gun ownership patterns as new generations with less connection to rural life come along? Hunting is already on the decline: the absolute number of hunting licenses issued in 1990 was about the same as in 1970 despite the growth in population, indicating a decline in the percentage of people who hunt (U.S. Department of the Interior, 1991). Confirming evidence comes from the National Survey of Wildlife-Associated Recreation, which found that 7 percent of adults age sixteen and over were hunters in 1997, compared with 9 percent in 1970.³ This trend may eventually erode the importance of the rural sporting culture that has dominated the gun "scene." In its place is greater focus on the criminal and self-defense uses of guns.

Uses of Guns against People

A great many Americans die by gunfire. The gun death counts from suicide, homicide, and accident have totaled over 30,000 for every year from 1972 to 1998. In 1998 there were approximately 30,700 firearms deaths, a rate of 11.4 per 100,000 U.S. residents. All but 1,500 were either suicides or homicides. While homicides make the headlines, there were actually 5,600 more gun suicides than homicides. The remainder were classified as accidents, legal interventions, or unknown (www.cdc.gov). Various points of reference help calibrate these numbers. In terms of Americans killed, a year of gun killing in the United States is the equivalent of the Korean War. Another familiar reference is the highway fatality rate, which is about 25 percent higher nationwide.

It is criminal homicide and other criminal uses of guns that cause the greatest public concern. Gun accident rates are an order-of-magnitude lower⁴

and suicide seems more a private concern than a public risk. Fortunately the homicide rate (both gun and non-gun) has been dropping rapidly in recent years, but from 20th Century highs in 1980 and 1991 of over 10 per 100,000. The rate was just 6.6 in 1998. Between 60 and 70 percent of homicides are committed with guns, mostly (80 percent) handguns.

Homicide is not a democratic crime. Both victims and perpetrators are vastly disproportionately male, black, and quite young. With respect to the victims, homicide is the leading cause of death for black male youths. The gun homicide rate in 1997 for Hispanic men ages 18-29 was seven times the rate for non-Hispanic white men of the same age; the gun homicide rate for black men 18-29 was 133 per 100,000, around 25 times the rate for white males in that age group (Cook and Ludwig, 2000). (Most male victims in the high-risk category are killed by people of the same race, sex, and age group.) About 75 percent of the homicide victims in this group were killed with firearms. The disparity between the demography of gun sports and of gun crime is telling: sportsmen are disproportionately older white males from small towns and rural areas, while the criminal misuse of guns is concentrated among young urban males, especially minorities.⁵

Of course, most gun crimes are not fatal. For every gun homicide victim there are roughly six gun-crime victims who receive a less-than-mortal wound (Cook 1985) and many more who are not wounded at all. Indeed, the most common criminal use of guns is to threaten, with the objective of robbing, raping, or otherwise gaining the victim's compliance; relatively few of these victims are physically injured, but the threat of lethal violence and the potential for escalation necessarily make these crimes serious. According to the 1998 National Crime Victimization Survey (NCVS), there were 150,000 gun robberies, 394,000 aggravated assaults (of which 52,000 caused injury) and 13,000 rapes in that year, for a total estimated volume of gun crimes of about 557,000. And these gun crimes are only a fraction of all robberies, aggravated assaults, and rapes, as shown in Figure 1. When a gun is used, it is most likely (85 percent) a handgun.

While guns do enormous damage in crime they also provide some crime victims with the means of escaping serious injury or property loss. The National Crime Victimization Survey is generally considered the most reliable source of information on predatory crime, since it has been in the field since 1973 and incorporates the best thinking of survey methodologists. From this source it would appear that use of guns in self-defense against criminal predation occurs approximately 100,000 times per year (Cook, Ludwig, and Hemenway, 1997).⁶ Of particular interest is the likelihood that a gun will be used in self-defense against an intruder. Cook (1991), using the NCVS data for the mid 1980s, found that only 3 percent of victims were able to deploy a gun against someone who broke in (or attempted to do so) while they were at home. Since about 45 percent of all households possessed a gun during that period, we conclude that it is relatively unusual for victims to be able to deploy a gun against intruders even when they have one nearby.

Gary Kleck and Marc Gertz (1995) have reported far higher estimates of 2.5 million self-defense uses each year, based on their own nationwide telephone survey. Indeed, on the basis of comparing this estimate of self-defense uses with the gun-crime victimization rate from the NCVS, they conclude that guns are used more commonly in self-defense than in crime. But other authors have noted that when the comparison is made using NCVS data alone for both victimization and self-defense, the criminal uses predominate (see above). The same is true in other surveys that have asked about both victimization and self-defense (Hemenway, in press).

Kleck and Gertz's high estimate may result from a relatively high false-positive rate (Hemenway, 1997). Of course, even if we had reliable estimates on the volume of such events, we would want to know more before reaching any conclusion. It is quite possible that most "self-defense" uses occur in circumstances that are normatively ambiguous: chronic violence within a marriage, gang fights, robberies of drug dealers, encounters with groups of young men who simply *appear* threatening. Indeed, drug dealers and predatory criminals do face extraordinarily high risks of being assaulted (Levitt

and Venkatesh 2000; Cook and Ludwig 2000). In one survey of convicted felons in prison, the most common reason offered for carrying a gun was self-defense (Wright and Rossi 1994); a similar finding emerged from a study of juveniles incarcerated for serious criminal offenses (Smith 1996). Self-defense conjures up an image of the innocent victim using a gun to fend off an unprovoked criminal assault, but in fact many "self-defense" cases are not so commendable.

Instrumentality and Availability

Do "guns kill people" or do "people kill people"? In murder trials the killer's motivation and state of mind are explored thoroughly, while the type of weapon—usually some type of gun—is often treated as an incidental detail. Yet there is compelling evidence that the type of weapon matters a lot in determining whether the victim lives or dies. If true, then depriving potentially violent people of guns would save lives, an essential tenet of the argument for restricting gun availability. But then a second question arises. How can we use the law to deprive violent people of guns if such people are not inclined to be law abiding? The saying "If guns are outlawed, only outlaws will have guns" may ring true.⁷ There is also some evidence on this matter, suggesting that some "outlaws" decision of what weapon to use is indeed influenced by the difficulty and legal risks of obtaining and using a gun (Wright and Rossi 1994).

In this section we develop the evidence on these two issues, designated "instrumentality" and "availability." The same two issues should also be raised in an assessment of the self-defense uses of guns, and we do so in the third part of this section.

Instrumentality

In some circumstances the claim that the type of weapon matters seems indisputable. There are very few drive-by knifings, or people killed accidentally by stray fists. When well-protected people are murdered it is almost always

with a gun; over 90 percent of lethal attacks on law enforcement officers are with firearms, and all our murdered presidents have been shot. When lone assailants set out to kill as many people as they can in a commuter train or schoolyard, the only readily available weapon that will do the job is a gun. But what about the more mundane attacks that make up the vast bulk of violent cases?

The first piece of evidence is that robberies and assaults committed with guns are more likely to result in the victim's death than are similar violent crimes committed with other weapons. In the public health jargon, the "case-fatality rates" differ by weapon type. Take the case of robbery, a crime that includes holdups, muggings, and other violent confrontations motivated by theft. The case-fatality rate for gun robbery is three times as high as for robberies with knives, and ten times as high as for robberies with other weapons (Cook 1987). For aggravated (serious) assault it is more difficult to come up with meaningful case-fatality estimate, since the crime itself is in part *defined* by the type of weapon used. (A threat delivered at gunpoint is likely to be classified as an aggravated assault, while the same threat delivered while shaking a fist would be classified as a simple assault.) We do know that for assaults where the victim sustains an injury, the case fatality rate is closely linked to the type of weapon (Zimring 1968 and 1972; Kleck and McElrath 1991), as is also the case for family and intimate assaults known to the police (Saltzman et al. 1992).

Case-fatality rates do not by themselves prove that the type of weapon has an independent causal effect on the probability of death. It is possible that the type of weapon is simply an indicator of the assailant's intent and that it is the intent, rather than the weapon, that determines whether the victim lives or dies. In this view—which has been offered as a reasonable possibility by Wolfgang (1958); Wright, Rossi, and Daly (1983); and others—the gun makes the killing easier and is hence the obvious choice if the assailant's intent is indeed to kill. But if no gun were available, then most would-be killers would still find a way. Fatal and nonfatal attacks form two distinct sets of events with

little overlap, at least in regards to the assailant's state of mind.

Perhaps the most telling response to this argument is due to Franklin Zimring (1968; 1972), who concluded that there is actually a good deal of overlap between fatal and nonfatal attacks: Even in the case of earnest and potentially deadly attacks, assailants commonly lack a clear or sustained intent to kill. Whether the victim lives or dies then depends importantly on the lethality of the weapon with which the assailant strikes the first blow or two. For evidence on this perspective, Zimring notes that in a high percentage of cases the assailant is drunk or enraged, unlikely to be acting in a calculating fashion. Zimring's studies of wounds inflicted in gun and knife assaults demonstrate that the difference between life and death is evidently just a matter of chance, determined by whether the bullet or blade found a vital organ. It is relatively rare for assailants to administer the *coup de grace* that would ensure their victim's demise. For every homicide inflicted with a single bullet wound to the chest, there are two survivors of a bullet wound to the chest, and similarly for knife attacks.

Zimring's argument in a nutshell is that robbery murder is closely related to robbery, and assaultive homicide is closely related to aggravated assault; death is in effect a probabilistic byproduct of violent crime. While the law determines the seriousness of the crime by whether the victim lives or dies, the outcome is not a reliable guide to the assailant's intent or state of mind. One logical implication of this perspective is that there should be a close link between the overall volume of violent crimes and the number of murders. Confirmatory evidence is provided by a study that demonstrated by use of data on changes in crime rates in forty-four cities that an increase of 1,000 gun robberies is associated with three times as many additional murders as an increase of 1,000 non-gun robberies (Cook 1987). "Instrumentality" provides a natural explanation for this pattern.

Zimring's reasoning can be extended to a comparison of different types of guns. In the gun-control debate the prime target has been the handgun, since handguns are used in most gun crimes. But rifles and shotguns tend to be

more lethal than handguns: A rifle is easier to aim and the bullet travels with higher velocity than for a short-barreled weapon, while a shotgun blast spreads and may cause a number of wounds when it strikes. To the extent that assailants substitute rifles and shotguns for handguns in response to handgun-control measures, the result may be to increase the death rate (Kleck 1984).⁸ Unfortunately, there is little systematic evidence on the question of whether effective handgun-control would lead robbers and other violent people to substitute long guns (more lethal) or knives (less).⁹ "Instrumentality effects" are not limited to differences in case fatality rates. The type of weapon also appears to matter in other ways. For example, gun robbers are far less likely to attack and injure their victims than robbers using other weapons, and are less likely to incur resistance (Conklin 1972; Cook 1976 and 1980; Skogan 1978). (In cases where the victim is attacked and injured, the likelihood of death in gun robberies is far higher than with knives or blunt objects, which accounts for the relatively high case-fatality rate in gun robbery.) We also have evidence that aggravated assaults follow similar weapon-specific patterns (Kleck and McElrath 1991). The most plausible explanation for this pattern of outcomes is simply that a gun gives the assailant the power to intimidate and gain his victim's compliance without use of force, whereas with less lethal weapons the assailant is more likely to find it necessary to back up the threat with a physical attack.

The intimidating power of a gun may also help explain the effectiveness of using one in self-defense. According to one study of NCVS data, in burglaries of occupied dwellings only 5 percent of victims who used guns in self-defense were injured, compared with 25 percent of those who resisted with other weapons.¹⁰ Other studies have confirmed that victims of predatory crime who are able to resist with a gun are generally successful in thwarting the crime and avoiding injury (Kleck 1988; McDowall, Loftin, and Wiersema 1992a). But the interpretation of this result is open to some question. Self-defense with a gun is a relatively unusual event in crimes like burglary and robbery, and the cases where the victim does use a gun differ from others in ways that help

account for the differential success of gun defense. In particular, other means of defense usually are attempted after the assailant threatens or attacks the victim, whereas those who use guns in self-defense are relatively likely to be the first to threaten or use force (McDowall, Loftin, and Wiersema, 1992b). Given this difference in the sequence of events, and the implied difference in the competence or intentions of the perpetrator, the proper interpretation of the statistical evidence concerning weapon-specific success rates in self-defense is unclear (Cook 1986 and 1991).

In sum, we postulate that the type of weapon deployed in violent confrontations appears to matter in several ways. Because guns provide the power to kill quickly, at a distance, and without much skill or strength, they also provide the power to intimidate other people and gain control of a violent situation without an actual attack. When there is a physical attack, then the type of weapon is an important determinant of whether the victim survives, with guns far more lethal than other commonly used weapons.

Availability

If the type of weapon transforms violent encounters in important ways, as suggested in the preceding discussion, then the extent to which guns are available to violence-prone people is a matter of public concern. "Availability" can be thought of in terms of time, expense, and other costs. Violent confrontations often occur unexpectedly, and in such cases the weapons that will be used are among those that are close at hand; the relevant question is whether a gun is *immediately* available. But in other cases, robberies and assaults are planned, or at least expected, and the relevant time frame for obtaining a gun is hours or days.

Arthur L. Kellermann and his associates (1992 and 1993) provide evidence on the importance of "availability" in the first scenario, where the question is whether a gun is close at hand. In case-control studies of violent events occurring in the home, they found that the likelihood of both suicide and homicide are greatly elevated by the presence of a gun in the home. The

authors selected each "control" from the same neighborhood as that in which the killing occurred, and through their matching criteria and use of multivariate statistical techniques attempted to control for other differences between the cases and controls. There is no guarantee that this effort to control for other factors that might be confounded with gun possession was successful, so the proper interpretation of these findings remains controversial.¹¹ If we accept the authors' interpretation, then two propositions follow:

- 1 If a member of the household owns a gun, then at-home suicide attempts and armed assaults are more likely to involve a gun than otherwise.
- 2 A gun is more deadly than other weapons would have been in these circumstances (an instrumentality effect).

From the more-aggregate perspective, we can ask whether the extent to which guns are readily available in the community influences the mix of weapons used in violent crime. A cross-national comparison for eleven countries found a strong positive correlation (.72) between the household prevalence of gun ownership and the fraction of homicides committed with a gun (Killias 1993), perhaps because the overall scarcity of guns in a country influences weapon choice in violent events. Some skeptics have questioned whether guns are in any sense scarce in the United States, suggesting that anyone (most especially youths and violent criminals) would find it little more difficult to obtain a gun than, say, a kitchen knife. But regional comparisons indicate otherwise.

The prevalence of gun ownership differs rather widely across urban areas, from around 10 percent in the cities of the Northeast to upwards of 50 percent in the Mountain states. (One explanation for these large differences has to do with the differing importance of rural traditions in these cities.)¹² The overall prevalence of gun ownership is highly correlated with the percentage of homicides, suicides, and robberies that involve guns in these cities (Cook 1979 and 1985). Thus, where gun ownership is prevalent in the general population,

guns are also prevalent in violence. A natural explanation for this pattern is in terms of inter-city differences in scarcity. Predatory criminals obtain most of their guns from acquaintances, family members, drug dealers, thefts from homes and vehicles, and other street sources, rather than from licensed dealers (Decker, Pennell, and Caldwell, 1995; Sheley and Wright, 1995; Smith, 1996). The ease of making such a "connection" will be greater in a city where guns are prevalent.

Duggan (in press) reports the most extensive analysis to date of how the prevalence of gun ownership influences homicide rates. Using annual data on states from 1980 to 1997, he relates the change in the prevalence of gun ownership (proxied by the subscription rate to *Guns & Ammo* magazine) to the change in the homicide rate. He finds strong evidence that an increase in gun ownership is followed by an increase in homicide. The reverse is also true, although the effect of homicide on gun ownership is much smaller proportionately.

It helps in thinking about the availability of guns to realize how frequently they change hands. For youthful criminals, acquiring a gun is typically not a one-time decision. One interesting statistic from a survey of inner-city male high-school students helps make the point: 22 percent said they currently owned a gun, while an additional 8 percent indicated that they had owned one or more guns in the past, but did not at the time of the interview. Further, the number who said they carried a gun on occasion exceeded the number who owned one, suggesting loans and other temporary arrangements are important features of this scene (Wright, Sheley, and Smith 1992). In this environment, a realistic objective for policy may be to reduce the percentage of a delinquent career in which the typical youth is in possession of a gun, rather than to strive to deprive delinquent youth of guns entirely. Where guns are relatively scarce and expensive, a youthful criminal may be slower to acquire a gun and quicker to sell it when he does, simply because keeping the gun will have higher opportunity cost.

Of course, for a gun to be available for use during a violent encounter, it

is not enough for the assailant to have a gun—he must also be carrying it at the time. Since most violent crime occurs away from home, one important aspect of gun availability is the propensity to go armed. The majority of states allow carrying concealed (if the carrier has obtained a permit) but do not treat violations as serious offenses. A notable exception is the Bartley-Fox Amendment in Massachusetts, which in 1975 imposed a mandatory one-year prison sentence for anyone convicted of carrying a gun without a license. This mandatory-sentence provision was widely publicized at the time it was implemented. The immediate impact was clear: thousands of gun owners applied for licenses required to carry a handgun legally. Several studies analyzed subsequent trends in violent crime. Pierce and Bowers (1981) concluded that the short-term impact was to reduce the fractions of assaults and robberies involving guns and, presumably as a consequence, to reduce the criminal homicide rate (see also Deutsch [1979]). Apparently some streetwise people were deterred from carrying, and as a result were more likely to commit their robberies and assaults, when the occasion arose, with weapons other than guns. The result was to reduce the death rate in these attacks (the instrumentality effect).

More recently, the Kansas City Gun Experiment was designed to reduce gun availability on the streets through aggressive patrolling against illegal carrying. These patrols were instituted in one high-crime area of the city but not in another area than had a similar number of drive-by shootings at baseline. The “treatment” area experienced a 49 percent reduction in gun crimes during the study period, while gun crimes increased by 4 percent in the comparison area (Sherman, Shaw, and Rogan 1995). These results are suggestive but not definitive, given that the crime trends in the “control” area were somewhat different than in the “experimental” area even before the intervention.

In sum, while guns are certainly a prevalent feature of the mean streets of American cities, they are not yet at the point of saturation or beyond control. It is a remarkable fact that less than one-fifth of non-commercial robberies are

committed with a gun, despite the relative profitability of gun robbery (Cook 1976; Bureau of Justice Statistics 2000 Table 66); the legal and other costs of obtaining, possessing, and carrying a gun are sufficient to discourage some violent people from doing so, at least some of the time.

One important question remains. While the general availability of guns appears to influence the choice of weapons in violent crime, and the likelihood that a violent crime will result in the victim's death, does gun availability influence the overall *volume* of violent crime? The available evidence provides little reason to believe that robbery and assault rates are much affected by the prevalence of gun ownership (Cook 1979; Kleck and Patterson 1993). The fact that the United States is such a violent country¹³ does not have much to do with guns; the fact that our violent crimes are so deadly has much to do with guns (Zimring and Hawkins, 1997).

Self Defense

It is not just street criminals who carry guns, of course -- sometimes their potential victims do as well. The practice of going armed in public has been facilitated in recent years by changes in the concealed-carry laws of a number of states; by the mid 1990s over 30 states had liberal provisions that enable most adults to obtain a license to carry. The laws are often called "shall issue," since they require the local authorities to issue a concealed-carry license to everyone who meets certain minimum conditions. A study by two economists (Lott and Mustard 1997) found evidence that states that liberalized their concealed-carry regulations in this fashion enjoyed reductions in violent-crime rates as a result, presumably because would-be assailants were deterred by the increased likelihood that their victims would be armed. This study, expanded into a best-selling book (Lott 2000), has been extraordinarily influential with the public and with state legislators. It is now routine for the potential "anti deterrent" effect of any proposed gun-control measure to be a prominent consideration in the public debate.

In his first study, Lott (working with David Mustard) utilized a multi-

variate estimation procedure¹⁴ applied to annual panel data on counties for the period 1977 to 1992, generating estimates of the effects of a state's adopting a "shall issue" concealed-carry law. Their dependent variables were the Part I crimes of the FBI's Uniform Crime Reports. The independent variables in their specification included a dummy variable indicating whether a "shall issue" law was in effect in that state and year, a dummy variable for each of the 3000-plus counties, the arrest rate for the crime in question, and several demographic co-variates. In addition to the results based on the county data, they also reported estimates based on state-level panel data. Since the publication of this article, Lott (2000) has re-estimated the original equations with two additional years of data (1993 and 1994). He then extended the data set through 1996 and generated estimates using a different approach, where dependent variables are entered in change form (percent increase relative to the previous year) rather than in "level" form. The two approaches reflect two quite different conceptions of how the shall-issue laws would likely affect crime rates: In the "levels" analysis, the presumption is that the shall-issue law would cause a permanent once-and-for-all shift in the level of the crime rate, while in the "change" analysis, the presumption is that the shall-issue law would change the trend in crime rates with no effect on the level of crime at the time of passage.

The original results (Lott and Mustard 1997) suggested that the implementation of "shall issue" laws had the effect of reducing violent crime rates (homicide, aggravated assault, rape, and robbery) while generally increasing property crime rates (especially larceny and auto theft). But these results proved somewhat sensitive to the time period, the specification, and whether the variables measure levels or percentage changes from the previous year.

Of particular interest are Lott's results for the crime of homicide, because of its importance, and for robbery, since the "deterrence" argument seems more plausible for that crime than others. It seems reasonable to suppose that shall-issue laws would be most effective in increasing the deterrent threat to

criminals in public spaces (where robberies usually occur), since access to guns for self protection in private homes and commercial establishments is relatively unaffected by these laws. Thus, if the results computed by Lott were in fact due to the causal deterrent effects of shall-issue laws, among the different violent crimes that he studies we would expect to observe the strongest effect for robbery. But as shown in Table 1, his results for robbery are inconsistent, differing depending on the details of the estimation procedure. In the first four sets of results, the estimated effects are either negative and marginally significant (by the usual standards), or actually positive. These results appear to be a weak basis for conclusions about whether "shall issue" laws deter robbery. On the other hand, his reported results for homicide are consistently negative and usually significant.

Table 1
 Summary of Estimated Effects on Robbery and Homicide of Adopting "Shall
 Issue" Law
 (County-level panel data)

Dependent variable Time period Co-variates Source: Lott (2000)	Sign of coefficient on "shall issue" variable	Statistically significantly different from zero in two-tailed test?
Log of crime rate 1977-1992 Co-Variates Table 4.1	R: Negative H: Negative	R: Yes, 10% level H: Yes, 1% level
Log of crime rate 1977 - 1992 Standard co-variates plus burglary rate Table 4.5	R: Positive H: Negative	R: No H: Yes, 1% level
Annual change in log of crime rate 1977-1992 Standard co-variates Table 4.6	R: Negative H: Negative	R: Yes, 11% level H: No
Log of crime rate 1977-1994 Standard co-variates Table 4.13	R: Positive H: Negative	R: No H: Yes, 1% level
Annual Percent change in crime rate 1997-1996 Standard co-variates Table 9.1	R: Negative H: Negative	R: Yes, 1% level H: Yes, 1% level

Note: The "standard" list of covariates includes demographic variables and the arrest rate, as well as dummy variables for county and year.

Given the prominence and political influence of Lott's research on gun control, it is not surprising that it has been widely attacked by gun-control advocates. He recounts these attacks, some of which have been completely off base, and his responses in Lott (2000). His work has also engendered a more measured response from scholars. Scholarly criticism has been primarily methodological, concerned with the accuracy of his data and with the properties of his statistical methods. For example, Black and Nagin (1998)

present a series of results indicating Lott and Mustard's findings are sensitive to minor changes in the specification and data. Further, they conduct a specification test that suggests that the states that adopted shall-issue laws would have experienced reductions in violent crime (relative to other states) even *without* that legislation. In effect, then, it appears that adoption of these laws has not been exogenous to the process which generates crime; if so, then Lott and Mustard's findings are biased.¹⁵ Ludwig (1998) utilizes a different estimation strategy that relies on youths as the "control group" in assessing the effects of the shall-issue laws, arguing that minors get little protection from these laws because concealed-carry permits are only issued to adults. Ludwig finds that the shall-issue laws have a negligible effect on homicide. These and other studies are summarized in the comprehensive review by Ludwig (2000). More recently, Duggan (in press) observes that Lott and Mustard are inconsistent in what date they assign to the adoption of a shall-issue law; when that problem is corrected, the effect of adoption on homicide is no longer statistically significant.

Many analysts are skeptical of Lott's findings because they find them implausible:

1. Lott and Mustard's original findings suggested that shall-issue laws deter violent crime but stimulate property crime, particularly auto theft and larceny. Their account of this odd result was that criminals who were deterred from committing robbery (the one violent crime that is motivated by financial gain) then switched to other kinds of theft that did not require face-to-face confrontation with a potentially armed victim. However, as shown in Table 1, Lott's results for robbery are not strong or even (necessarily) of the "right" sign – it is the other types of violent crime that consistently appear with significant negative effects. It seems quite implausible that auto theft is a substitute for rape or assault. In any event, Lott's recent reversal, where he now (based on a longer time series and different statistical approach) reports *negative* effects on property crime rates, has disarmed this challenge, while raising a new question about which he believes.
2. The effect of the new laws on the prevalence of carrying by likely victims may be too small to plausibly account for the very large effects

on homicide and rape that Lott has estimated. Most states with shall-issue laws had permitted less than 2 percent of the adult residents during the period of Lott's data, and few of the people who are seeking and obtaining permits are in demographic groups that mark them as at high risk for violent victimization. Further, many people were carrying guns, including concealed guns, without benefit of a permit before adoption of shall-issue laws, as is clear from arrest statistics and survey data. So Lott is in effect claiming that a rather small change in the risks facing would-be violent criminals has had remarkably large effects on their behavior. While that is not logically impossible, it does create a reasonable basis for skepticism and a demand for strong evidence (Robuck-Mangum 1997; Hood and Neeley 2000; Ludwig 2000).

Given the available evidence, we conclude that the shall-issue laws have had little effect on violent crime or property crime.

The Values at Stake

Used in the manner of our rural sporting tradition, a gun provides recreation, food, and, arguably, a way of learning a sense of responsibility. When kept behind the counter of a small grocery in a high crime neighborhood, a gun may help stiffen the owner's resolve to stay in business while serving as part of the informal social-control system for local youth. When used as an instrument of gang warfare, a gun becomes part of the nation's nightmare of crime that terrorizes urban residents and cuts short far too many lives.

These different uses of guns all have value to those who use them in these ways. Society as a whole, however, values some uses less highly than do the individual owners. The "great American gun war" is an ongoing debate and political struggle to determine which uses will be protected, and which sacrificed to achieve some greater social good. There is widespread consensus that disarming the gangs would be a step in the right direction (a conclusion that the gang members themselves may or may not agree with), but the social value of preserving current opportunities for self-defense and sporting use is far more controversial.

The debate over gun-control policy makes broad use of both consequentialist and deontological arguments. A consequentialist framework is

concerned with ascertaining and valuing the consequences of proposed reform, while the deontological framework is concerned with how a proposed reform measures up in terms of its assignment of civic rights and responsibilities. Advocates on both sides tend to make use of both consequentialist and deontological claims. Thus, control advocates typically argue their case both by pointing to the reductions in fatalities engendered by the proposed reform and by insisting that gun owners, as a matter of principle, should be willing to relinquish some of their rights to own guns in the interests of achieving these benefits. The anti-control advocates argue that gun ownership serves to reduce crime rather than increase it, and that in any event they have a constitutional right to own guns.

Much of the rhetoric in the debate stems from three broad perspectives. Two of these, the public-health and welfare-economics perspectives, are predominantly consequentialist, while the third is primarily deontological.

The Public Health Perspective

Public health advocates are primarily concerned with the loss of life and limb caused by the use of guns against people. They are not much concerned with whether any particular shooting is criminal or not; all loss of life is equally serious. Thus lives lost to gun accident, suicide, and criminal homicide are of equal public concern (Moore *et al.* 1994).

Assigning suicide the same importance as homicide is profoundly important in evaluating the gun "problem." There are more gun deaths from suicide than homicide, and the demographic incidence of suicide is quite different than homicide.¹⁶ Looking at homicide statistics we conclude that guns are a far greater problem in cities than elsewhere, especially in minority communities, and we are led to focus gun-control efforts there. But including suicide as an equally important prevention target suggests that guns are a major problem in suburban and rural areas as well, and pose a considerable threat to older whites as well as to black and Hispanic youths (Cook and Ludwig, 2000).

In any event, the bottom line in the public-health framework is whether a proposed control measure would reduce the incidence of injury and death. There is little concern with the value of sporting uses of guns. From this perspective, the modest pleasures associated with recreational shooting and the dubious benefits from self-defense should yield to society's overwhelming interest in reducing gun deaths. Preserving life is the paramount value in this scheme.¹⁷

The Welfare Economics Framework

Like the public-health framework, the welfare-economics framework is predominantly consequentialist, but with a wider array of consequences and greater attention to individual preferences. It leads us to view the gun "problem" in terms of the harm inflicted on others, with much less attention to suicides and self-inflicted accidents. The socially costly uses are virtually coterminous with those that are prohibited by law. But there is no presumption that punishing criminal uses is an adequate response, and there remains the possibility that the benefits of preemptive controls on guns, such as a ban on carrying concealed, would outweigh the costs (Cook and Leitzel, 1996). The costs of such controls include the public costs of enforcement and the private costs of compliance (or evasion) of these regulations.

In principle we could determine whether a particular gun-oriented measure is worthwhile by comparing the cost with the benefits stemming from whatever reductions in gun crime are accomplished. A direct comparison requires that benefits be expressed in monetary terms, and since much of the value of living in a safer community is subjective, this translation requires an assessment of preferences. In that spirit, Cook and Ludwig (2000) asked respondents from a national sample how much they would be willing to pay for a reduction in their community's gun-violence rate of 30 percent. Based on their responses, the authors estimated that such a reduction would be worth about \$24 billion nationwide.

In this calculus of cost and benefit, where does self-defense fit in? For most gun owners, the possibility that the gun will prove useful in fending off a robber or burglar is one source of its value.¹⁸ Indeed, if guns had no value in self-protection, a ban on possession of guns in the home would quite likely be worthwhile, since other, sporting uses of guns could be preserved by allowing people to store firearms in shooting clubs and use them under regulated conditions. This arrangement would be akin to the military policy for controlling the use of rifles and ammunition by servicemen on military bases, and is somewhat more liberal than the current policy governing fireworks in most states (and far looser than policies regulating the distribution of high explosives). So we believe that the self-defense uses of guns are more important than sporting uses in assessing the costs of restrictions on home possession and carrying in urban areas.

Some have even argued that the private valuation of guns in this respect understates their public value, because the widespread possession of guns has a general deterrent effect on crime (Snyder 1993; Kleck 1991; Lott 2000). Indeed, one survey of imprisoned felons found that a paramount concern in doing their crimes was the prospect of meeting up with an armed victim (Wright and Rossi 1994). What we do not know is whether the predominant effect on criminals is desistance from predatory crime, or displacement to victims who are less likely to be armed, or adoption of a more aggressive style to pre-empt effective self-defense. If the latter two predominate, then the externality is negative rather than positive (Clotfelter 1993).

Thomas Jefferson offered another reason why gun ownership and use may be undervalued in private decisions, as explained in this quotation: "A strong body makes the mind strong. As to the species of exercises, I advise the gun. While this gives a moderate exercise to the body, it gives boldness, enterprise and independence to the mind. Games played with the ball and others of that nature, are too violent for the body and stamp no character on the mind."¹⁹

If gun sports are especially suited to building character, then perhaps

these sports should be viewed as "merit" goods on a par with the opera or schooling, and deserving of subsidy by the public. But Jefferson would surely have changed his mind about the relative merits of guns and ball games if he could have foreseen the invention of basketball.

The "Rights and Responsibilities" Perspective

The welfare-economics framework helps organize the arguments pro and con for gun-controls, and suggests a procedure for assigning values. But for those who believe in the "right" to bear arms, it is not a completely satisfactory approach. The debate over gun control can and should be conducted, at least in part, in the context of a framework that defines the appropriate relationship between the individual, the community, and the state.

Very much in the foreground of this debate lies the Second Amendment, which states, "A well regulated Militia, being necessary to the security of a free State, the right of the people to keep and bear Arms, shall not be infringed." The proper interpretation of this statement has been contested in recent years. Scholars arguing the constitutionality of gun-control measures focus on the militia clause, and conclude that this is a right given to state governments (Henigan 1991; Wills 1995). Others assert that the right is given to "the people" rather than to the states, just as are the rights conferred in the First Amendment, and that the Founding Fathers were committed to the notion of an armed citizenry as a defense against both tyranny and crime (Kates 1983 and 1992; Halbrook 1986; van Alstyne 1994).²⁰ The Supreme Court ruled only once during the Twentieth Century on a Second Amendment issue, in which it adopted the "state militia" interpretation (Ehrman and Henigan, 1989; Vernick and Teret, 1999).²¹ In *United States v. Miller*, 307 U.S. 174 (1939), the Court held that the "obvious purpose" of the Amendment was "to assure the continuation and render possible the effectiveness..." of the state militias. It further wrote that the Amendment "must be interpreted and applied with that end in view." Indeed, as of this writing, no federal appeals court has overturned a gun-control law on Second Amendment grounds.

Regardless of the concerns that motivated James Madison and his colleagues in crafting the Bill of Rights, the notion that private possession of pistols and rifles is a protection against tyranny may strike the modern reader as anachronistic—or perhaps all too contemporary when one recalls such groups as the Branch Davidians and the Aryan Nation. More compelling for many people is the importance of protecting the capacity for self-defense against apolitical assailants.

Some commentators go so far as to assert that there is a public duty for private individuals to defend against criminal predation, now just as there was in 1789 (when there were no police).²² The argument is that if all reliable people were to equip themselves with guns both in the home and out, there would be far less predatory crime (Snyder 1993; Polsby 1993). Other commentators, less sanguine about the possibility of creating a more civil society by force of arms, also stress the public duty of gun owners, but with an emphasis on responsible use: storing them safely away from children and burglars, learning how to operate them properly, exercising good judgment in deploying them when feeling threatened, and so forth (Karlson and Hargarten, 1997). In any event, even if there is an individual right to bear arms, then like the right of free speech it is surely not absolute, but subject to reasonable restrictions. The appropriate extent of those restrictions, however, remains an unresolved issue.

In conclusion, these three perspectives—public health, welfare economics, and civic rights and responsibilities—each provide arguments about the public interest that seem familiar and important. Each is well represented in the ongoing debate over the appropriate regulation of firearms. In practice, the public health perspective helps focus greater attention on suicide, while the perspective that stresses civic rights strengthens the case for protecting self-defense uses of guns. We are not inclined to argue the relative merits of these differing perspectives in the abstract, but will have more to say about policy evaluation in the next sections.

Alternative Gun-Control Policies

Commerce in guns and the possession and use of guns are regulated by federal, state, and local governments. To assess the options for reform it is first helpful to understand the current array of controls and why they fail to achieve an acceptably low rate of gun violence.

The Current Array of Policies

The primary objective of federal law in this area is to insulate the states from one another, so that the stringent regulations on firearms commerce adopted in some states are not undercut by the greater availability of guns in other states. The citizens of rural Wyoming understandably favor a more permissive system than those living in Chicago, and both can be accommodated if transfers between them are effectively limited. The Gun Control Act of 1968 established the framework for the current system of controls on gun transfers. All shipments of firearms (including mail-order sales) are limited to federally licensed dealers who are required to obey applicable state and local ordinances, and to observe certain restrictions on sales of guns to out-of-state residents.²³

Federal law also seeks to establish a minimum set of restrictions on acquisition and possession of guns. The Gun Control Act specifies several categories of people who are denied the right to receive or possess a gun, including illegal aliens, convicted felons and those under indictment, people ever convicted of an act of domestic violence, users of illicit drugs, and those who have at some time been involuntarily committed to a mental institution. Federally licensed dealers may not sell handguns to people younger than twenty-one, or long guns to those younger than eighteen. And dealers are required to ask for identification from all would-be buyers, have them sign a form indicating that they do not have any of the characteristics that would place them in the "proscribed" category, and initiate a criminal-history check. Finally, dealers are required to keep a record of each completed sale and cooperate with authorities who seek to trace the sequence of ownership of guns

used in crime.

In addition to these federal requirements, states have adopted significant restrictions on commerce, possession, and use of firearms. A number of states require that handgun buyers obtain a permit or license before taking possession of a handgun, a process that may entail payment of a fee and some waiting period. All but a few state transfer-control systems are "permissive," in the sense that most people are legally entitled to obtain a gun. In a few jurisdictions, however, it is very difficult to obtain a handgun legally. In Chicago and Washington, D.C., only law enforcement officers and security guards are eligible to obtain a handgun. A variety of more modest restrictions on commerce have been enacted as well: for example, several states have limited dealers to selling no more than one handgun a month to any one buyer.

State and local legislation tends to make a sharp distinction between keeping a gun in one's home or business and carrying a gun in public. All but one state (Vermont) either bans carrying a concealed firearm or requires a special license or permit. Local ordinances typically place additional restrictions on carrying and discharging guns inside city limits.

Some types of firearms are regulated more stringently than others in federal and state law. The National Firearms Act of 1934 mandated registration and a \$200 tax on all transfers of gangster-style firearms, including sawed-off shotguns and automatic weapons (such as the Tommy gun); more recently Congress has prohibited the manufacture of such weapons. The Gun Control Act of 1968 banned the import of small, cheap handguns,²⁴ and subsequent legislation has banned the importation and manufacture of certain "assault" weapons (Roth and Koper, 1997). States typically regulate handguns more closely than long guns, since the former account for most of the firearms used in crime.

Beyond this array of legislated restrictions on gun commerce and use are a variety of other approaches to reducing gun violence. Some sense of the variety of possibilities here is suggested by this list of recent efforts, proposed or adopted, to extend additional control over firearms commerce and use:

1. raising the federal excise tax on ammunition or guns
2. establishing a "best practice" industry code of conduct for manufacturers, distributors, and retailers
3. limiting handgun sales to no more than one per month per customer
4. requiring that gun buyers pass a test demonstrating their knowledge of the law and good practice in handling a gun
5. imposing minimum requirements for safe functioning on guns introduced in commerce
6. trying local drug dealers in the federal courts if they are in possession of a gun at the time of their arrest
7. organizing a gun buy-back program, offering cash or other considerations in exchange for guns
8. establishing minimum mandatory sentences for carrying a gun illegally
9. developing public education campaigns and the cooperation of the television industry to stigmatize storing unlocked, loaded guns in households
10. giving the police power to revoke gun licenses and search intensively for guns in residences where court- restraining orders have been issued against spouses
11. using magnetometers to keep guns out of schools and other public buildings
12. disseminating a "parents compact" to promote parent's efforts to prevent their children from possessing or carrying guns

In the face of the rather daunting array of possibilities, policy makers need guidance on which approaches hold the most promise of reducing firearms violence, and at what cost to legitimate owners. Reliable information is difficult to obtain; even when particular control measures have been evaluated in some fashion (and such evaluations are rare in practice) the results are not going to be definitive. There will always be some degree of uncertainty in estimating the consequences of any one intervention, since there is no such

thing as a controlled experiment in this area. Further uncertainty arises when we attempt to predict the consequences of implementing a similar intervention in another time and place. Still, some evidence is available concerning which general approaches show the most promise.

In searching for worthwhile reforms, we find it useful to classify alternative gun-control measures into three generic strategies (cf., Zimring 1991; Wintemute 2000b):

1. those designed to raise the price of guns and reduce general availability
2. those designed to influence who has these weapons
3. those designed to affect how the guns are used and with what effect.

We offer a general assessment of each of these strategies below.

Strategy 1: Raising the price, reducing availability

Many gun-control measures have an effect on the overall supply of guns or ammunition. If guns (or ammunition) become less readily available, or more expensive to purchase, then some violence-prone people will arguably decide to rely on other weapons instead, and gun violence will be reduced.

Commentators have suggested that this strategy is doomed by the huge arsenal of guns currently in private hands. How can we discourage dangerous people from obtaining guns when there are already enough in circulation to arm every teenager and adult in the country (Wilson, 1994; Polsby, 1994; Wright, 1995) In response, we note that the number of guns in circulation is only indirectly relevant to whether supply restrictions can hope to succeed; of direct consequence is the price and difficulty of obtaining a gun.

Basic economic reasoning suggests that if the price of new guns is increased by raising the federal tax or other means, the effects will ripple through all the markets in which guns are transferred, including the black market for stolen guns (Cook and Leitzel 1996). If the average prices of guns go up, some people— including some violence-prone people—will decide that there

are better uses for their money. Others will be discouraged if, in addition to raising the money price, the amount of time or risk required to obtain a gun increases. While there are no reliable estimates of the elasticity of demand for guns by violence-prone people, we submit that they are likely to be more responsive to price than to more remote costs (such as the possibility of arrest and punishment). Those who argue that offenders will do whatever is necessary to obtain their guns may have some hard-core group of violent gang members and drug dealers in mind, but surely not the much larger group who get into fights from time to time (Sheley and Wright, 1995; Smith, 1996).²⁵

An indirect approach to raising prices is to impose safety requirements on gun manufacturers (Cook 1981). Proposals in this area include "childproofing" guns so that they are inoperable by children; requiring that domestically manufactured guns meet the same safety requirements as imports, including protections against accidental discharge; and requiring safety devices such as trigger locks and loaded chamber indicators (Teret and Wintemute 1993). As it is now, firearms manufacturers are remarkably free of safety regulation, in part because the Consumer Product Safety Commission has no authority over personal firearms. While safety regulations may be welcomed by gun buyers worried about gun accidents, they would have little direct effect on suicide and criminal misuse of firearms. To the extent that such regulations made guns more costly, however, there could be some indirect effect comparable to raising the federal tax (Cook and Leitzel 1996).

A more far-reaching proposal is to encourage the manufacture of guns that are "personalized," in the sense that they would be equipped with an electronic sensing device that would "recognize" a ring on the owner's finger, or even the owner's fingerprint. Such devices are currently under development. If they prove reliable, law enforcement agencies may adopt them to protect officers from being assaulted with their own guns. If all new handguns were equipped with such devices, it would gradually reduce the number of gun accidents and reduce the profitability of stealing guns (Robinson et al, 1998).

The argument against requiring that new guns meet minimum design

standards follows from the fact that such standards would take the cheapest guns off the market, thus making it more costly for poor households to enjoy whatever protection a gun conveys. Since it is the poorest households that generally face the greatest threat from predatory crime, this argument is not easily dismissed.

Finally, both government and non-profit groups have shown enthusiasm for reducing availability through gun buy-back programs. Research on these programs, which are typically short-duration offers of cash or goods in exchange for guns, has suggested that these approaches are not effective at reducing gun violence (Kennedy, Piehl, and Braga, 1996a; Romero, Wintemute, and Vernick, 1998; Rosenfeld, 1996). There is even a theoretical possibility that a permanent gun buy-back policy might increase the prevalence of gun ownership because by increasing the resale value of the gun, it would reduce the cost of owning one for a while (Mullin 2001). But a note of caution is in order. The effects of a gun buyback will likely depend on the circumstances. Australia's recent buyback of semi-automatic rifles may constitute a best-case scenario; in that case the buyback was a prelude to a near-comprehensive ban on private ownership of these weapons. Thus owners could not exploit the buyback to exchange their old gun for a new one, nor were the sellers to the buyback limited to those who had no further use for the weapon. But at this point there is no systematic evidence on the effects of the Australian buyback on gun violence.

Strategy 2: Restricting Access

The second broad class of gun-control policy instruments are those designed to influence who has access to different kinds of weapons. The intuitive notion here is that if we could find a way to keep guns out of the hands of "bad guys" without denying access to the "good guys," then gun crimes would fall without infringing on the legitimate uses of guns. The challenges for this type of policy are, first, to decide where to draw the line and, second, to develop effective barriers to prevent guns from crossing this line.

Who should be trusted with a gun? Federal law is guided by the premise that owning a gun is a right granted to all adults²⁶ who are legal residents of the United States, unless they do something to disqualify themselves, such as committing a serious crime. A quite different approach would be to treat gun ownership as a privilege, as is the case, say, with driving a vehicle on public highways.²⁷ And as in the case of the driving privilege, one eminently sensible requirement for those who seek to acquire a gun is that they demonstrate knowledge of how to use it safely and legally.²⁸ It is an intriguing possibility that such a requirement would engender considerable growth in the National Rifle Association's safety training programs, since many of those wishing to qualify for a license would need to enroll in such a course (Moore 1983).

Wherever the line is drawn, there is the serious problem of defending it against illegal transfers. That task is currently being done very poorly indeed. The major loopholes stem from scofflaw dealers, the difficulty in screening out ineligible buyers, and, most important, a vigorous and largely unregulated secondary market in which used guns change hands. We discuss each of these three areas in turn.

Scofflaw and Negligent Dealers. The U.S. Bureau of Alcohol, Tobacco, and Firearms (ATF) is the agency charged with the regulation of federally licensed gun dealers. It is a small agency whose jurisdiction includes regulatory inspections of gun dealers and criminal investigations of violations of federal gun laws, as well as both regulatory surveillance and criminal investigation of the explosives, alcohol, and tobacco industries. For many years understaffed and lacking political support for its firearms mission, ATF rubber stamped applications for firearms-dealers licenses, and by 1993 there were over 280,000 people who had obtained one—far more than were genuinely in the business of selling guns to the public (Violence Policy Center 1992). Thus, the federal licensing system, which was intended to act both as the gatekeeper in the federal system for insulating the states from each other and as a system for keeping particular groups of dangerous people from obtaining guns, was not

performing as originally intended. But changes in application requirements ordered by the new administration in 1993, combined with the hefty increase in fee mandated by Congress in 1994 (from \$30 to \$200), have had the effect of reducing the number of federal licensees to one third of the peak level, thereby enhancing ATF's ability to serve its regulatory function (Pierce, Briggs, and Carlson, 1998).

What can effective regulation and criminal enforcement accomplish? Licensed dealers' access to large numbers of firearms makes them a particular threat to public safety when they fail to comply with the law (Wachtel 1998; Siegel 1999). A recent review of ATF firearms-trafficking investigations revealed that corrupt licensed dealers were involved in under 10 percent of the trafficking investigations but were responsible for the illegal diversion of nearly half of the total number of firearms trafficked in the ATF investigations (ATF, 2000b). The average number of guns trafficked by a corrupt licensed dealer in any one case was over 350. These dealers were engaged in an assortment of violations including making false entries in their record books, selling firearms "off the books," knowingly transferring firearms to convicted felons, conducting illegal out-of-state sales, and illegally selling National Firearms Act weapons such as machine guns, grenades, and sawed-off shotguns.

ATF's efforts are now guided in part by the results of systematic data on the origins of guns used in crime. Police departments submit confiscated guns to ATF for tracing. The tracing process is cumbersome since there is no central database on gun sales, and only about half of all trace requests are successful to the point of identifying the dealer who first sold the gun at retail (Cook and Braga 2000). Nonetheless these trace data have proven useful in pinpointing targets for investigation. Analysis of trace data has determined that some dealers are greatly over-represented as a source of crime guns – in 1998, for example, just 1.2 percent of dealers accounted for 57 percent of all traced firearms. This concentration is explained only in part by differences in sales volume (Wintemute 2000a).

Besides an improved regulatory effort, a recent spate of lawsuits filed by

cities and counties directed at manufacturers, distributors and dealers may ultimately force greater dealer compliance with regulations governing transfers (Siebel 1999; Kairys 2000; Vernick and Teret 1999). The suit brought by Chicago and other jurisdictions assert negligent marketing practices by the firearms industry which serve to undercut the regulations of tight-control jurisdictions. Chicago in particular has banned the acquisition of handguns by residents since 1982, and yet handguns purchased from suburban dealers flow into the city. It seems feasible for the industry to police itself if it were required to by court order; other industries dealing in hazardous products have been successful in this regard (Siebel 1999, p. 277).

Screening. The Brady Handgun Violence Prevention Act, implemented in 1994, required that anyone seeking to buy a handgun from a dealer is required to submit to a criminal-history background check. (Beginning in 1998 the background-check requirement was expanded to include transfers of rifles and shotguns.) A number of states also impose more stringent requirements for handgun transfers, including a waiting period and a more thorough check of records. If the dealer complies with this requirement, there is some chance that disqualified buyers will be identified and screened out. But the reliability of the screening process in identifying proscribed applicants is limited by the generally poor quality of criminal history records and inaccessibility of mental health records, and by the fact that in most jurisdictions would-be buyers are identified only through a drivers license or other document that is readily forged.

Nonetheless, studies of California data suggest that the screening process there has been effective in keeping guns out of the hands of some violent criminals (Wright et al., 1999; Wintemute et al., 1999). And our experience with Brady background checks certainly demonstrates that a considerable number of proscribed people do attempt to buy handguns from licensed dealers without concealing their identity: between 1994 and 1998, Brady background checks resulted in about 320,000 requests for purchase

being denied, with 220,000 of the rejections due to prior felony convictions or pending indictments (Bureau of Justice Statistics, 1999). Other would-be handgun purchasers may have been discouraged from trying, knowing that they would be blocked as a result of the background check.

Realistically, however, there is no guarantee that those who were prevented from purchasing a handgun from a dealer remained unarmed. They could buy one in the secondary market from an acquaintance or unlicensed dealer.²⁹ Alternatively, they can buy from a licensed dealer by use of a qualified “straw man” purchaser, or perhaps find a licensed dealer who is willing to sell guns off the books.

According to one evaluation, the direct effect of the Brady Act on homicide rates was statistically negligible (Ludwig and Cook 2000). The evaluation took advantage of the “natural experiment” created by the fact that only 32 states were required to change their procedures as a result of the Brady Act: the remaining 18 states already required background screening at the time that the Act went into the effect. This “control” group evidenced the same trend in homicide rates before and after implementation of the Act as the “experimental group” of states that were required to adopt a waiting period and background check for handgun transfers – hence the authors’ conclusion that the Act was ineffective at reducing homicide. Closing the secondary-market loophole may be a necessary precondition for effective screening.

Secondary Markets. There is a remarkably active and open market for used guns which is largely unregulated, a market where buyers and sellers find each other through word of mouth, the internet, classified ads, or gun shows. These transactions, constituting 30-40 percent of all firearms transactions (Cook and Ludwig 1996), are often entirely legal—someone who sells a gun or two on occasion is not subject to any federal requirements except that they not knowingly sell to a felon, a minor, or other person prohibited from possessing a gun.

This legal loophole could be closed by a requirement that all transactions

be processed through a licensed dealer (or a law-enforcement agency) and include the same record-keeping and background-check requirements as the sale of a gun by a dealer. However, compliance with this requirement would likely be low unless there were some incentive to sellers or buyers. In the case of motor vehicles, the registration requirement coupled with liability serves that purpose (Cook, Molliconi, and Cole 1995), and could conceivably be applied to firearms, although there are a number of practical concerns about this arrangement (Jacobs and Potter 1995, 1998). A requirement that sellers at gun shows conduct background checks of would-be buyers is a modest step in the right direction, recently adopted by several states.

Whether or not the legal loophole is closed, the intentional diversion of guns to proscribed people will remain a problem. In that regard, it is useful to distinguish between transfers that move guns from the licit to the illicit sectors, and transfers within the illicit sector (Koper and Reuter 1996). Licensed dealers figure to a surprising extent in the former category, together with theft and secondary-market sales.

The importance of licensed dealers in supplying crime guns has been established on the basis of analyses of firearms-trace data. The rather surprising finding is that guns recovered by the police are not representative of the stock of guns in private hands; a relatively large percentage are quite new, although rarely in the hands of the person who is recorded as the original buyer (Zimring 1976; Cook and Braga 2000; ATF 1997). That, together with other information, suggests that many of the guns used in crime may have moved rather directly from dealer to criminal user, by way of a straw purchase or trafficker. That evidence suggests that the supply of guns to crime can be curtailed by closer regulation of dealers (as explained above), as well as such measures as requiring that dealers report multiple purchases, and the prohibition adopted by several states on selling more than one handgun to a customer per month. Indeed, "one gun a month" laws in Virginia and Maryland caused the number of guns recovered in Washington, DC with Virginia and Maryland origins to drop dramatically, though the number of crime guns

recovered from other source states increased (Weil and Knox, 1996; Teret et al., 1998).

Reducing theft may be more difficult, yet with over 500,000 guns a year being transferred this way each year (Cook and Ludwig 1996), it is just as important. To shrink this source of crime guns, it may be possible to impose some obligation on gun dealers and gun owners to store their weapons securely (as we now do on pharmacists who sell abusable drugs), or to step up enforcement against "fences" who happen to deal in stolen guns.

There is evidence that some of the thefts supplying criminal use are organized. More than a quarter of ATF gun-trafficking investigations involved the theft of firearms from residences, licensed dealers, and common carriers (such as the United Parcel Service) (ATF, 2000b). Organized rings of thieves that specialized in stealing firearms often characterized these cases. To the extent that stolen guns are channeled to the street through theft rings and fences, law enforcement agencies can work to identify these criminal networks (through informants, proffers to criminals caught in the possession of stolen guns, and the like) and disrupt these supply lines.

A technological "fix" for gun theft may be feasible. If guns were designed so that they were "personalized," as discussed above, then their value to thieves would be reduced to an extent that depends on the cost of re-"keying" them. If the personalization device is readily replaced, as is the case, say, for motor vehicles today, then theft would remain an important source of guns to proscribed users. But if the device were costly to re-key, or the re-keying process were only accessible through specially authorized dealers, then theft of new guns would cease to be a problem.

Interdicting transfers *within* the illicit sector has been a low-priority mission for most police departments. Because there has been so little experience with local investigations directed at stopping the redistribution of guns among youths, drug dealers, and others in the illicit sector, it is not clear what can be accomplished in this arena. The analogy to drug enforcement may provide some guidance (Koper and Reuter 1996). But gun markets appear

quite different from heroin and cocaine markets for several reasons.

First, the supply of guns to this market is diffuse, involving myriad potential sellers who enter the market when they happen to have an extra gun or two, rather than the more concentrated illicit supply system that characterizes the cocaine and heroin markets. Every burglar who steals a gun then has the opportunity to become a dealer for the purpose of disposing of the gun, selling to other youth they know. Alternatively, they may sell to middlemen, including drug dealers. And police investigations occasionally turn up a licensed dealer who has been active in making illicit sales. But it appears that the bulk of the sales in the black market are by people who have no commitment to this line of business.

Second, because guns are a durable good, and are both purchased and used less frequently than drugs, the total number of transactions in the market is much smaller than in the illicit drug market (Koper and Reuter 1996). There are also fewer repeat buyers. This means that the illicit gun markets are less visible than drug markets in local communities, but relatively easy to penetrate by the police informants and undercover agents.

Third, because in most areas there is a large legal market standing alongside the illicit market, the prices that can be charged in the illicit market are typically lower than in other markets for guns, just as is true for stolen jewelry or televisions. The exception may be in very tight control jurisdictions, such as New York and Boston, where prices are apparently high enough to motivate a good deal of gun running from jurisdictions with weaker controls. There is some evidence that these gun-running operations tend to be small (Moore 1981). More than 40 percent of ATF gun trafficking investigations involved the illegal diversion of 10 guns or less (ATF, 2000b).

Thus, the illicit gun market appears to be made up for the most part of relatively small and unspecialized enterprises, with easy entry and exit. While shutting down particular trafficking operations may be of little consequence in such a regime, law-enforcement efforts directed at illicit trafficking can be effective to the extent that they discourage entry by creating a general

deterrent.

Our bottom line is simply that the potential for attacking the secondary market in guns has scarcely been tested, and until it is tested in systematic fashion, no firm conclusions are warranted.

Strategy 3: Controlling Uses

The third broad class of gun-control-policy instruments is concerned with limiting unsafe and criminal uses of guns. These include both design regulation and law enforcement.

Design regulation has been discussed at several points above; federal law currently limits commerce in sawed-off shotguns, fully automatic guns, and some types of "assault" weapons, and the list could be extended in various ways (Wintemute 1996; Teret et al. 1998). For example, certain small cheaply made guns, often called Saturday Night Specials, are banned from importation by the federal Gun Control Act of 1968, but domestic manufacturers have been free to make such guns. Maryland has banned a list of such domestic guns since 1988, apparently with substantial effect (Vernick, Webster, and Hepburn 1999), and other states are now considering legislation of this sort.

A number of commentators have pointed out the logic in treating guns the same as most other consumer products, which are subject to ongoing review and regulation by federal agencies including the Consumer Product Safety Commission and the National Highway Traffic Safety Administration (Bonnie, Fulco, and Liverman 1999). Again by analogy to other products, it seems appropriate that this type of design regulation be supplemented by the threat of civil liability for unsafe design.

The criminal law and enforcement do play a prominent role in deterring the misuse of firearms. Most prominent are sentencing-enhancement provisions for the use of a gun in crime. One clear advantage of this approach as compared with other gun policies is that it does not impinge on legitimate uses of guns. One analysis of crime trends in jurisdictions that adopted such sentencing provisions provides evidence that they can be effective in reducing

the homicide rate, although there is no consensus on this matter (McDowall, Loftin, and Wiersema 1992b).³⁰

Another and more controversial tactic is to focus local law-enforcement efforts on illegal possession and carrying. The potential effectiveness of this approach is suggested by the success of the Bartley-Fox Amendment in Massachusetts, discussed earlier. This sort of gun enforcement typically requires proactive policing, and police departments differ widely in how much effort they direct to halting illegal possession and gun carrying (Moore 1980). The controversy over enforcement stems in part from the concern that police, if sufficiently motivated, may conduct illegal searches in the effort to get guns off the street. Nonetheless, gun-oriented patrol tactics have the potential to reduce gun violence (Sherman, Shaw, and Rogan 1995; Fagan Zimring, and Kim 1998; Sherman 2000).

Rather than a general effort to get guns off the streets, a more focused effort can be directed at prohibiting guns in particularly dangerous locations such as homes with histories of domestic violence, or bars with histories of drunken brawls, or parks where gang fights tend to break out, or schools where teachers and students have been assaulted. In seeking to reduce the presence of weapons in these particularly dangerous places, groups other than the police may be mobilized to help make the laws effective. Victimized spouses or their advocates might help enforce rules against guns in violence-prone households, liquor-licensing agencies might be enlisted to help keep guns out of bars, the recreation department might be mobilized to reduce gun carrying in public parks, and so on. The point is that there may be some particular "hot spots" for gun offenses that could be targeted as places to concentrate gun enforcement efforts much as we focus a great deal of attention on keeping guns and bombs out of airplanes.

There have been some promising developments in the use of deterrence-based strategies to reduce illicit gun use, first incorporated in the Boston Gun Project. Beginning in 1995, an interagency working group composed of Harvard University researchers, members of the Boston Police Department, and other

criminal justice agencies conducted research and analysis on Boston's youth violence problem, designed a problem-solving intervention to reduce youth violence, and implemented the intervention. The research showed that the problem of youth violence in Boston was concentrated among a small number of serially offending gang-involved youth (Kennedy, Piehl, and Braga, 1996b; Kennedy, Braga, and Piehl, 1997). The key problem-solving intervention that arose from the research diagnoses was known as the "pulling levers" focused deterrence strategy. This approach involved deterring violent behavior by chronic gang offenders by reaching out directly to gangs, saying explicitly that violence would no longer be tolerated, and backing that message by "pulling every law enforcement lever" legally available when violence occurred (Kennedy, 1997; Kennedy, 1998).

The "pulling levers" approach attempted to prevent gang violence by making gang members believe that gun use by any one member of the gang would result in legal problems for all members. The intent was to create an incentive for gang members to discourage each other from gunplay, thus reversing the usual group norm in support of violence. A key element of the strategy was the delivery of a direct and explicit "retail deterrence" message to a relatively small target audience regarding what kind of behavior would provoke a special response and what that response would be. The deterrence message was delivered by talking to gang members on the street, handing out fliers in the hot spot areas explaining the enforcement actions, and organizing forums between violent gang members and members of the interagency working group (Kennedy 1997, 1998). An evaluation of the Boston strategy to prevent youth violence found it to be associated with significant decreases in youth homicides, shots fired, and gun assaults (Braga et al. 2001). A number of cities have begun to experiment with variations on this approach and have experienced some encouraging preliminary results. These cities include Minneapolis, Baltimore, Indianapolis, Los Angeles, Bronx, Winston-Salem, Memphis, New Haven, and Portland, among others (see Kennedy and Braga, 1998; Coleman et al., 2000).

Drawing from the Boston experience, the Project Exile program in Richmond, Virginia mandated that any felon caught in the possession of a firearm would be prosecuted federally and, if convicted, receive five years in federal prison. This prosecution strategy was accompanied by a vigorous publicity campaign, which warned potential violators of the new risks associated with being a felon in possession of a firearm through television commercials, billboard advertisements on buses and buildings, and business cards. The communications campaign and the aggressive prosecution strategy were designed to deter felons and others from illegally possessing and carrying firearms. No formal evaluation has been undertaken as of this writing.

Finally, several jurisdictions have implemented specialized courts for firearms-related offenses based on the premise that deterrence is enhanced when punishment is administered soon after the offense is committed and with a high degree of certainty.

Conclusion: What's to Be Done?

Given the important value conflicts and empirical uncertainties surrounding gun-control policies, some caution in recommending public or governmental action is warranted. But recommending caution is far from recommending inaction. Indeed, we think that it is time to get on with the business of actively exploring alternative gun-control initiatives to develop more effective interventions than those we now rely upon. Exploration and experimentation are urgent for several reasons.

First, the current toll of gun violence demands action. Interventions to restrict the availability of guns are unlikely to have much effect on the overall rate of violence, but they do have the potential to reduce the number of fatalities. A substantial portion of the thousands of gun homicides each year can surely be prevented without infringing too heavily on the public fisc or individual rights. A "war on gun violence" seems a far more promising avenue to saving lives than the costly war on drug abuse.

Second, it is only through trying alternative approaches that we can hope

to develop confident conclusions about what works. Learning from experience is not automatic, but it can happen if reforms are coupled with systematic evaluation. With additional evidence may come a shift in the politics of gun control as well. Currently advocates on both sides mix value statements concerning rights or social welfare with factual claims concerning potential efficacy. For example, those who assert an individual right to bear arms usually also claim that widespread private ownership of guns reduces crime, implying that the value at stake here (freedom from government interference) can be preserved without social cost. If the factual claims were sufficiently robust that advocates had to accept the fact that their position entailed real costs, we would begin to learn something about how strongly these values are actually held.

The goal of gun-control policy over the next decade should be to develop and evaluate specific gun-control measures that can reduce gun crimes, suicides, and accidents, while preserving as much legitimate use of guns as possible. There is no reason to believe that there is a single best policy. Rather, we are looking for a portfolio of policies that reflects the full array of gun "problems." To some extent this portfolio should differ according to local circumstances and values, with a greater emphasis on suicide prevention in Iowa and on street violence in Washington D.C.

Our suggestions are organized according to level of government.

Action at the Federal Level

The Federal Government is best positioned to make guns more valuable and harder to obtain, while insulating the states from one another's supply of guns. Among the next steps that appear most promising are these:

1. Raising the tax on guns and ammunition to make the cost of acquiring and owning particular kinds of guns more accurately reflect the social costs and benefits of having them. Incidentally, we would favor converting the current excise tax, which is proportional to the wholesale price, to a flat tax. Cheap

handguns do as much or more damage as expensive ones. On the one hand, we recognize that this tax is repressive, and will be particularly burdensome on poorer people who want a gun. On the other hand, the benefit of such a tax, reductions in gun crimes and accidents, will also accrue disproportionately to the poor, who are vastly over-represented among the victims of gunshot wounds.

2. Requiring all gun transfers to pass through federally licensed dealers, with the same screening and paperwork provisions as if the gun were being sold by the dealer.

3. Stepping up criminal enforcement efforts against gun-running operations.

4. Providing funding and technical know-how to enhance the quality and completeness of state and federal criminal-history files and facilitating access by law enforcement agencies to these files.

5. Enhancing cooperation with the local law-enforcement efforts in investigating and prosecuting those who deal in stolen guns and those who engage in illegal gun trafficking.

6. Mandating that new guns meet minimum safety requirements to reduce gun accidents, while encouraging research in devices to personalize guns.

The federal government is also in the best position to accumulate the national experience with gun-control policy initiatives. Much as the National Institutes of Health try to accelerate learning about what is effective in dealing with cancer by monitoring treatments and outcomes in nationally established protocols, so the National Institute of Justice should expedite the search for more effective gun-control policies by continuing to support evaluation of the diverse policy interventions that will be launched at different levels of government over the next few years. To facilitate such evaluations, better data are needed. The Fatal Accident Reporting System is a good model. It has provided the raw material for evaluation research in traffic fatalities. A similar system for intentional violent injuries could be implemented without much difficulty.

Beyond this, the surgeon general and attorney general together should

continue using their "bully pulpit" to help create an environment in which local governments, community groups, and private individuals would begin to change their attitudes and behaviors with respect to guns. Such measures have proven effective over the long run in reducing smoking, drunk driving, and drug use; perhaps they could become effective in changing behavior with respect to guns. Specifically, it is important to remind gun owners of the need to keep their weapons secure from theft, to transfer them only to responsible others, to keep them out of the hands of their children, and so on. The message should be: guns are dangerous, particularly in an urban environment, and it behooves owners learn how to store them safely and use them responsibly.

Action at the State Level

The agenda for each state will and should depend on its circumstances. In the past the states have been the laboratory for instituting a variety of licensing and regulatory programs, as well as establishing different sentencing schemes for use of guns in crime and for carrying illegally. Technology transfer can take place only if these innovations are subjected to careful evaluation.

A battle has been engaged over the extent of liability for manufacturers, sellers, and owners of guns when a gun is used to injure someone. Lawsuits based on a variety of liability theories are moving through the courts, initiated in many cases by cities. The implicit threat posed by these lawsuits is that if manufacturers and sellers are held responsible for the damage done by handguns, the monetary liability would be prohibitive. This possibility is appealing to those who are impatient with the more moderate results achievable through the political process. In a number of cases, however, state legislatures have intervened to block cities from suing.

The most notable victory for the plaintiffs to date was in the Maryland courts (*Kelly v. R. G. Industries*), where the jury found the manufacturer of a small cheap handgun liable for an injury it caused (Teret, 1986). In that case the Maryland legislature enacted a law that exempted the manufacturers against such claims but at the same time established a process for banning

commerce in certain types of small, cheap handguns. Thus the plaintiff's lawyers were successful in improving the terms of political trade by changing the status quo, and the result, while still quite moderate, went farther to control guns than otherwise would have been possible.

Action at Metropolitan or Municipal Level

Perhaps the greatest opportunities to work on reducing gun violence in the immediate future lie in the cities where the toll of gun violence—especially criminal violence, and particularly youth violence—is so high. It is there that the scales balancing the competing values of rights to gun ownership on one hand, and the social interest in reducing gun violence on the other tilts most significantly toward reducing gun violence. It is there that one might expect gun owners to willingly surrender some of their privileges, or to accept a greater public responsibility in the ways that they acquire, possess, use, and transfer their weapons.

What works against this outcome, of course, is fear of crime and the fervent belief by some that a gun will provide protection. Thus, one important goal of gun-control policy at the local level should be not simply to reduce the availability of guns but to find other, less socially costly means that people can use to produce security and reduce fear. In many cities, this is one of the important goals of shifting to a strategy of community policing. Community policing is designed to help mobilize citizens into effective self-defense groups that can work in partnership with the police forces. If such groups became common, the need for individual gun ownership might abate. Another goal of community policing is to work directly on the fear of crime as well as on actual criminal victimization. To the extent that these efforts help to dissipate some ill-founded fears, these measures, too, might reduce the felt need for individual gun ownership, and with that, increase the range of feasible and desirable gun-control policies.

The particular targets of city efforts against gun violence that seem important to us are three:

1. reducing gun carrying by offenders on city streets
2. reducing youth access to and use of all kinds of weapons
3. keeping guns out of places that have records of violent conflicts such as rowdy bars, homes where domestic violence often occurs, or other community "hot spots"

Exactly how to accomplish these particular objectives remains unclear, but it is not hard to list particular actions one could imagine police departments undertaking. Indeed, bringing gun crime down would be a good exercise in problem solving to turn over to an innovative police agency. The Boston Gun Project, which established a cooperative arrangement between local, state and federal agencies, is an important model.

Action at the Community and Household Level

Our emphasis on government action in no way denies the potential importance of activists, private professionals, and volunteer groups in changing the culture and norms of acceptable behavior around guns. The problem of gun violence, and the role of guns in contributing to that violence, may be eased as individuals become more responsible and more attentive to their own and their neighbors' interests in deciding whether to own a gun, how to store and use it, and to whom to transfer it. If we get together to deal with the threat of violence, the fear that leads many to keep a loaded firearm handy may abate, thus sparing their households from this particular hazard. And in particularly risky circumstances, where there is ongoing domestic violence or a member of the household is suicidal, neighbors, counselors, and social workers must be prepared to insist that any guns be removed from the premises.

The challenge of finding the best portfolio of gun-control measures is daunting in the face of our considerable uncertainty about what works and the profound disagreements about which values should be paramount. But with continuing attention to the evidence generated by the state and local innovations, and a vigorous public dialogue on the importance of both rights and responsibilities in this arena, there is every hope of doing better.

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ENDNOTES

- ¹ Kleck (1991, app. 2) offers another explanation, that the true prevalence trended upward during the past couple of decades, but that survey respondents have become increasingly reluctant to admit to gun ownership during this period. We favor the explanation offered in the text because it is supported by the survey evidence on the number of guns per household, and it makes sense given the growth in household disposable income during this period.
- ² It should be kept in mind that these patterns are based on surveys and are subject to potential biases induced by the sensitivity of the topic and the difficulty of contacting a representative sample of young urban males.
- ³ This survey is conducted annually by the Fish and Wildlife Service of the U.S. Department of the Interior.
- ⁴ Much has been made of the unintentional firearm deaths of children; but, tragic as such cases are, it should be noted they are quite rare. Between 1985 and 1990 the annual average number of deaths for children less than ten years old was ninety-four (Fingerhut 1993).
- ⁵ On the other hand, the demography of gun suicide looks much more like that of gun sports, with victims coming disproportionately from the ranks of older white males.
- ⁶ The NCVS may lead to a modest underestimate of the self-defense uses of guns. It only provides respondents an opportunity to say that they used a gun in self-defense if they first say that they the victims of an assault, robbery, rape, or other crime in which they were present. Respondents may fail to report instances in which they used a gun to scare off a person who intended to steal something from them or attack them, simply because they would not consider themselves as "victims" in that instance. For a further discussion, see Smith (1997).
- ⁷ It is, after all, a tautology.
- ⁸ Kleck, like Wright, Rossi, and Daly (1983), claims that Zimring and others have not succeeded in demonstrating that guns are more lethal than knives, but accept with confidence the claim that long guns are more lethal than handguns. See Cook (1991) for a discussion of this paradox.
- ⁹ It does appear that in jurisdictions that have banned or strictly limited private possession of handguns, such as Chicago, Washington, DC, Massachusetts, and Canada, it remains true that most gun crimes are still committed with handguns.

¹⁰ The source is unpublished data provided by the Bureau of Justice Statistics. See Cook (1991) for details.

¹¹ The authors of the case-control study of homicide discuss the possibility that their results are due in part to reverse causation, noting that in a limited number of cases, people may have acquired a gun in response to a specific threat which eventually led to their murder. They also note that both gun ownership and homicide may be influenced by a third, unidentified factor (Kellermann et al. 1993, 1089). From those characteristics that were observed in this study, it is clear that the victims differed from the controls in a number of ways that may have contributed to the likelihood that there was a gun in the house. In comparison with their controls, the cases or the people they lived with were more likely to have a criminal record, to use illicit drugs, and to have a drinking problem. Cummings *et al.* (1997) report a similar study with an arguably more reliable measure of whether there was a gun in the house (administrative-record data); their findings comport with Kellermann's.

¹² Kleck and Patterson (1993) assert that the intercity differences in the prevalence of gun ownership are influenced by crime rates. While this may explain some small part of the variance, it could not reasonably be considered the dominant explanation. For one thing, the vast majority of gun owners in the United States are sportsmen, for whom self-defense is a secondary purpose at most.

¹³ A recent comparison of victim survey estimates found that the U.S. robbery rate was substantially higher than that of England, Germany, Hungary, Hong Kong, Scotland, and Switzerland. On the other hand, Canada's robbery rate was nearly twice as high as that of the United States (Block 1993).

¹⁴ They computed weighted least squares estimates, where the weights were proportionate to the population of the county.

¹⁵ Lott and Mustard do report the results of two-stage least squares estimates that are intended to accommodate the problem of endogeneity. The results are rather bizarre. See Ludwig (2000).

¹⁶ The notable exception is sex. Male victims predominate in both homicide and suicide.

¹⁷ For a highly critical review of the public health literature on firearms and homicide, see Blackman, 1997.

¹⁸ This is true not just for law-abiding citizens but is felt even more keenly by drug dealers and other criminals who are frequently threatened by the bad company they keep (Wright and Rossi 1994).

19. Jefferson to Peter Carr, 19 August 1785, quoted in Kates (1992, 96).

²⁰ Bellesiles (2000) argues that the arming of American households did not begin in earnest until 40 or 50 years after ratification of the U.S. Constitution. At the time the Second Amendment was being debated, guns were expensive, unreliable, and rare. See Monkkonen (2000) for further evidence on gun ownership in the 19th Century.

21. William Van Alstyne (1994) argues that the Second Amendment has generated almost no useful body of law to date, substantially because of the Supreme Court's inertia on this subject. In his view, Second Amendment law is currently as undeveloped as First Amendment law was up until Holmes and Brandeis began taking it seriously in a series of opinions in the 1920s.

22. The idea that citizens have responsibility for their own self-defense is now widely embraced by police executives, and is central to the strategy known as "community policing," which seeks to establish a close working partnership between the police and the community. But the emphasis in this approach is on community-building activities such as the formation of block watches groups or neighborhood patrols, rather than on individual armaments.

23. The McClure-Volkmer Amendment of 1986 eased the restriction on out-of-state purchases of rifles and shotguns. Such purchases are now legal as long as they comply with the regulations of both the buyer's state of residence and the state in which the sale occurs.

24. An important loophole allowed the import of parts of handguns that could not meet the "sporting purposes" test of the Gun Control Act. This loophole was closed by the McClure-Volkmer Amendment of 1986.

25. There is good evidence on other unsafe behaviors by youth. In particular, youthful consumption of cigarettes and beer has been shown to be highly responsive to price. It should be noted that there is a possibility that higher prices of guns will stimulate gun theft somewhat; if so, that might have the good effect of encouraging owners to store their guns more securely.

26. While federal law does not prohibit gun possession by youth, a number of states have placed limits on when youth can carry guns in public.

27. An example of this restrictive approach was until quite recently embodied in the in the North Carolina pistol permit requirement: permit applicants were required to satisfy their sheriff that they were of "good moral character" and needed the gun to defend their homes.

28. One distinction may be deemed important here. Drivers licenses are

required only for operating a vehicle on the public highways, and not on one's own land. By analogy, a licensing requirement for guns could be limited to those who wish to carry the gun in public.

²⁹ The term "secondary market" was coined by Cook, Molliconi, and Cole (1995), and refers to transactions that do not involve a federally licensed dealer.

³⁰ Marvell and Moody (1995) find that such policies have no discernible effect.

