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The Illegal Supply of Firearms

ABSTRACT

The case for focusing regulatory and enforcement efforts on the illegal supply of firearms to criminals rests on the belief that a supply-side approach has the potential to reduce the use of guns in violence. The case against this focus follows from the belief that guns in America are so readily available, and from such a variety of sources, that efforts to restrict the supply are futile. Individuals who are proscribed from buying guns legally (because of their criminal record or youth) tend to acquire firearms from "point" sources, such as illegal traffickers and scofflaw dealers, and "diffuse sources," including all sorts of informal transfers from the vast stock of weapons in private hands. Both are important. The mix within a jurisdiction appears to depend on the prevalence of gun ownership and the stringency of state regulations. A variety of promising supply-side measures are available, and some have been tried. Lessons have been learned—for example, that gun "buybacks" are ineffective—but for the most part any conclusions necessarily are speculative. Systematic "experimentation" with different tactics appears warranted.

There are more than 200 million privately owned firearms in the United States, including 70 million handguns. This vast arsenal serves as a source of guns to youths and criminals, who may obtain them through a variety of means. The pervasiveness of guns in American cities suggests to some that it is simply not feasible to prevent danger-

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0192-3234/2002/0029-0005\$10.00

ous people from obtaining them if they are so inclined—that “gun control,” in the sense of restrictions on commerce and possession of firearms, is futile. A more sanguine view holds that some good could be accomplished by supply-side measures directed at reducing access by those who are legally proscribed; that even in an environment where guns are plentiful it is feasible to increase the transaction costs in the types of gun markets relevant to youths and criminals, thereby reducing the prevalence of gun possession and use by these groups.

Both of these perspectives claim the support of research findings. Those who favor the “futility” view stress the power of markets to circumvent legal obstacles and note surveys of youths and criminals that provide data suggesting that their guns are often stolen or in some other way diverted from private (and more-or-less legitimate) ownership—the tens of millions of guns in private hands form a vast pool that is readily tapped. Those who view supply-side measures more positively offer as evidence the recent data from federal gun tracing and trafficking investigations that indicate that some percentage of the guns used in crime come directly from licensed dealers; in effect criminals are being supplied by dedicated “pipelines” as well as the pool. That being the case, it is plausible that closer regulation of those dealers could be effective in reducing access by youths and criminals.

Thus, the two sources of primary data, surveys of criminals and gun traces, are used to support contrasting conclusions concerning the potential efficacy of supply-side interventions. Yet a close look at these data demonstrates that they are compatible with each other with respect to estimating the importance of alternative sources of guns to criminals. Both sources suggest that a substantial minority of crime guns come from close-to-retail diversions from licensed dealers, while a majority of crime guns come from thefts and informal transfers from the existing pool of guns. The disagreement is in the interpretation and emphasis that analysts have given the results. And since there is little in the way of direct evidence on the potential for reducing the effective availability of guns to proscribed people, that disagreement cannot easily be adjudicated.

While the available evidence does not provide a strong basis for resolving the fundamental dispute about supply-side policy, it does provide some guidance about how to direct supply-side efforts. In particular, the trace data help identify licensed dealers who are involved in diverting guns to criminals, either knowingly or through negligence, and hence provide a basis for initiating regulatory actions and criminal

investigations. In turn, data generated from these investigations provide further insight into the structure and functioning of illicit gun markets, as documented by a recent analysis of over 1,500 federal criminal investigations.

In what follows, we synthesize existing research on the structure and operations of firearms markets that supply youths and criminals and review alternative supply-side strategies on the way to extracting some policy lessons. We begin with an account of the legal framework that governs firearms commerce, together with an empirical characterization of transaction flows and ownership patterns. The second section then summarizes the empirical research on the sources of guns to delinquents and criminals. Section III assesses policy alternatives for reducing the availability of guns for criminal use. A final section looks to the future with respect to research and policy.

I. The Structure of Legal Firearms Markets

Federal, state, and local governments regulate commerce in firearms and the possession and use of firearms. Most jurisdictions occupy the middle ground between *laissez faire* and prohibition in order to preserve legitimate uses of guns while preempting their use as an instrument of criminal violence (Zimring 1975, 1991; Cook and Blose 1981).

A. Regulations

A primary purpose of federal law is to prevent lax firearms controls in one state from undermining more restrictive regulations in another state. The Gun Control Act of 1968 (GCA) established a system of federal licensing for gun dealers, requiring that all individuals engaged in the business of selling guns must have a Federal Firearms License. The act limits shipments of firearms to licensed dealers, who are required to obey state and local regulations (Zimring 1975). Direct sales of handguns to out-of-state residents are prohibited. The McClure-Volkmer Firearms Owners Protection Act of 1986 (FOPA) repealed the ban on out-of-state purchases of rifles and shotguns, which are now permitted as long as the transfer complies with the regulations of both the buyer's and seller's states of residence. Although the 1968 Gun Control Act limited Federal Firearms Licensees (FFLs) to conducting business only from their licensed premises, the FOPA allowed licensees to conduct business at occasional gun shows held in the same state as their business premises.

The U.S. Bureau of Alcohol, Tobacco, and Firearms (ATF) is charged with regulating firearms commerce and enforcing federal

firearms law. The ATF is a small agency whose jurisdiction includes regulatory inspections of gun dealers and, often in partnership with state and local law enforcement agencies, criminal investigations of violations of federal firearm laws.

The Gun Control Act of 1968 established a set of requirements designed to allow the chain of commerce for any given firearm to be traced from its manufacture or import through its first sale by a retail dealer (Cook and Braga 2001). Each new firearm, whether manufactured in the United States or imported, must be stamped with a unique serial number. Manufacturers, importers, distributors, and retailers are required to maintain records of all firearms transactions. Licensed dealers are also required to report multiple sales and stolen firearms to the ATF and provide transaction records to the ATF on request. When FFLs go out of business, they are required to transfer their transaction records to the ATF, which then stores them for tracing. Thus, a paper trail for gun transactions is created that at least in principle can be followed by ATF agents. In reality, the tracing procedure used by the ATF is rather cumbersome, as most of the relevant transaction records are not centralized but are kept piecemeal by dealers, distributors, and retailers (Cook and Braga 2001). This arrangement reflects the intention of the U.S. Congress to ensure that there be no national registry of firearms (explicitly prohibited by the FOPA), yet there be some mechanism in place that would allow investigators to trace a firearm used in crime.

Federal law establishes a minimum set of restrictions on the acquisition and possession of guns. Several categories of people are denied the right to receive or possess a gun, including convicted felons and those under indictment, illegal aliens, illicit drug users, fugitives from justice, people ever convicted of domestic violence, and those who have been involuntarily committed to a mental institution. Licensed dealers are not allowed to sell handguns to persons younger than twenty-one or long guns to persons younger than eighteen. Licensed dealers are required to ask for identification from all prospective buyers and have them sign a form indicating that they do not have any of the characteristics that would prohibit them from acquiring a firearm. (In 1986, the FOPA amended the GCA to allow the possession of firearms by convicted felons whose civil rights have been restored or "convictions" have been pardoned, set aside, or expunged.) Finally, the Brady Handgun Violence Prevention Act of 1994 requires licensed dealers to initiate criminal-history background checks of all would-be purchasers.

Beyond these federal requirements, some states impose more stringent requirements for handgun transfers (Peters 2000). State laws may require buyers to obtain a special permit or license, and licensed dealers to observe a waiting period before transfer, conduct more extensive record checks, and limit the number of guns that can be sold to any one buyer in a specified period (such as one handgun per month). The District of Columbia and some other cities ban handgun commerce and possession, with limited exceptions. All states except Vermont either ban carrying a concealed firearm or require a special permit or license.

Federal and state laws regulate certain types of firearms more stringently than others. The National Firearms Act of 1934 mandated registration and a \$200 tax on all transfers of gangster-style firearms, including sawed-off shotguns and fully automatic firearms (such as the Tommy gun). More recently, Congress has prohibited the manufacture of these firearms. The Gun Control Act of 1968 banned the importation of small, cheap handguns commonly known as "Saturday night specials," while permitting domestic production. Congress banned the importation and manufacture of certain military-style "assault" weapons in 1994 (Roth and Koper 1997). Since handguns account for the vast majority of firearms used in crime, states typically regulate them more closely than long guns.

About 30–40 percent of all gun transactions do not involve a licensed dealer (Cook and Ludwig 1996), but rather occur on the "secondary market" (a term coined by Cook, Molliconi, and Cole [1995]). Under current federal law, unlicensed private citizens are permitted to sell firearms without initiating a criminal-history background check or even establishing the identity of the prospective buyer and are not required to keep any record of the transaction. One result is that tracing the transactions history of a firearm recovered in crime is very difficult after the initial sale by an FFL. Prosecuting unlicensed sellers for transferring a firearm to a felon, teenager, or other prohibited person is difficult, since federal law bans such transactions only if the seller had reason to know that the buyer was not entitled to buy the gun.

Although unlicensed sellers may sell firearms without keeping records or conducting background checks, they are not permitted to "engage in the business" of manufacturing, importing, or dealing in firearms. The Gun Control Act of 1968 did not provide a definition of "engaged in the business." Until 1986, the ATF's operating rule was that individuals selling five guns or more per year were to be consid-

ered firearms dealers and required to obtain a federal firearms license. But the FOPA barred any such quantitative standard and explicitly exempted individuals who sell firearms from their "private collections," a loophole that has been hard for prosecutors to overcome. It remains true, however, that the federal licensing system is fairly effective in preventing unlicensed individuals from acquiring guns directly from wholesale distributors or shipping guns directly to customers.

B. Stocks and Flows

Firearms commerce is composed of transactions made in the primary firearms market and in the largely unregulated secondary firearms market. Transactions of new and secondhand firearms conducted through federal licensees form the primary market for firearms (Cook, Molliconi, and Cole 1995). Retail gun stores sell both new and secondhand firearms and, in this regard, resemble automobile sales lots. Transfers of secondhand firearms by unlicensed individuals form the secondary market. Economic analysis suggests that primary and secondary markets are closely linked, with buyers moving from one to the other depending on relative prices and other terms of the transaction (Cook and Leitzel 1996).

Firearms manufacturers, importers, distributors, and dealers are required to obtain a license from the ATF, which screens applicants and regulates the licensees to ensure that they comply with firearms laws. Between 1975 and 1992, the licensee population grew from 161,927 to 284,117 (ATF 2000*b*). During this time period, the ATF was understaffed and lacked political support for their firearms mission. Almost all applications for firearms-dealer licenses were approved without review (Sugarmann and Rand 1992). A large number of these licensees were not actively engaged in a firearms business (ATF 2000*b*). In 1993, the ATF estimated that 46 percent of licensees were not retail dealers but rather used their licenses only to buy firearms for their own use by mail order. Of greater concern was that some of these FFLs were scofflaws who used their licenses to supply criminals with guns (ATF 2000*b*). Noting that it was easier to get a gun dealer license than a driver's license (ATF 2000*b*), the Clinton administration initiated a review and tightening of licensing procedures. In 1993 and 1994, federal law was amended to provide more restrictive application requirements and a hefty increase in the licensing fee, from \$30 to \$200 for three years (ATF 1997). These new safeguards reduced the number of federal licensees to 103,942 in 1999, of which 80,570 were retail dealers or

pawnbrokers (ATF 2000*b*). Despite this remarkable decline in the number of licensees, those that remain include a large number who are not operating a business. Fully 31 percent of retail licensees in 1998 had not sold a single firearm in the previous year (ATF 2000*b*).

There has been a long decline in the percentage of households with guns. Based on the General Social Survey conducted by the National Opinion Research Center, the percentage of American households reporting ownership of at least one gun has decreased from 48 percent in 1980 to 36 percent in 1999 (Smith 2000). However, the percentage of individuals with guns has remained near constant at about 28 percent since 1980, with 44 percent of men and 12 percent of women reporting gun ownership in 1999. The drop in household ownership reflects the trend in household composition rather than a trend in individual gun ownership. During this period households shrank and became less likely to include an adult male.

Whites are more likely to own guns than blacks, and rural residents are far more likely than urban residents to own firearms, including handguns. On a regional basis, gun ownership is highest in the South, followed by the Rocky Mountain states, the Midwest, and the Pacific states. New England has the lowest levels of gun ownership. This geographic pattern is remarkably stable over time (Azrael, Cook, and Miller 2001).

There are currently about 200 million privately owned firearms in the United States (Cook and Ludwig 1996; Kleck 1997), with several million new guns sold each year. The influx of new guns has partly gone to increase the size of the average owner's collection (Wright 1981). The most detailed national survey on the subject (the National Survey of the Private Ownership of Firearms, or NSPOF [Cook and Ludwig 1996]) revealed that gun-owning households averaged 4.4 firearms in 1994, up substantially from the 1970s (Cook and Ludwig 1996). Owners of four or more guns (about 10 percent of the nation's adults) are in possession of 77 percent of the total stock of firearms. Handguns, which are most often acquired for self-protection, have been the new additions to many gun-owning households. The increase in handgun prevalence corresponds to a large increase in the importance of handguns in retail sales. The ATF has 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 2000*b*).

Some 4.5 million new firearms, including about 2 million handguns (ATF 2000*b*), and about 2 million secondhand guns are sold each year in the United States (Cook and Ludwig 1996). According to the national survey (NSPOF), most guns acquired in the previous two years were either purchased by the respondent (73 percent) or received as a gift (19 percent) (Cook and Ludwig 1996). The predominant source of guns was a store (60 percent), followed by family members (17 percent), and acquaintances (12 percent).

Firearms thefts from households are common and represent a major source of illegal diversions from the existing legal stock of firearms.¹ The NSPOF data suggest that there were 269,000 incidents in which guns were stolen from a residence in 1994, and that the total number of guns taken was over 500,000 (Cook and Ludwig 1996).

Guns are durable goods that may remain in circulation for many years. However, there are several avenues by which guns are removed from circulation, including breakage and confiscation by law enforcement agencies. According to ATF tracing records, police departments submit information on more than 150,000 guns recovered in crime per year (Cook and Braga 2001), which places a lower bound on the yearly number of guns recovered since not all recovered guns are traced. Owners discard some 36,000 guns per year (Cook and Ludwig 1996). There may also be a substantial drain on the existing stock due to unrecorded exports of firearms associated with the international drug trade. Anecdotal evidence suggests that the United States may be a primary source of illegal firearms for organized crime networks, drug traffickers, and terrorists in other countries (Lumpe 1997; United Nations Commission on Crime Prevention and Criminal Justice 1997).

Figure 1 presents a conceptual scheme of the flow of firearms to criminals and juveniles. Other than theft, there are three broad mechanisms through which criminal consumers acquire firearms from licensees: straw purchase, "lying and buying," and buying from a dealer who is willing to ignore regulations. A straw purchase occurs when the actual buyer, typically someone who is too young or otherwise pro-

¹ Guns are also stolen from businesses. The Violent Crime Control and Law Enforcement Act of 1994 requires licensed dealers to report firearms lost and stolen from their inventory. In 1998 and 1999, licensees filed reports on over 5,000 incidents involving 27,287 lost or stolen firearms (ATF 2000*b*). These included the following incidents: inventory errors, record-keeping errors, and employee theft (39 percent of incidents and over 11,000 guns); burglary (21 percent of incidents and nearly 11,000 guns); larceny (38 percent of incidents and over 3,500 guns); and robbery (2 percent of incidents and about 1,000 firearms).

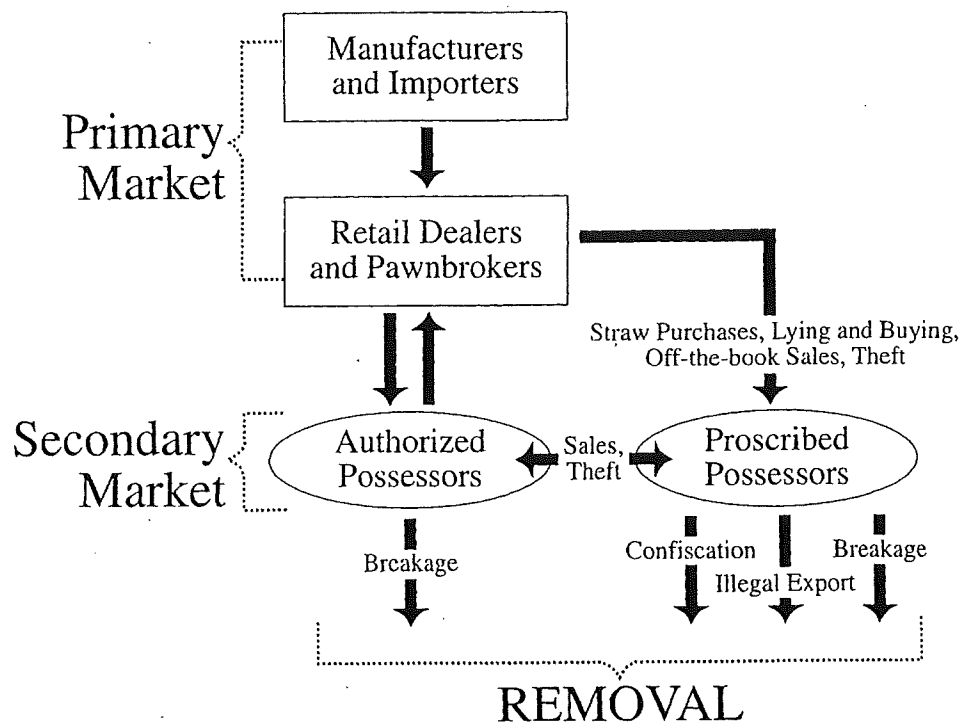


FIG. 1.—Firearms flows

scribed, uses another person to execute the paperwork. Prohibited persons can purchase firearms directly by showing false identification and lying about their status. In some cases the seller is knowingly involved and may disguise the illegal transaction by falsifying the paper record of sale or reporting the guns as stolen.

After firearms are diverted from legal commerce, it is quite likely that they will be put to use in criminal activity. It appears that most guns used by criminals, especially by youth offenders, have been acquired relatively recently, reflecting the fact that street criminals tend to have brief careers (Blumstein et al. 1986).

Guns have value in exchange as well as in use. On the basis of interviews with youth offenders, Cook, Molliconi, and Cole (1995) report that guns were valuable commodities for youth to trade for services, money, drugs, or other items. Youth offenders may be active both as sellers and buyers of guns through informal networks of family, friends, and street sources (Wright, Sheley, and Smith 1992). Incarcerated felons who reported selling or trading stolen guns identified a varied list of customers including friends, fences, drug dealers, strangers on the street, pawnshops, retail gun stores, and family members (Wright and Rossi 1994).

II. Research on Illegal Firearms Markets

There are three main sources of evidence on the operations of illegal firearms markets: surveys of criminals and youth, ATF firearms-trace data, and ATF firearms-trafficking investigation data.² These sources have been used to support seemingly contradictory conclusions concerning the value of supply-side interventions. In fact, the alternate sources of information illuminate different aspects of the same basic phenomenon.

A. Survey Research on Gun Acquisition

The importance of theft and the secondary market in supplying youths and criminals has been documented by three surveys: Wright and Rossi's (1994) survey of prisoners, the survey of state prisoners reported by the Bureau of Justice Statistics (BJS) (1993), and Sheley and Wright's (1995) survey of youths in juvenile correctional institutions. Some of the results of these survey data are summarized in table 1.

Some respondents in these surveys admitted that they stole their most recent gun, although that occurs less frequently than might be supposed. Sheley and Wright (1995) found that just 12 percent of their juvenile inmates had obtained their most recent handgun by theft, while BJS (1993) found that only 9 percent of the handgun-using state prison inmates had stolen their handgun. Wright and Rossi (1994), however, found that 32 percent of the most recent handguns acquired by their prison respondents were stolen by the respondent himself, and that a total of 46 percent of these handguns had, in the opinion of the respondent, been stolen at some time (Kleck 1999, p. 39). And while the juvenile respondents of Sheley and Wright (1995) were much less likely to have stolen their most recent handgun, they had in many cases stolen guns at some point in their "careers": "About 30 percent of the inmates said they had stolen rifles, shotguns, and military-style weapons; 50 percent had stolen revolvers; and 44 percent had stolen automatic or semiautomatic handguns at some point in their criminal careers" (Sheley and Wright 1995, p. 47). More recently, Decker,

² It is important to clarify the term "firearms trafficking" here. Since all crime guns initially start off as legally owned firearms, firearms trafficking refers to the illegal diversion of legally owned firearms from lawful commerce into unlawful commerce, often for profit (ATF 2000d, p. 3). The term "trafficking" has a different meaning in the firearms context than in the context of drug trafficking, where it usually refers to the illegal manufacture, transportation, and smuggling of large quantities of illicit drugs. In contrast to their drug running counterparts, firearms traffickers include those who move just a few guns from time to time for the purpose of making an illegal transaction.

TABLE 1
Sources of Guns to Criminals: Results from Three
Inmate Surveys (in Percent)

	Most Recent Handgun		
	Male Prisoners in 1982*	Prisoners in 1991 [†]	Juvenile Male Inmates 1991 [‡]
Purchase from retail outlet	21	27	7
Black market, "street"	26	28	43
Theft	(32)	9	12
Family or friends	44	31	36
Other	10	5	2

SOURCE.—Cook and Braga 2001.

* Survey of inmates in ten states; 1,032 respondents admitted to ever owning a handgun (Wright and Rossi 1994, p. 183). Note that "theft" in their tabulation is not a source but rather a means of obtaining the gun. Only 970 male prisoners reported the means of acquiring the gun; of these, 32 percent stole their most recent handgun.

[†] Survey of state prisons; BJS 1993.

[‡] Survey of juvenile inmates of six facilities located in four states; 640 juvenile male inmates reported the source of their most recent handgun (as opposed to the more than 800 who admitted to ever owning a handgun) (Sheley and Wright 1993, p. 6).

Pennell, and Caldwell (1997) analyzed the results of interviews with arrestees in eleven cities that were conducted as part of the Drug Use Forecasting system and found that 13 percent of arrestees admitted to having stolen a gun. Among juvenile males, one-quarter admitted to theft of a gun (Decker, Pennell, and Caldwell 1997). Indirect evidence of the importance of theft in supplying the black market comes from the low prices inmates typically report paying for their guns in the informal market (Sheley and Wright 1995; Kleck 1999).

The survey data also suggest a fairly substantial role, either direct or indirect, for the FFLs. About one-quarter of the respondents in the survey of state prisoners said that they had acquired their most recent gun from a retail outlet (BJS 1993).³ While the percentage of juvenile-inmate respondents who acquired their most recent gun from a retail outlet is much lower (just 12 percent), Sheley and Wright (1995, p. 48)

³ Note that survey-response data may understate the importance of FFLs. A firearm counted in surveys as having been obtained from a "family member or friend" may have been acquired though a straw purchase from an FFL. "Street" firearms purchasers "cannot be expected to know how, and from whom, street gun vendors acquire their wares," argues Julius Wachtel (1998, p. 223). "Incomplete depictions of gun pedigrees can lead to the misattribution of sales that should be assigned, at least in part, to [retail] sources."

note that 32 percent of these inmates had asked someone to purchase a gun for them at a retail outlet at least once in their career. In most cases, these straw-purchase arrangements involved a family member or friend as the purchaser. All three survey studies found that black market sources are important; these may well include traffickers who acquire their guns from licensed retail outlets (Kennedy, Piehl, and Braga 1996b; Wachtel 1998).

Survey findings may be challenged on the grounds that the samples are not representative of the relevant populations of criminals and that the respondents' self-reports on their criminal activities are not reliable.⁴ The survey samples are what are known as "convenience samples." They are selected from just a few institutions and the respondents who are selected from those institutions are those who were willing and available to participate. More generally, prisoners are not representative of the population of active criminals.

B. Firearms Trace Data

Best practice in the police investigation of a gun homicide or assault often includes submitting the gun (if available) for tracing, in the hope of identifying a suspect or developing a case against a suspect. Analyzed properly, firearms trace data can also be used as a statistical basis for gaining some insight into the supply side of the gun violence problem. However, trace data analyses are subject to a number of widely recognized problems (see Congressional Research Service 1992; Blackman 1999; Kleck 1999). All are based on firearms recovered by police and other law enforcement agencies, which may not be representative of firearms possessed and used by criminals. Furthermore, a substantial percentage of recovered firearms cannot be traced for various reasons. The trace-based information that results is biased to an unknown degree by these factors.

Firearms trace data have been used to gain insights on the illegal supply of firearms since the early 1970s. In 1973, the ATF began a study, known as Project Identification, of handguns confiscated by po-

⁴ For example, the incarcerated felons surveyed in Wright and Rossi's (1994) research had a strong preference for large, well-made handguns. These findings on the gun preferences of felons contrast with the observation that many guns recovered in crime tend to be small, cheap handguns (see, e.g., Kleck 1997). Kennedy, Piehl, and Braga (1996b) suggest taking survey findings on gun preferences with caution. In Boston, youth reported strong preferences for larger caliber, high-quality handguns, such as Glock 9mm pistols, but actually tended to possess small, low-quality handguns (Kennedy, Piehl, and Braga 1996b, p. 171).

lice departments in sixteen cities (ATF 1976). The ATF received more than 10,000 handguns and successfully traced 74 percent to the first retail purchaser. Most of these were small, cheap handguns known as "Saturday night specials." The ATF's analyses of the trace data suggested that many handguns recovered in cities with restrictive state and local firearms laws (e.g., Boston and New York) were first purchased in states with less restrictive firearms laws. Conversely, in those jurisdictions with lenient gun laws (e.g., Atlanta and Dallas), most recovered firearms were first purchased in-state.

In his careful examination of ATF handgun trace data, Franklin Zimring (1976) concluded that a disproportionate number of handguns seized by police in major metropolitan areas had been first sold at retail in the relatively recent past. Zimring (1976) tentatively concluded from these data that interventions targeting the retail supply of firearms would be more useful than might be expected in reducing firearms availability on the street. These findings were replicated and extended in a major study by the Police Foundation, which emphasized the importance of interstate firearm trafficking in undermining the more stringent state and local firearms laws (Brill 1977).

In any event, the quality of firearms trace data has improved in recent years. In 1996, the ATF initiated the Youth Crime Gun Interdiction Initiative (YCGII) with commitments from seventeen cities to trace all recovered crime guns (ATF 1997). This program expanded to thirty-eight cities in 2000, with additional cities added in 2001 (ATF 2000c). Other jurisdictions have also expanded their use of gun tracing; six states, for example, have recently adopted comprehensive tracing as a matter of state policy, by law (California, Connecticut, North Carolina, and Illinois), executive order (Maryland), or law enforcement initiative (New Jersey) (ATF 2000c). Comprehensive tracing of all firearm recoveries reduces some of the bias in trace data introduced by police decision making. Jurisdictions that submit all confiscated guns for tracing can be confident that the resulting database of trace requests is representative of a well-defined "population" of guns recovered by police during a particular period of time and a reasonable "sample" of guns used in crime (Cook and Braga 2001).⁵

⁵ Using recovered crime guns as a basis for estimating the characteristics of all guns used in crime is analogous to using arrestees as a basis for estimating the characteristics of all criminals. Although both are unrepresentative of the relevant populations in various ways and both are influenced heavily by police priorities and procedures, both types of data may yield valid insights in certain applications.

TABLE 2
Gun-Trafficking Indicators from Three Recent Analyses
of ATF Firearms Trace Data

	Boston Youth Guns*	YCGII Handguns 1999†	Los Angeles Area Guns‡
Guns recovered	1,550	54,363	5,002
Successfully traced (in percent)	52	54	55
New guns (percent of successful traces)	26§	32¶	pistols: 52 revolvers: 24§
Purchased out of state (percent of successful traces)	66	Total YCGII—38 Washington, D.C.—100 New York—89 Boston—69	19
New guns recovered in possession of first retail buyer (in percent)	0	18	14#
Obliterated serial numbers (in percent)	20	pistols: 9 revolvers: 5**	N/A

* Comprehensive tracing of firearms recovered from Boston youth ages twenty-one and under between January 1991 and May 1995 (Kennedy et al. 1996a).

† Comprehensive tracing of handguns recovered in thirty-eight cities participating in ATF's Youth Crime Gun Interdiction Initiative (YCGII) program (Cook and Braga 2001).

‡ Firearms recovered and submitted for tracing between 1988 and 1995 (Wachtel 1998). These analyses were not based on comprehensive tracing. Eighty-two percent of these firearms were recovered by the Los Angeles Police Department and the rest were recovered by law enforcement agencies in nearby communities.

§ Less than twenty-four months from purchase.

¶ Less than thirty-six months from purchase.

This study did not unravel the extent to which new guns were recovered from the first retail purchaser. The 14 percent represents all traced guns recovered from the first retail purchaser.

** These figures come from eleven YCGII cities that reliably submitted information on guns recovered with obliterated serial numbers.

Table 2 summarizes some of the main findings of three recent analyses of firearms trace data in Boston (Kennedy, Piehl, and Braga 1996b), cities participating in YCGII in 1999 (Cook and Braga 2001), and the Los Angeles area (Wachtel 1998). The three studies found that a noteworthy proportion of traced crime guns had a "time to crime" (the

period from first retail sale to recovery by the police) of a few months or years. In particular, recovered crime guns tend to be quite new in comparison with guns in public circulation (as assessed on the basis of annual firearm production figures). For example, Pierce et al. (2001) found that guns manufactured between 1996 and 1998 represented about 14 percent of the firearms in private hands, but they accounted for fully 34 percent of traced crime guns recovered in 1999.

"Fast" time-to-crime firearms that are recovered from possessors who are not the first retail purchasers present particularly strong evidence that these firearms may have been illegally diverted from legal firearms commerce. The three studies found that relatively few crime guns were recovered in the possession of the first retail purchaser. None of the firearms recovered from youth in the Boston trace study were recovered from persons who had legal permits to buy the guns (Kennedy, Piehl, and Braga 1996*b*). Fast time-to-crime guns were also concentrated among a few manufacturers of relatively cheap guns such as Lorcin Engineering, Bryco Arms, Raven Arms, and Davis Industries.⁶

The percentage of crime guns imported from out-of-state is closely linked to the stringency of local firearm controls. Overall, 62 percent of traced YCGII handguns were first purchased from licensed dealers in the state in which the guns were recovered (Cook and Braga 2001), but this fraction was far lower in tight-control northeastern cities such as Boston, New York City, and Washington, D.C., where less than half of the traceable firearms were sold at retail within state. Many firearms originated from southern states with less restrictive legislation such as Virginia, North Carolina, Georgia, and Florida (ATF 2000*c*).

The recovery of firearms with obliterated serial numbers is viewed by the ATF as a key indicator of firearms trafficking. Guns with thoroughly obliterated serial numbers are untraceable, and hence they offer protection for a criminal who is concerned about being tied to an illegal use of the gun; gun traffickers use this tactic to conceal the source of the firearm (Kennedy, Piehl, and Braga 1996*b*), even though possession of

⁶ The preferences of criminal consumers for certain types of guns may partially explain why semiautomatic pistols have quicker time-to-crime distributions. In Boston, interviews with youthful probationers revealed that they preferred modern and stylish semiautomatic pistols that were "new in the box" (Kennedy, Piehl, and Braga 1996*b*, p. 169). The preference for newer semiautomatic pistols arose from "street wisdom" that an older, less expensive firearm may have a "body" on it, and they wished to avoid being caught and charged with crimes they did not personally commit (Kennedy, Piehl, and Braga 1996*b*, p. 170). In the YCGII trace reports, the median time-to-crime of firearms recovered from youth ages eighteen to twenty-four (4.8 years) is shorter than for adults (5.6 years) and juveniles (6.3 years) (ATF 2000*c*).

a gun with an obliterated serial number is a federal felony. The Boston trace study revealed that one-fifth of the firearms recovered from Boston youth had obliterated serial numbers. Obliterated firearms recovered from Boston youth were found closely to resemble newer crime guns as they were mostly semiautomatic pistols, concentrated among particular brands and calibers (Kennedy, Piehl, and Braga 1996b).

In 1999, eleven YCGII cities reliably submitted information on guns with obliterated serial numbers: of these guns, 9 percent were semiautomatic pistols and 5 percent were revolvers (Cook and Braga 2001). As Kleck (1999) observes, the prevalence of obliterated serial numbers among crime guns is not great. However, as suggested by the Boston trace study, the prevalence of obliterated serial numbers was higher among guns recovered from youth than from guns recovered from adults in the eleven YCGII cities (ATF 2000c). The percentages for cities where interstate trafficking is most important appear to be higher—13 percent of recovered handguns had obliterated serial numbers in New York and 16 percent in Boston (Cook and Braga 2001).

At the national level, a 1995 study of all trace data contained in the ATF's Firearm Tracing System at the National Tracing Center found a very high concentration of traces associated with a small number of licensed dealers: nearly half of all traces came back to only 0.4 percent of all licensed dealers (Pierce, Briggs, and Carlson 1995). Of course, it is possible that the concentration of trace data may simply reflect the concentration of firearms sales among FFLs, which are also highly concentrated: in California, the 13 percent of FFLs with more than 100 sales during 1996–98 accounted for 88 percent of all sales (Wintemute 2000b). Handgun trace volume from 1998 was strongly correlated with handgun sales volume and is highly concentrated among high-volume dealers, but that is not the whole story: "trace volume varied substantially among dealers with similar sales volumes" (Wintemute 2000b, p. 567). However, Wintemute did not determine whether this variation was greater than could be explained by chance alone.

Multiple sales of firearms by FFLs may also be a potential indicator of firearms trafficking. Trace data analyses conducted by the ATF suggests that handguns that were first sold as part of a reportable multiple sale are much more likely than others to move quickly into criminal use (ATF 2000c).

C. Firearms Trafficking Investigation Data

Although trace studies provide useful information on the age and origin of crime guns, they do not describe the pathways through which

firearms were illegally diverted to prohibited persons. Analyses of ATF firearms-trafficking-investigation data provide insights on the workings of illegal firearms markets. An early study by Mark Moore (1981) examined 131 closed cases of "dealing without a license" between 1974 and 1976 in seven ATF regional offices. The trafficking organizations involved in the ATF cases were supplied both by thefts from residences and through purchases from licensed dealers. The study concluded that the trafficking organizations involved were quite small and did relatively little business; only 10 percent had more than twenty firearms in "inventory" when the arrest was made, and the majority appeared to sell fewer than five firearms a month. Some were in the general business of fencing stolen goods.

A more recent analysis examined all trafficking investigations conducted by the ATF in the Los Angeles area between 1992 and 1995 that led to a conviction or were still proceeding through the courts (Wachtel 1998). These twenty-eight cases charged the diversion of more than 19,000 firearms, primarily .380 and 9mm handguns. Three-quarters of the diverted firearms were purchased at wholesale—more than 90 percent by licensed dealers who then sold them illegally, and 1,200 through the use of a forged license. Fourteen percent were initially acquired at retail from a licensed dealer; straw purchasers acquired nearly half of these guns, and the rest were acquired from licensed dealers acting illegally. The balance were stolen from commercial outlets; no instances of residential theft were reported. The picture of trafficking that emerged was one of both large-scale and concentrated activity. Eight of the cases examined involved more than 1,000 firearms. The obliteration of serial numbers was extensive, with one case involving the obliteration of the serial numbers on 1,200 firearms.

The Moore (1981) and Wachtel (1998) studies present strikingly different pictures of the nature of gun trafficking. Neither study is representative of the current illegal firearms trafficking patterns. The Moore (1981) findings are dated. The Wachtel (1998) findings are specific to one geographic area and may not reflect general firearms trafficking patterns in the United States.

In an attempt to provide a more representative look at firearms trafficking, ATF and academic researchers conducted a comprehensive examination of all firearms trafficking investigations—a total of 1,530 cases involving the illegal diversion of more than 84,000 guns—conducted between July 1996 and December 1998 by ATF special agents in all ATF field divisions in the United States (ATF 2000*d*; see also Braga and Kennedy 2001).

This study found that 43 percent of the trafficking investigations involved the diversion of ten firearms or less (ATF 2000*d*) but confirmed the existence of large trafficking operations including two cases involving over 10,000 firearms. The distribution of trafficker size may look like the distribution of FFL size. The great majority of FFLs, even those that are active, sell only a handful of guns each year. However, most of the yearly sales originate from a handful of large FFLs (ATF 2000*b*). Similarly, the illicit market may consist of a large number of small, transitory opportunists and a few large operators, with the latter accounting for the bulk of the sales.

Among the largest traffickers are corrupt FFLs, who accounted for just 9 percent of the ATF investigations but almost half of the guns that were accounted for in these investigations (see table 3). Violations by licensed dealers in these investigations included "off paper" sales, false entries in record books, transfers to prohibited persons, illegal out-of-state transfers, and obliterated serial numbers.

Nearly half of the ATF investigations involved firearms being traf-

TABLE 3
Volume of Firearms Diverted through Trafficking Channels

Source	N (percent)	Total Guns	Mean	Median
Firearms trafficked by straw purchaser or straw purchasing ring	695 (47)	25,741	37.0	14
Trafficking in firearms by unregulated private sellers*	301 (20)	22,508	74.8	10
Trafficking in firearms at gun shows and flea markets	198 (13)	25,862	130.6	40
Trafficking in firearms stolen from FFL	209 (14)	6,084	29.1	18
Trafficking in firearms stolen from residence	154 (10)	3,306	21.5	7
Firearms trafficked by FFL, including pawnbroker	114 (8)	40,365	354.1	42
Trafficking in firearms stolen from common carrier	31 (2)	2,062	66.5	16

SOURCE.—Adapted from ATF 2000*d*.

NOTE.—*N* = 1,470 investigations. Since firearms may be trafficked along multiple channels, an investigation may be included in more than one category. This table excludes 60 investigations where the total number of trafficked firearms was unknown from the total pool of 1,530.

* As distinct from straw purchasers and other traffickers.

ficked by straw purchasers either directly or indirectly. Straw purchasers may be instruments of criminals or traffickers who obtain the straw purchaser's services, or they may be unlicensed dealers who set out to use their nonprohibited status to sell guns illegally to other persons for profit. In those instances where straw purchasers were working for traffickers, they were often friends or relatives of the firearms traffickers. Trafficking investigations involving straw purchasers averaged a relatively small number of firearms per investigation, but collectively accounted for 26,000 firearms.

Firearms stolen from manufacturers, FFLs, residences, and common carriers (such as the United Parcel Service) were involved in more than a quarter of the investigations (ATF 2000*d*). Organized rings of thieves that specialize in stealing firearms often characterized these cases.⁷ Depending on the type of theft involved, stolen firearms ranged from new to quite old. For example, a burglary of a licensed dealer may yield a cache of new and secondhand firearms, while a residential burglary or a series of home invasions may yield only older firearms. The diversion of firearms from gun shows and flea markets by FFLs and unlicensed sellers characterized 14 percent of the ATF trafficking investigations and were associated with the illegal diversion of some 26,000 firearms (ATF 2000*d*). An earlier review of ATF gun show investigations revealed that prohibited persons, such as felons and juveniles, do personally buy firearms at gun shows and that gun shows are sources of firearms that are trafficked to prohibited persons (Braga and Kennedy 2000; see also U.S. Department of the Treasury and U.S. Department of Justice 1999). The gun show research found that firearms were diverted at and through gun shows by straw purchasers, unlicensed private sellers (some of whom were previously licensed dealers whose licenses were revoked), and licensed dealers (Braga and Kennedy 2000).

D. The Structure of Illegal Firearms Markets

In the parlance of environmental regulation, illegal gun markets consist of "point sources"—ongoing diversions through scofflaw dealers, trafficking rings, and gun thieves—and "diffuse sources"—acquisitions through direct theft and informal voluntary sales. The investiga-

⁷ In one noteworthy 1994 case, which predated the investigation data collection and analysis, some 14,000 .25, .380, and 9mm semiautomatic pistols were stolen from Lorcin Engineering's manufacturing plant by four plant employees (Vanzi 1998). Since these handguns were freshly produced, none were stamped with serial numbers and authorities believe that most disappeared into the illegal firearms market (Vanzi 1998).

tion data and trace data provide evidence that point sources are quite important in supplying criminals, thus strengthening the case for supply-side interventions.

These patterns stand side by side with data indicating that more than a half million guns are stolen each year and survey findings that most criminals and juveniles obtain their guns from casual, informal sources. A reasonable conclusion is that, as in the case of pollution, both point sources and diffuse sources are important. Our own speculation is that the mix of point and diffuse sources differs across jurisdictions depending on the density of gun ownership and the strictness of gun controls. Systematic gun trafficking may well be more important in strict-control jurisdictions such as Boston and New York than in looser-control jurisdictions such as Atlanta and Dallas. As a result, the potential effectiveness of supply-side enforcement may be greater in jurisdictions where guns are relatively scarce.

To some observers, the broad lesson of the available research is that guns are available to criminals and juveniles from a variety of sources, so that even if one or two of them (straw purchases, trafficking) were to be curtailed it would make little difference to the use of guns in crime (Kleck 1999). That interpretation should be viewed as speculation, rather than as fact. The available evidence is simply not conclusive. And economic reasoning indicates that under some circumstances curtailing some sources of guns will influence the terms on which guns are available from other sources (Cook and Leitzel 1996).

The three sources of data on the illegal supply of firearms are not incompatible and do not contradict the belief that stolen guns and informal voluntary transfers predominate in supplying criminals and juveniles with guns. But FFLs also play an important role, as indicated by the survey data as well as the trace and investigation data.

These observations on the importance of direct retail purchases as a source of crime guns fits well with other evidence that prohibited persons often attempt to acquire firearms by deceiving licensed dealers. Background checks resulted in about 320,000 rejections of applications to purchase handguns made by prohibited persons between March 1994 and December 1998 (BJS 1999).

In his critique of the role of organized gun running, Kleck (1999) scrutinizes the potential sources of sample bias in the Boston trace study (Kennedy, Piehl, and Braga 1996b) and contrasts the Boston results with survey research findings to raise doubts about the impor-

tance of close-to-retail diversions of firearms in supplying criminals and youth with guns. We believe that his synthesis is inappropriate on two counts. First, analyses of trace data collected from multiple jurisdictions provide evidence of large differences among jurisdictions in the importance of various sources of guns for criminals and youth (ATF 2000c; Cook and Braga 2001). These differences are concealed in the survey research studies where the authors pool all the data. The survey data provide a picture of the "average" ways criminals and youth acquire firearms. However, this average is not representative geographically, and the trace data provide a clearer assessment of local variations associated with gun ownership among criminals and youth. Second, when the methodological limitations of the various types of illegal gun market research are considered, we believe that it is very difficult to compare the disparate types of research and make convincing arguments that privilege certain sources of guns over other sources.

Although the three sources of data on the workings of illegal gun markets are not directly comparable, they are broadly compatible. We have produced a list of grounded conclusions about the illegal supply of guns that are supported by at least one source and are not contradicted by another. Most guns used in crime have changed hands since the first retail sale. Guns used in crime are disproportionately new when compared with the stock of guns in private hands. Still, the majority of guns used in crime are more than three years old. The temporal connection between transactions and criminal use is no doubt much tighter yet, but that supposition is difficult to document in the absence of data on any transactions except the first retail sale. Theft from residences and dealers is an important source of crime guns, both directly (violent criminals and youths sometimes arm themselves through theft) and indirectly (the guns sold by street dealers have often been stolen). One earmark of trafficking is obliterated serial numbers. The guns preferred by youthful offenders in tight-control areas are quite likely to have obliterated numbers. The illicit market is served to some extent by dealers—people making money off buying and selling guns on an ongoing basis—including those both licensed and unlicensed. Guns are diverted from retail sources through a variety of means including scofflaw FFLs, straw purchases, and "lying and buying." Illicit dealers and traffickers cover a wide spectrum with respect to scale of activity—just as do FFLs. Scofflaw FFLs tend to be associated with the diversion of higher numbers of firearms than other traffickers. In tight-control

jurisdictions, crime guns are relatively likely to be imported from other states and to be recovered in the hands of someone other than the first retail purchaser.

III. Supply-Side Interventions to Reduce the Availability of Guns

The supply-side approach seems futile if one accepts the common view that “guns are everywhere,” that almost anyone can quickly and cheaply obtain a gun regardless of age or place of residence. However, much evidence suggests otherwise. For example, according to victim reports, 75 percent of robbers do not use a gun, despite the tactical advantage of doing so (Cook and Leitzel 1996). A longitudinal study of teenage gang members in Rochester, New York, found that only one-third owned a gun (Bjerregaard and Lizotte 1995). Similarly, about one-third of juvenile male arrestees in eleven cities reported owning a gun (Decker, Pennell, and Caldwell 1997). These statistics suggest that many active criminals and a majority of crime-involved youth do not own a gun.

Effective supply-side efforts would help increase the price of guns sold to prohibited persons and increase the “effective price” of acquiring guns—the time and hassle required to make a “connection” to buy guns (see Moore 1973, 1976). The benefit of this approach would be an increased incentive for criminals and youths to economize on gun possession and use. As guns become scarcer and more valuable, they will be slower to buy and quicker to sell, thus reducing the percentage of their criminal careers in which they are in possession of a gun (Kennedy 1994).

Thus, the potential for attacking illegal firearms markets has promise. Definitive evidence-based conclusions are scarce, but there is no lack of ideas.

A. Putting Trace Data to Work

Until recently, most law-enforcement agencies did not trace firearms unless they needed the information to solve a particular crime. In 1993, about 55,000 trace requests were submitted to the ATF (ATF 2000b). As described earlier, the ATF, with the support of the Clinton administration, embraced a supply-side approach to reducing gun violence. A key component to this approach was improving the ATF’s capacity to trace firearms and increasing the volume of trace requests submitted to the ATF. With three dozen cities now comprehensively

tracing all firearms recovered by law enforcement, more than 150,000 trace requests were submitted to the ATF in 1999.

Strategic analyses of trace data provide more focused information on the identity of FFLs and others who are most active in diverting guns into criminal use. These data have become an increasingly important tool in enforcement efforts. The use of trace data as an investigative tool has been enhanced by the development of Project LEAD beginning in 1993 (ATF 1995). Project LEAD is a computerized software application that contains information on all traced firearms in ATF's National Tracing Center's Firearms Tracing System. The system provides ATF agents with data useful in identifying gun traffickers, straw purchasers, and scofflaw FFLs. The ATF also analyzes multiple sales data for suspicious purchasing patterns suggestive of gun trafficking. Nearly 30 percent of 1,500 ATF firearms trafficking investigations reviewed between July 1996 and December 1998 were initiated through strategic analyses of information—analyses of trace data, multiple sales data, or both (ATF 2000*d*). After initiation of investigations, tracing was used as an investigative tool to gain information on recovered crime guns in 60 percent of the 1,500 ATF firearms trafficking investigations.

Another interesting application of strategic analyses of trace data has been as a guide to licensing and regulatory enforcement. As described earlier, federal dealers' licenses are now being issued far more selectively, and the number of active licensees has dropped from more than 260,000 to about 100,000. With the elimination of some 160,000 marginal dealers, ATF regulatory and enforcement resources are spread less thinly. Moreover, relatively few dealers are associated with the bulk of crime gun traces. The ATF has focused its investigations on this small group. In 2000, the ATF conducted focused compliance inspections of dealers who had been uncooperative in response to trace requests and of FFLs who had ten or more crime guns (regardless of time to crime) traced to them in 1999 (ATF 2000*a*). The inspections disclosed violations in about 75 percent of the 1,012 dealers inspected. Nearly half (47 percent) of the dealers had at least one inventory discrepancy. While the majority of the discrepancies were resolved during the inspection process, some 13,271 missing guns could not be accounted for by 202 licensees. Sixteen FFLs each had more than 200 missing guns. More than 57 percent had at least one violation relating to a failure to execute transaction paperwork properly, and 54 percent failed to maintain a complete and accurate record book.

The focused compliance inspections identified sales to more than 400 potential firearms traffickers and nearly 300 potentially prohibited persons, resulting in 691 referrals sent to ATF agents for further investigation (ATF 2000a). The overall ratio of trafficking referrals to licensees was more than three times higher in the group of licensees with ten or more firearms traces with short time-to-crime than in the group of licensees who did not have at least ten traces with short time-to-crime. Some 45 percent of the inspected dealers were recommended for follow-up administrative action, including 2 percent for license revocation. The licensees subjected to the focused compliance inspections had significantly higher rates (75 percent) of Gun Control Act violations than a random sample of licensees inspected in 1998 (37 percent) (ATF 2000a).

B. Regulating Licensed Dealers

States have generally paid little attention to regulating gun dealers, leaving that effort to the ATF. But there are some exceptions that suggest a fruitful role for state and local government. In 1993, North Carolina found that only 23 percent of ATF-licensed dealers also possessed its required state license (Cook, Molliconi, and Cole 1995). Noncomplying dealers were required to obtain a state license or forfeit their federal license. Alabama also identified FFLs who did not possess the required state license: 900 claimed not to know about the state requirements and obtained the license; another 900 reported that they were not currently engaged in the business of selling firearms and 200 more could not be located (Cook, Molliconi, and Cole 1995)—Alabama officials scheduled the licenses for these 1,100 dealers for cancellation.

The Oakland (California) Police Department worked with the ATF to enforce a requirement that all licensed dealers hold a local permit that requires dealers to undergo screening and a criminal background check (Veen, Dunbar, and Ruland 1997). This effort caused the number of license holders in Oakland to drop from fifty-seven to seven in 1997. Officials in New York City found that only 29 of 950 FFLs were operating in compliance with local ordinances. In cooperation with the ATF, all local license applications were forwarded to the New York City Police Department, which assumed responsibility for screening and inspections. The increased scrutiny reduced the number of license holders in New York City from 950 to 259 (Veen, Dunbar, and Ruland 1997). Unfortunately, these interventions

have not been evaluated to determine if they affected rates of gun misuse.

C. Limiting Gun Sales

Analyses of multiple purchase data revealed that handguns acquired in multiple purchase transactions are relatively likely to be associated with gun trafficking (ATF 2000c). In July 1993, Virginia implemented a law limiting handgun purchases by any individual to no more than one during a thirty-day period. Prior to the passage of this law, Virginia had been noted as one of the leading source states for guns recovered in Northeast cities such as New York, Boston, and Washington, D.C. (Weil and Knox 1996). Using firearms trace data, Weil and Knox (1996) showed that during the first eighteen months the law was in effect, Virginia's role in supplying guns to New York and Massachusetts was greatly reduced. For traces initiated in the Northeast corridor, 35 percent of the firearms acquired before one-gun-a-month took effect and 16 percent purchased after implementation were traced to Virginia dealers (Weil and Knox 1996). Although the number of guns originating from Virginia decreased, the number of guns originating from other states increased, which suggests that this approach would be most effective if a national one-gun-a-month law was adopted. Maryland adopted a one-gun-a-month law in 1996, and California followed suit in 1999 (Wintemute 2000a).

D. Screening Gun Buyers

Implemented in February 1994, the Brady Handgun Violence Prevention Act required licensed dealers to conduct a background check on all handgun buyers and mandated a one-week waiting period before transferring the gun to the purchaser. In November 1998, waiting periods for background checks were eliminated for a National Instant Check System (NICS).⁸ Over a five-year period (1994–99), 13 million Brady criminal background checks were conducted of prospective handgun purchasers (BJS 1999). Nearly 320,000 requests were denied, of which 220,000 were due to prior felony convictions or pending indictments (BJS 1999). Nevertheless, it seems easy enough for criminals to circumvent the provisions of the Brady Act by acquiring guns through the unregulated secondary market (Jacobs and Potter 1995).

⁸ The NICS system suffers from two key problems: the national registry of convicted felons is not complete, and there is no national registry of other prohibited persons such as drug addicts (Tien and Rich 1990).

The Brady Act did not affect licensed dealers operating in eighteen states because state law already required a background check; licensed dealers operating in the thirty-two remaining states were required to institute the change. The Brady Act thus created a natural experiment, with the “no change” states serving as a control group. Ludwig and Cook (2000) evaluated the Brady Act and found that there were no discernible difference in homicide trends between the thirty-two “Brady” states as compared to the eighteen “non-Brady” states. Criminals acquiring firearms from the unregulated secondary market may have undermined the effectiveness of the Brady Act in preventing homicide.

Cook and Braga (2001) demonstrate that criminals in Chicago were being supplied to a large extent by organized gun trafficking from south-central states, in particular Mississippi, and that a modest increase in regulation—imposed by the Brady Act—shut down that pipeline. However, this large change in trafficking channels did not have any apparent effect on gun availability to violent people in Chicago, as the percentage of homicides with guns did not drop after 1994 (Cook and Braga 2001).

Some observers suggest, however, that screening prospective buyers can be an effective way to keep guns out of the wrong hands. In Florida, McDowall, Loftin, and Wiersema (1995) reported a significant decrease in homicide rates after the state adopted mandatory waiting periods and background checks for prospective handgun buyers. A recent California study compared 170 felons whose handgun purchases were denied to 2,470 handgun buyers who had felony arrests but no felony convictions (Wright, Wintemute, and Rivara 1999). After a three-year period, the felony arrestees whose purchases were approved were 21 percent more likely to be charged with a new gun offense and 24 percent more likely to be charged with a new violent offense than were the convicted felons.

Since 1994, persons subjected to domestic violence restraining orders have been restricted from purchasing or possessing handguns. The 1997 Omnibus Consolidated Appropriations Act banned the purchase or possession of firearms by persons convicted of a misdemeanor domestic violence offense. Some eighteen states and Washington, D.C., prohibit persons convicted of selected misdemeanors, usually violent crimes and alcohol and drug offenses, from purchasing firearms (Wintemute 2000a). Research has revealed that certain misdemeanants, although legally entitled to buy firearms, are at substantial risk

for committing crimes (Wintemute et al. 1998). A California study of violent misdemeanants who sought to purchase handguns found that denying these purchases reduced their risk of committing new gun crimes or violence by 20–30 percent (Wintemute et al. 1999).

E. Gun Buybacks

Gun buyback and exchange programs have been popular in a number of jurisdictions, but they appear to have only symbolic value (Kennedy, Piehl, and Braga 1996a). Evaluations indicate that they have had no observable effect on either gun crime or firearm-related injury rates (see, e.g., Callahan, Rivara, and Koepsell 1994).

F. The Boston Story

Local problem-oriented policing projects hold great promise for creating a strong response to illicit firearms markets. Problem-oriented policing works to identify why things are going wrong and to frame responses using a wide variety of often untraditional approaches (Goldstein 1990). This approach provides an appropriate framework to uncover the complex mechanisms at play in illicit firearms markets and to develop tailor-made interventions to disrupt the gun trade. The famous illustration of this approach was the Boston Gun Project, launched during the early 1990s. It included an interagency problem-solving group that sought to disrupt the illegal supply of firearms to youth through the following efforts: systematically expanding the focus of local, state, and federal authorities to include intrastate trafficking in Massachusetts-sourced guns, in addition to interstate trafficking; focusing enforcement attention on traffickers of those makes and calibers of guns most used by gang members, on traffickers of guns showing short time-to-crime, and on traffickers of guns used by the city's most violent gangs; attempting restoration of obliterated serial numbers, and subsequent trafficking investigations based on those restorations; and supporting these enforcement priorities through analysis of crime gun traces generated by the Boston Police Department's comprehensive tracing of crime guns and by developing leads through systematic debriefing of, especially, arrestees involved with gangs and/or involved in violent crime (Braga et al. 2001, p. 199). The Boston supply-side approach was implemented in conjunction with a powerful deterrence-based demand-side strategy to reduce youth violence. Unfortunately, the gun-trafficking investigations and prosecutions followed the implementation of a very successful deterrence strategy and their effects on

gun violence could not be independently established (Braga et al. 2001).

The U.S. National Institute of Justice (NIJ), in partnership with the ATF, recently funded a demonstration program in Los Angeles to examine the effects of disrupting the illegal supply of guns on the nature of the illegal market and on gun violence (Riley et al. 2001). In addition to addressing LA's gun violence problem, this interagency law enforcement project was developed to provide other jurisdictions with guidance on how to analyze and develop appropriate problem-solving interventions to control illegal gun markets. The NIJ also recently revised the gun-addendum to its Arrestee Drug Abuse Monitoring (ADAM) program to address the shortcomings of other gun acquisition survey instruments in providing information on the illegal pathways through which criminals acquire guns. The ADAM program currently operates in thirty-five cities, and results of the gun addendum survey will be used to guide local law enforcement agencies in unraveling and responding to illegal gun markets.

G. Reducing Theft through Personalization

Reducing the flow of guns from theft, a major diffuse source of guns, might be accomplished by obligating or encouraging gun dealers and owners to safeguard their guns. More promising over the long run would be to require that new guns be "personalized" (Cook and Leitzel 2002). Millions of dollars of public and private funds have been invested in developing such a gun, one that could only be fired by the owner. A variety of designs are under development, including fairly traditional combination and keyed locks, or, more intriguing, a lock that is released by application of a preprogrammed thumbprint. If it were difficult to overcome the locking mechanism, then a personalized gun would be of little value to a thief. If a personalized safety lock became standard equipment, the long run effect would be to reduce theft and other unauthorized transfers of guns, thus cutting into an important source of crime guns.

For all of the above possibilities, the lack of definitive experience should encourage an experimental orientation, open to fresh possibilities and to evaluating the results.

IV. Learning by Doing

Criminal misuse of guns kills or injures tens of thousands of Americans every year. The threat of such violence imposes a heavy burden on our

standard of living, not only on groups that have the highest victimization rates but also on the entire community. By one estimate this burden amounts to \$80 billion per year (Cook and Ludwig 2000). Reducing gun violence would provide correspondingly great benefits, as indeed we have experienced during the 1990s. The unparalleled reductions in lethal violence, much of it with guns, has raised property values and given many communities the chance to reclaim a more civilized lifestyle, while reducing violence-related costs to the taxpayers. To achieve still further reductions, or fend off the next epidemic of violence, may require a concerted effort directed in part at separating guns and violence. In our judgment, that effort should include a variety of efforts to reduce the availability of guns to youths and dangerous adults.

However, the will to pursue this approach may not be available at the federal level. While some modest innovations were put in place during the Clinton administration, there appears to be little appetite for doing more now. And the existing legal framework actually impedes effective action.

In particular, prosecuting gun traffickers is remarkably difficult (Braga 2001). Since the telltale paperwork is not available for unregulated transactions in the secondary market, unlicensed dealers illegally engaged in the business of selling firearms can avoid prosecution by claiming that they were selling only a handful of firearms from their private collection. Corrupt FFLs who illegally divert firearms face very small penalties. (The FOPA reduced most of these record-keeping violations from felonies to misdemeanors in 1986.) Straw purchasers are also difficult to prosecute, given various legal loopholes. As a result, U.S. attorneys typically prosecute gun traffickers on charges unrelated to trafficking such as "felon in possession" or drug trafficking (ATF 2000*d*).

The enforcement of laws against gun trafficking is also hindered by the rather cumbersome procedure that the ATF is forced to use to trace firearms (Braga 2001). The limits of current record-keeping procedures thwart routine firearms tracing of secondhand firearms sold by licensed dealers and prevent the ATF from identifying straw purchasers and scofflaw dealers who divert secondhand firearms. Trace data also provide ATF investigators with little support in examining the robust trade in secondhand firearms on the secondary market. Modest statutory changes in the system for tracking firearm purchases and sales could make a big difference in developing an effective supply-side

strategy (Travis and Smarrito 1992). For example, a requirement for licensed dealers to report serial numbers for all sales to the ATF would greatly facilitate the tracing process without creating a central registry of gun owners. A requirement that all secondary market transactions pass through federally licensed dealers—with the same screening and paperwork provisions as if the gun were being sold by the dealer—would be useful in a variety of ways, including in detecting gun traffickers. However, both proposals would likely be vigorously challenged as infringing on the rights of lawful gun owners and as violating the FOPA, which prohibits the ATF from establishing any national system of gun registration (Braga 2001).

More promising, politically speaking, is the possibility of action at state and local levels. There is much that can be done at those levels. States could assume some of the responsibility for tracing crime guns and investigating dealers. Local police departments can quite possibly be effective at disrupting local gun markets, but only if they concern themselves with gathering the necessary intelligence and acting on it. Most police departments have been focused on getting guns off the street instead of focusing on where the guns are coming from (Moore 1980, 1983). In recent years, however, police practices have changed in many major cities due in part to efforts by ATF and the U.S. Department of Justice to form partnerships to reduce the availability of guns to youth and criminals (see, e.g., ATF 2000c, 2000d).

A major contribution of the research community in this setting should be evaluation of interesting policy changes at the state and local level. Only through systematic assessment of actual experience in the field are we going to be able to move past the cacophony of speculation to firm conclusions about what supply-side strategies are likely to be effective, and under what circumstances.

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CRIME AND JUSTICE
A Review of Research
VOLUME 29

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