

Suppressing Illegal Gun Markets: Lessons from Drug Enforcement*

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I. Introduction

As the nation contemplates a major effort to reduce the availability of handguns to urban youth, *inter alia* through aggressive enforcement against illicit transactions, it seems useful to consider what we can learn from the experience in attempting to suppress illicit drug markets.

Drug enforcement since 1985 has probably represented the nation's largest ever commitment to control an illegal market through criminal sanctions¹. Commitments to state prison on drug offenses now constitute about 30 percent of the annual total, or roughly 130,000. The results are at best mixed. Prices for cocaine, heroin and marijuana remain very high compared to what they would be in legal markets; at least twenty times the legal price in the case of cocaine.² Perhaps as a consequence, attractive illegal drugs like cocaine are used by many fewer persons than alcohol; how much that should be attributed to illegality per se as opposed to the stringency of enforcement is indeterminable at this time³. On the other hand these prices have fallen substantially in recent years⁴ and availability, at least for youth, remains high⁵. Recent

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¹ Arrests for drug offenses have been about 1,00,000 since 1992; see *Crime in America* (annual). The number of felony convictions on drug charges, mostly for trafficking offenses in state courts has been around 250,000 since 1990; see *Felony Convictions in State Court* Bureau of Justice Statistics, 1992, 1994. In addition, federal courts convict about 20,000 annually; see *Federal Offenders in US Courts* (Administrative Office of the US Courts, annual).

² Mark Moore "Reducing the Supply of Illegal Drugs" in Michael Tonry and James Q. Wilson (eds.) *Drugs and Crime*, pp. 109-157 (University of Chicago Press, 1990).

³ Estimates of the price elasticity of demand for illicit drugs suggest that it is quite high (perhaps as much as -2) for cocaine among those who use that drug frequently. However the range of observed prices is quite small. See Jonathan Caulkins and Peter Reuter "The Meaning and Utility of Drug Prices" *Addiction* (in press).

⁴ On changes in prices see *The Wholesale and Retail Price Report* (annual, Drug Enforcement Administration); for a careful interpretation see Jonathan Caulkins "Measuring the Price of Cocaine" *Addiction* 89 (7) July 1994, pp. 815-819.

⁵ Each year a national survey of high school seniors asks whether particular drugs are available or readily available; for marijuana, 80-90 percent have said each year that the drug is available or readily available. The percentage reporting similar availability for cocaine rose during the 1980s from about 30 percent to 45 percent and only began to drop in the early 1990s. See *Monitoring the Future* (annual, Institute for Social Research, University of Michigan).

reductions in consumption (both prevalence and quantity) seem to be driven by changes in youth attitudes or by incarceration of users rather than suppression of the market..

The principal hypothesis of this article is that recent experience with drug markets suggests that enforcement aimed at the market for illicit guns is likely to make only a modest contribution to reducing the availability (as measured by access and price) of guns for urban youth. Generally, the gun market is too informal and too broadly distributed in time and space to allow for effective police penetration. What opportunity exists may lie, oddly enough, in the intersection of the markets for guns and drugs. This does not speak to the other major element of control, discussed elsewhere in this volume, namely improving the regulation of licit markets so as to reduce the flow of guns into the illicit market from which a large share of the youth guns are obtained.

Comparison of enforcement against drug and gun markets presents at least two analytic challenges. The first is primarily conceptual ---identifying what dimensions of an illegal market influence the effectiveness of enforcement. The second is primarily empirical --- determining how drug and gun markets compare on these dimensions. The next section of the article attempts to identify the characteristics of illegal markets that impede effective policing, i.e. make it difficult to raise the price or accessibility of the good or service to the final purchaser. This section draws principally on recent experiences with illicit drugs. Section III then considers what we know about these characteristics of the illegal markets in which urban youth obtain firearms, particularly handguns. The final section presents some conclusions about potential strategies for controlling these gun markets.

This article considers only the markets for wholly illicit drugs, principally cocaine, heroin and marijuana. The more obvious analogy for guns is to the youth market for alcohol. Like guns, alcohol is legally available to adults and the control problem is how to prevent acquisition by youth who are disbarred from legal purchase. The analogy is particularly close because the law in both cases allows the transfer to youths within families, with parental consent. Moreover, like guns, alcohol is available to youth at quite modest mark-ups compared to the legal price. This itself points to the limited value of analysis of enforcement of laws against underage purchase of alcohol. Like those against gun acquisition by youth, such efforts have been neither strenuous nor successful, as illustrated not only by the low mark-up but by the large fractions of youth reporting regular binge drinking⁶ and the low salience of the enforcement issue until quite

⁶ The percentage of high school seniors reporting that they have drunk five or more drinks at a single session in the past week has varied between xx and xx over the last decade. See *Monitoring the Future* (annual, Institute for Social Research, University of Michigan).

recently. The control of the market for drugs that are diverted from licit traffic, such as Valium and other hypnotics, might also be worth examining for insights into gun control. However the analytic literature on these control efforts is very small.

II. Characterizing Illegal Markets

Drug markets seem to vary substantially in their vulnerability to the police. Heroin in many major cities is sold in relatively public settings at known times of day, reflecting the rhythms of drug users⁷. The police are a continuing presence; the number of arrests they make is highly discretionary. If the mayor demands more heroin arrests, the police can certainly provide an increase, probably without much additional commitment to the enterprise; it is the downstream agencies that will be strained⁸. In contrast, the market for hallucinogens is an abstraction, with transactions occurring mostly in private settings at unpredictable times; the police are not much of a presence at the retail end.

The critical feature of a market for police purposes is its penetrability, interpreted as the cost of creating a given level of risk of apprehension for the average transaction. This obviously cannot be measured with any precision, since we lack measures either of risk levels⁹ or of enforcement expenditures¹⁰, so statements about specific markets represent general observations about what happens as enforcement intensity increases from modest levels. While figures on numbers of arrests for specific drugs are sometimes available¹¹, there are no systematic estimates at the local level of the underlying body of offenses (transactions) so as to permit conversion of arrests into stringency measures¹². Cost measures are hard to obtain because so much drug enforcement by police is part of general patrol work. Cost could also be more broadly interpreted to include sacrificed civil liberties; there are extremely intrusive measures (e.g. random testing of

⁷ Some observers report the highest activity rates for such markets in the morning, between 7am and 9am; the first fix of the day is the most urgent.

⁸ See Aric Press 1987 "Piecing Together New York's Criminal Justice System: The Response to Crack" *The Record of the New York Bar Association* 1987, pp.541-569, for a fascinating description of that problem in the context of crack in New York City during the mid-1980s.

⁹ Peter Reuter, Robert J. MacCoun and Patrick Murphy *Money from Crime* RAND, 1990 provide estimates of the risk of arrest or incarceration per annum faced by a regular seller of drugs (i.e. one who sells at least two days per week) in street markets in Washington, D.C. in the late 1980s. We know of no other estimates and the Reuter et al figures are rough at best.

¹⁰ Aggregate measures of drug enforcement expenditures by state and local agencies have been published for 1990 and 1991; *State and Local Spending on Drug Control Activities* Office of National Drug Control Policy, 1993. At the individual city level we know of no systematic estimates.

¹¹ A central problem in getting drug-specific arrest figures is that the FBI retains a very traditional classification system for drugs in its Uniform Crime Reports system. Cocaine and heroin arrests are in one category and many police departments do not provide more detailed information.

¹² For a discussion of this measurement issue see Reuter "On the Consequences of Toughness" in Edwin Lazear and Melvin Krauss (eds.) *Searching for Alternatives: Drug Control Policy in the United States* (Hoover Institute Press, 1990)

citizens for the presence of drugs in their bodies) that might not be resource intensive but would be regarded as very costly in a democratic society.

Without claiming to have a means of providing an exhaustive list, we suggest that the relevant variables for penetrability can be clustered into three broad categories: Consumer characteristics (spatial density, poverty, criminality¹³); Consumer-product interactions (frequency of transactions by individual customers; urgency/impulsiveness of purchase); and Distribution-product interactions (length of distribution chain, bulkiness of item, ease of entering the market as a supplier).

Note four aspects of this list. First, not all items are independently determined; e.g. the poverty of users will increase the frequency of purchase, because they will have more difficulty accumulating funds for large purchases. Density of customers also facilitates more frequent transactions by cutting down search time per purchase. Second, interactions may be at least as important as main effects. For example impulsivity raises vulnerability to enforcement particularly when transactions need to be frequent; if a drug is purchased on a three monthly basis, even impulsive purchase exposes the buyer only very occasionally. Third, the analysis is complicated by the fact that most, if not all, the variables are enforcement sensitive; e.g. bulkiness is affected by enforcement directly (use of more potent forms of a drug¹⁴) and indirectly (consequent high price may induce smaller unit purchases¹⁵), while enforcement affects who chooses to purchase. Data to separate out the inherent characteristics are not available, allowing a free field for judgment. Finally note the lack of reference to the psychoactive effects of the drug; though much tends to be made of differences between the heroin and cocaine markets, the markets for other stimulants with similar psychoactive properties is also very different from that for cocaine.

The development of specific market “places” is critical for drug enforcement. Indeed, police and many analysts tend to think of drug markets as locations rather than abstract arrangements of buyers and sellers. Locational specificity arises in many retail drug markets from the desire of buyers and sellers to be able to find each other efficiently. However the mirror consequence is that it also allows police to deploy their patrol resources more efficiently. One can observe the same phenomenon in illegal gambling. Telephone wagering greatly reduced the vulnerability of bookmakers, as compared to when they ran storefront walk-in operations,

¹³ This refers to crimes other than participation in the specific illegal market.

¹⁴ More potent forms of drugs are more readily concealed. Indeed, a common charge against prohibition regimes is that they encourage the consumption of more potent and dangerous forms of substances; see e.g. Thornton *The Economics of Prohibition*.

¹⁵ This effect refers not to the form of the drug but the size of the average transaction.

precisely because there was no longer a specific location at which bettors had to congregate¹⁶. Similarly, individual high level drug transactions reduce transaction vulnerability by having the buyer and seller fix a location specific to each transaction¹⁷. Much of the analysis that follows is about those factors leading to markets being concentrated in space and time.

A. Customer Characteristics

(1) Density and Separation of Buyers and Sellers. Where buyers and sellers come from the same community, markets may be able to move without loss of efficiency because information about location is readily communicated among participants on a short-term basis. Reuter and MacCoun¹⁸ argue that this leads to geographic markets (labeled “domestic”) that are relatively robust to police interventions. Heroin and crack markets tend to have this characteristic, since most buyers are sometimes sellers and vice versa. If forced from a current location by police activities, they will tend to find each other again. Cocaine and LSD markets frequently show more separation of buyers and sellers; the latter come from the dealing neighborhood and the buyers from other areas where open markets are harder to find. These markets are consequently more susceptible to breaking up under police pressure. For yet other drugs, such as hallucinogens and marijuana, the market is not a place but simply notional; enforcement consequently lacks focus.

(2) Criminality Though Jerome Skolnick’s classic observation¹⁹ of the 1960s, that the drug squad ignores its targets’ burglaries while the burglary squad ignores its targets’ drug purchases, still has some relevance, our impression is that police and prosecutors are now likely to permit a felonious drug user to obtain some relief on other arrests by providing information about his supplier. This represents the increased prominence of illicit drugs as a social problem. A heroin dealer is at risk from the fact that his clients are frequently arrested for other crimes²⁰; a marijuana

¹⁶ On how this change affected the organization of bookmaking and associated corruption, see Peter Reuter *Disorganized Crime* Chapter 3 (MIT Press, 1983). Customers may have regretted the loss of social ambiance that went with such congregation (well described, albeit in *faux* form, in the film *The Sting*).

¹⁷ Transaction vulnerability may nonetheless be higher for wholesale than for retail transactions because the police invest more resources in pursuing high level dealers and will trade charges against a retailer for information that will allow interception of such a transaction.

¹⁸ Peter Reuter and Robert J. MacCoun “Street Drug Markets in Inner City Neighborhoods: Matching Policy to Reality” in *Urban America* (James Steinberg, David Lyon and Mary Vaiana eds., pp.227-251 (RAND, 1992))

¹⁹ Jerome Skolnick *Justice Without Trial* 1967.

²⁰ Data from the Drug Use Forecasting program suggest that a substantial fraction of the estimated 500,000 to 1,000,000 heroin addicts are arrested each year, mostly for non-drug crimes. For example, 18 percent of all male arrestees in New York County (Manhattan) tested positive for opiates (predominantly heroin) in 1992; in Chicago the percentage was 19 percent. Urinalysis figures appear in *Drug Use Forecasting 1993*; the estimate of the number of heroin addicts comes from Rhodes et al. *What America’s Users Spend on Drugs* (Office of National Drug Control Policy, 1995).

dealer is on average at lower risk of finding a regular customer turned into an informant. Customer criminality may also increase dealer preference for public settings for transactions. Addicted and violent customers make private places dangerous settings for bringing together such customers and bundles of drugs; customers may be as much a source of risk as police²¹. Non-addicted and non-poor users may also be reluctant to transact with some sellers (frequently poor and addicted) in private settings. Public settings increase exposure to police intervention.

(3) Poverty Wealthy cocaine users, at least early in their cocaine careers, are more likely to purchase in private settings. The poor in this case do not pay more but substitute for that by taking greater risk in their purchase. The poor are unable to purchase large bundles and value their own time and risks less than non-poor users; sellers are less willing to travel to the customer for small quantities and the user is more willing to come to the seller, even in a public setting. Note that the hallucinogen market generally has wealthier users who seem to avoid public locations²².

B. Consumer-Product Interactions

(1) Frequency of transaction. Transactions (purchase/sale) provide the most vulnerable moment in a market. Certainly most drug arrests occur as the consequence of an observed or simulated sale; use/consumption or simple possession rarely produces arrests²³. Infrequent transactions reduce opportunities for police to effectively intervene. One reason that enforcement against higher levels of drug markets is expensive (per arrest if not per gram²⁴) is that transactions occur only on a weekly or monthly basis²⁵. Similarly, marijuana retail markets are probably less vulnerable to enforcement (as measured by either the absolute or percentage mark-up at the retail

²¹ No data directly address the extent of customer violence against dealers. The only study of the sources of drug-related homicides found that most were accounted for by systemic factors, rather than the psychopharmacological effects or economic compulsive effects. See Goldstein, Paul; Brownstein, Henry; Paul Ryan and P. A. Belluci "Crack and Homicide in New York City, 1988: A conceptually based event analysis" *Contemporary Drug Problems* 16 (Winter). 1989, pp.651-687.

²² On the relationship between income and use of specific drugs see *National Household Survey on Drug Abuse: Main Findings 1993* (Department of Health and Human Services, 1995).

²³ These statements are speculations but not, we believe, controversial ones. A substantial fraction of possession arrests are not transaction related e.g. an officer observes paraphernalia in the course of a vehicle stop; however, sales arrest are a rising share of all drug arrests and account for most imprisonments.

²⁴ High level dealers earn large incomes per transaction, presumably for incurring higher total risks both from enforcement and from other market participants. However, compensation per gram is much lower than at retail, since the risk is distributed over many grams. A retailer typically marks up his purchase price by about 75%, amounting to perhaps \$60 per gram; he earns only \$30 per transaction. A multi-kilo dealer, buying 25 kilos at \$20,000 per kilogram and selling in 5 kilogram units at \$25,000 per kilo, adds only \$5 per gram but earns \$25,000 per transaction. See Peter Reuter and John Haaga *The Organization of High-Level Drug Markets: An Exploratory Study* (RAND, 1988).

²⁵ However larger bundles may be more vulnerable during storage; e.g. the largest cocaine seizure occurred when 20 tons was discovered in a warehouse outside of Los Angeles.

level) because purchases are typically made on a weekly or less frequent basis, compared to a daily basis for cocaine and heroin²⁶.

The frequency of transactions of drug dealers is quite remarkable, given that each one is illegal. Reuter, MacCoun and Murphy estimate that a regular drug dealer, i.e. one who sells more than one day per week, is likely to make at least 1500 transactions each year²⁷. To give a more global sense of the volume of drug transactions, the estimated 300 tons of cocaine consumed annually alone generates 300 million 1 gram sales each year; all drug retail transactions might total over 1 billion²⁸.

(2)Urgency and impulsivity of purchase. Drug users frequently wish to obtain their drugs immediately; indeed, one of the defining characteristics of addiction is that the drive for the drug may dominate the individual's behavior (urgency)²⁹. This leads to less caution in search behavior. The timing of the need may not be readily predictable (impulsivity) increasing the importance of having immediately accessible sources. Street drug markets are like convenience stores; they are always open. The turn-over and unreliability of dealers will promote dense and locationally specific markets³⁰.

C. Distribution-Product Interactions

(1)Length of Distribution Chain. Heroin and cocaine enter the country in large bundles (e.g. 500 kilograms of cocaine, a typical interdiction seizure, represents about 500,000 retail purchases). Hence there are numerous high and intermediate level transactions³¹ and, at least for small or immature markets, success in incapacitating high level dealers potentially reduces the

²⁶ Frequent purchases by cocaine users may represent both efforts at self control (not having to abstain when in possession of the drug, thus spreading out the total pleasure for a given expenditure) and the difficulty of accumulating the money required for larger purchases. Mark Kleiman *Against Excess: Drug Policy for Results* (Basic Books, 1992)

²⁷ Reuter et al. *Money from Crime* Chapter 5, fn x supra.

²⁸ For total consumption estimates, see William Rhodes et al. *What America's Users Spend on Illicit Drugs, 1988-1993*, (Office of National Drug Control Policy, 1995). Cocaine is not always sold in 1 gram units. Crack is typically sold in units containing only about 50 milligrams of pure cocaine, while some powder users purchase in quarter ounce (7 gram) bundles. The figure for transactions is certainly in the order of hundreds of millions. For heroin a similar calculation can be performed; typical purchases are of 25 milligrams of pure heroin, so that the roughly 10 tons consumed would generate about 400 million transactions.

²⁹ American Psychiatric Association *Diagnostic and Statistical Manual- IV*

³⁰ Not all impulsive purchases are urgent nor are all urgent purchases impulsive, though many transactions are both. A heroin addict knows that his need for the drug is high early in the morning (urgency) and thus may be able to prepare for it (non-impulsive). An occasional cocaine user may make an impulsive purchase as the result of a specific external cue or personal encounter.

³¹ The number is small when compared to the total of retail transactions; however, note that each gram is exposed in a number of transactions, only one of which is the final retail sale. Assume that each high level seller is willing to deal with 5 customers, to keep risk acceptable; then the total number of non-retail transactions for the 500 kilograms is about 95,000, compared with the 500,000 retail sale transactions.

efficiency of the market. Marijuana, because of the extent of small scale domestic production, is less vulnerable to localized interruptions³².

(2)Bulkiness Drug purchases are essentially invisible (except perhaps to the highly trained eye³³) because the quantity of drug involved is so slight, typically one gram or less, including diluents. Alcohol prohibition presented different opportunities for enforcement (and corruption) simply because a retailer had to stock such large quantities (including a variety of drinks) that they could not be readily concealed.

(3)Entry In theory, manipulation of barriers to entry is a strategy for enforcement agencies. One rationale, though not the only one³⁴, for focusing enforcement efforts on high level drug dealers is that there are entry barriers to that level of the market, so that it will be difficult for newcomers to replace those who are incarcerated. As a result, the remaining suppliers will have the capacity to control the market and raise prices and/or supplies will actually be interrupted.

Indeed, some illegal markets require suppliers to have specialized resources (e.g. access to stockpiles of weapons grade plutonium) or large quantities of capital³⁵. Specific skills are rarely necessary for the entrepreneur because they may be purchased from agents, e.g. pilots with certificates and capability for handling certain types of aircraft or technicians capable of producing LSD. We are unable to identify skills that are held by only small numbers or persons or which require very much education. Drug dealing, at least within the United States as opposed to international smuggling, requires no skills or specialized resources. The capital required for entry into the higher levels may be substantial, a 500 kilo shipment representing a value of about \$10 million, but revolving credit is often available to those who have shown themselves reliable in lower level transactions; experience can be a substitute for capital.

In summary, enforcement should be able to do more to raise price and reduce access in drug markets characterized by (in order of probable importance) frequent urgent and/or impulsive purchases, poor and criminally active users, bulky product, and lengthy distribution chains. The first three of these are the characteristics that are likely to generate specific and public market

³² These statements about the impact of high level transactions on the efficiency of markets are purely speculative. Only in the case of the crack-down on the Medellin cartel in 1990, which led to a one year sharp increase in cocaine prices, is there any evidence of such an effect; see William Rhodes et al. *Price and Purity of Cocaine: The Relationship to Emergency Room Visits and Deaths and to Drug Use Among Arrestees* (Office of National Drug Control Policy, 1992).

³³ Researchers who have ridden along with police are frequently impressed by how well experienced officers interpret body movements as revelatory of drug transactions.

³⁴ Other rationales include: (1) Those who profit most from an illegal market should be at highest risk of being punished; and (2) Those who serve as role models for entrants into the business, because of their financial success, should be seen to be subject to punishment.

place locations. We now turn to consideration of the characteristics of gun markets, using this hierarchy (from frequency to length of distribution chains) to organize our inquiry.

III. Gun Markets

Because the concern with juvenile use of guns has only relatively recently become prominent, the scholarly literature on patterns of acquisition, essential to understanding the role of markets, is very modest. We make abundant use of journalistic materials to flesh out our description of how juveniles acquire guns.

A. Frequency of Transactions

Specific data with which to estimate the frequency of illegal gun transactions by individuals (either as buyers or sellers) are very scanty, primarily anecdotal, and focused on sellers rather than purchasers. At the extreme, one can find stories of unscrupulous federal firearm licensees selling hundreds or perhaps thousands of guns knowingly over multiple month periods to felons, drug dealers, and/or gangs³⁶. Generally though, persons engaged in illegal gun sales appear to make quite modest numbers of transactions. In a number of journalistic accounts, the business of gun runners ranged from 10 to 15 sales a week³⁷ to an estimated 2 or 3 a month³⁸. For example, one DC teenager involved in gun dealing reportedly used straw purchasers to obtain 61 semiautomatic firearms from Virginia stores over a 5 month period which he then sold to persons in Washington, DC. Assuming that these were the only guns he sold during that time (perhaps a tenuous assumption), this amounted to 12 sales per month, or 3 per week. In another example said by federal officials to be typical of the size of most gun running operations, a New York trio procured and sold 116 weapons over a 4 month period. This amounts to approximately 29 sales a month and 7 a week.³⁹

These are of course strikingly low figures compared to the figures on sales by drug retailers cited above, in the order of 13 per day on days of selling⁴⁰. A dealer who operated three days a week, typical of those in the Reuter et al, sample, would make about 150 sales per month.

³⁵ We assume here that capital markets for illicit enterprises are imperfect because of impediments to information flows and high contract enforcement costs.

³⁶ Matt O'Connor "6 Years for Illegal Gun Sales" *Chicago Tribune*, July 19, 1995 A1; Thomas "DC's Modern-Day Gun Runners" *The Washington Post* August 18, 1991, A1

³⁷ Pete Earley. "The Gun Dealer" *Washington Post* March 8, 1981 A1.

³⁸ Mark Moore. "Enforcement Strategies to Keep Guns from Offenders and Off City Streets" Unpublished manuscript, Kennedy School of Government, Harvard University, 1983. Also, Rene Sanchez, "Building an Arsenal, One Gun at a Time" *Washington Post*, November 3, 1993 A1 and Pierre Thomas "Virginia's Deadly Export" *Washington Post* February 2, 1993.

³⁹ If these transactions were spread out among the 3 people, it would have lowered the number of transactions conducted by each member of the group

⁴⁰ Reuter, MacCoun and Murphy *Money from Crime* report that selling is typically carried out only about four hours on any day.

Data regarding the frequency of gun purchases by buyers are virtually non-existent. However, we might use data from Wright and Rossi's survey of serious adult felons to develop a rough approximation. On average, these respondents had owned a total of 6 handguns during their lives⁴¹. The mean age of the respondents was 28, and the mean age at which they first acquired a handgun was 18. Wright and Rossi also reported that the average respondent had spent 5 years in prison at the time of the survey⁴². If we adjust for time spent in prison, it appears that these rather serious adult offenders had acquired handguns at a rate of only about 1 per year. Thus, it appears that even serious felons make gun purchases rather infrequently. However, these figures may have limited generalizability to youths and to the current time period; the increasing pressure to maintain a steady state of armedness may raise frequency of gun purchases .

It is not difficult to enumerate factors likely to reduce the frequency of gun purchases by individual users as compared to drug purchases. One is the sheer durability of guns. A specific gun may become unfashionable or unattractive because it has been shot off in a particular crime and thus incriminating to the owner. However, a gun is clearly a durable good, in sharp contrast to the extreme perishability of drugs in the hands of addicted users. Much of the utility of a gun comes from possession *per se*, not its use, again encouraging longer ownership.

Another factor is the price of guns. Gun prices vary substantially in different journalistic and scholarly accounts of gun buying. These variations in price depend on many variables, such as the quality of the weapon and whether the firearm is new or used. The level of gun control in the jurisdiction would seem to play a role as well; more stringent control can raise the price in illicit transactions⁴³. Also influential is the situation or motivation of the seller; in some cases, drug addicts in need of their next fix may sell firearms for as little as \$10⁴⁴. Yet quality firearms often cost hundreds of dollars even in illegal transactions, thus preventing most youths from making frequent purchases⁴⁵.

Further, ethnographic research⁴⁶ and media accounts⁴⁷ suggest that youths often share guns in order to reduce the risks of getting caught with an illegal firearm and, presumably, to

⁴¹ Wright and Rossi, *supra*, p.80.

⁴² *Ibid*, p.45.

⁴³ Philip J.Cook.; Stephanie Molliconi; and Thomas B. Cole *Regulating Gun Markets* unpublished paper, Duke University, 1994.

⁴⁴ Bill Walsh. "Drugs Feed Gun Markets" *Times-Picayune* July 25, 1993. In *Newsbank Law Section* 74:G14.

⁴⁵ Cook, Molliconi and Cole *Regulating Gun Markets* fn. *supra*.

⁴⁶ David Kennedy. "Gun Markets, Serious Juvenile Offenders, and a Coerced Demand Reduction Strategy." paper delivered at the Harry Frank Guggenheim Foundation conference on Disarming Urban Youth, Santa Fe, September 1995.

⁴⁷ Bill Walsh. "Drugs Feed Gun Markets" *Times-Picayune* July 25, 1993, fn. x *supra*.

lower each youth's cost for the weapon. Indeed, 15% of Seattle youths owning a handgun appear to share ownership of a gun with one or more friends⁴⁸. Similarly, the existence of various loaning and sharing arrangements is suggested by Sheley et al.'s discovery that among inner city students gun carrying is more prevalent than gun ownership.⁴⁹ On the other hand, some youths who do not purchase guns may rent them and this could conceivably increase the number of transactions they make. Besides sharing arrangements, one or more youths in a group might purchase weapons on behalf of the other youths⁵⁰, thereby lowering the necessary number of market transactions. Drug dealers are known to often equip their subordinates in this manner⁵¹.

To make the point about frequency more forcefully, we offer in the Appendix an estimate of the annual number of street purchases by adolescent males in the District of Columbia; the estimate takes no account of factors peculiar to Washington's gun control regime. Using fairly generous assumptions, likely if anything to bias the figure upwards, we estimate that the annual purchase figure is about 2,200, or about 6 per day. If we include 18-20 year olds, who are not permitted to purchase from an FFL, the figure rises to 13 per day. This last figure is about the volume of sales of one drug dealer in the course of a single afternoon and there are literally thousands of such sellers. The number of gun sales appear to be three orders of magnitude smaller than the number of drug sales.

B. Urgency and Impulsivity of Purchase

Among both juvenile inmates and students, protection is the most important reason for gun ownership⁵². The perceived need for protective gun ownership is understandable; 45% of the students surveyed by Sheley and Wright reported that they had been "threatened with a gun or shot at on the way to or from school in the previous few years"⁵³ Nevertheless, it is not clear how often youths seeking guns are in some sort of imminent danger that creates an urgent need to procure a gun quickly. In a study of junior high school students in Washington, DC, having been threatened or attacked with a gun was not significantly related to having carried a gun, though gun carriers did tend

⁴⁸ Charles A. Callahan and Frederick P. Rivera "Urban High School Youth and Handguns: A School Based Survey" *J. American Medical Association* 267 (1992), 3038-3042 .

⁴⁹ However, this pattern is not common to all available survey data; see Callahan and Rivara *ibid.* Sharing, loaning, or renting arrangements are also a potential factor in investigations linking the same firearm to multiple murder incidents e.g., Pierre Thomas, P. "The New Face of Murder in America" *Washington Post* October 23, 1995, A1.

⁵⁰ Robert Hanley "6 Teen-Age Friends Are Arrested in Conspiracy to Buy Illegal Guns" *New York Times* March 16, 1995, B5.

⁵¹ Cook, Molliconi and Cole, "Regulating Gun Markets" *J. Criminal Law and Criminology* 86 (1995) 59-92.

⁵² Sheley and Wright, "Gun Acquisition and Possession in Selected Juvenile Samples" pp. 7-8; *fn. x supra.*

⁵³ *Ibid.*, pp.3-4.

to know more persons victimized by violence⁵⁴. This suggests that to the extent gun carrying is defensive, it is most often a response to general environmental conditions rather than personal victimization. However this generalization may not apply as strongly to older adolescents; Sheley et al. did find evidence that gun related victimization (i.e. having been threatened with a gun or having been shot at while in school or while traveling to and from school) is associated with gun carrying among inner city high school students. Even so, it is still unclear how often juveniles acquire guns because they perceive an urgent need.

Urgency may be a factor for gun sellers more often than for buyers. In particular, drug addicts with weapons to sell sometimes face an urgent need to sell their wares for drugs or cash when in need of their next fix. As mentioned previously, crack addicts in some cities may sell guns for as little as \$10 in order to get quick money for crack. One New Orleans youth owning a .45 caliber handgun described the situation, " 'Sometimes the guns just come to you....I had a dude come up to me and ask me, 'Do you want to buy a gun?' I said 'Yeah' and I gave him a dime (\$10) rock [of crack]' "⁵⁵ This point also has implications for the spatial dimensions of gun markets, for it suggests that juveniles can get guns quickly by visiting locations known for drug transactions.

On the other hand, other anecdotal evidence suggests that gun transactions can take a few days to set up even when the buyer has an urgent need for a gun. For example, a Washington, DC youth who had lost his gun remained indoors for over two weeks until he was able to acquire a new gun⁵⁶. The search time generally required to obtain a gun indicates that many juvenile gun buyers are not aware of specific locations where they can get guns quickly.⁵⁷

C. Density and Separation of Buyers and Sellers

Many youths can obtain firearms from family or friends, thus eliminating their need to seek out formal markets. Gun ownership and gun carrying appear to be common among the friends and relatives of many urban youths. Survey evidence suggests that 39% of inner city students have one or more male family members who carry guns regularly and 35% have one or

⁵⁴ Daniel W. Webster.; Patricia S. Gainer, P. and Howard R. Champion "Weapon Carrying Among Inner-City Junior High School Students: Defensive Behavior vs. Aggressive Delinquency" *American J. Public Health* 83, 1993, 1604-1608.

⁵⁵ Bill Walsh, B "Drugs Feed Gun Market" *Times-Picayune* July 25, 1993.

⁵⁶ Nancy Lewis. "Court Cases Reveal Arms Buildup Among DC Youths." *The Washington Post* January 1, 1995:A1. P.24

⁵⁷ Sherman has also speculated that offenders having their guns seized by police may experience difficulties or delays in obtaining new guns, and that this may have been partially responsible for the results of a recent study in Kansas City showing that increasing gun seizures within a high gun crime target area significantly reduced gun crime in that area. Lawrence W. Sherman. "Reducing Gun Violence: Community Policing Against Gun Crime" National Institute of Justice Research in Progress Videotape series. 1995

more friends who carry guns regularly⁵⁸. In Sheley and Wright's survey of juvenile inmates and inner city students, 81% of the inmates and 88% of the students indicated that they could buy or borrow guns from relatives or friends⁵⁹. Perhaps more telling, among respondents who owned handguns, 36% of the inmates and 61% of the students named a friend or family member as the source of their most recent handgun acquisition. The percentages citing "the street," a "drug dealer," or a "drug addict" as their source were 43% for inmates and 22% for students.⁶⁰ Thus, friends and family appear to be more important than street sources for youth in general, though perhaps not for the most seriously delinquent youth.

Furthermore, among the 32% of inmates and 18% of students who had previously asked someone to purchase a gun for them at a gun shop, pawn shop, or other retail outlet, the majority had asked friends or relatives to make the purchases. Only 7% of these inmates and 6% of these students had asked strangers to make the purchases⁶¹. Thus the youth reduce their exposure to intervention by enforcement agencies by keeping to a circle of intimates in their weapons acquisition efforts.

Callahan and Rivara have reported similar results from their survey of public high school students in Seattle⁶². Among students who perceived handguns to be easily accessible, about 59% indicated they would obtain a handgun from friends or their homes, while 28% cited street sources as their most likely alternative⁶³. Among 31 respondents owning only handguns, 29% had received their handguns as gifts (virtually all of which were from parents) and 22% had received their guns from friends⁶⁴. Nineteen percent had gotten their guns from street sources. Again, family and friends were more important than street transactions.

Hence, it appears that many youthful gun buyers and sellers are linked to one another through social networks. To a significant degree, the participants are dealing with others whom they know. Sheley and Wright's inmate respondents, for instance, indicated that when they

⁵⁸ Joseph F. Sheley, Zina T. McGee, and James D. Wright. 1992. "Gun-Related Violence in and Around Inner-City Schools." *American Journal of Diseases of Children* 146:677-682. p.679.

⁵⁹ Sheley and Wright. "Gun Acquisition and Possession in Selected Juvenile Samples." p.6; fn. x supra.

⁶⁰ Another 14% of the inmates and 6% of the students cited theft or "other" as their source. For comparative purposes, it is interesting to note that in Wright and Rossi's study of serious adult felons, 44% of the handgun owners had obtained their most recent handgun from friends or family, while 26% cited street sources such as the "street," fences, drug dealers, or the "black market" as the source of their most recent handgun. Wright and Rossi *Armed and Considered Dangerous: A Survey of Felons and Their Firearms* p.183; fn. x supra.

⁶¹ Sheley and Wright, *supra*, pp.6-7.

⁶² Callahan and Rivara "Urban High School Youth and Handguns: A School Based Survey" fn. x supra.

⁶³ This calculation removes those respondents who already owned a handgun and those who indicated that they would not need one (see p. 3039).

⁶⁴ *Id.* 3040

traded or sold guns they had stolen, "they generally did so to friends or other trusted persons"⁶⁵. Media accounts also suggest that youths who desire guns can often ask around among their friends or schoolmates and obtain a gun within a few days⁶⁶. This familiarity among buyers and sellers lessens the need for gun markets in public locations in at least two ways. First, both parties can easily arrange for transactions to take place at a specified location and time. Second, sellers are less likely to feel threatened by customers with whom they have other ties.

The fact that guns are durable goods and at any one time are held by many individuals is another factor reducing the need for anonymous transactions, as compared to drug markets. At any given moment an urban adolescent will have a number of friends or relatives who are potential sources of a gun, whether for hire or purchase. Though drugs are used by many people in the same communities, their willingness to sell or share at a given moment is much lower, given the small and ephemeral character of inventory. We suspect that this is a major factor in explaining why our estimate for the number of street transactions involving guns for youth in Washington is so low.

Dealer security about who is a reliable customer is a major tool for enforcement agencies attempting to control drug markets⁶⁷. Potential sellers may be deterred if they are unable to confidently discriminate between genuine buyers and informants. At the retail level, the heroin seller who is himself an experienced user (as the vast majority are) is likely to know enough users intimately that risks would be modest except that users are at high risk of being turned as informants for relief of their own enforcement problems. A prudent and unambitious retailer of guns may never need deal with a stranger; turning customers into informants may be the only way for enforcement agencies to raise risk. However, it is not clear that (a) youthful gun buyers are frequently arrested, or (b) the juvenile justice system routinely engages in plea bargaining in return for information. Moreover, the vulnerability of gun sellers in this respect is a function of the number of customers they have and the probability that a customer will be charged with a criminal offense and given the opportunity to reduce the severity of charges by providing information. With most sellers having very few customers, the risks that can be imposed by this means are modest.

⁶⁵ Sheley and Wright *supra* p.6.

⁶⁶Yasmiin Anwar. "Firearms Are Now a Fact of Teen Life" *Oakland Tribune* July 26, 1993. In *Newsbank*, Law Section 74:G9.

⁶⁷ This is the central insight of the classic article by Mark Moore on strategies for drug enforcement. Moore "Policies to Achieve Effective Price Discrimination in the Market for Heroin" *American Economic Review* 63 (2) May 1973, pp.270-279.

The 1994 federal crime bill⁶⁸ now prohibits private transfers of handguns to juveniles, except with prior parental notification. This may have an important deterrent effect in making it more difficult for youth to obtain such guns this way in the future.

D. Length of Distribution Chain

Because the production, importation, and sale of guns are legal (in most cases), gun markets do not require the lengthy distribution chains associated with most illicit drugs. It appears that most guns obtained by youth come from small localized distribution efforts; there are no equivalents to the high level drug distributors.

Despite the prohibition on retail gun sales to juveniles, a modest percentage of juveniles feel that they can obtain guns directly from retail outlets. Among Sheley and Wright's respondents, 12% of the inmates and 28% of the students named gun shops as likely sources from which they could obtain firearms; another 8% of the inmates and 4% of the students cited theft from a store or pawnshop as an alternative. Similarly, it appears that between 12% and 13% of Seattle teens who perceive access to handguns to be easy would procure guns from gun shops.⁶⁹ Consistent with this, only small to modest percentages of gun owning juveniles appear to have actually procured their weapons from retail outlets. Among handgun owners in the Sheley and Wright sample, 7% of the inmates and 11% of the students indicated that they had obtained their most recent handgun from a gun shop or pawn shop. Among 31 Seattle high school students having sole ownership of one or more handguns, about 6% (just two respondents) had acquired their guns from a gun store.

Federal firearm licensees (FFL's) who are willing to violate various laws can provide an easy and direct source of guns for many juveniles and adults otherwise prohibited from making legal gun purchases. Recent evidence indicates that more than half of the weapons submitted by police to the U.S. Bureau of Alcohol, Tobacco, and Firearms (ATF) for tracing originate with less than one half of one percent of the nation's 180,000 FFL's⁷⁰. In one recent case, federal law enforcement authorities traced over 220 guns seized in association with criminal activity to one Maryland FFL who has been charged with, among other things, selling guns without conducting proper background checks. Most

⁶⁸PL 103-322, Subtitle B, Section 110201..

⁶⁹This calculation excludes those respondents who already owned a handgun and those who indicated that they would not need one (see Callahan and Rivara 1992, p. 3039).

⁷⁰ Seven hundred and ninety three dealers accounted for 49 percent of all traces; each dealer had at least twenty five traces. See Glenn Pierce, LeBaron Briggs, and David A. Carlson. 1995. *The Identification of Patterns in Firearms Trafficking: Implications for Focused Enforcement Strategy* (A Report to the United States Department of Treasury, Bureau of Alcohol, Tobacco, and Firearms) Boston: Northeastern University. Whether these are the largest dealers, so that their per gun risk of a trace is hardly higher than for the massive number of small licensees, cannot be determined from the published data. Even if the risk per gun were the same, this observation suggests that it is sensible to target the relatively small number of FFL's producing large numbers of violations.

of these guns were seized in Washington, DC, and at least 20 guns from this dealer are said to have been used in a feud between two groups of Washington, DC teenagers that resulted in a number of shooting deaths. Though it is not clear how often juveniles get guns directly from such dealers, these bits of evidence suggest that certain FFL's may develop reputations as easy sources from whom juveniles can purchase guns without proper identification. Further, some FFL's may take their guns directly to the street for sale to anyone⁷¹.

More significantly, juveniles may obtain guns from sources one remove from legitimate dealers. Sheley and Wright report that 32 percent of their inmate respondents and 18 percent of their students respondents had asked someone to purchase a gun for them at various sort of retail outlets. Also, as noted previously, substantial percentages of juveniles obtain guns from their family and friends. In many of these instances, the friend or family member may have been the original purchaser of the weapon. Without more systematic research, it is difficult to know how far these guns tend to be from the point of original purchase. Overall, it seems reasonable to conclude that a sizeable proportion of juveniles acquire firearms directly from licensed dealers or from sources only once removed from licensed dealers.

Even illegal gun running operations do not appear to have particularly long distribution chains. Based on media accounts, a typical operation would appear to be one in which a gun runner either purchases guns directly from legal outlets or recruits strawmen purchasers to procure the weapons. The gun runner then sells the guns on the street or sells them to particular groups (such as gangs or drug dealing operations) with whom he/she/they do regular business. After this point, further circulation of the guns appears to be haphazard as the guns get passed gradually among friends, family members, or associates, or are stolen.

Some operations may have even shorter distribution chains. In another example from Maryland, four dozen persons were arrested in the spring of 1994 for purchasing guns for minors and felons⁷². The arrests were based on surveillance operations in which law enforcement agents watched for persons turning guns over to other parties outside of gun stores. In a six week period, law enforcement authorities had seized over 200 weapons associated with this operation. Thus, even more formally organized gun traffic operations may involve very short distribution chains in contrast to illegal drug operations.

Sheley and Wright, having surveyed both juvenile correctional populations and high risk schools, conclude that "it is obvious that there is a large informal street market in guns." (p.7) For both their student and inmate samples, friends were frequent sources of guns, both actually

⁷¹ Matt O'Connor, "6 Years for Illegal Gun Sales" fn. x supra.

⁷² Jon Jeter. "4 Dozen Arrested in Md. Gun Sales to Minors, Felons" *Washington Post* May 12, 1994: B1

and prospectively (Table 2). For the students, family members were also a significant source; that was not true for the inmates, perhaps reflecting their weaker family contacts and the greater suspicion on the part of their families. As might be expected, inmates were more likely to have purchased their most recent gun on the street. The inmate sample included “[f]orty five percent [who] could be described as gun dealers in that they had bought, sold, or traded a *lot* of guns” (pp.7-8; emphasis in original). Three quarters of that group were occasional; only one quarter was described as “systematic”. The cost of handguns was less than \$100 for three quarters of those students who owned one. Forty one percent of students (and 70 percent of inmates) thought it “no trouble at all” to obtain a gun⁷³. Guns do indeed seem cheap and accessible to inner city youth, without direct recourse to the primary market. They are accessible without the operation of large distribution systems that ever create large inventories of illegal weapons.

E. Link to Drug Markets

As already noted, drug dealers and drug addicts appear to be very active in selling guns. Forty three percent of Sheley and Wright's juvenile inmate respondents stated that all or most of the drug dealers they knew also dealt in guns, and six percent of the respondents who had dealt guns indicated having bought guns from drug dealers⁷⁴. More generally, 36% of the inmates and 22% of the students cited drug dealers as a likely source from which they could obtain guns⁷⁵. Among handgun owners, on the other hand, only 9% of the inmates and 2% of the students stated that they had actually obtained their most recent handgun from a drug dealer.

Drug addicts appear to provide many guns to the illegal market, often through theft. Desperate crack addicts have been reported to sell guns for as little as ten dollars in some cities⁷⁶. In addition, crack addicts may be recruited as straw purchasers for gun traffickers⁷⁷. Among Sheley and Wright's juvenile inmate and student respondents, the majority who described themselves as gun dealers cited acquisitions from drug addicts as one of their most common sources of guns⁷⁸. Thirty-five percent of the inmates and twenty-two percent of the students identified drug addicts as a likely source from which they could obtain a firearm, and among

⁷³ The student figure is higher than the percentage of high school seniors nationally reporting that cocaine is “available or readily available” but lower than for marijuana; see *Monitoring the Future* (University of Michigan, annual) . The comparison is only rough since both the questions and the sample are different.

⁷⁴ Sheley and Wright, *supra*, p.9

⁷⁵ *Ibid*, p.6

⁷⁶ Walsh, B. “Drugs Feed Gun Market” *Times-Picayune*, July 25, 1993. In *Newsbank*, Law Section 74:G14.

⁷⁷ Thomas, P. “DC’s Modern Gun Runners” *Washington Post* August 18, 1991, A1.

⁷⁸ Sheley and Wright, *supra*, p.8.

those actually owning a handgun, 12% of the inmates and 6% of the students said their most recent handgun acquisition had been from a drug addict⁷⁹.

This information suggests that drug dealers and drug addicts are major participants in illegal street transactions involving guns and juveniles. Earlier we noted that 43% of Sheley and Wright's inmate respondents and 22% of their student respondents indicated that their most recent handgun acquisition had been from what one might consider street sources (i.e., "the street," a drug dealer, or a drug addict). For inmates, 21% of their purchases, or approximately 49% of their street acquisitions, came from drug dealers or addicts. For students, 8% of their acquisitions came from drug dealers or drug addicts, amounting to about 36% of their street acquisitions.

F. Other Factors

Guns are bulky, indeed very bulky compared to drugs. An individual can carry a modest number on his person but in many circumstances, particularly in hot weather, it will be hard to do so inconspicuously. A New York City police sergeant has trained numerous officers in other cities as well as his own in how to detect persons carrying guns on the streets⁸⁰. This constrains the operation of street markets very substantially; inventory has to be maintained in an interior setting or the seller takes very great risks. Of course, the transaction need not occur at the point of contact between buyer and seller. In this respect retail gun purchases are more like wholesale than retail drug deals, meetings occur in accessible settings primarily for the purpose of arranging the transaction in a more protected location. Such markets are not impenetrable but the lack of inventory at the point of transaction certainly complicates policing, as compared to drug enforcement, where the existence of inventory at the purchase point is often a principal source of evidence.

As with drug retailing, entry into the gun supply business requires neither significant capital nor skill. A drug or gun seller may simply be a user who has either accumulated enough money to buy at the very low bulk level (ten bags of heroin; three guns) or has found a current retailer willing to provide revolving credit. It does require a modest level of prudence for continued success but no specific technical skill.

IV. Conclusions

Generally

The prior analysis of market characteristics suggests that illicit gun markets serving urban youth are likely to provide quite poor targets for intensified enforcement. The principal reasons for this are the infrequency of purchase, the intimacy of sellers and buyers, lack of a lengthy

⁷⁹ Ibid, p.6

distribution chain and ease of entry into the market. Only the high criminality of drug market sellers, who may be an important source for at least some youth, offers a basis for optimism. Empirical evidence will of course trump this deductive reasoning but as yet there is little available. Lawrence Sherman's experiments in intensified patrol activities targeting gun carrying fall into a different category; they do not target the market but simply a distantly related behavior⁸¹.

Table 1 provides our assessment of the various factors affecting the susceptibility to policing of two drug markets and the youth market for illicit guns. The entries are highly judgmental; we have left one entry as a question mark and might have more prudently done so for others.

TABLE 1 ABOUT HERE

Guns are purchased infrequently by youth; most purchasers probably do so less than once per annum, very few as often as quarterly. Even if one focuses on high rate offenders (and our interest in gun markets is largely instrumental, a device for reducing certain kinds of offenses), the frequency probably remains very low, surely no more than monthly. Not surprisingly then, there seems to be no gun counterpart to the street markets in which cocaine and heroin are sold.

A non-trivial fraction of guns are nonetheless currently sold in stranger to stranger transactions, reflecting the low levels of intervention of police agencies (including state and federal agencies such as the Bureau of Alcohol Tobacco and Firearms). Would the loss of such sales in a high intervention environment have much impact on youth use of guns? The fact that high risk users have numerous friends and acquaintances who are themselves potential sources, either as users willing to sell one of their current inventory or as small scale regular sellers, suggests not. We noted earlier that street sources seem to be more important for juvenile offenders than for youths in general. Hence disruption of street sources could have its greatest impact on those juveniles who pose the greatest risk. But even so available evidence suggests that around 80 percent of juvenile offenders can obtain weapons from friends or relatives if necessary.

⁸⁰ Eckholm articles on Gallagher in *New York Times* 1992.

⁸¹ Sherman, Lawrence W. ; Shaw, James W.; and Denis Rogan *The Kansas City Gun Experiment* Research in Brief, Washington, D.C., National Institute of Justice, 1995. On the apparent effectiveness of aggressive searches of violators of minor order violators in deterring gun carrying, see Clifford Krauss "New York See Steepest Decline in Crime Rate since 1972" *New York Times* December 31, 1995 A1.

The supply of new guns into this market is not the result of specialized production/distribution but comes primarily from non-specialized theft and illegal transfer⁸² which produces a regular flow of guns into local markets. Given the low risk of apprehension for any single theft, raising the penalty for possession of a stolen weapon does not seem likely to have a large impact on the flow from theft. We briefly consider the sensitivity of transfers to backward tracing and questioning of offenders caught with the guns in the final paragraphs.

Urgency and impulsivity are difficult to assess. An insulted youth without a handgun may see himself in urgent need of such a weapon for revenge. The urgency is unpredictable (hence impulsivity). These transactions may be a small share of all transactions but they may be high risk transactions. If delaying the acquisition of a gun lowers the probability of lethal conflict, because passions quickly cool, then efforts to complicate purchase (e.g. eliminating specific locations where guns are known to be readily available) may produce noticeable reductions in gun related mortality, even if prices and perceived availability are not much affected. However, the very small number of transactions suggests that the market for these high risk transactions will work very poorly. Efficient markets require some degree of continuity in time; otherwise the sellers will require very large compensation for down time between customers and the price charged impulse buyers will be high enough that the market may never form. Friends and drug markets may be strongly preferred when the need for a gun is urgent.

Dealer impulsivity is also relevant. One link between gun and drug markets is that some drug users will sell their guns in order to finance drug purchases. Under these circumstances, the seller is not likely to be cautious; location specific markets may develop in which gun buyers know that a purchase may be made rapidly from urgent sellers who will discount below usual prices⁸³. These markets may be vulnerable to enforcement.

The gun market seems most closely to resemble that for marijuana among retail drug markets. Both commodities are usually sold in transactions among acquaintances, though stranger-to-stranger transactions constitute a modest share of the market. Street markets are correspondingly of only minor importance in aggregate, though potentially more so for particular groups. Transactions are infrequent. The home production possibilities for marijuana, not much used, have their counterpart in own-theft by potential gun buyers. Marijuana users buy large

⁸² All the research data reported here come from an era when intra-family transfers were legal, before passage of the 1994 Act that required prior written parental consent.

⁸³ In Amsterdam a parallel phenomenon has been observed for prostitution. Male customers will wait around drug selling locations until they find a female heroin addict desperate enough to agree to sex for a price below the customary level. (Personal communication from ethnographer in Amsterdam, 1991).

enough quantities that they probably are willing to provide small amounts to friends who have temporarily run out.

Strategic Issues and Areas for Experimentation and Research

This paper is generally pessimistic about strategies aimed at suppressing the supply side of the illicit gun market, as opposed to primary market control efforts, aimed at reducing the availability of guns to urban youth, or demand side programs⁸⁴. There may indeed be some policing strategies aimed at illicit transactions away from licensed gun dealers that could significantly affect gun availability for youth, particularly handgun availability, but they are hard to identify. In the absence of much experience with such enforcement, it seems sensible to reflect on the characteristics of markets that will determine the impact of tougher enforcement. At a minimum this would help with the design of experiments.

Clearly there is also a need to learn more about the dynamics of informal gun markets. Phillip Cook has suggested that prices show not only sensitivity to primary market regulation, but also that there is great price dispersion, with poorly informed and impulsive buyers and sellers being a significant share of the market. Systematic data on gun prices by location and time would be a useful starting point for many analyses. One problem in gathering such data is the great variety of guns; the market is apparently not dominated over the long-run by a few specific models, so that price data have to be collected for a number of different guns and the relevant mix changes over time. It would also be useful also to do some “search time” studies, as Rocheleau and Boyum⁸⁵ have recently done for heroin, to determine just how difficult it is for various classes of buyers to obtain drugs and how that difficulty is affected by different enforcement tactics.

The most promising control strategies may well be away from the gun market itself. Thus geographically-focused enforcement tactics like direct surveillance, sweeps, and buy and bust operations are likely to be most effective if they are directed at locations where drugs are sold. Similarly, police could place greater emphasis on obtaining information regarding the sources of guns seized during narcotics raids. Operations directed at schools may also lead authorities to important players in the youth gun market, though such operations frequently raise controversy. As we mentioned previously, surveillance directed at particular gun shops has also led to important arrests. These tactics have the potential to reduce supply from sources that appear to be more important to the most dangerous juvenile offenders. Nevertheless, the factors we have discussed previously suggest

⁸⁴ This is also a conclusion reached by Sheley and Wright *In the Line of Fire: Youth, Guns and Violence in Urban America* New York, Aldine de Gruyter, 1995; 153-154.

that these tactics may not have much effect on the overall market. Systematic evaluation of demonstration projects is probably the right level of policy innovation at present.

The same can be said about pushing law enforcement agencies to place greater emphasis on getting information from juvenile gun offenders regarding their gun sources. Such backward tracing may reveal that there is more concentration among juvenile gun sources than is apparent from available information; the many high school youths who report that they can get guns from friends or acquaintances may be thinking of a small set of friends and acquaintances whom they have in common. Considering the difficulties with geographic, observational tactics, a search for concentration of gun sources among people or groups (or businesses) might hold more promise than is apparent from available information. Hence, it may prove more productive to emphasize the points of origin of the guns rather than the points of transfer.

Cook and Leitzel⁸⁶ suggest that productive enforcement measures against the informal gun market would involve targeting undocumented sales by scofflaw FFL's, sales by FFL's to strawman purchasers, and increasing incentives of gun owners to secure their firearms so to reduce thefts of guns from homes and businesses. Based on our analysis, such strategies seem to hold more promise than typical drug enforcement strategies, a point also noted by Cook and Leitzel. For instance, more systematic tracing of firearms seized from youths might lead to the identification of scofflaw FFL's who are the original sources of a disproportionate share of firearms used in crime. Earlier we noted that over half of the firearms submitted by police to ATF for tracing are traced to less than one half of one percent of all FFL's⁸⁷. Identifying and prosecuting such dealers may choke off much of the youth gun supply. At this point, however, we do not know what percentage of the juvenile gun supply originates from scofflaw dealers. The same is true for strawman purchases and thefts.

Furthermore, scofflaw dealers and strawman purchases can be targeted by strategies aimed at the formal market. We have not endeavored to analyze legal market strategies in this paper, but we can speculate that these sources of illicit guns might be pursued more productively through restrictions on the primary gun market. Tightening the restrictions on who may obtain a federal firearm license and raising fees on potential licensees, for example, are ways of reducing the number of scofflaw dealers. Restrictions on the number of handguns which one can buy within a particular period of time (such as the one handgun purchase per month laws enacted in South Carolina and Virginia) make strawman purchases more difficult.

⁸⁵ Ann-Marie Rocheleau and David Boyum *Measuring Heroin Availability in Three Cities* Washington, D.C., Office of National Drug Control Policy, 1994

⁸⁶ This volume, p.xx

⁸⁷ Pierce Briggs, and. Carlson fn xx supra.

A benefit of suppressing open air drug markets is perhaps the disruption of a small but high damage niche of the system by which youth obtain handguns. Aggressive enforcement of laws prohibiting concealed weapons may reduce the willingness to bring guns to locations for transactions. Sweeps of public housing, aimed at removing the stock of guns, may have an impact for some period of time. To say that market enforcement is unpromising is not to doubt that there are other modes for keeping guns from youth.

Finally, we note Cook's observation (personal communication) that guns are by no means ubiquitous among youth or in the commission of crimes; might this be attributed to the effectiveness of our current control systems and hence imply that our pessimism is overstated? First it is also important to note that most crimes, particularly those committed by juveniles, are impulsive, opportunistic, unplanned activities⁸⁸. In order to commit a gun crime, a youth must either have the gun in his possession at the time a criminal opportunity arises, or he must plan ahead so that he will have the gun when it is needed. Though many juveniles can get guns if they know they will need them, the majority do not own them or carry them on a regular basis due to the factors discussed above. In terms of gun carrying, only 12% of Sheley and Wright's inner city student respondents reported carrying a gun most or all of the time⁸⁹. Another 23% reported carrying a gun occasionally. Survey work among older male adolescents in Rochester, New York indicates that about one quarter of self-reported gang members and only 4% of non-gang members report having carried a gun within the last six months⁹⁰. Thus, it is not surprising that most juvenile crimes are committed without firearms. The question is how much of this is attributable to enforcement against the secondary, illicit market. The regulations on the primary market (i.e., prohibition of sales to juveniles) as well as the prices of guns limit juvenile gun ownership. Further, the risks associated with carrying a gun might deter some juvenile gun owners from carrying their firearms on a regular basis. A second factor may be a general aversion to guns held by many persons. Without claiming that enforcement against the illicit market is "futile", in terms of the Hirshman framework introduced by Cook and Leitzel, we do argue that the experience with illicit drugs suggests that illegal market enforcement is likely to have a modest role.

⁸⁸ Gottfredson, Michael R. and Travis Hirschi.. A General Theory of Crime. Stanford, CA: Stanford University Press, 1990.

⁸⁹ Sheley and Wright, p.5.

⁹⁰ Bjerregaard, Beth and Alan J. Lizotte "Gun Ownership and Gang Membership." The Journal of Criminal Law and Criminology 86:37-58, 1995.

Appendix: Estimating the Number of Gun Transactions

A. Numbers of guns owned by gun owners.

Available studies do not always clarify the numbers of guns owned by respondents. One exception is a study by Lizotte et al.⁹¹ involving youths in Rochester. Overall, the 67 male respondents possessing guns reported owning a total of 92 guns, for an average of 1.37 guns per owner. Those youths owning guns for protection (i.e., the more delinquent group) owned an average of 1.67 guns.

A higher estimate can be derived from Sheley and Wright's survey of male juveniles in several cities. The calculations below exclude the juvenile inmates and use only the inner city student respondents. Seven hundred and twenty eight students answered questions about the specific types of guns they owned (two questions were answered by only 727 students). For each type of gun, Sheley and Wright provide the percentage of students who reported owning that type of gun at the time of the survey (see p. 4). The categories appear to be mutually exclusive; thus, one can multiply the number of respondents by the percentage owning the type of weapon to estimate how many weapons were owned by the respondents. (The calculations exclude zip [i.e., homemade] guns).

The figures were: (1) target or hunting rifle [8%]; (2) military-style semiautomatic or automatic rifle: [6%]; (3) regular shotgun [10%]; (4) sawed-off shotgun [9%]; (5) revolver [15%]; (6) automatic or semiautomatic handgun [18%]; (7) derringer or single shot handgun [4%]

Summing these numbers indicates that the 728 student respondents owned approximately 510 guns. This calculation assumes that the respondents owning each type of gun possessed only one such gun. This may not be a safe assumption. On the other hand, some of the respondents indicating ownership of a gun may actually have shared ownership with someone else, and some may have exaggerated their gun ownership. For the purposes of arriving at a ball park figure, perhaps we can assume these factors cancel one another.

Interestingly, this averages out to almost one gun per respondent ($510/728 = 0.7$). However, only 22% of the students actually indicated ownership of a gun⁹². If we assume that the ownership rate was 22% among the 728 respondents to the gun type questions, then we have 160 gun owners for an average of $510/160 = 3$ guns per gun owner. Though we don't know how many guns the respondents had ever owned or how many gun transactions they had ever made, it seems the best we can do is to estimate three gun transactions (i.e., acquisitions) per owner.

⁹¹ Alan J. Lizotte; James M. Tesoriero.; Terence P. Thornbery. and Marvin D. Krohn "Patterns of Adolescent Firearms Ownership and Use" *Justice Quarterly* 1994 11: 51-74.

⁹² This figure is based on an N of 741.

This estimate of guns owned is consistent with Sheley and Wright's Table 1 which indicates that 22% of the students owned guns and that 15% owned three or more guns - i.e., over two thirds of the gun owners owned three or more guns.

B. Applying the estimates to Washington, DC

Based on the Sheley and Wright data, we can tentatively estimate that 22% of inner city high school males own guns, and that these gun owners have an average of 3 guns; the average age was 16, with 19 percent over the age of 17. A range of 13 to 17 years should be adequate since they were high school students⁹³.

Applying these figures to Washington, DC, there were 14,981 males ages 13-17 in that city in 1990⁹⁴. We can estimate that 22%, or 3,296, of these youths owned guns. If, on average, each of these teens owned three guns, then overall they possessed $3,296 * 3 = 9,888$ guns. Conversely, they had engaged in 9,888 gun acquisitions over their gun-owning lifetimes. Based on figures reviewed previously, it seems that about 20-25% of juveniles get their guns from street sources such as drug dealers, drug addicts, or other street sellers. The exact figure for Sheley and Wright's students is 22% (1993, p. 6). Applying this figure, one can estimate that $9,888 * .22 = 2,175$ of the gun acquisitions by these youths came from street sources.

Estimating a time frame for these transactions is difficult. Sheley and Wright did not ascertain the age of first gun acquisition for their respondents. In general, juvenile gun studies reveal little about this point. Yet even if we assume that all of these transactions took place in one year (i.e., each of the juvenile gun owners acquired all of his guns in one year), we are left with only $2,175/365 = 6$ gun acquisitions per day from street sources by inner city males in the high school age range. If we expanded this to include 18 to 20 year olds, we would add a further 16,592 youths. The new per day figure would be 13.

⁹³ Some of the respondents were probably 18, but we did not include them since they were not juveniles.

⁹⁴ U.S. Bureau of the Census *1990 Census of the Population: General Population Characteristics (Washington, D.C.)* p.14, U.S. Government Printing Office, 1992.