PROMIS RESEARCH PROJECT

Publication 8

Does the Weapon Matter?

\n Evaluation of a Weapons-emphasis Policy
ı the Prosecution of Violent Offenders

ıilip J. Cook • Daniel Nagin

INSLAW
Institute for Law and Social Research

he Law Enforcement Assistance Administration, National Institute of Law Enforcement and Criminal Justice

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Does the Weapon Matter?

An Evaluation of a Weapons-emphasis Policy in the Prosecution of Violent Offenders

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December 1979

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This project was supported by Grant Numbers 74-NI-99-0008, 75-NI-99-0111, 76-NI-99-0118, and 77-NI-99-0060, awarded by the Law Enforcement Assistance Administration, U.S Department of Justice, under the Omnibus Crime Control and Safe Streets Act of 1968, as amended. Points of view or opinions stated in this document do not necessarily represent the official position or policies of the U.S. Department of Justice. This project was also supported in part by the Ford Foundation.

Printed in the United States of America

Library of Congress Cataloging in Publication Data

Cook, Philip
Does the weapon matter?

(PROMIS research project; publication 8)
Includes bibliographical references.
1. Criminal justice, Administration of—United States. 2. Firearms. 3. Violence (Law)—United States. 4. Crime and criminals—United States.
I. Nagin, Daniel, joint author. II. Title. III. Series.
HV8138.C646. 345.753'01 80-175
ISBN 0-89504-012-3

Foreword

> America may or may not be the land of the free, but it is certainly the land of the brave.
>
> Norval Morris

Americans are brave only by necessity. Our celebrated "crime" problem is really best understood as the special price we pay, in fear and blood, for violent crime. The number of bicycle thefts in a given year can rise or fall without great social impact. It is the threat of life-threatening crimes of prey that intimidates our citizenry and heavily taxes the quality of urban American life.

This report concerns violent crime, particularly the high volume of robberies that occur in America's large cities. The authors ask, "Does the weapon matter?" The answer appears to be yes, in a variety of ways that may suggest policy shifts in criminal prosecution. Cook and Nagin have produced a carefully argued, provocative study in an area where the ratio of rhetoric to data is high. Their conclusions are certain to irritate militant "pro" and "anti" factions in what has been called "The Great American Gun War." They follow no party line; instead, they follow their data.

This study is special in three respects: it represents a successful collaboration between academic consultants and the PROMIS data base; it demonstrates how PROMIS data on offenses and offenders can be enriched with modest additional research effort; it addresses questions of fundamental importance that have been neglected by scholars and policy scientists. The result is far from a definitive statement; rather, it is a well-conceived and intelligently presented inventory of issues and analysis of available data. Researchers would be well advised to emulate the methods, the detachment, and the refreshing tone of this monograph.

Franklin E. Zimring
March 1979

Preface

> The system is judged not by the occasional dramatic case, but by its normal, humdrum operations. In order to ascertain how law functions as a daily instrument of the city's life, a quantitative basis for judgment is essential.
>
> *Criminal Justice in Cleveland,*
> Roscoe Pound and Felix Frankfurter, eds.

Pound and Frankfurter's observation of a half century ago is equally applicable today. Having traced by hand what was happening to some 5,000 felony cases in the Cleveland courts, they found evidence that the real workings of the courts were often quite different from the picture that emerged from media coverage of the "occasional dramatic case." The study revealed, for example, that most felony arrests were being dropped without trial, plea, or plea bargain; that a serious problem of habitual, serious offenders was receiving insufficient attention; and that bail and sentencing practices were badly in need of reform.

This series of reports traces what is happening to felony and serious misdemeanor cases in the District of Columbia Superior Court in the 1970s, based on an analysis of computerized data. Although the data base is both larger (over 100,000 cases) and richer (about 170 facts about each case), the analyses reach conclusions strikingly reminiscent of those made by Pound and Frankfurter, and now largely forgotten. We are relearning the lessons of high case mortality, the habitual or career criminal, and bail and sentencing inequities.

The source of the data used in this series of research reports is a computer-based case management information system known as PROMIS (Prosecutor's Management Information System). Because it is an ongoing system, PROMIS provides, on a continuing basis, the kind of quantitative assessment of court operations that heretofore could only be produced on an *ad hoc* research basis.

The area encompassed by the PROMIS data—the area between the police station and the prison—has long been an area of information blackout in the United States. This data void about the prosecution and court arena, which some observers regard as the criminal justice system's nerve center, has meant that courthouse folklore and the atypical, but easy-to-remember, case have formed much of the basis for criminal justice policymaking.

Funded by the Law Enforcement Assistance Administration, the PROMIS Research Project is demonstrating how automated case management information systems serving prosecution and court agencies can be tapped to provide timely information by which criminal justice policymakers can evaluate the impact of

their decisions. The significance of this demonstration is by no means restricted to the District of Columbia. Other jurisdictions can benefit from the types of insights—and the research methodologies employed to obtain them—described in the reports of the PROMIS Research Project.

There are 17 publications in the series, of which this is Number 8. A noteworthy feature of this series is that it is based primarily on data from a prosecution agency. For those accustomed to hearing the criminal justice system described as consisting, like ancient Gaul, of three parts—police, courts, and corrections—the fact that most of the operations of the system can be assessed using data from an agency usually omitted from the system's description may come as a surprise. We are aware of the dangers of drawing certain inferences from such data; we have also come to appreciate their richness for research purposes.

Obviously, research is not a panacea. Much knowledge about crime must await better understanding of social behavior. And research will never provide the final answers to many of the vexing questions about crime. But, as the President's Commission on Law Enforcement and Administration of Justice observed in 1967: ". . . when research cannot, in itself, provide final answers, it can provide data crucial to making informed policy judgements." (*The Challenge of Crime in a Free Society:* 273.) Such is the purpose of the PROMIS Research Project.

William A. Hamilton
President
Institute for Law and
Social Research
Washington, D.C.

Acknowledgments

We owe a considerable intellectual debt to Franklin Zimring, whose published work first framed many of the key questions and concepts which we deal with in this monograph. He also provided a number of helpful comments on an earlier draft. Useful comments on both substance and style were received from Brian Forst of INSLAW. We remain solely responsible for our conclusions, which in no way represent official policy positions of LEAA, INSLAW, the Ford Foundation, or our referees.

Programming assistance was provided by Daniel Church and Michael Seidel at INSLAW, and by R. J. Plummer at Duke University. David Estes supplied valuable editorial assistance. We also thank the Atlanta Police Department for their cooperation in our homicide study.

There was a rather clear-cut division of responsibility between the two authors. Cook was primarily responsible for Chapters 1–4, and Nagin for Chapters 5 and 6. Cook's work was partially supported by the Ford Foundation.

Philip J. Cook
Daniel Nagin

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1

Introduction

The vast wave of violent crime that swept the nation during the 1965–1975 decade has begun to recede, but the crime rate is still extraordinarily high. FBI data (1976) indicate that the murder rate is 70 percent higher than in 1965, the robbery rate is nearly three times as high, and aggravated assaults and rapes have doubled since 1965 (see Table 1). A comparable level of domestic violence has not afflicted the nation since the Roaring 20s.

The ebbs and flows of violence rates are, for the most part, thought to be the product of change in underlying socioeconomic, cultural, and demographic factors, though the causal mechanisms at work are very poorly understood. These underlying factors are beyond the reach of criminal justice policy, but few legal scholars argue that the effectiveness of the criminal justice system in apprehending and punishing criminals is irrelevant in determining the rate of violent crime. The principal mechanisms by which the criminal justice system inhibits crime—incapacitation and deterrence of potential offenders—have been extensively studied,[1] and it is clear that increasing the intensity and efficiency of law enforcement efforts can make a significant difference in the crime rate.

How can the various components of the system—police, prosecution, courts, and corrections—be used most effectively to reduce crime? Each component faces the inevitable economic problem of making the best possible use of limited resources. Scarcity in all parts of the system dictates that choices be made concerning which crimes and which criminals are to receive the greatest attention: which crimes are to be given more than a superficial investigation by the police, which of the meritorious cases that come to the court are to be prosecuted fully instead of being plea bargained, or dismissed outright, and which convicted offenders are to be sentenced to "hard time" instead of suspended sentences. Such choices can be made wisely only to the extent that criminal justice officials have a clear understanding of the potential effects of alternative crime-fighting strategies.

This report analyzes alternative strategies for allocating prosecutory and correctional resources among defendants arrested for crimes of violence. Our focus is on evaluating the increasingly widespread policy of giving priority to defendants accused of gun crimes, relative to those accused of similar violent crimes committed with other weapons, and on the more traditional policy of giving priority to defendants accused of armed violent offenses relative to those accused of unarmed violence. The main data base for this analysis comprises the research files derived from PROMIS (a management information system for prosecution and court agencies) in the District of Columbia for the years 1973–1976, and the empirical results are therefore limited to this one jurisdiction.

Table 1.
Trends in Violent Crime Rates in the United States, 1965–1976

Year	Rates Per 100,000 Population			
	Murder and Nonnegligent Manslaughter	Aggravated Assault	Robbery	Rape
1965	5.1	110.4	71.5	12.1
1968	6.9	143.8	131.8	15.9
1971	8.6	178.8	188.0	20.5
1974	9.8	215.8	209.3	26.2
1975	9.6	227.4	218.2	26.3
1976	8.8	228.7	195.8	26.4

Source: U.S. Department of Justice, Federal Bureau of Investigation, *Uniform Crime Reports* (Washington, D.C.: Government Printing Office, for the years indicated).

The report is organized around three principal questions: (1) Does it make sense to assign priority in violent crime cases partly on the basis of what type of weapon was used in the crime? To what extent are defendants who are accused of gun crimes typically more dangerous, "professional," or recidivistic than violent criminals who do not use guns? Are gun assaults and gun robberies inherently more dangerous than assaults and robberies committed with some other weapon? (2) In what fashion and to what extent is the official "gun-emphasis" policy of the prosecutor in the District of Columbia implemented? Are there substantial differences in conviction probabilities and sentencing severity between gun defendants and others that cannot be attributed to the type of offense charged, quality of evidence, prior record, or other factors? How much difference is there in dispositional patterns between armed and unarmed violent crime defendants? (3) What prosecutory policy is appropriate for the "victimless" crime of illegal gun possession? How much emphasis are such defendants actually given by the prosecutor's office? The PROMIS data are well suited to answering these questions.

The next three chapters focus on evaluating the wisdom of a policy of weapons emphasis. Chapter 2 summarizes the relevant issues and reviews the weapon-based distinctions in classifying violent crimes written into the D.C. Criminal Code. Chapter 3 presents an analysis of rearrest patterns for adult males[2] arrested for serious crimes in 1973, utilizing a longitudinal data file constructed from PROMIS data files. The findings of this analysis suggest that the weapon used by a violent criminal does not contribute to our ability to predict the extent or seriousness of his subsequent criminal activity, although gun defendants as a group do have somewhat different patterns of subsequent criminal activity than other violent crime defendants. The concluding portion of this chapter analyzes rearrest patterns for weapons-possession defendants and compares them with the violent crime cohort. Chapter 4 evaluates a gun-emphasis policy in prosecuting robbery defendants. The evaluation is based on an extensive analysis of victimization survey data for 26 U.S. cities, and on a special study of robbery homicide files in Atlanta, as well as the PROMIS longitudinal file.

Chapters 5 and 6 examine the question of whether there actually is any substantial degree of weapons emphasis in D.C. Superior Court. Chapter 5 describes weapons-related patterns in conviction and incarceration rates for murder, assault, rape, and robbery cases, followed (in Chapter 6) by a more intensive

analysis of robbery case processing. We conclude that there is an important degree of weapons emphasis in prosecuting and sentencing robbery defendants, but that there is no effective distinction within this weapons-emphasis policy between gun robbery defendants and other armed robbery defendants. These results are based on an analysis of PROMIS data for cases originating in 1974.

The concluding chapter summarizes our findings and makes several recommendations concerning prosecutory and sentencing policies in violent crime cases.

Notes

1. For reviews of this literature, see Philip J. Cook, "Punishment and Crime: A Critique of Current Findings Concerning the Preventive Effects of Punishment," *Law and Contemporary Problems* 41, no. 1 (1977); and Daniel Nagin, "General Deterrence: Review and Critique of Empirical Evidence," in *Deterrence and Incapacitation: Estimating the Effects of Criminal Sanctions on Crime Rates*, ed. Alfred Blumstein, Jacqueline Cohen, and Daniel Nagin, the report of the Panel on Research on Deterrent and Incapacitative Effects (Washington, D.C.: National Academy of Sciences, 1978).

2. About 10 percent of the adult felony arrestees in the District of Columbia are females. Their inclusion in this study would have added an additional dimension of complexity to the data analysis, without adding very much data. For this reason, we decided to omit females from the cohort study. Recidivism patterns for female violent crime defendants may differ from the patterns for male defendants reported here, and it would be a mistake to generalize from one to the other.

2

Crime Seriousness and the Choice of Weapon

Large case loads in big city courts ensure that all valid cases cannot be prosecuted to the full extent of the law; prosecutors, therefore, must make choices about which cases to give priority. Ideally, these choices would reflect a well-informed judgment concerning how best to pursue the social objectives of crime reduction and "doing justice." It can be argued on this basis that priority should be given to prosecuting defendants charged with the most serious crimes and to defendants who are identified by their criminal records as being the most recidivistic.[1] Indeed, these are two of the important dimensions of the screen used to select defendants for prosecution in career criminal programs.[2]

Our main concern here, then, is assessing whether the type of weapon used in a violent crime is relevant to judging either the seriousness of the crime or the likelihood that the criminal will commit other serious crimes in the future. If the answer is yes to either question, then there is a reasonable basis for recommending that prosecution priorities be influenced by the type of weapon used in violent crime cases.[3]

RECIDIVISM AND WEAPONS

Is the violent criminal's choice of weapon (gun, knife, fists) a predictor of the seriousness and frequency of subsequent criminal activity? For example, is a defendant charged with armed robbery likely to be a greater danger to the community than a similar defendant charged with committing an unarmed robbery? If so, then there would be more to be gained, on the average, by incarcerating the armed robber than the unarmed robber, and it would make sense for prosecutors to give priority to seeking felony convictions for armed robbery defendants.

Is there any reason to believe that those arrested for armed robbery would typically follow different subsequent criminal career paths than those arrested for unarmed robbery? Armed robbery is typically more profitable than unarmed, since the use of a weapon increases the likelihood of successful intimidation of the victim and enables the robber to select relatively well-defended (and lucrative) victims, such as adult males on the street or commercial targets.[4] The average "take" in street robberies is much higher for armed robberies than unarmed robberies, and within the category of armed robberies, gun robberies are much more lucrative than robberies with other weapons.[5] The average take for unarmed robbery is so low as to suggest that these crimes are committed less for the money than for the excitement of the act. If armed and unarmed robbers respond to

different motivations, they may well have different patterns of recidivism; armed robbers might follow more "professional" careers (specializing in income-producing activities, such as robbery and burglary), and unarmed robbers might be more frequently involved in assault and other crimes that lack a profit motive. These speculations are tested in Chapter 3.

Assault differs from robbery in that assault is charged when there is an unlawful attack without any attempt to steal from the victim. Assaults typically result from arguments between relatives or acquaintances. The difference between an armed and an unarmed assault may well be whether the assailant has ready access to a weapon at the time of the argument. It is reasonable to assume that the assailant who uses a gun or knife to perpetrate an assault outside his home differs from the unarmed assailant in that he anticipated trouble and armed himself accordingly. This willingness to use a deadly weapon may indicate that the armed assaulter is more dangerous and more recidivistic than the unarmed assaulter, though once again the issue should be addressed empirically. (See Chapter 3.)

THE LIKELIHOOD OF INJURY OR DEATH IN VIOLENT CRIME

Whether or not recidivism rates are related to the use of a weapon by violent offenders, it would be reasonable to give higher prosecution priority to armed violence cases involving more lethal weapons, if it can be demonstrated that the type of weapon influences the "seriousness" of the crime. Suppose, as an illustration, that three 21-year-old robbery defendants each have one prior felony conviction and are each accused of robberies in which there was no injury to the victim. The only salient difference among the defendants is their choice of weapon: one threatened his victim with a handgun, one threatened his victim with a kitchen knife, and the third, who was unarmed, took the victim's valuables by bodily force. If the prosecutor has equally strong cases against these three defendants, should he devote equal effort to them? Or, are there valid reasons for adjusting his efforts to the relative deadliness of the weapon? It would appear that the victims sustained equal harm in these cases, which suggests that, in that sense, the crimes are equally "serious" and the defendants should be treated equally. However, the "crime seriousness" rating in PROMIS, which is derived from the Sellin–Wolfgang scale,[6] assigns a much higher score to the gun robbery than the knife robbery, and a higher score to the knife robbery than to the unarmed robbery. Under the District of Columbia Criminal Code, the two armed robbers are subject to a more severe sentence than the unarmed robber.

Why might we judge the seriousness of the robbery by the type of weapon employed by the robber? One possibility is that violent crime committed with a more lethal weapon has more serious side effects, even if there is no difference in primary outcome. The victim of a gun robbery may experience greater emotional trauma than the knife robbery victim, simply because the threat of death or severe injury is more credible with a gun. It seems to us that this argument is most persuasive for violent crimes in which the victim received only minor injuries or no injury. It is not obvious that a victim who is seriously injured or killed experiences greater terror if he is shot than if the injuries are inflicted with a knife or a bareknuckle beating; indeed, the reverse may more often be true.

The most persuasive justification for the claim that the assailant's choice of weapon should influence our judgment of the seriousness of a violent crime is simply that attacks with relatively more lethal weapons tend to be more dangerous, even though in a particular episode there may be little or no injury. Franklin Zimring has developed this argument and provided substantial empirical support for it in two studies of assault and homicide in Chicago.[7]

Zimring offers the notion that the "objective dangerousness" of different forms of behavior should supplement the more traditional standards for grading violent attacks—the intent and the actual outcome of the attack. By "objective dangerousness," he means "in the generality of cases, how likely is it that conduct such as that engaged in by the offender will lead to death."[8] If we could measure objective dangerousness, then we would have a useful guide to the allocation of prosecutory and penal resources.

If the outcome of a violent attack were determined entirely by the intent of the assailant, then we could judge the dangerousness of the attack solely by its outcome and the objective dangerousness notion would be trivial. But Zimring is able to show persuasively that there is no sharp dividing line between serious assaults and homicides: "Many nonfatal attacks with knives and guns are apparently indistinguishable in motive, intent, and dangerousness from many fatal attacks."[9] Most assaults and homicides occur in the immediate context of arguments in which there is more passion (or intoxication) than planning; a substantial fraction of homicide victims actually land the first blow.[10] The "intent" of the assailant in this type of unplanned assault appears to be ambiguous or at least transitory—Zimring finds that in 62 percent of all fatal firearm attacks, and 72 percent of all nonfatal firearm attacks, the offender inflicted only one wound.[11] It is relatively rare for the offender to administer the *coup de grace* to a fallen victim in spite of his ordinary ability to do so. Given this pattern of quickly terminated, unplanned assaults, it is not surprising that Zimring finds that the deadliness of the weapon appears to play an important role in determining the likelihood that an attack will result in the victim's death: .38-caliber firearm attacks are almost three times as likely to kill as .22-caliber attacks;[12] firearm attacks of all sorts are about two and one-half times as likely to kill as "earnest" knife attacks (i.e., knife attacks that result in puncture wounds to the head or chest).[13]

Zimring does not claim that all attacks lack a sustained intent to kill. Some fraction of all homicides involve a degree of planning and determination that suggests that depriving the attackers of guns in these situations would not stop them from murder. But he does present a convincing case for two important assertions: (1) The difference between fatal and nonfatal (but serious) attacks with a firearm is in most cases a matter of chance—where the bullet happened to hit. (2) The nonfatal attack with a gun represents a more dangerous act than a nonfatal attack with a knife; the gun attack is closer, in a probabilistic sense, to causing death. These assertions suggest that nonfatal gun attacks should be viewed by the court as more serious crimes than nonfatal knife attacks, other things equal. One could reasonably generalize this approach to other types of weapons as well, adopting the view that the "objective dangerousness" of a nonfatal attack is closely related to the deadliness of the weapon.

In our judgment, Zimring has not succeeded in demonstrating that fatal knife attacks are the result of acts that are less dangerous than fatal gun attacks. Indeed, he has almost no data on the kinds of wounds that cause death in knife attacks.[14] It is possible that fatal knife attacks do involve multiple wounds and other evidence that a *coup de grace* was administered in a large percentage of cases and that knife homicides, unlike firearm homicides, tend to be the result of a sustained murderous intent. In addition, committing an unarmed homicide would almost seem to require that the intent of the attacker be unambiguous and sustained. Therefore, for weapons that are less lethal than a gun, there is reason to doubt that homicides have much of the nature of an accident about them. Thus, unlike cases of assault, there is no compelling reason (in the absence of further results) to view gun homicides as more serious than homicides with other weapons.[15]

Our conclusion from studying Zimring's pioneering analyses of the objective dangerousness issue is that a solid basis for grading the seriousness of nonfatal assaults by weapon type has been established, but that weapon type, *per se*, is not relevant to grading the seriousness of homicides resulting from assaultive attacks. Other factors, such as the circumstances that provoked the attack or the number of wounds inflicted, may give some guidance on this issue.

The evidence concerning the role of weapons in determining the outcome of robberies is less clear than for assaults. Gun robberies are much more likely to result in the death of the victim than are other robberies, and Richard Block (in an analysis similar to Zimring's) has shown that patterns of injury and death are quite similar in assaults and robberies in which the victim suffers at least minor injuries.[16] On the other hand, gun robberies are less likely to result in injury to the victim than are robberies with other weapons, apparently because the gun robber, unlike other robbers, does not need to assault his victim physically in order to intimidate him.[17] The unresolved question here is whether the relatively few gun robbers who do shoot their victims differ from other gun robbers in terms of their intent (e.g., do they kill to eliminate the witness or simply as a whim or a spontaneous response to the few victims who attempt to resist). This question is complex and has a number of important ramifications. A complete analysis is reserved for Chapter 4.

THE ROLE OF WEAPON TYPE IN THE CRIMINAL LAW

The substantive criminal law is one obvious source of guidance to prosecutors and judges in making case-processing decisions, since the sentencing provisions in the law should tend to reflect the public's judgment concerning the relative seriousness of criminal offenses. Sentencing provisions also are relevant in that they influence the prosecutor's ability to plea bargain with a defendant and constrain the judge in his sentencing decision.

Historically, the crucial weapons-related distinction in the law governing violent crime has been between armed and unarmed offenses. In the District of Columbia, this distinction is potentially very important due to a general enhancement provision (§22–3202) for serious crimes of violence that involve use of a deadly or dangerous weapon. For a first conviction, the offender can receive a sentence of up to life imprisonment—in addition to the usual penalty for the unarmed offense. This maximum sentence of life imprisonment greatly exceeds the statutory maximum sentence for most unarmed violent offenses; attempted unarmed robbery, for example, carries a 3-year maximum sentence; and unarmed manslaughter carries a 15-year maximum sentence.

In the past few years, a number of jurisdictions have gone beyond the "armed–unarmed" distinction and enacted legislation that specifies sentencing enhancements for violent crimes committed with a firearm. One of the harshest of these new laws was legislated in Tennessee in 1976;[18] mandatory provisions were added to an existing minimum prison sentence of 10 years for persons convicted of a subsequent felony offense. The convicted offender under this law is not eligible for parole. Other states that have adopted gun-enhancement provisions include California, Florida, Minnesota, Missouri, Rhode Island, New Hampshire, and Connecticut. There is some reason to believe that the current popularity of such laws may be due to their being introduced by state legislators as a politically acceptable alternative to gun-control measures. In any event, it is apparent from the passage of these enhancement provisions (and from public opinion polls[19]) that the public's concern about violent crime focuses on gun crimes. The discussion of

objective dangerousness presented in the preceding section suggests that at least for the crime of assault, this concern is well founded.

Weapons-enhancement provisions in the criminal code may strengthen the prosecutor's position in plea negotiations with defendants who are charged under such a provision, but they do not guarantee that court cases involving weapons-related crimes will be given special attention by prosecutors and judges. The sort of weapons emphasis apparently intended by legislators and supported by a large fraction of the public is most likely to be implemented if prosecutors tend to share the viewpoint that underlies the weapons-enhancement laws. For this reason, it is particularly interesting to note the results of a survey of assistant prosecutors that was designed to measure their perceptions of the relative seriousness of various crimes.

The survey, conducted by Jeffrey Roth,[20] questioned over 900 assistant prosecutors in 23 cities; each prosecutor was asked to assign a seriousness score to each of 36 descriptions of criminal events drawn from a list of 263 such events. The results for some of these criminal events are given in Table 2. The numbers in the table are derived from the geometric means of scores assigned to the crime in question by the subsample of assistant prosecutors who happened to get that crime description on their questionnaire. Subsamples have an average of 84 respondents. Some apparent inconsistencies in the pattern of average scores in the table are the result of sampling error and the fact that each crime was scored by a different group of raters.

Table 2.
Prosecutor Perceptions of Crime Seriousness

	Assault with Injury			
Weapon	No Medical Treatment Required	Outpatient Treatment	Hospitalized	Death
Gun	47	51	49	86
Knife	39	37	40	
Blunt object	25	28	36	
Fists	19	20	31	

	Robbery					
	$10 Stolen			$1,000 Stolen		
Weapon	No Injury	Outpatient Treatment	Hospitalized	No Injury	Outpatient Treatment	Hospitalized
Gun	46	50	59	44	46	58
Blunt object	34	41	45	39	44	51
Physical force	34	38	44	36	49	44

Source: Jeffrey A. Roth, "Prosecutor Perceptions of Crime Seriousness," *Journal of Criminal Law and Criminology* 69, no. 2 (June 1978).

Note: The reported numbers are Primary Index Scale Scores. Each score is based on the responses of a subsample of 909 assistant prosecutors from 23 cities. Subsamples had an average of 84 respondents. The method of collecting and analyzing the data is similar to the method employed by Thorsten Sellin and Marvin E. Wolfgang, *The Measurement of Delinquency* (New York: Wiley, 1964).

For all three categories of crime depicted in the table, a clear pattern emerges with respect to weapon type. Indeed, in every column but one, average scores increase monotonically with the deadliness of the weapon. The difference between unarmed attacks and gun attacks is largest for assaults, but even for robbery it is on the order of 30 percent.

POSSIBLE CRIME REDUCTION THROUGH WEAPONS EMPHASIS

If the prosecutor does single out defendants with gun crimes for more intense prosecutory effort, what effect will such a policy have on the amount and seriousness of crime? If gun criminals tend to be more recidivistic, then a gun-emphasis policy will enhance the incapacitative effect of prison sentences given out by the court. In addition, if some violent criminals are responsive to the likelihood and severity of punishment for different crimes, then a gun-emphasis policy will cause a reduction in gun crimes, which will at least be partially offset by an increase in violent crimes with other weapons.[21] If gun crimes are more dangerous, as they seem to be—at least for assault, the net effect of this substitution will be beneficial.

Notes

1. See Brian Forst and Kathleen B. Brosi, "A Theoretical and Empirical Analysis of the Prosecutor," *Journal of Legal Studies* 6 (January 1977): 177-92.

2. For a brief description of LEAA's Career Criminal Program, see "Overview of the Comprehensive Career Criminal Program," CCCP Briefing Paper no. 1 (1979), available from INSLAW.

3. A third argument for a weapons-emphasis policy is that criminals who use guns, say, are more responsive to variations in the threat of punishment than are other criminals. A discussion of this complex issue will be postponed until Chapter 4.

4. The supporting evidence for this claim is presented in Philip J. Cook, "A Strategic Choice Analysis of Robbery," in Wesley Skogan, ed., *Sample Surveys of the Victims of Crimes* (Cambridge, Mass.: Ballinger, 1976): 173-87.

5. *Ibid:* 182. The victim-reported cash losses for noncommercial robberies in 26 cities surveyed as part of the National Crime Survey Program show the following pattern:

Weapon	Average Loss	Percent With Zero Loss
Gun	$164	22%
Knife	$ 60	34%
Unarmed	$ 40	46%

See the *Criminal Victimization Survey* reports of the U.S. Department of Justice, Law Enforcement Assistance Administration, National Criminal Justice Information and Statistics Service, for a description of these surveys. The surveys were conducted during 1973 and 1974; respondents were asked to report any occurrences during the 12-month period preceding the interview.

6. See Thorsten Sellin and Marvin E. Wolfgang, *The Measurement of Delinquency* (New York: Wiley, 1964).

7. Franklin E. Zimring, "Is Gun Control Likely to Reduce Violent Killings?" *The University of Chicago Law Review* 35 (1968): 721-37; and "The Medium Is the Message: Firearm Caliber as a Determinant of Death from Assault," *The Journal of Legal Studies* 1, no. 1 (January 1972): 97-123.

8. Zimring, "The Medium Is the Message": 114.

9. *Ibid:* 97.

10. Marvin E. Wolfgang, *Patterns in Criminal Homicide* (Philadelphia: University of Pennsylvania Press, 1958).
11. Zimring, "The Medium Is the Message": 111.
12. *Ibid.:* 104.
13. Zimring, "Is Gun Control Likely to Reduce Violent Killings?": 735.
14. *Ibid.:* 731. Eight observations on knife homicides are reported.
15. What we are arguing here is that there is less similarity between nonfatal and fatal knife (or other weapon) attacks than there is between nonfatal and fatal gun attacks. Testing this conjecture requires detailed data on the types of knife attacks that prove to be fatal.
16. Richard Block, *Violent Crime* (Lexington, Mass.: Lexington Books, 1977): 31.
17. See Cook, "A Strategic Choice Analysis of Robbery." Other writers have found similar results; see, e.g., John E. Conklin, *Robbery and the Criminal Justice System* (Philadelphia: Lippincott, 1972).
18. TENN. CODE ANN. §39-4914.
19. National Advisory Commission on Criminal Justice Standards and Goals, *A National Strategy to Reduce Crime* (Washington, D.C.: Government Printing Office, 1973): 143. A Gallup Poll is cited that found a majority of respondents in favor of giving double the regular sentence to anyone who commits a crime with a gun.
20. Jeffrey A. Roth, "Prosecutor Perceptions of Crime Seriousness," *Journal of Criminal Law and Criminology* 69, no. 2 (June 1978).
21. For a theoretical analysis of the efficient choice of conviction probabilities and punishments given the assumption that the offender is risk neutral, see Donald Wittman, "Prior Regulation versus Post Liability: The Choice Between Input and Output Monitoring," *The Journal of Legal Studies* 6, no. 1 (January 1977): 193-212. One of the implications of Wittman's analysis is that if the objective dangerousness of a certain class of assaults and homicides was uniform (not related to the actual outcome of the assault), and if apprehension and punishment costs were also uniform for this class, then assaulters should receive the same punishment as murderers.

3

Recidivism and Weapon Type

One of the potentially important crime-prevention effects of punishment is "incapacitation": restraining a convicted criminal from further criminal activity. Essentially, the only method of incapacitation in current use is incarceration: jail for a relatively few convicted misdemeanants and defendants not released on bail or their own recognizance, and prison for some convicted felons. The amount of serious crime prevented through incapacitation depends on the ability of the criminal justice system to identify the most active and dangerous criminals from the stream of defendants who flow through the system. As discussed in the preceding chapter, one possible rationale for keying prosecution and sentencing decisions in part on the type of weapon used by the violent crime defendant is that the criminal's choice of weapon may be indicative of his propensity to continue committing serious crimes; for example, gun robbers may be more recidivistic as a group than knife robbers, even when other indicators of their recidivistic tendencies (such as prior record and age) are taken into account.

To investigate the notion that the violent criminal's choice of weapon is a good predictor of the frequency with which he commits such crimes, we have constructed a longitudinal data file that tracks the criminal careers of nearly 6,000 adult males arrested in 1973 in the District of Columbia. In this chapter, we describe this data set and present an analysis of recidivism for the 1973 cohort.

DESCRIPTION OF THE 1973 COHORT

The data used in this study are extracted from the data files generated by PROMIS, a system utilized since 1971 by the U.S. Attorney's Office for the District of Columbia in its Superior Court Division. Fairly extensive computerized records are generated for each adult arrestee (age 18 or over)[1] referred for prosecution by the U.S. Attorney in Superior Court, excluding arrests for minor misdemeanors and violations. The records include up to 170 items of information on the defendant, the crime(s) he is charged with, and the victim and other potential witnesses, as well as detailed data on the processing and eventual disposition of the case.

To create the longitudinal file from the PROMIS data, we constructed a cohort consisting of every male arrested in 1973 for a serious crime of violence, a burglary, or a weapons-possession offense, and then, again using PROMIS, we followed each cohort member's record of subsequent arrests for any of those crimes through 1976. The total 1973 cohort consists of 5,834 individuals. In our presentation below, we often partition the total cohort into smaller groups based on the

most serious crime they were charged with in their cohort arrest: hence, the "murder cohort" consists of the 184 cohort members whose first arrest in 1973 for one of the crimes we are considering resulted in a murder charge. The "robbery cohort" consists of the 1,302 men whose first arrest in 1973 for one of the crimes we are considering resulted in a robbery charge, and who were not simultaneously charged with the more serious crimes of rape or murder. Cohort members whose cohort arrest resulted in several charges are classified according to the most serious charge: our "seriousness hierarchy" placed murder at the top, followed in order by rape, robbery, assault, weapon possession, and burglary. Table 3 presents a detailed listing of the types of crime included in our study. In addition to the violent crimes (murder, forcible rape, robbery, assault) that are our principal concern, we included burglary as a basis for comparison in the recidivism results. Weapons-possession offenses are included because the main purpose of enforcing statutes and ordinances controlling the carrying and use of dangerous weapons is to preempt their being used in violent crimes.

Table 3.
Type and Number of Cohort Arrests

Crime Type, with Statutory Penalty and Definition	Number of Cohort Arrests	
Homicide	184	
Manslaughter (Voluntary) (up to 15 years) Unlawful killing in the heat of passion caused by adequate provocation		90
Murder II (20 years to life) Killing of another, whether intentional or accidental, with malice		35
Murder I (life) Intentional killing with deliberate and premeditated malice		59
Rape	308	
Assault with Intent to Rape (2–15 years) Unlawful assault with the specific intent to have sexual intercourse against the will of the complainant		43
Rape (up to life) Carnal knowledge of a female, age 16 or more, forcibly and against her will; or carnal knowledge of a female under 16		265
Robbery	1,302	
Robbery (2–15 years) Theft of property from the immediate possession of the complainant by force or violence, or by putting the complainant in fear		1,105
Attempted Robbery (up to 3 years if unarmed, life if armed)		46
Assault with Intent to Rob (2–15 years)		151

Table 3 (Continued).

Crime Type, with Statutory Penalty and Definition	Number of Cohort Arrests	
Assault	2,360	
Simple Assault (up to 1 year) Attempt and apparent present ability to injure another person		1,037
Threats to Do Bodily Harm (up to 6 months)		81
Assault with Felonious Intent (up to 5 years) Unlawful assault with intent to commit a felony		114
Assault on a Police Officer (up to 5 years) Assault, resistance, or interference with a police officer who is acting in the performance of his/her official duties		173
Assault with a Dangerous Weapon (up to 10 years)		
Gun		375
Knife		258
Other		322
Weapons Charge	957	
Carrying a Dangerous Weapon—CDW (up to 1 year) Carrying (openly or concealed) a pistol without a license or a deadly or dangerous weapon capable of being concealed, except in the home or business		718
CDW After Felony Conviction (up to 10 years) Previous conviction on CDW in the District of Columbia, or previous conviction for a felony in D.C. or elsewhere		91
Possession of a Prohibited Weapon (up to 1 year)[a] Possession of a dangerous weapon with the specific intent to use it unlawfully against another person, *or* the possession of certain prohibited weapons (machine guns, switchblade knives, etc.)		128
Unlawful Possession of a Pistol (up to 1 year) Possession by a felon, drug addict, or others with certain prior convictions, or intentional transfer to such a person		20
Burglary	723	
Burglary II (2–15 years) Entry into any unoccupied building of another with the specific intent to commit any criminal offense		506
Burglary I (5–30 years) Entry into an apartment or home of another while it is occupied, with the intent to commit any criminal offense		100
Attempted Burglary (up to 1 year)		117

Source: Statutory penalties and definitions of crime type—District of Columbia Criminal Code.
[a]After felony conviction, up to 10 years.

Table 4 gives a statistical description of the cohort members and of the original crimes for which they were arrested in 1973. More than 90 percent are black. A substantial majority are youthful (age 30 or less); burglars and robbers are considerably younger, on the average, than those arrested for assault, murder, and rape. Less than half of every crime cohort has a prior arrest record for a violent crime, and less than one-third of the burglary and weapons-possession cohorts have an arrest record for a violent crime (juvenile arrests are not included). The average crime seriousness score reported in row ten of the table is calculated by PROMIS, as noted in Chapter 2, for use in setting prosecution priorities. The crime seriousness score takes into account, among other things, the severity of injury (if any), the amount of money stolen, and the weapon used by the offender—use of a gun receives five points, which explains why the average score for weapons-possession defendants is near five. The statistics on prior acquaintance conform to patterns found in other studies;[2] at least half of the assaults, murders, and rapes involved family members or prior acquaintances as victims, whereas prior relationship was relatively uncommon in burglary and robbery.

AN OVERVIEW OF REARREST PATTERNS

Before evaluating the hypothesis that defendants accused of gun crimes are more likely than other violent crime defendants to persist in serious criminal activity, we present an overview of the incidence and patterns of rearrests among the 1973 violence cohort. Table 5 gives a succinct summary of the extent to which members of the 1973 violence cohort (i.e., all 1973 male arrestees in the murder, rape, robbery, or assault cohorts) were arrested for violent crimes in subsequent years. In 1974, the violence cohort accounted for about 12 percent of all arrests for violent crime in the District of Columbia, but there were some differences among crime types—9.2 percent of the murder arrestees in 1974 were members of the violence cohort, but 14.6 percent of the robbery arrestees were members (most of them belonging to the robbery cohort). These percentages tend to fall off somewhat in subsequent years, but they are by no means negligible.

The figures reported in Table 5 give no indication of the magnitude of the reduction in violent crime rates due to the incapacitation of some members of the violence cohort. About 13 percent of the male defendants arrested for violent crimes in 1973 were in prison in 1974.[3] If they had all been released, the 1973 cohort would presumably have accounted for a substantially larger fraction of arrests for violent crime in 1974 and subsequent years. The potential recidivism rate of those who were incarcerated cannot be estimated from these data,[4] but it would be expected to exceed the observed recidivism rate of those cohort members who were not incarcerated, to the extent that the defendant's criminal history is an important factor in sentencing decisions.[5] The rearrest figures in Table 5 *do* allow us to set an upper bound on how large a reduction in violent crime could be achieved in the District of Columbia through imprisoning a larger number of arrestees. If we assume that cohort members are just as likely to be arrested when they commit a violent crime as are other adult males, then we can estimate that a 12 percent reduction in the male violent crime rate would have been achieved if all 1973 violent crime arrestees who were actually released had instead been imprisoned during 1974. (This estimate ignores the deterrent effect of such a strategy.) Since increasing the imprisonment rate by even a small amount is costly and difficult to implement, it would appear that the incapacitation benefits to be gained by a "get tough" policy would be small relative to the overall magnitude of the crime problem in the District of Columbia. This conclusion in no way implies that a policy of selective increases in the use of prison sentences is not warranted for

Table 4.
Descriptive Statistics on Members of the 1973 Cohort and the Cohort Crimes for Which They Were Arrested (District of Columbia Superior Court)

Variable	Murder	Rape	Robbery	Assault	Burglary	Weapons Possession
Number in cohort	184	308	1,302	2,360	723	957
Defendant characteristics						
Age						
<18	1%	7%	9%	[a]	2%	[a]
18–20	9%	18%	31%	12%	30%	13%
21–25	31%	28%	35%	22%	30%	26%
26–30	17%	23%	14%	17%	16%	15%
31 or over	37%	23%	12%	48%	21%	45%
Average age (in years)	29.7	26.5	23.5	33.0	25.8	31.9
Percent black	95%	96%	96%	92%	90%	90%
Prior arrest for crime against the person	41%	36%	42%	37%	32%	29%
Crime characteristics						
Average crime seriousness score[b]	31.9	16.2	7.4	6.7	2.6	4.7
Percent with codefendants	16%	22%	40%	13%	37%	22%
Relationship to victim						
Family	11%	4%	[a]	15%	1%	—
Prior acquaintance	45%	46%	15%	39%	19%	—
Stranger	20%	38%	55%	25%	41%	—
Unknown	23%	13%	30%	22%	38%	—

Source: PROMIS.

[a]Less than .5%.

[b]This score, based on a system similar to that developed by Sellin and Wolfgang, is calculated by PROMIS for use in setting prosecution priorities. For details on the development of the index, see Thorsten Sellin and Marvin E. Wolfgang, *The Measurement of Delinquency* (New York: Wiley, 1964).

Table 5.
Percentage of Arrests of Males in the District of Columbia Involving Members of 1973 Violence Cohort, 1974–1976

Crime Type	Total D.C. Arrests	Percent Involving Violence Cohort Members	Percent Involving Same Crime Type Cohort Members[a]
	1974		
Violent	4,690	11.8%	11.8%
Murder	229	9.2	0.0
Rape	273	9.8	2.5
Robbery	1,904	14.6	10.1
Assault	2,284	9.9	7.0
Burglary	1,311	8.5	6.9
Weapons possession	1,057	6.2	1.9
	1975		
Violent	4,828	9.2%	9.2%
Murder	258	7.4	0.0
Rape	263	11.0	2.9
Robbery	1,903	10.3	6.9
Assault	2,404	9.2	6.3
Burglary	1,245	9.6	3.6
Weapons possession	1,173	6.1	2.0
	1976		
Violent	4,360	7.4%	7.4%
Murder	171	7.6	1.1
Rape	220	4.5	2.4
Robbery	1,580	9.2	5.6
Assault	2,389	6.3	4.3
Burglary	1,100	6.0	2.8
Weapons possession	994	4.6	1.6

Source: PROMIS.

[a]For example, the percentage of robbery arrests involving members of the robbery cohort. Note that the percentages in this column are subsumed in the first column for crimes of violence, but *not* for burglary or weapons-possession offenses.

the sake of incapacitation—the *absolute* reduction in crime rates may be large enough to justify such a policy, even if the *proportional* reduction would be small.[6]

Table 6 gives another perspective on recidivism patterns for members of the cohort. The percentages in the first column indicate that most cohort members were not rearrested for a violent crime (murder, assault, rape, or robbery) in the District of Columbia during the three-to-four years following their cohort arrest. The most recidivistic crime group is the robbery cohort, 38 percent of whom were rearrested at least once for a violent crime during this period. The murder and

Table 6.
Recidivism Patterns for Cohort Members
(District of Columbia Superior Court)

Cohort	Percent with at Least One Rearrest for Violent Crime	Cohort Members' Rearrests for Specified Crimes 1973-1976 (Percent)						Number in Cohort
		Assaultive Crimes				Crimes for Profit		
		Murder	Assault	Rape	Total	Robbery	Burglary	
Murder	14.1%	1.1%	10.9%	1.6%	13.6%	6.0%	5.4%	184
Assault	23.4	1.4	22.2	1.2	24.8	9.2	5.9	2,360
Rape	28.9	1.6	15.3	10.1	26.9	15.9	10.1	308
Robbery	38.0	2.5	13.8	2.2	18.4	44.3	13.2	1,302
Burglary	26.3	1.2	15.2	2.2	18.7	21.6	32.8	723
Weapons possession	19.2	1.7	10.7	0.8	12.5	13.2	6.2	957

Source: PROMIS.

weapons-possession cohorts are lowest in terms of rearrest rates. It should be noted once again that these rearrest statistics would presumably be higher if it were not for the fact that a substantial fraction of the violence cohort members were incarcerated for some portion of the 1974–76 follow-up period.

Those cohort members who were rearrested at least once for a violent crime were often rearrested two or more times; the average number of rearrests for those rearrested at least once was 1.54. The remaining columns of Table 6 give the rearrest rates of cohort members for the crimes specified in the column headings; these rearrest rates are defined as the total number of rearrests, 1973–76, for the specified crime type, divided by the number of people in the cohort. The interesting patterns in these rearrest rates can be briefly summarized. First, although there is a great deal of crime switching for every cohort,[7] there is clearly some consistency in crime choice: for five of the six crime-type cohorts, a member of cohort X is more likely than a member of any other cohort to be rearrested for crime type X. For example, members of the rape cohort are almost five times as likely to be rearrested for rape as members of the cohort that has the next highest rape rearrest rate; members of the robbery cohort are more than twice as likely to be rearrested for robbery as members of the burglary cohort, which is second highest in this regard. The exception to this consistency pattern is murder; the murder cohort's rearrest rate for murder (1.1 percent) is less than that for any other cohort.

A second pattern in rearrests is the uniformly low rearrest rates for crimes of assaultive violence (murder, assault, and rape). The range in rearrest rates is from 12.5 percent to 27 percent. It is particularly interesting that the burglary cohort has as high a rearrest rate for assaultive crimes as do several of the violence cohorts. Although the rearrest rates for assaultive crimes are relatively uniform across the various crime cohorts, the rearrest rates for the profit-motivated crimes—robbery and burglary—differ dramatically among cohorts. Rearrest rates for both robbery and burglary total about 60 percent for both the robbery and burglary cohorts, but they are much lower for the other cohorts.

The final pattern of interest is the remarkable similarity in rearrest rates between the burglary and robbery cohorts. They have virtually identical rearrest rates for crimes of assaultive violence and also for crimes of profit. The main difference is that, within the "crimes for profit" category, robbers concentrate on robbery and burglars (to a lesser extent) concentrate on burglary.

WEAPON TYPE AS A PREDICTOR OF RECIDIVISM

The problem of predicting which criminals will return to crime following arrest or conviction or imprisonment is a much-studied subject, but surprisingly little has been done to assess the usefulness of a violent crime defendant's choice of weapon as a predictor of subsequent criminal activity. The results reported in this section, based on the rearrest record for the 1973 violence cohort, suggest that weapon type is not correlated with the likelihood (or frequency) of rearrest for violent crime. However, a more detailed analysis suggests that there are some interesting weapon-related differences in the types of violent crimes for which cohort members are rearrested.

Our principal operational indicator for "recidivism" is "rearrest for a crime of violence in the District of Columbia before the end of 1976." Arrest data are weak substitutes for the information we would ideally have for this study—the number and types of serious crimes actually committed by cohort members. Since arrest rates for serious crimes are low (with the exception of murder), and since crimes committed outside the District are not subject to arrest in the District, it is certain

that the total number of crimes committed by cohort members greatly exceeds the number of cohort member arrests in the District of Columbia. Many cohort members who in fact committed serious crimes following their cohort arrests may never have been rearrested at all. Despite these obvious problems, rearrest statistics may be adequate as an indication of recidivism patterns (rather than absolute magnitudes).

Suppose, for example, that we want to assess the difference in crime-commission rates between two groups: men in their 20s with no prior record who were arrested (but not incarcerated) for gun robbery in 1973, and an otherwise similar group who were arrested for knife robbery in 1973. Suppose further that the latter group subsequently commits an average of two violent crimes, whereas the former (gun) group commits an average of one violent crime. If the likelihood of arrest for the two groups is identical at, say, 20 percent, then the two-to-one ratio in subsequent crime rates will be accurately reflected in rearrest rates (which will be .4 for the knife group and .2 for the gun group). If one group tends to be more successful at evading arrest than the other, however, rearrest rates will give a misleading indication of the relative magnitude of crime-commission rates. The likelihood of arrest for a violent crime depends on the nature of the crime and the skill with which it is committed; if these factors tend to differ widely between gun and knife robbers, even when other factors (such as age and prior record) are controlled for, then rearrest data are virtually useless. Our interpretation of our statistical results on rearrest patterns rests on the untestable assumption that rearrest patterns are similar in salient respects to crime-commission patterns. While this assumption is common in recidivism studies, there is certainly some chance that it is seriously in error.

A variety of factors are known to be useful predictors of recidivism rates. Kristen Williams's comprehensive study of recidivism in the District of Columbia tests 58 characteristics of defendants and their cohort crimes (not including the type of weapon used) as predictors of subsequent criminal arrests.[8] We will briefly summarize her results and then proceed with a somewhat simpler recidivism analysis focused on weapon type.

Williams selected a cohort consisting of all 4,703 defendants arrested in the District of Columbia between November 1972 and February 1973 and tracked their criminal careers through August 1975 using PROMIS arrest files. She then performed a multivariate regression analysis to predict recidivism, using as a dependent variable the sum of the seriousness score of each subsequent arrest for each defendant divided by an estimate of his or her "time on the street" (i.e., the amount of time between the cohort arrest and August 1975 during which the cohort member was not in jail or prison). From the results of this procedure, she identified the following variables as being important in predicting recidivism:

- Type of crime charged in cohort arrest
- Various measures of the cohort member's prior criminal record
- Age, sex, and race of cohort member
- Whether the cohort member was employed at the time of his or her cohort arrest
- Whether the cohort member was known to use drugs.

In the analysis that follows, we eventually control for most of these variables.[9] We do not control for race, because almost all the defendants in our violence cohort are black. Neither do we control for the last two factors listed above; but since their measured effect in Williams's study is relatively small, this omission should not cause serious distortions in our results. Perhaps the most important

difference between the Williams study and ours is in the definition of recidivism: she includes arrests for all types of crimes and adjusts for the amount of time the cohort member spends in jail or prison; we, on the other hand, include only arrests for crimes of violence (and in some instances, burglary and weapons possession).

Table 7 tabulates recidivism rates controlling only for cohort crime and weapon type; a more comprehensive set of controls is introduced subsequently. Two measures of recidivism are displayed here: the percentage of cohort members who are arrested at least once for a violent crime, and the total number of violent crime rearrests (1973–1976) per cohort member. By either measure, the members of the violence cohort whose cohort crime involved no weapon are the most recidivistic.

Table 7.
Rearrest Statistics by Weapon Used in Cohort Arrest
(District of Columbia Superior Court)

Cohort	Number in Cohort	Percentage Rearrested for Violent Crimes	Number of Violence Rearrests Per Cohort Member	Average Seriousness Score for Violence Rearrests[a]
Violence	4,154	28%	.43	12.0
Gun	1,507	27	.40	13.0
Other weapon	731	24	.35	11.3
Unarmed	1,388	31	.49	11.3
Murder	184	14	.20	10.8
Gun	107	14	.20	10.2
Other weapon	29	10	.10	4.3
Unarmed	21	14	.14	7.7
Assault	2,360	23	.34	10.6
Gun	825	24	.32	11.6
Other weapon	578	23	.32	11.4
Unarmed	710	26	.36	9.1
Rape	308	29	.43	14.4
Gun	54	33	.44	15.8
Other weapon	34	24	.41	13.9
Unarmed	188	29	.45	14.4
Robbery	1,302	38	.63	13.2
Gun	541	36	.54	14.4
Other weapon	90	37	.58	10.8
Unarmed	469	41	.71	12.6

Source: PROMIS.

[a]This score, based on a system similar to that developed by Sellin and Wolfgang, is calculated by PROMIS for use in setting prosecution priorities. For details on the development of the index, see Thorsten Sellin and Marvin E. Wolfgang, *The Measurement of Delinquency* (New York: Wiley, 1964).

The "other weapon" (i.e., weapon other than a gun) group is the least recidivistic.[10] This pattern holds, with a few minor exceptions, for each of the four violent crime cohorts. It is clear, however, that the differences in recidivism rates by weapon type are small, especially when compared with the differences in recidivism rates among crime types.

The last column of Table 7 gives the average crime seriousness score for violence rearrests. These average scores are remarkably similar across almost all categories. The exception appears to be the murder cohort, but these results are highly suspect due to the small sample size—there were only three rearrests in the "other weapon" category and in the "unarmed" category. Gun criminals' rearrests had the highest average score in all four cohorts, partly because cohort members who used a gun in their cohort crime were disproportionately likely to be rearrested for gun crimes. (Remember that the seriousness scoring system assigns five points to using a gun in a crime in addition to whatever points are assigned for injury to the victim and other characteristics.) Without this gun "bonus" in the seriousness scoring system, over half of the difference in average seriousness between gun and other weapon rearrests would be eliminated.

Our tentative conclusion from these results is that knowing the type of weapon a defendant is charged with using in a violent crime case is of little or no value in predicting the frequency or seriousness of his subsequent criminal activity. Does this uniformity in recidivism rates across weapon categories hold up when we make a greater effort to control for other factors that influence rearrest rates? The analysis that follows suggests an affirmative answer.

Based on the results of the Williams study of recidivism in the District of Columbia, we conclude that three important factors have not been taken into account in the cross-tabulations presented in Table 7: the defendant's age, prior criminal record, and length of incapacitation following cohort arrest.[11] Failure to take these factors into account may yield misleading conclusions concerning the true relationship between weapon choice and involvement in criminal activity following the cohort arrest. For example, in the District of Columbia, defendants accused of violent crimes while armed are more likely to be convicted and sentenced to prison than unarmed defendants.[12] Therefore it is possible that armed defendants have a greater propensity to recidivate than unarmed defendants, but that this difference is not revealed in the rearrest data because armed defendants are relatively more likely to be incapacitated. Weapons-related recidivism patterns can also be distorted by other systematic differences in the characteristics of armed and unarmed defendants.

Appendix A reports the results of a probit analysis of recidivism in each of the violent crime cohorts. "Recidivism" is defined as "at least one subsequent arrest for a violent crime by 1976." The equations include indicators of weapon type, defendant's age and prior record for violent crimes, and a number of variables designed to control for incapacitation effects. Predicted recidivism rates are highest for the youngest defendants and those with long prior records. The estimated effects of weapon type on the probability of recidivism tend to be small and are in every case insignificantly different from zero by the usual statistical standard. These results are illustrated by the recidivism probability estimates reported in Table 8, which are derived from the probit analysis reported in the appendix.

Given the small and erratic weapon-related differences in rearrest rates, one might ask whether the groups defined by the type of weapon defendants were charged with using in their cohort arrests differ in any important aspect of their criminal careers. One difference, in particular, stands out. Those charged with using a gun in their cohort crime, if rearrested, were more likely to be rearrested

for a gun crime. As shown in Table 9, those charged with using a gun in their cohort crime are about 40 percent more likely to be rearrested for gun crimes than are other cohort members.[13] This propensity to use a gun holds for each of the crime cohorts: a higher fraction of violent crime rearrests for the gun group in each of the four crime cohorts for gun crimes.

Is the use of a gun in the original cohort crime associated with any other difference in criminal career? The answer for the assault cohort would appear to be no: gun and non-gun users in the assault cohort have essentially the same rearrest rates for assaultive crimes, robbery, and burglary. On the other hand, the gun and non-gun groups in the robbery cohort do display one important difference in subsequent rearrest patterns; the non-gun robbery cohort members are much more likely to be rearrested for an assaultive crime than their gun-using counterparts.[14] There is an indication here that gun robbers as a group are less violence-prone, which is interesting given that gun robbery tends to be less violent than non-gun robbery. We discuss this issue more fully in Chapter 4.

WEAPONS-POSSESSION OFFENSES

Cohort rearrest data are particularly useful in making a judgment concerning the appropriate criminal justice system policy in processing defendants arrested for weapons-possession offenses, since one important reason why the courts may want to treat these cases as serious crimes is the suspicion that weapons defendants are active robbers or highly inclined to violence.[15] Several jurisdictions have legislated extraordinarily severe penalties for gun-possession violations in the last few years, including the famous Bartley-Fox Amendment in Massachusetts; this law mandates a one-year minimum prison sentence for carrying a firearm without a license, with specific legislative prohibitions on probation, parole, or a suspended sentence.[16] The prosecutor's office in the District of Columbia has adopted a policy of handling weapons-possession cases as serious crimes. An

Table 8.
Estimated Likelihood of at Least One Rearrest for a Violent Crime by 1976 (District of Columbia Superior Court)

Weapon Used in Cohort Offense	Cohort Offense			
	Murder	Rape	Robbery	Assault
Defendant age 30 or more, no prior arrests for violent crime, not convicted of cohort offense: probability of rearrest				
Gun	.05	.24	.19	.16
Other weapon	.02	.14	.19	.12
Unarmed	.06	.22	.23	.14
Defendant age 21–29, 2–3 prior arrests for violent crime, not convicted of cohort offense: probability of rearrest				
Gun	.29	.45	.48	.47
Other weapon	.15	.32	.48	.40
Unarmed	.32	.43	.54	.44

Source: Calculated from results presented in Appendix Table A.2.

Table 9.
Patterns of Rearrest, 1973–1976, by Crime Type and Weapon Used in Cohort Arrest
(District of Columbia Superior Court)

Cohort	Number in Cohort	Number of Rearrests for Specified Crimes per Cohort Member						
		Violent Crime	Violent Crime With Gun	Assaultive Crime	Assaultive Crime With Gun	Robbery	Robbery With Gun	Burglary
Violence								
Gun	1,507	.40	.19	.19	.07	.21	.12	.08
No gun	2,647	.44	.14	.24	.06	.20	.08	.09
Murder								
Gun	107	.20	.09	.12	.05	.07	.05	.01
No gun	77	.19	.08	.16	.06	.04	.01	.12
Assault								
Gun	805	.33	.12	.24	.08	.09	.05	.06
No gun	1,555	.35	.09	.25	.05	.09	.03	.06
Rape								
Gun	54	.44	.19	.35	.15	.09	.04	.02
No gun	254	.43	.17	.25	.09	.17	.07	.12
Robbery								
Gun	541	.56	.31	.13	.06	.43	.25	.13
No gun	761	.67	.25	.22	.07	.45	.18	.13

Source: PROMIS.
Note: The "no gun" category includes some cases in which the weapon type was not recorded in the PROMIS file. These unrecorded cases constitute 13% of the total.

assistant prosecutor in the District cannot refuse to prosecute an illegal gun-possession case at the intake hearing on his own authority—a more senior prosecutor must concur with his judgment if such a case is to be rejected at the initial screening stage.

Whether most illegal possession cases in fact tend to involve dangerous criminals depends partly on the circumstances under which the police are inclined to make an arrest. The police will inevitably have many opportunities to make weapons arrests involving people who are unlikely to be active criminals: shopkeepers and others who carry a gun for self-protection but who failed to obtain the necessary license, drunks celebrating by shooting into the air, and so on. If the police tend to handle such cases with a formal arrest procedure, then the typical weapons-possession case will be quite different than if police reserve the arrest option for those they suspect of being active criminals.

Recidivism patterns for the 798 gun-possession defendants in the 1973 cohort suggest that the typical weapons-possession defendant is less actively involved in violent crime than the typical member of the violence cohort.[17] Table 10 displays rearrest statistics for the gun and other weapons-possession cases, together with comparable statistics for the violence cohort. Twelve members of the gun-possession cohort were rearrested for murder, a rearrest rate that is nearly as high as for the violence cohort (1.50 percent vs. 1.71 percent). For other crimes of violence, the rearrest rates for both weapons cohorts are lower than the rate for the violence cohort by a factor of about two.

Table 11 yields a partial explanation for this difference. Sixty-one percent of the weapons cohort were age 21 or older and had no prior record of arrest for violent crime, and this group had a very low rearrest rate (even when compared with the corresponding group in the violence cohort). The other two groups—youths and older defendants with prior records—have rearrest rates that are considerably closer to those of the corresponding groups in the violence cohort. These results suggest that illegal weapons possession, *per se,* is not a very accurate indicator of violent criminal propensity in the District of Columbia, but that illegal weapons-possession cases for youths or those with prior records involve defendants who are almost as active in violent crime, on the average, as violent crime defendants

Table 10.
Weapons-possession Cohort Rearrest Rates for Specified Crimes, 1973–1976
(District of Columbia Superior Court)

No. of Rearrests for Specified Crimes per Cohort Member	Crime		
	Gun Possession	Other Weapon Possession	Violent
All violent crimes	.25	.33	.43
Murder	.02	.03	.02
Assault	.11	.11	.19
Rape	.01	.02	.02
Robbery	.12	.17	.21
Weapons possession	.08	.09	.05
Burglary	.05	.12	.08
Number in Cohort	798	159	4,154

Source: PROMIS.

Table 11.
Weapons-possession Cohort: Recidivism and Rearrest Rates for Violent Crimes (District of Columbia Superior Court)

Characteristic	Fraction with One or More Violence Rearrests		Violence Rearrests per Cohort Member		Number in Weapons-possession Cohort
	Violence Cohort	Weapons-possession Cohort	Violence Cohort	Weapons-possession Cohort	
Total, all ages					
Total	.28	.19	.43	.26	957
Gun	.27	.18	.40	.25	798
Youth, age 20 or under					
Total	.40	.32	.66	.50	125
Gun	.44	.30	.71	.49	103
Age 21 or over with record					
Total	.33	.27	.49	.39	249
Gun	.29	.28	.43	.40	210
Age 21 or over without record					
Total	.19	.13	.28	.16	584
Gun	.18	.11	.25	.13	489

Source: PROMIS.

in these groups. The sharp distinction in the D.C. Criminal Code (displayed in Table 3) between illegal weapon possession by convicted felons and illegal possession by those who lack a serious conviction record appears to have some justification in fact.

Notes

1. Juveniles over 15 but less than 18 years old who are prosecuted as adults for certain offenses are also included in PROMIS. The age distribution in Table 4 gives the frequency of such cases.

2. See, for example, the Vera Institute of Justice, *Felony Arrests: Their Prosecution and Disposition in New York City's Courts* (New York, 1977). They reported that 56 percent of felony violence cases involved family members or acquaintances (p. 19). However, it is noteworthy that Vera reported not a single instance of unknown or ambiguous relationship, and that this 56 percent included such acquaintances as prostitutes and their customers.

3. Thirteen percent of the adult males arrested in 1974 for crimes of violence were eventually sentenced to prison or jail for these crimes. Presumably, the incarceration rate in 1973 was about the same.

4. The rapidly growing literature on the problem of estimating incapacitation effects (the amount of crime prevented by incarceration) has been synthesized by Jacqueline Cohen, "Incapacitation: A Review of the Literature," in *Deterrence and Incapacitation: Estimating the Effects of Criminal Sanctions on Crime Rates*, ed. Alfred Blumstein, Jacqueline

Cohen, and Daniel Nagin, the report of the Panel on Research on Deterrent and Incapacitative Effects (Washington, D.C.: National Academy of Sciences, 1978).

5. See, for example, Terence Dungworth, *An Empirical Assessment of Sentencing Practices in the Superior Court of the District of Columbia*, PROMIS Research Publication no. 17 (Washington, D.C.: INSLAW, 1979).

6. From a cost-benefit viewpoint, the relevant measure of social benefit derived from incapacitating some group of convicted criminals is the number of crimes prevented (weighted by seriousness), not the proportional reduction in the crime rate.

7. The description of crime switching presented here is somewhat narrow in that it ignores subsequent arrests for larceny, auto theft, etc. That violent criminals are often rearrested for such crimes is demonstrated in Kristen Williams, *The Scope and Prediction of Recidivism*, PROMIS Research Publication no. 10 (Washington, D.C.: INSLAW, 1979).

8. *Ibid.*

9. Note that we have "controlled for" sex by limiting our sample to males.

10. The "other weapon" group is mostly drawn from the assault cohort, which has a low rearrest rate.

11. Since the purpose of this recidivism study is to analyze the value of a weapons-emphasis policy in prosecution and sentencing, the only variables that should be controlled for are those that are likely to be taken into account by prosecutors and judges. Age and prior record of the defendant are two such variables—race, for example, is not (although race is not of much concern in this study in any event, due to the lack of variability along this dimension).

12. Armed defendants also tend to receive longer prison terms. See Chapter 5.

13. For the sake of simplicity, this table replaces the three-fold weapon categorization with a gun–no gun distinction.

14. It is, of course, possible that this reflects a difference in the conditional arrest probability rather than in the true recidivism rate. That is, gun robbers may be more skillful at evading arrest. See discussion on p. 21.

15. The principal alternative objective is to deter as many people as possible from carrying guns with them.

16. The Bartley-Fox Amendment went into effect in 1975 and has been the subject of extensive ongoing evaluation. See, for example, James Beha, *And NOBODY Can Get You Out*, Center for Criminal Justice, Harvard Law School (Cambridge, Mass., 1976).

17. But note the relatively high rearrest rate for weapons possession—higher, in fact, than for any other cohort.

4

Seriousness and Weapon Use in Robbery

The analysis of violent crime rearrests presented in Chapter 3 does not support the hypothesis that armed violent crime defendants tend to be more recidivistic than unarmed violent crime defendants. Our results in this regard are, of course, subject to some doubt, since it is possible that the armed defendants in our cohort did have higher subsequent crime rates but were more skillful at evading arrest. But in the absence of any evidence that such a bias does exist in the arrest data, our best guess is that the incapacitation effect from locking up an armed violent criminal is no greater than that for his unarmed counterpart, other things being equal. The principal alternative justification for such a weapons-emphasis policy is that assaults and robberies committed with more deadly weapons tend to be more dangerous. This argument has received strong support with regard to assault from Zimring's Chicago crime studies, as discussed in Chapter 2. But the "objective dangerousness" hypothesis has not been evaluated carefully for the crime of robbery. The analysis presented here explains the salient issues and presents some new empirical results for both robbery and robbery murder that help clarify the problem.

POSSIBLE REMEDIES TO ROBBERY VIOLENCE

Robbery is a combination of assault and theft. Like other crimes of theft, robbery is primarily motivated by the criminal's desire for economic gain. The violent aspect of robbery, however, distinguishes it from other theft crimes and accounts for the relatively severe punishments typically given to convicted robbers. Pocket-picking and purse-snatching are very similar to a street robbery in terms of the economic loss to the victim, but the courts rightfully view the robbery as a much more serious crime because of the increased possibility of physical harm to the victim. In discussing the seriousness of robbery below, we will generally ignore the victim's pecuniary loss and focus on the violent aspect of the crime. Justification for a weapons-emphasis policy in robbery must rest primarily on the claim that it would reduce the number of injuries and deaths resulting from robberies.

A weapons-emphasis policy is one of three potentially effective strategies for reducing the number of murders and injuries in robbery. The alternatives involve focusing directly on the robbery outcomes—murder and injury—which are of greatest concern. Since the objective of prosecution and sentencing policies that emphasize weapons, injury, and murder is similar, considering them together

makes sense. We begin by giving a brief characterization of each and summarizing the arguments and evidence that are relevant in evaluating them. A detailed presentation of this evidence is reserved for subsequent sections.

Murder Emphasis: This policy is currently implemented by the police (whose homicide investigations tend to be more thorough than their robbery investigations), as well as by prosecutors and judges. The importance of drawing a sharp distinction in both law and practice between robberies and robbery murders is clear enough: there must be some deterrent to robbers who are tempted to kill their victims, either to reduce their chance of being arrested by eliminating the eyewitness to the robbery or for any other reason. That this sort of intentional killing is an important component of robbery murder statistics is indicated by a special study of robbery murders in Atlanta (see below).

Besides deterring robbers who are inclined to kill their victims, the exceptional treatment for robbery murders encourages caution in the conduct of a robbery. Robbers can guard against the "accidental" death of their victims by a number of strategems, such as choosing their victims and companions carefully, carrying a knife or unloaded gun rather than a loaded gun, and exercising caution in the actual use of their weapons. An analysis of robbery injury data (also below) indicates that armed robbers do exercise some restraint in their use of weapons. There is a great deal of gratuitous violence in armed robberies—unresisting victims are often beaten or cut—but it is relatively rare for a gun or knife robber who attacks his victim to shoot or stab his victim. The fact that armed robbers typically avoid the most lethal use of their weapons, even when they assault their victims, may be at least in part the result of the deterrent effect of severe sanctions for robbery murder.

Injury Emphasis: Current practice in the District of Columbia courts apparently does not distinguish between robbery defendants on the basis of the degree of injury they inflict on their victims (see Chapter 6), so long as the victim survives. Without an injury-emphasis policy in prosecution and sentencing, there is no deterrent to the use of nonlethal violence in robbery.[1] Robbers often attack and injure their victims even when the victim does not resist in any way, as evidence presented below indicates. The decision to injure the unresisting victim is especially common for robbers acting in groups of three or more and for "nonprofessional" robbers, whose subsequent records show a relatively high incidence of arrests for assaultive violence.

Robberies are inherently violent crimes due to the necessity to overcome the victim's natural tendency to resist parting with his valuables; the inevitable use of threats or actual force makes robbery, *per se*, a serious crime. Not so obvious is our finding that much of the actual violence employed in robbery is not necessary to complete the theft. This "recreational" element[2] in robbery justifies the institution of an injury-emphasis policy. The felony murder rule may be effective in reducing the use of lethal violence, but it needs to be supplemented with prosecutory and judicial emphasis on injuries to reduce nonlethal violence in robbery.

Weapons Emphasis: The current law and policy in the District of Columbia distinguish between armed and unarmed robbery. But there is no distinction within the armed category between guns and other types of weapons. The main argument for adopting a gun-emphasis policy is that it would reduce robbery murders. Indeed, the fraction of gun robberies that result in the victim's death is about five times as high as the corresponding fraction in other armed robberies.[3] This evidence would be quite decisive if the robber's intent were not an important determinant of the outcome—if, that is, the death or survival of the victim were a matter of chance, with the probabilities differing according to weapon type. However, the findings from our Atlanta study suggest that about two-thirds of the gun

robbery homicides were the result of a sustained intent to kill. It could be argued that these murders would not have been deterred by a gun-emphasis policy. After all, the robbers who intentionally killed their victims did so in spite of the severe sanctions confronting robbery murders. This finding does reduce the hope that a gun-emphasis policy would have a large effect on the number of robbery murders. Nevertheless, the "accidental" gun robbery murder rate in Atlanta is still high enough (about one in 250 robberies)[4] to make a gun-emphasis policy worth considering. Moreover, it may be true that a gun-emphasis policy could prevent some intentional gun robbery murders. In some of the Atlanta cases, the robber appeared to have decided to kill his victim during the course of the robbery. If a gun-emphasis policy were effective in dissuading some robbers from even carrying guns, some fraction of them might be less inclined to decide to kill during the robbery. Some indirect evidence on these issues is presented below.

Other consequences of a gun-emphasis policy also need careful consideration. It might induce substitution of other weapons that could cause an increase in the robbery injury rate. The policy might also change the distribution of robberies from commercial targets to relatively defenseless victims on the street.

All things considered, we are less confident in recommending the adoption of a gun-emphasis policy than in supporting the adoption of an injury-emphasis policy and a continuation of the current murder emphasis. The empirical results of our study, which support these main conclusions, follow.

ROBBERY MURDERS IN ATLANTA

Setting priorities in the prosecution of robbery defendants requires a clear understanding of the circumstances in which robbery victims are killed. We based our Atlanta study on a reading of all robbery homicide investigation files for 1976 and 1977 in Atlanta. Atlanta was selected simply because the police officials were willing to open their files to us.

Twenty-seven murders in Atlanta were classified as "robbery" or "probable robbery" in 1976 and 1977. (The only available information on one of these was the demographic characteristics of the victim.) Generalizing from such a small number of cases is always dangerous, but some of the more definite patterns in the incidents are worth reporting. The robbery murders during these years are in two respects more similar to other murders than to other robberies. First, almost three-quarters (19/26) of the robbery murder victims were shot, and in two other incidents a gun was present. By comparison, 82 percent of the homicides but only about 36 percent of the robberies[5] in Atlanta were committed with a gun. Second, only about 20 percent of the robbery murder incidents began with outdoor robberies. Although no directly comparable data are available for homicides, this figure appears to be quite low for robbery.

Robbery murders were similar to other robberies (and unlike other murders) in several respects. First, there was a high incidence of interracial killings; a majority of victims (15/27) were white, and most of the killers were black (14 of the 18 cases for which there were suspects).[6] Second, most robbery murders (78 percent of known cases) involved two or more perpetrators working together. Third, the typical robbery murderer was much younger than his victim: the median age of the robbery murder suspects was 22, compared with the victims' median age of 43. Fourth, almost all victims and perpetrators were males (there was one female victim, and one case involving female perpetrators in a central role).

Significant for our present purpose is the nature of the events leading to the killings. A finding that most killings occur by "accident"—as a result, say, of the robber's unthinking response to a victim's attempt to defend himself—would lend

support to a weapons-emphasis policy. However, most robbery killings in Atlanta appear to be the result of cold-blooded decisions to kill.

The chart accompanying this section lists the 26 cases on which some information is available with respect to weapon type and intention of the killer. The nature of the wounds sustained by the victim and, in some cases, eyewitness reports or confessions by the killers support our judgments on the degree of intent to kill. Our best estimate is that 12 or 13 of the 19 robbery murders in which the victim was shot clearly involved a decision to kill. In these cases, the victim was shot several times at close range, and there was no evidence that the victim resisted in any way. Two cases illustrate this type of killing:

> Case 10: Two young black men robbed a white, 50-year-old gas station attendant, who never resisted in any way. The first robber beat the victim while the second collected cash from the register. The second robber, who was carrying a pistol, told the victim, "We'll kill you if you tell the police." The first robber urged the other to go ahead and do it, since otherwise the victim was sure to tell the police. The second robber complied.

> Case 16: Three black men picked up a 25-year-old black man when he asked for a ride. The two men in the back seat with the victim began beating him and asking for money. The driver stopped the car, ordered the victim out, took his wallet, and then shot him. The driver then drove his car over the victim's body several times and later returned to the scene to make sure he was dead.

On the other hand, in two gun robbery murders the robbers had guns but were quite careful not to shoot the victim. In case 18, a lone robber attacked the 61-year-old driver of a Wells Fargo armored car, using his pistol as a club. More details are available on the other case of this sort:

> Case 19: Three men and a woman forced their way into the apartment of a 47-year-old man who was known to be operating a "shot house." One of the robbers pointed a gun at him and demanded money. When the victim refused to cooperate, one of the men began beating him. The others ransacked the apartment, taking $30, a jug of liquor, and a fan. During the robbery the victim's dog bit the woman, and the dog was shot three times and killed. The robbers left the victim conscious, and the police did not think his injuries serious enough to take him to the hospital. He died the next day.

One interpretation of these events is that the robbers' concern about a murder rap deterred them from shooting their victims, although they had no compunction about using some violence. That their victims died anyway appears to be an unlucky accident for all concerned. As we will show later, much of the nonlethal violence in gun robbery is similar to cases 18 and 19 in that the victim is knifed or beaten rather than shot.

DETERRENCE OF ROBBERY INJURIES AND DEATHS

In the absence of the special effort devoted to gaining convictions and severe punishments for robbers who kill their victims, the incidence of robbery murders would undoubtedly be higher. To evaluate the magnitude of this deterrent effect directly would require that some jurisdiction suspend its current procedures for several years and process robbery murder cases in the same manner as other robberies. One particularly interesting result from such an unlikely experiment would be learning whether the current murder emphasis has a greater effect on the incidence of intentional, execution-style robbery slayings, or on unintentional murders resulting from the careless and unsustained use of violence in robbery. The data from the Atlanta study gave no indication of the effects of current procedures on the incidence of either type of robbery murder. Other evidence,

Description of Robbery Murders in Atlanta, 1976 and 1977

Death Caused by Gunshot

Case No.	Evidence
	Clear intent to kill (10 cases)
1	Shot twice in head.
3	Multiple GSWs in head, execution style.
4	4 GSWs to neck, shoulder, and jaw from close range (fired from outside the back window of V's taxicab).
6	65-year-old shot twice in neck and chest while riding with P.
7	Executed by 2 companions; 7 GSWs.
10	Shot twice with the intention of eliminating the possibility of V's talking to police.
12	Female V shot twice in head, probably from the back seat of her parked car.
16	P shot V, then ran his car over V's body several times.
22	GSWs in chest and thigh. Ps shot at V 5 times, probably while riding in V's car.
25	GSWs in shoulder, back, chest.
	Probable intent to kill (3 cases)
13	V shot twice (back and arm) by his 2 prostitute companions.
14	V shot in back of head at close range while in his taxi.
20	Ps forced the 2 unresisting gas station attendants to lie on the floor, then shot at them 4 times, wounding each in the head. One died.
	Spontaneous, unsystematic, or unsustained (6 cases)
5	Police officer was shot twice when he interrupted a robbery. P saw him unsnap his holster.
9	V resisted Ps, ran inside his apartment, and slammed the door. Ps fired once through the door.
15	V shot by 2 companions while in V's car. Not immediately fatal.
21	V shot once on side of head during apparent street robbery.
23	V shot once while talking on the phone during a grocery store robbery. P thought (mistakenly) that V was calling police.
24	P ordered 2 gas station attendants to start running, then shot at them, killing one.

Death Not Caused by Gunshot

	Clear intent to kill (3 cases)
8	Numerous stab wounds with Bowie knife during robbery of V's apartment by close friend.
11	Multiple wounds from knife and ashtray during robbery in V's apartment.
17	90-year-old was beaten and stabbed 5 times with knife in his apartment. Not immediately fatal.
	Other cases (4 cases)
18	61-year-old was hit over head, probably with a revolver, during holdup of an armored car.
19	V beaten in his apartment, but appeared to be all right initially.
26	73-year-old sustained injuries to head from beating (robbery of parking structure attendant).
27	Single stab wound to chest (apparent street robbery).

Notes: V = victim; P = perpetrator; GSW = gunshot wound. Information on one case is missing.

however, indicates that most robbers employ considerable restraint in their use of violence and supports the claim that the severe sanctions reserved for robbery murderers deter robbers from the deadly use of their guns and knives.

Table 12 presents a statistical description of the incidence of nonlethal violence in robbery. The statistics in this and subsequent tables are calculated from the data files of the National Crime Panel victimization surveys, conducted in 26 large U.S. cities in 1973 and 1974 under the sponsorship of the Law Enforcement Assistance Administration.[7] The household survey results include almost 10,000 reported robberies. Given the sampling method used in the National Crime Panel surveys, these reports can be viewed as a random sample from a population of about 400,000 robberies occurring within the 26 cities during 1972 and 1973. Commercial victimization surveys conducted in the same cities gathered several thousand reports of robberies involving commercial establishments. We have extracted from these victim reports by households and commercial establishments a subsample consisting of all robberies reportedly involving at least one male robber, age 18 or over. Other robberies were excluded because our Washington, D.C., cohort study deals only with adult male defendants.

Table 12 classifies robberies according to the type of weapon the robber used and the location of the robbery. Robberies "on the street, in a vehicle, or near the victim's house or apartment" were taken from the household victimization surveys, which gather more information about the nature of violence in the robbery than do the commercial surveys. In these robberies, the likelihood that the victim was physically assaulted ranged from about 19 percent for gun robberies to 71 percent for unarmed robberies. The deadliness of the robber's weapon thus appears to have a great influence on the likelihood of physical attack. The mere display of a gun or even a knife is sufficient to make most victims compliant, but robbers who are unarmed or who are carrying a less lethal weapon are typically more forceful. When the robber does attack his victim, the attack is usually not too serious; only about one-quarter of the victims who were attacked in armed robberies needed medical attention. The most serious outcome considered here—victim hospitalized overnight—was a relatively rare event, occurring most frequently in robberies with weapons other than guns or knives. An anomaly in these patterns is evident for robbers who were carrying both a gun and a knife. (Keep in mind that groups, not individuals, commit most robberies.) The very high assault and injury rates for these cases are not readily explained.[8]

These statistics provide further support to the well-established finding that gun robberies are less likely to result in victim injury than other types of armed robbery.[9] They also show that only a fraction of the violence employed in gun and knife robberies involved shooting or stabbing the victim. The victim was shot in one of ten attacks in gun robberies and stabbed in about one of five knife robbery attacks. Robbers who carry more lethal weapons are thus inclined to exercise greater caution in the use of these weapons, even when they do decide to attack their victims.

John Conklin's interviews with convicted robbers in Boston yield some insight into the patterns of violence documented by the statistics:

> A few offenders stated that they could not trust themselves with loaded firearms, fearing that in a confrontation with a resisting victim they might "lose their head" and shoot. Sal, an addict robber, carried a blank gun to intimidate his victim, using it as a blunt instrument when the victim resisted. Another offender who felt that he might use lethal force against a victim carried a loaded pistol but kept the first two chambers empty.[10]

We cannot say definitely that gun and knife robbers tend to avoid using their weapons in a lethal manner because of concern for the severe sanctions imposed

Table 12.
Likelihood of Physical Attacks and Victim Injuries in Street and Commercial Robbery: 26 Cities' Victimization Survey Data

Victim Injury	Weapon Used: Gun	Knife and Gun	Knife	Other	Unarmed
All incidents involving at least one male robber, age 18 or over, that occurred on the street, in a vehicle, or near the victim's house or apartment					
Attacked					
Percent	18.9%	54.8%	36.1%	55.7%	70.9%
Number	(171)	(26)	(331)	(640)	(925)
Required medical treatment					
Percent	4.8	27.8	9.6	13.2	10.1
Number	(51)	(13)	(92)	(164)	(140)
Hospitalized overnight					
Percent	1.8	13.9	1.6	2.8	1.2
Number	(16)	(2)	(22)	(29)	(20)
Shot or stabbed[a]					
Percent	1.9	15.6	7.1	---	---
Number	(17)	(6)	(62)		
Total number of cases[b]	837	55	841	1,060	1,259
All incidents involving at least one male robber, age 18 or over, that occurred in a commercial location[c]					
Required medical treatment					
Percent	4.7%		10.2%	13.9%	4.8%
Number	(110)		(31)	(21)	(2[a])
Hospitalized overnight					
Percent	1.8		3.0	4.2	.2
Number	(34)		(10)	(7)	(2)
Total number of cases[b]	2,307		288	117	570

Source: Results of National Crime Panel surveys conducted in 1973 and 1974 and reported in three publications of the Law Enforcement Assistance Administration: *Criminal Victimization Surveys in Chicago, Detroit, Los Angeles, New York, and Philadelphia: A Comparison of 1972 and 1974 Findings; Criminal Victimization Surveys in Eight American Cities; and Criminal Victimization Surveys in Thirteen American Cities.*

Notes: The entries in the table are calculated from estimates of the total number of relevant incidents in the cities, utilizing the sample weights specified in the survey data files. The numbers in parentheses are the number of unweighted cases for which the indicated outcome was reported (i.e., "attacked," "hospitalized," etc.).

[a]This information is not available in the Commercial Victimization Survey file.

[b]The "total number of cases" is the actual number reported to survey interviewers. Each such report represents an average of about 45 incidents, given the sample density.

[c]The Commercial Victimization Survey data file contains only one entry on weapon type for each case, so it is not possible to distinguish between gun robberies in which a knife was also used and gun robberies in which there was no knife present.

on robbery murderers, but this certainly is one natural interpretation of the results in Table 12. Confirmation will have to await the availability of more directly relevant data.

Although severe punishment for robbery murderers is not controversial, a related policy of "injury emphasis" in the prosecution and sentencing of robbery defendants is not so widely accepted or implemented. In particular, prosecution and sentencing decisions in the District of Columbia are not noticeably affected by whether the victim was injured (see Chapter 6). The justification for an "injury-emphasis" policy rests on an understanding of the role that physical violence plays in robbery. A review of the evidence presented in Tables 13 through 16 demonstrates several relevant propositions: (1) Much of the violence employed in robbery appears to be unnecessary, since many of the attacks are not provoked by any sort of victim resistance. (2) The likelihood of violent attacks and victim injury increases with the number of perpetrators on the scene, even though one would suppose that several robbers would have an easier time intimidating their victim than a single robber. (3) Armed robbery defendants exhibit greater proneness to crimes of assaultive violence in their subsequent arrest records when compared with other robbery defendants. Taken together, these observations suggest a pattern of violence for its own sake—of nonprofessional, "recreational" robbery. To the extent that a robber's decision to injure his victim is quite separate from his decision to rob him, special sanctions may be warranted for robberies with injury.

The statistics in Table 13 demonstrate that those victims who resisted were more likely to be injured than those who did not. However, a large percentage of injured victims (about half in the gun robberies) did not resist in any way. "Resistance" is a broad category of behavior, including anything from reasoning with the offender, yelling for help, or trying to flee, up to struggling with the offender or attempting to use a weapon (the last category is quite rare). In interpreting the first set of statistics in Table 13, it is important to realize that the victimization surveys give no indication of the sequence of events; in many cases the victim may have resisted only after being attacked and injured. Richard Block's study of police data in Chicago found that "victims who resisted with force were likely to be reacting to the offender's initial use of force (68 percent)," whereas other types of resistance usually preceded the robber's attack.[11] Thus, it is not clear that victim resistance increases the likelihood of attack. But it is clear (from the second set of statistics in Table 13) that a high percentage of injured victims never resisted.

The remaining tables offer some insights into the sources of excess violence in robbery. Table 14 presents statistics on the relationship between the number of offenders involved in the robbery and the likelihood of attack and injury. For both gun robberies and other armed robberies, there is a rather dramatic increase in the likelihood of physical abuse of the victim as the number of offenders increases. A group of three or more armed robbers is much more likely to assault and injure the victim than one or two robbers. This pattern, shown in Table 14 for street robberies, also occurs in commercial robberies. Since victims are actually less likely to offer resistance to a group of three or four robbers than to a lone robber, the explanation for this pattern cannot be that victim resistance increases the likelihood of attack.[12]

A street robbery of a lone victim committed by three or more robbers would not appear to be a very professional operation. The extra robbers are not necessary to intimidate the victim (especially if one or more of the offenders are armed). Their participation will only reduce the average "take" and increase the number of witnesses to the crime. Perhaps these robbery groups tend to be composed of drinking buddies out looking for some sadistic kicks and a little money—an apt characterization of several of the cases in the Atlanta robbery murder files. Quite

Table 13.
Relationship Between Victim Resistance and Injury in Street Robberies: 26 Cities' Victimization Survey Data

Victim Resistance/Outcome	Weapon Used		
	Gun[a]	Knife or Other	Unarmed
Percentage needing medical treatment			
Resisters	10.1% (36/289)	13.5% (144/1,057)	11.3% (87/767)
Nonresisters	5.0% (28/607)	9.2% (112/851)	8.4% (53/498)
Percentage who resisted			
Injured	47.5% (36/64)	59.0% (144/256)	66.6% (87/140)
Not injured	29.9% (253/832)	48.4% (913/1,652)	58.7% (680/1,125)

Source: Results of National Crime Panel surveys conducted in 1973 and 1974 and reported in three publications of the Law Enforcement Assistance Administration: *Criminal Victimization Surveys in Chicago, Detroit, Los Angeles, New York, and Philadelphia: A Comparison of 1972 and 1974 Findings; Criminal Victimization Surveys in Eight American Cities;* and *Criminal Victimization Surveys in Thirteen American Cities.*

Note: All incidents are those that involved at least one male robber, age 18 or over, and that occurred on the street, in a vehicle, or near the victim's home or apartment. The numbers in parentheses are the numbers of cases in the relevant categories, unweighted. The ratios are not equal to the reported percentages because some cases receive greater sampling weights than others. The number of cases is the actual number reported to survey interviewers. Each such report represents an average of about 45 incidents, given the sample density. The entries in the table are calculated from estimates of the total number of relevant incidents in the cities, utilizing the sample weights specified in the survey data files.

[a]Includes cases in which both a gun and knife were present.

possibly, the violence in such robberies is an end in itself. Preliminary results on rearrest patterns for the 1973 District of Columbia robbery cohort (described in Chapter 3) add another dimension to our picture of robbery injuries. The statistics in Table 15 indicate that gun robbers who caused injury in their cohort crime, when compared with other gun robbers, were less likely to be rearrested for robbery and twice as likely to be rearrested for other crimes of violence. Moreover (as shown in Table 16), they are twice as likely as other gun robbers to be rearrested for a crime in which the victim was injured. These results suggest that robbers who cause injury tend to be less professional and more violence-prone than other robbers.

Our conclusion from the above data is that much of the serious violence employed in armed robberies serves no purpose for the offenders. Robbery always involves at least a threat of violence for the purpose of persuading victims to part with their valuables. But much of the violence found in armed robberies appears to be unrelated to the nominal purpose of completing the theft. The amount of gratuitous violence in robberies might well be reduced (through incapacitation and deterrence) if robbers who injured their victims were singled out for relatively

Table 14.
Likelihood of Physical Attack and Victim Injury in Street Robbery: 26 Cities' Victimization Survey Data

Outcome/Number of Robbers	Weapon Used			
	Gun	Knife or Other	Unarmed	Overall
Victim attacked				
One robber	15.3% (69)	33.1% (406)	71.2% (454)	42.5% (929)
Two robbers	21.6 (49)	39.9 (195)	76.5 (189)	43.1 (433)
Three or more robbers	35.7 (79)	56.3 (365)	73.9 (278)	56.4 (722)
Victim required medical attention				
One robber	3.7 (19)	9.8 (100)	8.7 (68)	8.1 (187)
Two robbers	5.5 (13)	9.8 (46)	15.7 (32)	9.9 (91)
Three or more robbers	11.5 (32)	21.0 (108)	11.9 (40)	15.9 (180)
Victim hospitalized overnight				
One robber	1.1 (6)	2.5 (24)	.8 (10)	1.6 (40)
Two robbers	1.5 (4)	1.5 (6)	1.5 (3)	1.5 (13)
Three or more robbers	5.3 (8)	4.6 (20)	2.2 (7)	4.0 (35)
Total number of cases				
One robber	424	880	630	1,934
Two robbers	212	390	241	843
Three or more robbers	256	631	388	1,275

Source: Results of National Crime Panel surveys conducted in 1973 and 1974 and reported in three publications of the Law Enforcement Assistance Administration: *Criminal Victimization Surveys in Chicago, Detroit, Los Angeles, New York, and Philadelphia: A Comparison of 1972 and 1974 Findings; Criminal Victimization Surveys in Eight American Cities;* and *Criminal Victimization Surveys in Thirteen American Cities.*

Note: All incidents are those that involved at least one male robber, age 18 or over, and that occurred on the street, in a vehicle, or near the victim's home or apartment. Numbers in parentheses represent the number of cases, unweighted.

Table 15.
Rearrest Rates for Members of the Robbery Cohort, by Crime Type

Cohort	Rearrest Rate for Robbery	Rearrest Rate for Other Violent Crimes	Size of Cohort
Gun robbery			
Injury	27.9%	23.3%	43
No injury	43.8	12.0	498
All robberies			
Injury	21.9	26.6	64
No injury	45.6	17.9	1,238

Source: PROMIS.

Table 16.
The Propensity to Cause Injury in Rearrests: Robbery Cohort

	Rearrest Rates for a Violent Crime			
Cohort Offense	With Injury[a]	Without Injury	Total	Size of Cohort
Robbery with injury	9.4%	39.1%	48.4%	64
Robbery without injury	5.2	58.3	63.5	1,238

Source: PROMIS.
[a]Including death.

harsh treatment in the courts. Cases in which the robber shot his victim (without killing him) should be treated as especially serious crimes, due to the objective dangerousness of the act, as discussed in Chapter 2. The felony murder policy may act as a deterrent to the most lethal forms of robbery violence, but an injury-emphasis policy is necessary to reduce the incidence of nonlethal violence.

WEAPONS EMPHASIS

The preceding sections have developed the case for setting prosecution and sentencing priorities in robbery according to the actual degree of physical harm to the victim. Our argument hinged on the observation that a high proportion of the injuries and killings in armed robbery incidents are not motivated by the need to complete the theft successfully, but are in effect separate and distinct crimes that happen to be coterminous with the robbery. The need to prevent such occurrences justifies an injury-emphasis policy in prosecution and sentencing.

An alternative (but not necessarily conflicting) basis for setting prosecution priorities is to identify characteristics of robberies that increase the likelihood that the victim will be injured or killed and then to assign cases that have those characteristics relatively high priority, regardless of their actual outcomes. One

such characteristic, for example, is the number of robbers involved in the crime. Groups of three or more armed robbers are about twice as likely to injure their victim as one or two robbers (see Table 14).

By far the most important such characteristic is the type of weapon used by the robber. The traditional legal distinction between armed and unarmed robbery has recently been supplemented in many jurisdictions by a distinction between firearms and other weapons. The principal argument for gun emphasis rests on the observation that the fraction of gun robberies in which the victim is killed (about 1 percent) is five times as high as the corresponding fraction for other armed robberies. (Gun emphasis is not likely to reduce the robbery injury rate, since as we have seen, gun robberies have a relatively low incidence of victim injuries.) If death rates in robbery were determined solely by the type of weapon, then a gun-emphasis policy that persuaded robbers to substitute other weapons for guns in 1,000 robberies would save about seven lives.[13] The problem with this projection is that robbery death rates are not dictated by an immutable law of nature; rather, they are the result of a series of choices made by the robber. Is there any evidence that a gun-emphasis policy would influence these choices in a way that would reduce the robbery death rate?

An "intentional" gun robbery murder is the result of two interrelated decisions by the offender: first, to carry a loaded gun; and second, to use it to execute the victim. The first decision may in some instances be a result of the second, such as when the robber decides at the time he is choosing a weapon that he will kill his victim and selects a gun as the easiest means of accomplishing this purpose. Clearly, a gun-emphasis policy will not deter such offenders, since for them the relevant sanctions are those associated with robbery murder. On the other hand, some robbers make the decision to kill only after the robbery has begun (see case 10 from the Atlanta study). In these instances, the decision to kill and the successful implementation of that decision are facilitated by the prior decision to carry a gun. A gun-emphasis policy might deter some potential killers from carrying a gun in the first place and thereby reduce the chance that they will eventually decide to execute their victims. Moreover, a policy that was successful in persuading robbers to substitute other weapons for guns would almost certainly reduce "accidental" robbery murders. Although our initial projection that seven lives would be saved by substituting other weapons for guns in 1,000 robberies appears too optimistic, projecting the saving of four or five lives by such a substitution may be reasonable.

A recent study of robbery murder in 50 cities indirectly supports this rather tenuous line of reasoning with empirical data.[14] The study found that the incidence of robbery murder was considerably higher in cities in which a high fraction of robberies were committed with guns. It estimated that the substitution of 1,000 non-gun robberies for the corresponding number of gun robberies would save approximately 5.7 lives.[15]

The potential effects of a gun-emphasis policy are not limited to saving the lives of some robbery victims. Other possibilities include: (1) a change in the overall robbery rate; (2) an increase in the rate of robbery injury; and (3) a reduction in the rate of commercial robbery at the cost of an increase in street robberies. Each of these possibilities is discussed below.

Overall Robbery Rate: Assessing the effect of a gun-emphasis policy on the overall robbery rate requires a precise definition of what such a policy would entail. The appropriate way to think about setting priorities in prosecuting and sentencing robbery defendants is as an allocation process for a fixed amount of total court and correctional resources. Thus, if gun robbery defendants are given

special treatment, with a resulting increase in conviction rates and average sentence severity, other robbery defendants will be convicted less frequently and receive less severe sentences. Assigning more resources to robbery is certainly possible, but that does not resolve the allocation problem among robbery defendants.

To the extent that a gun emphasis is implemented and made known to robbers, we would expect some reduction in the gun robbery rate. But the concomitant deemphasis of non-gun robberies will cause an increase in non-gun robbery as a result of both weapon switching by former gun robbers[16] and increases in robbery commission rates by others. Will the net result be to increase or decrease the total robbery rate? No clear answer is available, either in theory or in the empirical literature. We believe that it is natural to assume, given a lack of evidence to the contrary, that the total robbery rate would remain unchanged as a result of a gun-emphasis policy.

Two bits of evidence lend credence to this assumption. First, the recidivism study reported in Chapter 3 found that gun robbery defendants are rearrested for robbery at approximately the same rate as other robbery defendants, which indicates that gun emphasis would not generate a positive net incapacitation effect. Second, the recent study of robbery in 50 cities found that gun availability had no significant effect on overall robbery rates. Despite the high positive correlation between gun density in a city and the fraction of robberies that involve a gun, no systematic relationship between gun density and the overall robbery rates exists.[17] Rather, there appears to be a one-for-one substitution of gun robberies for non-gun robberies as gun density increases across cities. The analogy between reductions in gun availability and increases in the relative severity of legal sanctions for gun robbery is not exact, but it is close enough to suggest that they would have similar effects. Thus, our conclusion of no effect on overall robbery rates may be reasonably accurate.

Robbery Injury Rate: If weapon-specific injury rates remain constant after the introduction of a gun-emphasis policy, then the statistics in Table 12 indicate that a substantial increase in the injury rate will result. Roughly speaking, if 1,000 non-gun robberies are substituted for 1,000 gun robberies, the number of victim injuries serious enough to require medical attention will increase by about 50. A few of these injuries will be serious enough to put the victims in the hospital, and doubtless some of the victims will be permanently disabled or disfigured. Most people would probably accept the cost of 50 additional injuries for the sake of saving four or five lives. Note, however, that coupling a gun-emphasis policy with a successful injury-emphasis policy could reduce the number of additional injuries and make a gun-emphasis policy more palatable.

Distribution of Robberies Among Types of Victims: Gun robberies differ from others with respect to the types of victims selected, as well as injury and murder rates. The main difference, as shown in Table 17, is that gun robberies are much more likely to involve commercial targets than are robberies with other weapons. In addition, street robberies with guns are less likely to involve victims who are relatively defenseless (youths less than 16 years old, elderly people, or women); about 30 percent of gun robberies on the street involve such victims, compared with 40 percent of other armed robberies. The patterns evident here are readily explained by the superiority of a gun as a means of eliciting cooperation from victims who might otherwise be inclined to defend themselves.

A gun-emphasis policy can be expected to cause some "target" substitution. The substitution of street robberies for commercial, and of weaker victims for stronger, may well be a cost of a gun-emphasis policy. Unfortunately, no solid

Table 17.
Distribution of Robberies Among Types of Victims: 26 Cities' Victimization Survey Data

Type of Victim	Weapon Type		
	Gun	Knife or Other	None
Commercial	55.1%	13.3%	19.1%
Residential	6.4	10.4	8.5
Personal[a]	38.5	76.3	72.4
Male victim age 16–54	59.8	53.8	41.1
Two or more victims	10.5	5.8	3.7
Youth, elderly, or female victim	29.7	40.4	55.2

Source: Results of National Crime Panel surveys conducted in 1973 and 1974 and reported in three publications of the Law Enforcement Assistance Administration: *Criminal Victimization Surveys in Chicago, Detroit, Los Angeles, New York, and Philadelphia: A Comparison of 1972 and 1974 Findings; Criminal Victimization Surveys in Eight American Cities;* and *Criminal Victimization Surveys in Thirteen American Cities.*

Note: All robberies are those that involved at least one male robber, age 18 or over.

[a]Includes persons robbed on the street, in a vehicle, or near their home or apartment.

basis exists for predicting the extent to which this type of substitution would occur.

SYNTHESIS

Robbery is both a crime of violence and a crime of theft, but the appropriate guide to establishing prosecution and sentencing priorities is the seriousness of the assaultive aspect of the crime. A natural hierarchy in assaultive crimes places homicide at the top, followed by injury and then threats with a deadly or dangerous weapon. Within the category of assaults that injure the victim, there is reason to assign shootings a higher rank than other methods of wounding, since shootings are more likely to cause death (see Chapter 2's discussion of the objective dangerousness standard). The great majority of robberies neither injure nor kill, but consist of threats or minor attacks. Ordinarily, a threat with a gun would be more serious than a threat with a knife or other weapon in assault cases.

There is some doubt about the net value of adopting a gun-emphasis policy for robberies that do not injure the victim, since the costs of such a policy appear substantial. The discussion in this chapter, however, leads us to recommend adoption of the assault hierarchy in establishing priorities in prosecuting and sentencing robbery defendants who injure or kill their victims.

Notes

1. Unless the police have a policy of investigating such cases more fully than robbery cases in which there is no injury to the victim.
2. A term invented by Franklin Zimring.

3. For the 13 large U.S. cities in which victimization surveys were conducted to measure crime rates in 1974, the fraction of gun robberies resulting in death was .0090. The corresponding fractions for other weapon robberies and unarmed robberies were .0017 and .0008, respectively. Robbery figures are taken from the published results for the victimization surveys for 1974. See *Criminal Victimization Surveys in Chicago, Detroit, Los Angeles, New York, and Philadelphia: A Comparison of 1972 and 1974 Findings* and *Criminal Victimization Surveys in Eight American Cities* (Atlanta, Baltimore, Cleveland, Dallas, Denver, Newark, Portland, St. Louis). Both are published by U.S. Department of Justice, LEAA. Robbery murder counts were calculated from unpublished data provided by the FBI.

4. The victimization survey for Atlanta in 1974 estimated 1,821 gun robberies. Twenty-one gun robbery murders were reported by police to the FBI in 1974. (See note 3.) We assume seven of these were unintentional.

5. Calculated from the Atlanta victimization survey for 1974. (See note 3.)

6. Statistical descriptions of robbery are to be found in Philip J. Cook, "A Strategic Choice Analysis of Robbery," in Wesley Skogan, ed., *Sample Surveys of the Victims of Crimes* (Cambridge, Mass.: Ballinger, 1976):173-87 and in Richard Block, *Violent Crime* (Lexington, Mass.: Lexington Books, 1977).

7. The cities are Atlanta, Baltimore, Boston, Buffalo, Chicago, Cincinnati, Cleveland, Dallas, Denver, Detroit, Houston, Los Angeles, Miami, Milwaukee, Minneapolis, New Orleans, New York, Newark, Oakland, Philadelphia, Pittsburgh, Portland, St. Louis, San Diego, San Francisco, and Washington, D.C. Results of these surveys are available from a series of publications by the Law Enforcement Assistance Administration, National Criminal Justice Information and Statistics Service: *Criminal Victimization Surveys in Chicago, Detroit, Los Angeles, New York, and Philadelphia, Criminal Victimization Surveys in Eight American Cities,* and *Criminal Victimization Surveys in Thirteen American Cities.*

8. One possibility is that the results are simply an artifact of survey respondents' faulty memories. Respondents are reporting on incidents that occurred as much as 15 months earlier. They may be relatively likely to remember that both a gun and knife were present if they were attacked, and especially if they were attacked with both weapons.

9. See note 17, Chapter 2.

10. John E. Conklin, *Robbery and the Criminal Justice System* (New York: Lippincott, 1972):111.

11. Block, *Violent Crime:* 33.

12. Resistance rates in cases involving three or more robbers are lower than average for each weapon category:

	Gun	Knife or Other	Unarmed
3+ Robbers	26.3%	32.5%	64.3%
Overall	31.2	37.4	67.9

Calculations based on data files of the National Crime Panel victimization surveys conducted in 26 large U.S. cities in 1973 and 1974 under the sponsorship of the Law Enforcement Assistance Administration (see note 7).

13. This calculation uses the numbers presented in note 3 of this chapter. Eliminating 1,000 gun robberies saves 9 lives, and adding 1,000 non-gun armed robberies results in 1.7 additional killings. The difference is 7.3 lives saved.

14. Cook, "The Effect of Gun Availability on Robbery and Robbery Murder: A Cross-Section Study of Fifty Cities," Institute of Policy Sciences and Public Affairs, Duke University, May 2, 1978.

15. This result is taken from a regression of robbery murders/1,000 robberies on the fraction of robberies involving guns. The 95 percent confidence interval on the coefficient estimate is (1.0, 10.3).

16. Weapon substitution is a realistic possibility since robbers do not specialize in particular weapon types. The statistics in Table 9 indicate that 42 percent of the gun robbery cohort's subsequent robbery arrests were for non-gun robbery. Forty percent of the non-gun robbery cohort's subsequent robbery arrests were for gun robbery.

17. This finding is based on a multivariate regression analysis of robbery rates in 50 cities. A number of explanatory variables were included in addition to the gun-density measure. The coefficient on gun density was small and statistically insignificant.

5

The Weapons-emphasis Effect in the Disposition of Violent Crime Cases

Preceding chapters have analyzed several arguments for a weapons-emphasis policy in processing violent crime cases. Our conclusion is that at least one of these arguments—objective dangerousness—has demonstrable merit. The deadliness of assaults or robberies in which the victim is attacked is directly related to the deadliness of the weapon used to perpetrate the attack, among other factors. If it is agreed that priorities in prosecution and sentencing should be influenced by the relative seriousness of criminal acts, then the objective dangerousness standard supports a weapons-emphasis policy, and particularly a gun-emphasis policy, in establishing priorities among cases involving violent, nonfatal attacks. There is considerable doubt, however, about whether a weapons-emphasis policy is justified for robberies in which the victim is not attacked, or for murders.

Whatever the merits of a weapons-emphasis policy in theory, there is reason to expect that in practice the disposition and sentencing decisions for violent crime defendants in the Superior Court of the Distict of Columbia tend to be influenced by the defendant's alleged choice of weapon. Indeed, it is the announced policy of the District's prosecutor to give priority to weapon cases, and the District's Criminal Code specifies sentencing enhancements for such cases (see Chapter 3). The degree to which a weapons emphasis in prosecution and sentencing is actually observed is the subject of this and the following chapter.

This chapter provides a descriptive overview of how violent crime defendants fare in the District's Superior Court. The data (taken from the 1974 PROMIS file) indicate that for each of the four types of violent crime we are considering (murder, rape, robbery, assault), a higher proportion of gun defendants are convicted than unarmed defendants. In addition, gun defendants are more likely to be incarcerated than those convicted of unarmed crimes of violence. Conviction and incarceration rates for defendants accused of violent crimes involving other weapons are in most crime categories quite close to conviction and incarceration rates for gun defendants.

These results are interesting as a description of case-disposition patterns, but they do not demonstrate that a violent crime defendant's alleged choice of weapon, *per se,* influences prosecutory or judicial decision making. Several factors other than crime type and weapon choice are known to influence case-processing decisions, and these factors must be accounted for before a weapons

effect (or the lack of it) can be demonstrated. A more detailed analysis, which does attempt to control for these other factors, is presented in Chapter 6 for the crime of robbery.

Subsequent sections explain case-processing procedures in the District's Superior Court and describe case disposition patterns by crime type and weapon type for the four principal crimes of violence. A concluding section reports case disposition patterns for weapons-possession offenses.

CASE PROCESSING IN THE DISTRICT OF COLUMBIA SUPERIOR COURT

Figure 1 depicts the flow of 100 "typical" arrests through the District of Columbia Superior Court in 1974. The numbers in the figure are calculated from the more than 17,000 cases actually recorded in PROMIS for that year. Since most of these cases were not for the violent crimes that are our main concern here, the relative importance of the various dispositional alternatives for violent crime arrests may differ somewhat from those given in the figure.

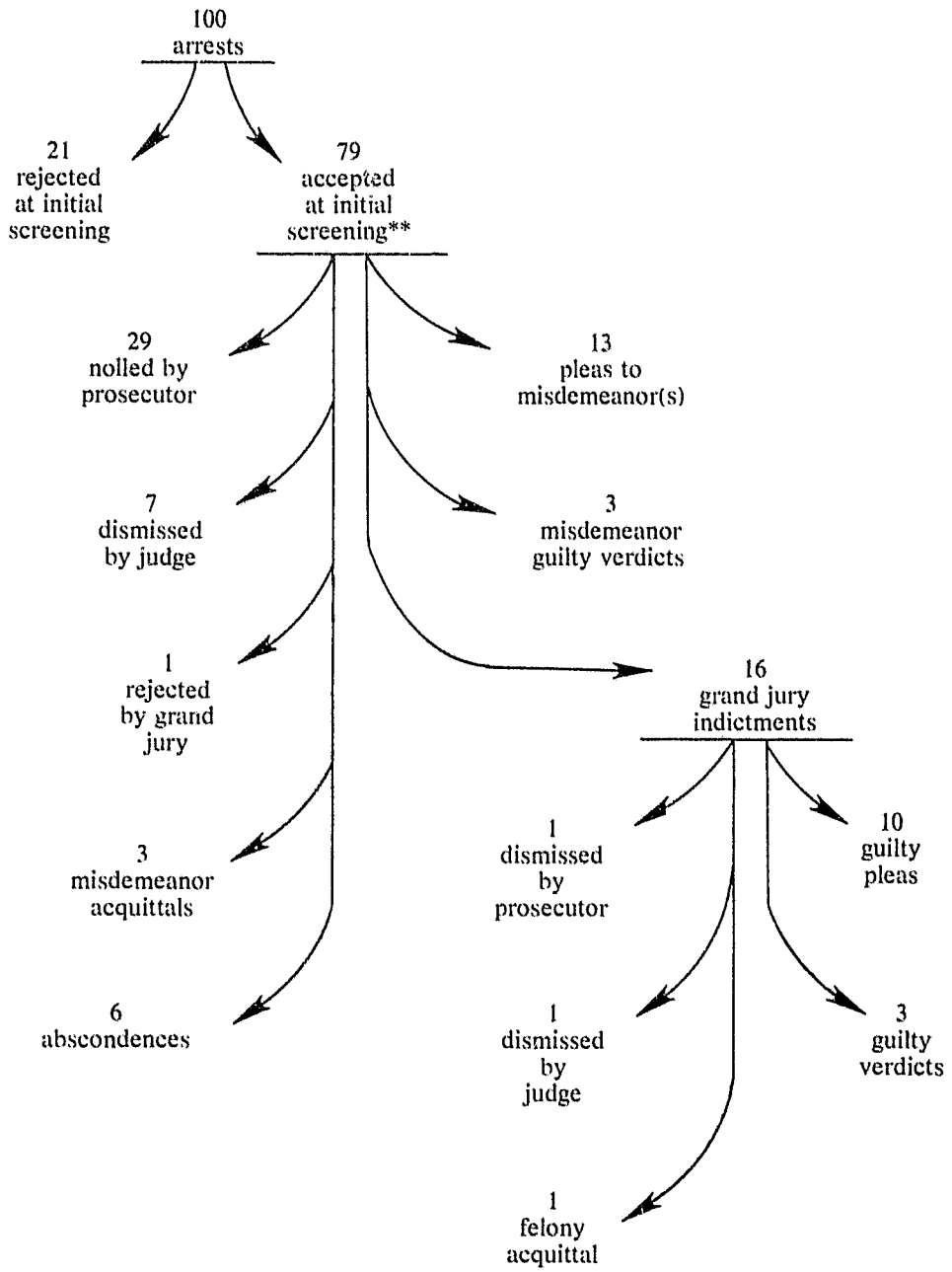
Arrests are initially screened by an Assistant U.S. Attorney, who decides whether to accept the case for prosecution as charged by the police, accept the case but with a modified charge, or reject the case entirely. Fully 21 percent of arrests are rejected at this initial screening.

Cases accepted for prosecution are classified either as misdemeanors or felonies, depending on the charge. Misdemeanor cases are those for which the maximum possible sanction is a prison sentence of one year or less. Misdemeanor cases proceed directly to arraignment and then final disposition (either by guilty plea, trial, or dismissal by prosecutor or judge). Cases that are initially accepted for prosecution as felonies must, in most instances, pass through two judicial hearings (presentment and preliminary hearing) and then be indicted by the grand jury before reaching arraignment. At the preliminary hearing, a judge determines whether the case against the defendant is strong enough to warrant further prosecution; if so, the case is ordinarily brought to the grand jury for an indictment. During that part of the process that leads from the initial screening to the grand jury, there is considerable case decay. During this time, prosecutors dismissed 29 out of our 100 "typical" arrests, judges dismissed 7, and defendants absconded in 6 of the cases. Some felony cases that are not dismissed subsequent to the initial screening are reduced to misdemeanors by the prosecutor.

Sixteen percent of the 1974 arrestees were ultimately indicted by the grand jury (virtually all indictments include felony counts), and most of these (80 percent) were convicted. Adding in misdemeanor convictions yields an overall conviction rate for 1974 arrestees of 29 percent. The majority of these convictions were for misdemeanors.

The prosecutor has considerable, but not unlimited, discretion in determining how a defendant will be charged and how far his case will proceed through the system. A decision by the prosecutor to refuse a case at the initial screening or to dismiss charges is not subject to formal review or reversal. On the other hand, a decision to pursue a case is subject to review by the judge at the preliminary hearing and by the grand jury. One way or another, then, cases that do not meet the "probable cause" standard will be disposed of early in the process. The important question for the prosecutor is how to allocate his scarce resources among those cases for which there is a realistic chance of gaining a conviction. Resource-allocation decisions include whether to accept a case, how to charge it (misdemeanor or felony), how tough to be in plea negotiations, and whether to take the case to trial if negotiations break down. These decisions are influenced by

Figure 1.
Outcomes of 100 "Typical" Arrests Brought to the D.C. Superior Court in 1974*



*Based on the actual flow of 17,534 arrests recorded in the Prosecutor's Management Information System (PROMIS).
**Total does not agree due to rounding error.

two sets of considerations: (1) the strength of the case, in the sense of the likelihood that the defendant would be convicted if brought to trial, and (2) the importance of the case, as evaluated by the prosecutor—the main considerations here are the seriousness of the crime and the criminal record of the defendant. Given two equally strong cases, it is presumably true that greater effort will be devoted to the one judged to be the more important. In particular, if the prosecutor judges gun crimes to be more serious than similar crimes committed with other weapons, then gun crime cases are more likely to be accepted, prosecuted as felonies, and (if necessary) brought to trial.

Sentencing decisions by judges will also reflect value judgments about the relative importance of cases. If judges tend to view the use of a gun in a violent crime as more serious than the use of other weapons, then convicted offenders in gun crime cases will be more likely to be sentenced to jail or prison rather than probation. (The District's Criminal Code gives judges virtually complete discretion with respect to the "in–out" aspect of sentencing.)

OPERATIONAL MEASURES OF WEAPONS EMPHASIS

The discussion above suggests two alternative approaches to measuring the strength of the weapons-emphasis policy in the District's Superior Court. The first approach is to develop measures of the amount of court resources devoted to various cases and then to compare the average effort allocated to cases classified by the type of weapon used in the crimes allegedly committed by the defendants. Possible measures of court inputs include the likelihood that a case will be accepted for prosecution, the length of time the case is carried before final disposition,[1] and the likelihood that the case will be brought to trial. Correctional system inputs could be measured by the likelihood of a prison sentence given conviction and the average length of prison sentences.

The alternative approach, and the one that we actually adopt, is to focus on outcomes rather than inputs. There is some overlap between the two approaches—the likelihood and average severity of prison sentence given conviction are certainly useful outcome measures. The other important measure of outcome is the likelihood of conviction (which can be broken down according to type of conviction—misdemeanor or felony). The likelihood of conviction can be calculated either as a percentage of arrests or as a percentage of cases accepted for prosecution. We report both measures in what follows.

Observed differences in disposition outcomes among violent crime cases classified by crime and weapon type are unreliable measures of the weapons-emphasis effect to the extent that weapon choice by defendants is correlated with other factors that influence case disposition. The results reported here do not control for any of these factors and should be interpreted accordingly. A more complete analysis for robbery cases is presented in Chapter 6.

OVERVIEW OF RESULTS FOR CONVICTION AND SENTENCING

The sample on which the results reported here are based consists of the 5,006 adults arrested in the District of Columbia during 1974 for one of the major crimes of violence—murder, rape, robbery, and assault. Information on the nature of these cases and their eventual disposition in the District's Superior Court is taken from the PROMIS research file for 1974. Table 18 reports the number of defendants by crime type and type of weapon used in the crime with which the defendant was charged. In classifying defendants with multiple charges into a single crime category, we used the same procedure here as discussed in Chapter

Table 18.
Number of Violent Crime Defendants
(District of Columbia Superior Court, 1974)

Crime	Weapon Used		
	Gun	Other	Unarmed
Murder	165	53	61
Rape	66	34	176
Robbery	937	123	895
Assault	1,020	775	701

Source: PROMIS.

2—defendants with multiple charges were classified according to the most serious charge. The seriousness hierarchy is murder (most serious), rape, robbery, and assault (least serious). Thus, a robbery murder case would be classified as a murder and a robbery assault case as a robbery.

Each of the four violent crime categories includes several closely related types of crime, as explained in Chapter 3. The most disparate crime category is that of assault, which (unlike the other three categories) includes some crimes that are misdemeanors. The distinction between misdemeanor assault and felonious assault hinges primarily on the use of a weapon; threatening or attacking an individual with a deadly weapon is a felony, whereas unarmed threats or attacks are ordinarily misdemeanors, unless the victim is seriously injured. In 1974, 94 percent of the armed assault cases filed with the District's Superior Court were initiated as felony arrests, whereas only 20 percent of the unarmed assaults were charged as felonies by the police. This weapons-based legal distinction in assault cases would presumably facilitate a weapons emphasis in the court processing and ultimate disposition of assault cases.

The results in Table 19 indicate that conviction rates (measured as a fraction of arrests) are higher for gun defendants than unarmed defendants for all four types of violent crime, and that these differences tend to be quite large. The differences in conviction rates between gun and "other weapon" defendants are small, except

Table 19.
The Likelihood of Conviction Given Arrest
(District of Columbia Superior Court, 1974)

Crime	Weapon Used				
	Gun	Other		Unarmed	
Murder	43%	43%		34%	
Rape	39	38	S	24	S
Robbery	36	33		28	S
Assault	31	17	S	25	S

Source: PROMIS.
Note: "S" indicates a statistically significant difference at the .10 level. An S placed between columns indicates a significant difference between those columns for the relevant crime type. An S on the right-hand margin indicates a significant difference between "gun" and "unarmed."

in cases of assault, for which the "other weapon" conviction rate is inexplicably low. Table 20 presents conviction rates given arrest as two component rates: percentage of arrests initially accepted for prosecution, and percentage of accepted cases that end in conviction. The acceptance rates are in all instances higher for gun defendants than unarmed defendants; for this reason, the conviction rates given acceptance differ less across weapon types than is true for conviction rates given arrest. Indeed, the second measure of conviction rate is surprisingly uniform across both crime and weapon type; the two exceptions to this pattern of uniformity are the low conviction rates for unarmed rape defendants and for "other weapon" assault defendants.

We conclude from these results that for the crimes of murder, rape, and robbery, there is little difference in conviction rates (however measured) between gun and other-weapons defendants, but there are substantial differences in conviction rates for gun and unarmed defendants. Disposition patterns in assault are unlike these and cannot be interpreted without additional analysis.

The pattern in incarceration rates given conviction (Table 21) greatly reinforces the differences in the treatment of gun and unarmed defendants. Except for the rape defendants, the gun–other weapon difference is small and insignificant. Average minimum prison sentences for those convicted offenders who were incarcerated also differs substantially between gun and unarmed defendants; the other-weapon category shows an erratic pattern that is difficult to interpret.

The final measure we report is the fraction of arrestees who were ultimately convicted and incarcerated (Table 22). For murder and robbery, the important empirical distinction is between gun and unarmed defendants. For rape defendants there is also a substantial difference in outcomes between gun and other-weapon rapists. Very few assault defendants are incarcerated, regardless of weapon type.

WEAPONS-POSSESSION OFFENSES

Almost 1,100 adults were arrested in the District of Columbia in 1974 for weapons-possession offenses—that is, the most serious crime with which they were charged at the time of arrest was carrying a dangerous weapon or a pistol without a license, possession of a dangerous weapon with the specific intent to use it in a crime, or a related offense. The great majority (91 percent) of these cases involved guns of some sort. All the non-gun cases and two-thirds of the gun cases were charged as misdemeanors. Felony charges are reserved for those cases in which the defendant had a prior felony conviction record (or prior conviction for a weapons offense).

The pattern of disposition for weapons-possession offenses is presented in Table 23. Conviction rates given acceptance at the initial screening stage are virtually identical; the acceptance rate, however, is significantly lower for non-gun cases than for gun cases. Incarceration was reserved—except in relatively rare instances—for convicted offenders who were initially charged with felony offenses. Overall, 25 percent of the felony arrestees and only about 5 percent of the misdemeanor arrestees were imprisoned. The major basis of discrimination in case disposition, then, is not the type of weapon but rather the seriousness of the initial charge.

The overall conviction rate for gun-possession offenses is substantially higher than the conviction rates for any of the violent crime cases. The incarceration rate (i.e., the fraction of arrests that result in conviction and incarceration) is as high for felony weapons cases as for robbery cases. The incarceration rate for misdemeanor weapons cases is similar to that for assault cases. Although the average

Table 20.
Dispositions of Violent Crime Arrests
(District of Columbia Superior Court, 1974)

Crime	Weapon Used: Gun		Other		Unarmed	
	Percentage of Cases Accepted for Prosecution at Initial Screening					
Murder	94%		96%		92%	
Rape	88		85		76	S
Robbery	94	S	84		82	S
Assault	78	S	61	S	66	S
	Percentage of Cases Accepted for Prosecution That Resulted in Conviction					
Murder	46%		45%		38%	
Rape	45		45		32	S
Robbery	38		40		35	
Assault	39	S	28	S	37	

Source: PROMIS.
Note: "S" indicates a statistically significant difference at the .10 level. An S placed between columns indicates a significant difference between those columns for the relevant crime type. An S on the right-hand margin indicates a significant difference between "gun" and "unarmed."

Table 21.
Conviction and Sentencing of Convicted Violent Criminals
(District of Columbia Superior Court, 1974)

Crime	Weapon Used: Gun		Other		Unarmed	
	Percentage of Convictions for Felonies					
Murder	99%	S	91%		86%	S
Rape	85	S	50		79	
Robbery	93		93	S	79	S
Assault	35		31	S	7	S
	Percentage of Convictions that Resulted in Incarceration					
Murder	87%		83%		65%	S
Rape	83	S	54		60	S
Robbery	70		72	S	49	S
Assault	22		23		18	
	Average Minimum Prison Sentence (in Months)					
Murder	83	S	34		56	
Rape	59		41		44	
Robbery	47		46	S	24	S
Assault	18		17	S	9	S

Source: PROMIS.
Note: "S" indicates a statistically significant difference at the .10 level. An S placed between columns indicates a significant difference between those columns for the relevant crime type. An S on the right-hand margin indicates a significant difference between "gun" and "unarmed."

length of sentence for weapons cases is less than that for violent crime cases, it is nevertheless clear from the above results that the average weapons case in the District of Columbia is taken quite seriously by the prosecutors and judges who are involved with the case.

Table 22.
Percentage of Arrestees Who Were Convicted and Sentenced to Prison
(District of Columbia Superior Court, 1974)

	Weapon Used					
Crime	Gun		Other		Unarmed	
Murder	35%		36%	S	18%	S
Rape	30		21		14	S
Robbery	24		23	S	13	S
Assault	6	S	4		4	S

Source: PROMIS.
Note: "S" indicates a statistically significant difference at the .10 level. An S placed between columns indicates a significant difference between those columns for the relevant crime type. An S on the right-hand margin indicates a significant difference between "gun" and "unarmed."

Table 23.
Disposition Patterns in Weapons-possession Cases
(District of Columbia Superior Court, 1974)

Disposition	Felony Gun Possession		Misdemeanor Gun Possession		Misdemeanor Possession of Other Weapon	
Number of arrests	284		703		101	
Convictions/arrests	50%		49%	S	37%	S
Acceptance rate	92%	S	84%	S	66%	S
Conviction/acceptance	55%		58%		55%	
Percent of convictions for felonies	62%		0%		0%	
Sentencing						
Incarceration/conviction	50%	S	9%		14%	S
Average sentence (months)	12.8	S	5.6		6.0	S
Percent of arrestees convicted and incarcerated	25%	S	4%		5%	S

Source: PROMIS.
Note: "S" indicates a statistically significant difference at the .10 level. An S placed between columns indicates a significant difference between those columns for the relevant crime type. An S on the right-hand margin indicates a significant difference between "felony gun possession" and "misdemeanor possession of other weapon."

Notes

1. Brian Forst and Kathleen B. Brosi, "A Theoretical and Empirical Analysis of the Prosecutor," *Journal of Legal Studies* 6 (January 1977): 177-92.

6

Weapon Use and the Disposition of Robbery Cases: A Closer Examination

The analyses in Chapter 5 revealed a pattern of relatively high conviction rates and more severe sentences in violent crime cases in which the defendant was armed. The type of weapon allegedly used, on the other hand, did not appear to influence the final disposition of cases, except for rape defendants.

These findings are interesting, but their correct interpretation remains in doubt. Is the typical armed defendant dealt with more harshly because prosecutors and judges take arming into account when making charging, plea bargaining, and sentencing decisions? Or is this special treatment due to other systematic differences between armed and unarmed cases, such as the strength of the evidence or the prior record of defendants? In this chapter, we examine the association between weapon use and case disposition for robbery defendants, and we conclude that for this crime weapons do matter. Even when other factors are taken into account, we are able to show that armed robbery defendants are more likely to be imprisoned and that the average prison term is longer than for unarmed defendants. Armed defendants are also more likely than unarmed defendants to receive a felony (rather than misdemeanor) conviction. One mechanism by which the prosecutor implements this weapons-emphasis policy is to file one or more charges against armed robbery defendants in addition to the robbery charge. In light of the discussion in Chapter 4, it is interesting to note that there is no evidence of an injury or gun-emphasis policy in prosecuting robbery defendants.

METHOD

A number of factors other than weapon type influence the disposition of robbery cases in the District of Columbia. The quality of evidence obviously influences the likelihood of conviction, and the defendant's prior record would be expected to influence the judge's sentencing decision if the defendant is convicted. The rather extensive literature on the determinants of case disposition suggests that a number of other factors may also be important.

Our main interest here is to assess the effect of weapon type on robbery case dispositions, but we cannot safely ignore these other case characteristics in our analysis. As in the recidivism analysis presented in Chapter 3, our question is: "*Other things being equal,* does the weapon matter?" To control for other factors requires a multivariate analysis. The simplest approach is to divide the sample of

robbery defendants into subsamples that are homogeneous in every important respect except type of weapon, and then to compare dispositions by weapon type within each subsample. Unfortunately, if more than one or two factors are to be taken into account, this approach requires an enormous amount of data—much more than is available. There do exist a number of techniques for taking several factors into account simultaneously when data are relatively scarce, however. These techniques economize on data by imposing some strong assumptions on the "shape" of the relationships among variables. We employ two such techniques in Appendix B: probit analysis and regression analysis. The former is appropriate when there is a categorical dependent variable (e.g., "convicted" or "not convicted"); the latter is appropriate when the dependent variable can take any value from a wide range of possibilities (e.g., "minimum prison sentence in months").

The analysis deals with four aspects of case disposition: whether the defendant was convicted, the nature of his conviction (felony or misdemeanor), the nature of his sentence (prison or not), and the length of the minimum prison term if he was sentenced to prison. For the first three outcome variables, the probit analyses permit us to estimate the effect of each of several characteristics of the case on the conditional probability that the specified disposition will occur: these conditional probabilities are defined, respectively, as (1) the probability of conviction given the case is accepted for prosecution;[1] (2) the probability of a felony-level conviction given the defendant is convicted; and (3) the probability that the defendant will be imprisoned given that he is convicted. The effect of case characteristics on the minimum prison term for incarcerated robbery defendants is measured by the technique of regression analysis.

The case characteristics included as explanatory variables are the following:

Quality of evidence
- Number of lay witnesses
- Availability of tangible evidence

Offender characteristics
- Prior arrest record for violent crimes
- Age
- Race

Characteristics of offense
- Prior relationship between victim and offender
- Whether robbery was against a commercial target
- Victim injury
- Existence of codefendants

Weapon type

(The two sentencing analyses also include an indicator of whether the defendant received a felony-level conviction.) The potential importance of these variables was suggested by the findings from the literature on this subject. Some of these studies are cited in the discussion of our results, which follows.

SUMMARY OF FINDINGS

Appendix Tables B.5 and B.6 present our findings in detail. The highlights of these results are summarized in Table 24. The quality of evidence has a statistically significant influence on conviction probabilities but not on sentencing. Offender characteristics influence sentencing but not conviction probabilities. The prior relationship between victim and offender and whether the defendant is armed have a significant effect on *both* sentencing and conviction probabilities. In addition to being statistically significant, estimated effects are quite large in most cases.

Table 24.
Summary of Significant Findings from Probit Analyses
(District of Columbia Superior Court, 1974)

Variable	Conviction		Sentencing	
	Probability of Conviction	Probability of Felony Conviction Given Conviction	Probability of Imprisonment Given Conviction	Length of Minimum Sentence
Quality of evidence				
3 or more lay witnesses		+		
Tangible evidence recovered	+			
Offender characteristics				
3 or more violent crime arrests			+	
Less than 18 years old			−	
Black			+	
Characteristics of offense				
No prior relationship with victim	+	+	+	+
Commercial robbery				
Victim injured				
Codefendants				
Defendant armed		+	+	+
Felony conviction			+	+

Source: Appendix Table B.5.
Note: "+" and "−" indicate a statistically significant effect (5 percent level) in the positive or negative direction, respectively.

Quality of Evidence

The quality of evidence in a case has an obvious relation to the ease of gaining a conviction. Characterizing the quality of evidence from the data elements available in PROMIS is difficult, however. The variables we did use—availability of tangible evidence and number of witnesses—are no doubt fairly weak proxies for evidence quality.[2] We have no ready explanation for why tangible evidence has an important effect on the conviction probability but not on whether the conviction is for a felony or misdemeanor, whereas the number of witnesses exhibits the opposite pattern.

Neither measure of evidence quality has a direct effect on sentencing, although the number of witnesses has an indirect effect by increasing the likelihood of felony conviction—felony convictions typically result in more severe sentences than misdemeanor convictions.

Offender Characteristics

Both in our study and in others, the defendant's prior record is an important determinant of whether he will be sentenced to prison if convicted. Previous research has measured prior record in a variety of ways—prior arrests, prior arrests for violent crimes, prior convictions, or prior incarcerations—but the findings are quite consistently positive.[3] Our results are unusual in that we find no significant relationship between prior record and the average length of sentence.

A considerable body of evidence exists on the relationship of the defendant's social status and demographic characteristics to sentencing dispositions. Clarke and Koch have done an extensive review of this literature;[4] they conclude that after controlling for prior record and convicted offense, relatively few studies[5] find a significant association between sentence severity and such variables as race and occupational status of the defendant. The original study reported by Clarke and Koch does yield a finding that the defendant's economic status makes a difference: higher income individuals are less likely to be incarcerated. Since we lack a measure of defendant's income or occupational status, our finding that black defendants are more likely to be incarcerated should be interpreted with caution—rather than a racial bias, *per se*, it may reflect an economic bias or other factors for which we have no good measure.

Our finding that the youngest defendants (less than 18 years) are relatively unlikely to be sentenced to prison is not surprising. Above age 17, age of the defendant appears to have little effect.

Characteristics of Offense

If the defendant and victim are acquainted prior to the robbery in our sample of cases, the defendant stands a relatively good chance of avoiding a felony conviction. Even if he is convicted of a felony, the likelihood of his being imprisoned, and the expected sentence if he is imprisoned, are both relatively low. This pattern is entirely consistent with other studies. A recent Vera Institute analysis, based on a rather small sample of 53 robbery arrests in New York City, found large differences between cases involving acquaintances and cases involving strangers: only 37 percent of the arrests for robberies of acquaintances resulted in conviction, compared with an 88 percent conviction rate for other cases.[6] An analysis of robbery cases in the District of Columbia courts found a more modest difference in conviction rates: this difference could apparently be attributed to a higher frequency of witness problems in cases in which the offender and victim were acquainted.[7] Witness problems cannot explain our finding of greater leniency for convicted robbers who robbed acquaintances, however.

In our sample, the choice of robbery target (commercial or noncommercial) and the existence of codefendants do not have an important or significant influence on case dispositions. Of greater concern, in view of our discussion in Chapter 4, is that victim injury does not have much (if any) influence on case disposition. Coefficient estimates on the injury variable in appendix Table B.5 are close to zero and actually negative in all four analyses. Appendix Table B.6 presents the results of a more complete analysis of the injury effect, in which injury is interacted with the robber's choice of weapon;[8] the results of this analysis strengthen our conclusion that victim injury is largely irrelevant to case outcome.

Weapon Type

Multivariate probit and regression analyses of the robbery defendant data do not change our conclusions from Chapter 5 with respect to weapon type, but these

analyses do serve to increase our confidence in the validity of these results. The difference in conviction rates between armed and unarmed defendants is positive but not statistically significant: the effects of weapon on felony conviction, incarceration, and length of sentence are all large, positive, and significant. There is virtually no difference between gun and non-gun armed cases.

Table 25 illustrates these results by calculating the relevant probabilities of conviction and other outcomes implied by these probit and regression analyses for defendants with the specified characteristics.

IMPLEMENTATION OF THE WEAPONS-EMPHASIS POLICY

The judge's role in implementing the weapons-emphasis policy in robbery cases does not require much explanation. Judges have wide discretion with respect to sentencing, and as we have seen, they are influenced in their sentencing decisions by whether the robbery defendant was armed: armed defendants are more likely to be incarcerated (70 percent vs. 50 percent for unarmed), and the average minimum prison sentence for armed defendants is almost twice as long (47 months vs. 24 months). We have shown that these differences in sentencing remain when other defendant characteristics are taken into account. In choosing to give more severe sentences to armed robbers, judges are in accord with the spirit of the D.C. Criminal Code, which specifies a stringent weapons-enhancement provision in sentencing.

The prosecutor's role in implementing the weapons-emphasis policy is not so clear from the data that have been presented thus far. There is little difference in

Table 25.
Estimated Disposition Patterns for Defendants with Specified Characteristics,[a] by Weapon Type
(District of Columbia Superior Court, 1974)

	Weapon Used		
Variable	Gun	Other	Unarmed
Probability of conviction if case accepted for prosecution	.32	.35	.29
Probability of felony conviction given conviction	.95	.95	.80
Probability of prison sentence given conviction	.67	.69	.44
Average length of minimum sentence for convicted defendants sentenced to prison	51 months	51 months	29 months

Source: Appendix Table B.6.

[a]No codefendants; no victim injury; noncommercial target; victim and robber unacquainted; one lay witness (or unknown); no tangible evidence recovered; defendant is black, age 18–23, with no prior arrests for violence. Rows 3 and 4 assume a felony conviction.

conviction rates between armed and unarmed cases, although more of the armed convictions are for felony charges (92 percent vs. 80 percent). It is reasonable to suppose that the practice of giving more severe sentences to armed robbers increases the average amount of prosecutory effort required to gain a felony conviction in armed cases, since the prosecutor and defendant are bargaining over higher stakes. In any event, there is one clear indication that prosecutors give special treatment to armed defendants: the average number of charges filed against armed robbery defendants is 2.6, compared with 1.4 for unarmed.[9] The additional charges include illegal weapon possession, assault with a deadly weapon, and assault with a deadly weapon with intent to rob. While additional charges, particularly assault, can also be filed against unarmed robbery defendants in most cases, prosecutors typically reserve the multiple charging strategy for armed robbery defendants. It should be noted that in all but a few cases (less than 5 percent) these additional charges are not the result of additional counts of robbery, but rather stem from a single incident. Multiple charging presumably strengthens the prosecutor's bargaining position and facilitates implementation of a weapons-emphasis policy.

Notes

1. See Appendix B for an explanation of why we imposed the condition that the case be accepted for prosecution, rather than using all cases.

2. These measures were first used in this fashion by Brian Forst, Judith Lucianovic, and Sarah J. Cox, *What Happens After Arrest? A Court Perspective of Police Operations in the District of Columbia,* PROMIS Research Publication no. 4 (Washington, D.C.: INSLAW, 1977): 68.

3. See, for example, Peter J. Burke and Austin T. Turk, "Factors Affecting Post-arrest Dispositions: A Model of Analysis," *Social Problems* 22 (1975); Peter Greenwood, *et al., Prosecution of Adult Felony Defendants in Los Angeles County: A Policy Perspective* (Santa Monica, Calif.: Rand, 1973); Lawrence P. Tiffany, Yakov Avichai, and Geoffrey W. Peters, "A Statistical Analysis of Sentencing in Federal Courts," *Journal of Legal Studies* 4 (1975); or Theodore G. Chirico and Gordon P. Waldo, "Socioeconomic Status and Criminal Sentencing: An Empirical Assessment of a Conflict Proportion," *American Sociological Review* 40 (1975); Stevens H. Clarke and Gary G. Koch, "The Influence of Income and Other Factors on Whether Criminal Defendants Go to Prison," *Law and Society Review,* August 1976; and Terence Dungworth, *An Empirical Assessment of Sentencing Practices in the Superior Court of the District of Columbia,* PROMIS Research Publication no. 17 (INSLAW, 1979, forthcoming).

4. Clarke and Koch, "The Influence of Income and Other Factors."

5. Tiffany, *et al.,* "A Statistical Analysis of Sentencing."

6. Vera Institute of Justice, *Felony Arrests: Their Prosecution and Disposition in New York City's Courts* (New York, 1977): 68.

7. Forst, Lucianovic, and Cox, *What Happens After Arrest?*

8. The interaction of weapon choice and victim injury reduces the statistical significance of the estimated influence of weapon use (with or without injury) on disposition. Nonetheless, a comparison of the estimated magnitudes of the weapon effect, with or without victim injury, in Table B.6 with the counterpart estimate in Table B.5 reveals that by and large for each outcome variable the estimates are about equal. We attribute the insignificance of many of the estimates in Table B.6 to the relatively few observations available for estimating the effect. For example, the number of convicted "other weapon" robbers who injured their victims is 9. The number of convicted "other weapon" robbers who did not injure their victims is 32.

9. Fifty-seven percent of armed cases involved 3 or more charges, compared with only 13 percent of unarmed cases.

7

Conclusions

Three questions were posed in Chapter 1: (1) Is a policy of weapons emphasis in the prosecution and sentencing of violent crime defendants conducive to reducing the amount and seriousness of crime? (2) Is such a policy actually in effect in the Superior Court of the District of Columbia, and if so, what form does it take? (3) How seriously should weapons-possession cases be treated by prosecutors and judges, and what is the actual practice with respect to these cases in the District's Superior Court?

The merits of a policy of weapons emphasis are widely accepted by the public and by criminal justice system officials and are recognized in the District's Criminal Code by the sentencing-enhancement provision for armed offenders. Much of the recent public concern about violent crime has focused specifically on criminals who use guns to perpetrate violent crimes, and our analysis for that reason focused on the difference between gun criminals and other violent criminals. Two possible justifications for a weapons or, specifically, a gun emphasis in prosecution and sentencing were considered. First, the weapon chosen by a violent offender may be predictive of his subsequent involvement in serious crime. While this conjecture is plausible, we found little empirical support for it in our study of recidivism in a violent crime cohort; rearrest patterns for gun criminals were similar to those for other violent criminals, both in frequency and in kind.[1] Second, gun crimes may in some sense be more dangerous than other types of violent crime. The literature on objective dangerousness confirms this conjecture for cases of assault. The objective dangerousness notion needs some qualification in regard to robbery; our results indicate that the more lethal the weapon used to commit a robbery, the less likely it is that the victim will be attacked or harmed. However, if the victim is attacked, the likelihood that the victim will be killed increases with the lethality of the weapon. Moreover, there is reason to believe that attacks on the victim in the context of gun robbery are not usually the result of victim "provocation" (resistance). Much of the serious violence in robbery is apparently not motivated by the necessity of intimidating the victim; such violence is perhaps best viewed as a second crime (assault or murder) committed at the same time as the robbery. We recommend that an injury-emphasis policy be adopted in the prosecution of robbery defendants and that the seriousness of robbery injury cases be judged on the same basis as assault cases. In particular, the objective dangerousness idea should be applied. The question of whether weapon-based distinctions should be made among armed robberies in which the victim is *not* injured remains unresolved, in our view. Some lives might be saved

by a gun-emphasis policy, but quite possibly at considerable cost in terms of injuries and increases in street robberies.

In practice, disposition patterns for defendants accused of violent crimes in the District's Superior Court do differ according to whether the defendant was armed when he committed his alleged crime. When compared with unarmed defendants in each of the four violent crime categories, gun defendants were substantially more likely to be accepted for prosecution at initial case screening and perhaps slightly more likely to be convicted if prosecuted. In addition, convicted gun defendants are more likely to be incarcerated, and their sentences are longer, on the average. Disposition patterns for defendants whose alleged crime involved weapons other than a gun tended to be quite similar to those for gun defendants, which suggests that there is a *weapons* emphasis (perhaps growing out of an emphasis on case seriousness), rather than a specific gun emphasis in Superior Court. Of course, these comparisons of disposition patterns do not control for other factors that may influence dispositions. Chapter 6 presented the results of controlling for a number of such factors in cases of robbery; we conclude that the likelihood of incarceration, given conviction, and the average sentence length are influenced by whether the defendant was armed. Apparently, the device used by the prosecutor to create this weapons emphasis in sentencing robbery cases is to file more charges against armed robbers than unarmed robbers. (The number of separate charges filed on the basis of a single criminal act appears to be largely at the prosecutor's discretion.)

The disposition patterns for weapons-possession cases suggest that these crimes are viewed as quite serious by the Superior Court officials. The conviction rate is higher in felony gun-possession cases than for any of the violent crimes. Moreover, the likelihood that a felony weapons-possession arrest will result in a prison term is about the same as for gun robbery cases. Conviction rates for misdemeanor weapons possession are also relatively high, but incarceration rates are much lower than for felony cases (but as high as for assault cases). Average sentence length is relatively low in all weapons-possession categories. Our recidivism results for weapons-possession cases indicate that youthful arrestees or those who have a prior record of arrests for violent crimes are almost as violence prone as the members of the violence cohort, so those categories of defendants are properly viewed as serious threats to the community.

Notes

1. We have discussed the possibility that true recidivism patterns may differ from rearrest patterns.

APPENDIXES

A

Probit Analysis of Recidivism

Probit analysis is a statistical technique appropriate for use when the dependent variable is dichotomous.[1] The analysis presented here classifies cohort members as "recidivists" if they were rearrested for a violent crime at least once between their 1973 arrest and 1976; given this dichotomous classification ("recidivist" or "not a recidivist"), probit analysis serves as a technique for estimating the effects of several variables on the probability that a cohort member with specified attributes will become a recidivist. The variables of concern here are the age and prior record of the defendant, the type of crime he was accused of committing for his cohort arrest and the type of weapon he (allegedly) used, and the amount of time to which he was sentenced following his cohort arrest. Only this last variable causes us any real difficulty, which will be discussed at some length below. Crime type is fully controlled for by estimating separate equations for each type of crime. Age and prior record are each represented in the probit specification by groups of indicator variables. For example, rather than including age as a covariate, the age range is divided into three intervals (less than or equal to 20, 21–29, 30+) to allow for nonlinearities in the relationship between age and the likelihood of recidivism. Similarly, prior record (defined by the number of prior arrests for violent crimes) is divided into four intervals, and indicator variables are included for each of the intervals.

Sentencing, in general, and incapacitation, in particular, are of concern, since we are interested in knowing whether weapon choice is predictive of the propensity to recidivate rather than actual recidivism; there may be a difference when the defendant is physically prevented by incarceration from committing crimes. Unfortunately, there are no data available on sentencing for the 1973 cohort, so that it is not possible to identify with certainty those defendants who were incarcerated. This information is available from PROMIS for 1974; in that year, the fraction of defendants who were eventually sentenced to jail or prison terms differed with the type of crime and the weapon. For example, 25 percent of armed robbery defendants but only 14 percent of unarmed robbery defendants were sentenced to jail or prison. The highest fraction is for armed murder defendants, 37 percent of whom were eventually imprisoned. Some defendants are also jailed prior to case disposition, though presumably for relatively short periods.

While no information on sentencing is available for the 1973 cohort, we do know which of the defendants in the cohort were convicted. Table A.1 presents statistics on conviction and recidivism; for each type of crime, the defendants who were not convicted were more likely to recidivate than those who were convicted. It is

Table A.1.
The Influence of Case Disposition on Recidivism Rates
(District of Columbia Superior Court, 1974)

Cohort	Percentage with at Least One Rearrest for a Violent Crime		Percentage Convicted
	Convicted	Not Convicted	
Murder	12%	18%	55%
Rape	23	33	20
Robbery	36	41	37
Assault	21	24	27

Source: PROMIS.

certainly plausible that these differences are the result of incapacitation; only those who are convicted can be sentenced to prison or jail.

One method for controlling for incapacitation differences, then, is to introduce a conviction indicator into the recidivism prediction equation. This technique is far from perfect, both because some fraction of those convicted are not sentenced to prison (e.g., about 15 percent of armed murderers, 30 percent of armed robbers, 80 percent of convicted assaulters[2]) and because those who are sentenced receive widely differing sentence lengths. Most important, the likelihood that a defendant will be sentenced to prison if convicted is systematically related to the type of weapon he used, as well as to other factors that appear in the equation; for that reason, the controls for incapacitation in the prediction equation include, in addition to a conviction indicator, a series of interaction terms between conviction and weapon type, defendant age, and defendant prior record. Taken together, these indicators should eliminate the systematic effects of incapacitation on the likelihood of recidivism.

The results presented in Table A.2 include the maximum likelihood estimates of the coefficients of the independent variables and estimates of the asymptotic standard errors of these estimates. Coefficient estimates that are twice their standard errors are to be interpreted as significantly different from zero at the 5 percent significance level.

The basic statistical model that underlies this probit analysis is that the probability P_i that defendant i recidivates is given by

$$P_i = \Phi(\beta' X_i),$$

where Φ denotes the cumulative standard normal distribution, X_i is a vector of attributes characterizing defendant i, and β is a vector of coefficients. Given the reported estimate of β, it is then possible to calculate the implied recidivism probability for any specified set of attributes. These calculations are the basis for Table 8.

Notes

1. For a more technical discussion of probit analysis used in a similar context, see Philip J. Cook, "The Correctional Carrot: Better Jobs for Parolees," in *Policy Analysis* 1, no. 1 (Winter 1975).
2. These percentages are for 1974. See Table 21.

Table A.2.
Probit Analysis of Recidivism
(District of Columbia Superior Court, 1974)

Variable	Cohort			
	Murder	Rape	Robbery	Assault
Constant	−1.56*	−.78*	−.74*	−1.07*
	(.54)	(.21)	(.14)	(.08)
Weapon type				
Gun	−.06	.05	−.14	.08
	(.48)	(.21)	(.10)	(.09)
Other	−.55	−.30	−.14	−.11
	(.66)	(.27)	(.18)	(.09)
Prior arrests for violent crime				
1	.65	.25	.24	.23*
	(.47)	(.26)	(.13)	(.10)
2–3	.46	.59*	.59*	.60*
	(.42)	(.26)	(.12)	(.10)
4 or more	.52	.84*	.45*	.72*
	(.48)	(.31)	(.14)	(.10)
Age				
≤ 20 years	.44	.47	.62*	.55*
	(.66)	(.26)	(.15)	(.11)
21–29 years	.62	.01	.24	.32*
	(.39)	(.22)	(.14)	(.08)
Conviction				
Convicted	.31	−.08	−.03	−.06
	(.85)	(.51)	(.29)	(.18)
Convicted × Gun	−.17		−.13	−.43*
	(.83)		(.18)	(.17)
Convicted × Other Weapon	.69		.12	.25
	(1.00)		(.32)	(.20)
Convicted × Prior Violence Arrest	−.26	−.32	−.15	−.05
	(.59)	(.47)	(.18)	(.15)
Convicted × ≤ 20 Years Old	−.01	−.17	−.07	.23
	(.88)	(.61)	(.29)	(.23)
Convicted × 21–29 Years Old	−.85	−.15	.27	.11
	(.63)	(.55)	(.28)	(.16)
N	154	277	1,104	2,083

Source: PROMIS.
Notes: Entries are estimated coefficients, with estimates of asymptotic standard errors in parentheses. Two of the variables are omitted from the rape cohort because the estimation procedure does not converge when these variables are left in.
*Coefficient estimate is twice the standard error.

B

Multivariate Analyses of Weapon Use and the Disposition of Robbery Cases

This appendix presents the analyses that form the basis for the discussion in Chapter 6. We begin with an explanation of our choice of a measure of the probability of conviction.

CHOICE OF A MEASURE OF THE PROBABILITY OF CONVICTION

In Chapter 5 two measures of conviction risk were examined—the proportion of arrestees who are convicted, and the proportion of arrestees accepted for prosecution who are convicted. The analysis presented in Chapter 6 did not include any results for the former measure, since we believe that cases that are not accepted for prosecution are often incompletely documented in PROMIS. The quality and completeness of data entries in this system are limited by the care taken by court officials responsible for filling out the necessary forms on a case during the intake hearing; cases that are rejected for prosecution are naturally of less subsequent interest to the court than accepted cases, and it would not be surprising to find some of the details of rejected cases omitted from PROMIS.

Our doubts about the quality of evidence are based on some peculiar results found for the "number of lay witnesses." Twenty-four percent of robbery cases were recorded as having no lay witnesses, which is odd given that the victim is always a witness. Although all cases recorded as having one or more witnesses were accepted for prosecution, only 27 percent of the "no witness" cases were accepted. Our conjecture is that the supposed lack of witnesses is not causing rejection, but rather that the decision to reject is responsible for the lack of information on the number of witnesses. This conjecture is supported by the fact that about two-thirds of the "no witness" cases were recorded as involving no weapon (compared with 42 percent of cases that had one or more witnesses); this high rate of unarmed cases is readily explained as failure to fill out the forms completely in such cases.

An unfortunate aspect of the data problems with cases rejected for prosecution is that we are unable to evaluate the decision to accept a case, and in particular, whether this decision is influenced by the offender's choice of weapon.

In the analysis that follows, then, we limit the sample to cases that were accepted for prosecution—including the 87 accepted cases that were recorded as having no lay witnesses. In the tables that follow, these cases are labeled as having an "unknown" number of witnesses.

THE MULTIVARIATE ANALYSES

Recall that the results in Chapter 5 revealed that while armed robbery cases accepted for prosecution were convicted at about the same rate as unarmed robbery cases, among cases resulting in conviction, felony conviction and incarceration rates were substantially higher for the armed robbery cases. Moreover, given incarceration, armed robbers received substantially longer sentences. In Tables B.1 through B.4 the disposition of robbery cases by weapon category is compared

Table B.1.
The Proportion of Robbery Arrests Accepted for Prosecution That Resulted in Conviction, Controlling for Case Characteristics
(District of Columbia Superior Court, 1974)

Case Characteristic	Weapon Used		
	Gun	Other	Unarmed
Tangible evidence recovered			
Yes	.48	.44	.40
	(455)	(57)	(364)
No	.27	.33	.29
	(424)	(45)	(363)
Number of lay witnesses			
Unknown	.44	.75	.39
	(32)	(4)	(51)
1	.36	.33	.32
	(322)	(51)	(321)
2	.38	.38	.36
	(274)	(32)	(197)
More than 2	.39	.57	.37
	(251)	(16)	(162)
Victim–offender relationship			
Strangers	.37	.44	.37
	(574)	(61)	(493)
Not strangers	.33	.30	.23
	(112)	(20)	(83)
Injury requiring treatment			
Yes	.32	.26	.32
	(95)	(27)	(53)
No	.36	.35	.28
	(842)	(96)	(842)
Prior arrests for crimes against the person			
0	.39	.43	.35
	(515)	(49)	(471)
1	.34	.64	.30
	(93)	(11)	(74)
2	.40	.43	.41
	(73)	(88)	(44)
3 or more	.35	.24	.32
	(197)	(29)	(142)

Source: PROMIS.
Note: Sample size is in parentheses.

controlling (on a one-by-one basis) for:

- recovery of tangible evidence
- number of lay witnesses
- victim- offender relationship
- victim injury
- prior record of offender (number of previous arrests for crimes against the person).

Table B.2.
The Proportion of Robbery Convictions at the Felony Level, Controlling for Case Characteristics
(District of Columbia Superior Court, 1974)

Case Characteristic	Weapon Used		
	Gun	Other	Unarmed
Tangible evidence recovered			
Yes	.92	.96	.82
	(214)	(25)	(143)
No	.95	.87	.76
	(117)	(15)	(104)
Number of lay witnesses			
Unknown	.79	1.00	.68
	(14)	(3)	(19)
1	.88	.82	.81
	(17)	(17)	(99)
2	.93	1.00	.74
	(103)	(12)	(70)
More than 2	1.00	1.00	.86
	(97)	(9)	(59)
Victim–offender relationship			
Strangers	.95	.96	.80
	(212)	(27)	(178)
Not strangers	.84	.67	.61
	(37)	(6)	(18)
Injury requiring treatment			
Yes	.97	.72	.82
	(30)	(7)	(17)
No	.92	.97	.79
	(301)	(34)	(230)
Prior arrests for crimes against the person			
0	.92	.95	.79
	(197)	(21)	(164)
1–2	.95	.84	.80
	(61)	(13)	(40)
3 or more	.92	1.00	.79
	(73)	(7)	(43)

Source: PROMIS.
Note: Sample size is in parentheses.

An examination of these tables reveals that for each disposition measure the pattern observed in Chapter 5 between weapon choice and outcome remains substantially unaltered.

The results in Tables B.1 through B.4, however, must be interpreted cautiously, because all case characteristic variables have not been controlled for simultaneously. The use of some multivariate statistical method to control simultaneously for all case characteristic variables offers a more valid basis for drawing conclusions about the effect of weapon use on disposition. Probit analysis is employed to introduce multivariate controls for the dichotomous disposition variables—conviction given the case is accepted for prosecution, felony conviction given conviction, and imprisonment given conviction. (See Appendix A for a discussion

Table B.3.
Proportion of Convicts Incarcerated, Controlling for Case Characteristics (District of Columbia Superior Court, 1974)

Case Characteristic	Weapon Used		
	Gun	Other	Unarmed
Tangible evidence recovered			
Yes	.71	.78	.53
	(207)	(23)	(143)
No	.68	.60	.44
	(110)	(15)	(96)
Number of lay witnesses			
Unknown	.36	1.00	.28
	(14)	(3)	(18)
1	.69	.64	.51
	(110)	(17)	(95)
2	.72	.82	.49
	(97)	(11)	(67)
More than 2	.74	.63	.54
	(96)	(8)	(59)
Victim–offender relationship			
Strangers	.71	.77	.51
	(199)	(26)	(172)
Not strangers	.67	.33	.29
	(36)	(6)	(17)
Injury requiring treatment			
Yes	.70	.43	.59
	(30)	(7)	(17)
No	.70	.78	.49
	(287)	(32)	(222)
Prior arrests for crimes against the person			
0	.62	.79	.44
	(172)	(19)	(157)
1–2	.78	.65	.72
	(56)	(13)	(38)
3 or more	.87	.72	.75
	(45)	(7)	(44)

Source: PROMIS.
Note: Sample size is in parentheses.

Table B.4.
Average Minimum Sentence (Months), Controlling for Case Characteristics (District of Columbia Superior Court, 1974)

Case Characteristic	Weapon Used		
	Gun	Other	Unarmed
Tangible evidence recovered			
Yes	44.9	36.5	25.5
	(93)	(110)	(58)
No	51.4	65.5	21.5
	(46)	(8)	(26)
Number of lay witnesses			
Unknown	30.0	84.0	58.0
	(3)	(3)	(3)
1	46.6	46.0	23.2
	(53)	(10)	(39)
2	34.4	48.0	20.3
	(41)	(7)	(22)
More than 2	61.1	12.8	25.8
	(42)	(4)	(20)
Victim–offender relationship			
Strangers	45.6	42.9	24.0
	(86)	(17)	(65)
Not strangers	36.3	36.0	8.0
	(17)	(2)	(2)
Injury requiring treatment			
Yes	40.2	49.0	34.8
	(10)	(3)	(6)
No	47.6	45.8	23.5
	(129)	(71)	(78)
Number of prior arrests for crimes against the person			
0	43.9	39.3	23.0
	(66)	(12)	(42)
1–2	43.5	53.5	19.0
	(25)	(7)	(12)
3 or more	48.3	51.6	28.2
	(48)	(5)	(21)

Source: PROMIS.
Note: Sample size is in parentheses.

of probit analysis.) Regression analysis is used for the multivariate analysis of sentence length.

The results of the multivariate analysis are shown in Table B.5. A far larger number of control variables are introduced than shown in the preceding tables. Our motivation for including most of these variables derives from the introductory discussion in Chapter 6 of the determinants of case disposition. The results are wholly consistent with the observations of Chapter 5. Weapon use has no significant association with conviction probability, but it has a positive and significant association with the remaining disposition measures. Moreover, inspection of the estimated coefficients for the gun and other weapon dummy variables reveals that

for each disposition measure their magnitudes are about equal. This finding reinforces our conclusion from Chapter 5 that there is no specific emphasis given to robbery cases involving gun use.

Another result that is relevant to our analysis is that victim injury (Inj) does not have a significant association with any of the disposition measures. Since a control variable for victim–offender relationship is included in each specification, the

Table B.5.
Multivariate Analyses of Case Disposition
(District of Columbia Superior Court, 1974)

	Disposition Measure			
Variable[a]	Conviction	Felony Conviction	Imprisonment	Sentence Length
Constant	−.661*	−.394	−1.89*	−35.4
	(.192)	(.396)	(.383)	(37.3)
Gun	.081	.771*	.595*	22.0*
	(.067)	(.181)	(.125)	(5.40)
OW	.161	.834*	.648*	23.6*
	(.138)	(.407)	(.264)	(8.9)
Cod	−.110	−.184	−.052	−.883
	(.066)	(.171)	(.123)	(5.31)
Inj	−.093	−.027	−.049	−.983
	(.110)	(.285)	(.203)	(9.25)
Corp	−.043	−.095	−.209	9.61
	(.090)	(.237)	(.163)	(6.94)
Str	.205*	.834*	.392*	21.1*
	(.097)	(.227)	(.195)	(9.07)
2W	.057	.160	.191	−12.1*
	(.074)	(.178)	(.138)	(5.84)
≥3W	.105	.895*	.283	4.77
	(.079)	(.268)	(.145)	(6.12)
Evid	.447*	−.053	.146	−7.60
	(.064)	(.171)	(.121)	(5.37)
Blk	−.197	.470	.778*	19.9
	(.163)	(.332)	(.287)	(22.1)
<18A	.209	.161	−.757*	29.9
	(.155)	(.539)	(.268)	(26.9)
18-23A	.103	−.069	−.048	−2.97
	(.077)	(.197)	(.147)	(5.53)
24-25A	.131	−.001	.052	5.18
	(.109)	(.287)	(.208)	(6.66)
1-2P	.012	.139	.139	−1.00
	(.084)	(.228)	(.155)	(7.02)
≥3P	−.047	.038	.811*	7.86
	(.080)	(.208)	(.174)	(5.59)
FC	**	**	.613*	26.2*
			(.172)	(9.94)
N	1,713	619	595	247

Source: PROMIS.

Table B.5 (Continued).

Note: Entries are estimated coefficients, with estimates of asymptotic standard errors in parentheses.
[a]Variable Definitions

Gun	Gun used (=1, 0 otherwise)
OW	Other weapon used (=1, 0 otherwise)
Cod	One or more codefendants (=1, 0 otherwise)
Inj	Victim injured and required treatment (=1, 0 otherwise)
Corp	Victim is a corporation, business, etc. (=1. 0 otherwise)
Str	Victim is a stranger (=1, 0 otherwise)
2W	2 witnesses are available (=1, 0 otherwise)
≥3W	3 or more witnesses available (=1, 0 otherwise)
Evid	Tangible evidence is recovered (=1, 0 otherwise)
Blk	Defendant is black (=1, 0 otherwise)
<18A	Defendant is less than 18 years old (=1, 0 otherwise)
18-23A	Defendant is 18–23 years old (=1, 0 otherwise)
24-25A	Defendant is 24–25 years old (=1, 0 otherwise)
1-2P	Defendant has 1 or 2 prior arrests for crimes against the person (=1, 0 otherwise)
≥3P	Defendant has 3 or more prior arrests for crimes against the person (=1, 0 otherwise)
FC	Defendant is convicted of a felony (=1, 0 otherwise)

*Coefficient estimate is twice standard error.
**Not included in specification.

absence of a significant injury effect cannot be attributed to a systematic association between victim injury and the victim and offender being acquaintances. In many such situations, the court might view the incident more as an assault than a robbery. (Note that except for conviction risk, victim–offender [1 = stranger; 0 = not stranger] has a positive and significant association with disposition.)

THE INTERACTIVE EFFECT OF INJURY AND WEAPON USE

In Chapter 6 we discussed the results of a multivariate analysis in which weapon choice and victim injury are interacted. Our purpose was to examine whether there is any evidence of a specific emphasis on gun robbery cases in which the victim is injured. Estimates of the interactive effect of weapon choice and injury are achieved by substituting the five dummy variables listed below for the weapon choice and injury dummy variables included in the specifications shown in Table B.4.

Gun used with victim injury (G-Inj)
Gun used with no victim injury (G-NInj)
Other weapon used with victim injury (OW-Inj)
Other weapon used with no victim injury (OW-NInj)
No weapon used with victim injury (NW-Inj)
(The excluded category is "no weapon used with no victim injury.")

The results of the weapon choice–victim injury interaction analyses are shown in Table B.6. The results provide no evidence of a specific emphasis on gun robbery cases in which the victim is injured. Indeed, in several instances the gun use with victim injury dummy variable has no significant association with disposition. This is also true for the OW-Inj dummy variable (other weapon used with victim injury). In view of our finding of a generally significant weapon effect, the frequent insignificance of the G-Inj and OW-Inj dummy variables may be due to the small number of cases in the gun and other-weapon categories involving victim injury.

Table B.6.
Multivariate Analyses of Weapon Use/Injury Interaction Specification (District of Columbia Superior Court, 1974)

Variable[a]	Disposition Measure			
	Conviction	Felony Conviction	Imprisonment	Sentence Length
Constant	−.664*	−.303	−1.84*	−36.9
	(.193)	(.402)	(.388)	(37.4)
G-Inj	−.091	1.17	.522	13.2
	(.148)	(.601)	(.284)	(13.1)
G-NInj	.109	.734*	.617*	23.4*
	(.070)	(.184)	(.130)	(5.57)
OW-Inj	−.088	.179	.022	28.3
	(.278)	(.600)	(.566)	(23.8)
OW-NInj	.227	1.56	.793*	24.1*
	(.152)	(1.69)	(.294)	(9.47)
NW-Inj	.227	−.044	.208	12.0
	(.207)	(.411)	(.336)	(16.4)
Cod	−.110	−.166	−.053	−.87
	(.066)	(.173)	(.123)	(5.32)
Corp	−.040	−.090	−.202	10.3
	(.090)	(.236)	(.163)	(6.99)
Str	.193	.805*	.365	19.9*
	(.098)	(.232)	(.196)	(9.15)
2W	.064	.149	.199	−12.1*
	(.074)	(.179)	(.138)	(5.84)
≥3W	.105	.870*	.279	5.05
	(.079)	(.267)	(.145)	(6.14)
Evid	.451*	−.064	.146	−7.50
	(.064)	(.173)	(.122)	(5.38)
Blk	−.208	.415	.740*	21.2
	(.164)	(.336)	(.291)	(23.3)
<18A	.210	.126	−.759*	80.1
	(.155)	(.532)	(.268)	(27.0)
18-23A	.106	−.077	−.050	−2.79
	(.077)	(.205)	(.147)	(5.56)
24-25A	.128	−.020	.042	4.85
	(.109)	(.297)	(.209)	(6.68)
1-2P	.0120	.133	.128	−2.11
	(.085)	(.235)	(.156)	(7.20)
≥3P	−.047	.036	.813*	7.75
	(.080)	(.211)	(.173)	(5.61)
FC	**	**	.603*	26.7
			(.173)	(9.96)
N	1,713	619	595	247

Source: PROMIS.
Note: Entries are estimated coefficients, with estimates of asymptotic standard errors in parentheses.
[a]Variable Definitions
G-Inj Gun used with victim injury (=1, 0 otherwise)
G-NInj Gun used with no victim injury (=1, 0 otherwise)
OW-Inj Other weapon used with victim injury (=1, 0 otherwise)

Table B.6 (Continued).

OW-NInj	Other weapon used with no victim injury (=1, 0 otherwise)
NW-Inj	No weapon used with victim injury (=1, 0 otherwise)
Cod	One or more codefendants (=1, 0 otherwise)
Corp	Victim is a corporation, business, etc. (=1, 0 otherwise)
Str	Victim is a stranger (=1, 0 otherwise)
2W	2 witnesses are available (=1, 0 otherwise)
≥3W	3 or more witnesses available (=1, 0 otherwise)
Evid	Tangible evidence is recovered (=1, 0 otherwise)
Blk	Defendant is black (=1, 0 otherwise)
<18A	Defendant is less than 18 years old (=1, 0 otherwise)
18-23A	Defendant is 18–23 years old (=1, 0 otherwise)
24-25A	Defendant is 24–25 years old (=1, 0 otherwise)
1-2P	Defendant has 1 or 2 prior arrests for crimes against the person (=1, 0 otherwise)
≥3P	Defendant has 3 or more prior arrests for crimes against the person (=1, 0 otherwise)
FC	Defendant is convicted of a felony (=1, 0 otherwise)

*Coefficient estimate is twice standard error.
**Not included in specification.