Variations in Federal Criminal Sentences A Statistical Assessment at the National Level



U.S. DEPARTMENT OF JUSTICE Law Enforcement Assistance Administration National Criminal Justice Information and Statistics Service UTILIZATION OF CRIMINAL JUSTICE STATISTICS ANALYTIC REPORT 17

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#### Utilization of Criminal Justice Statistics Project

**ANALYTIC REPORT 17** 

## Variations in Federal Criminal Sentences: A Statistical Assessment At the National Level

### by L. Paul Sutton

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THE UTILIZATION OF CRIMINAL JUSTICE STATISTICS Project was funded initially in 1972 by the National Criminal Justice Information and Statistics Service of the Law Enforcement Assistance Administration. One primary aim of the project is the production of annual editions of the Sourcebook of Criminal Justice Statistics, a compilation of available nationwide criminal justice statistical data. A second aim has been and continues to be an examination of the utility that a variety of criminal justice statistical data bases have for addressing questions of practical and theoretical interest in the field.

One product of that examination is a series of analytic reports, of which this volume is one. These reports, written by research staff members of the Utilization of Criminal Justice Statistics Project, all have a common theme: the discussion of a central criminal justice topic using an exemplary or innovative criminal justice data base. Each report in the series not only discusses substantive findings in regard to particular issues, but also considers the qualities and limitations of the data, as well as techniques and problems of analysis, in relation to the substantive findings.

At a time when criminal justice statistics development is extensive, and often expensive, these analytic reports focus attention on one often overlooked function of criminal justice statistics—the analysis of current issues and questicns based on available data. In fact, the utilization issue is perhaps as important as any in the area of criminal justice statistics. It often happens that data are collected—usually at great expense—without subsequent efforts to utilize such data to address the pressing problems that confront criminal justice. This series of Analytic Reports explores the problems and prospects inherent in the application of various sources of criminal justice statistical data to issues of interest and concern to agency personnel, planners, researchers, and the public alike.

> MICHAEL J. HINDELANG Project Director

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## PREFACE

THIS IS THE SECOND in a series of reports on criminal sentencing. The first addressed the needs, benefits, and implications of a systematic empirical analysis of the area, surveyed relevant research, and presented a focus and design for a comprehensive study of Federal sentencing. That design underlies the investigation and analyses of criminal sentencing that are undertaken in this and forthcoming reports.

This report focuses on aggregate and offensespecific sentencing patterns exhibited at the national level. It is clear that sentences are marked by broad variations in severity, some offenders receiving relatively lenient treatment for offenses that generally incur harsh penalties, while others who were convicted of less serious crimes may be the targets of graver sanctions. The nature and magnitude of that variation—across and within offense categories—is the key concern of this inquiry.

A combination of stepwise multiple linear regression analysis and predictive attribute analysis (PAA) is used to determine how precisely variations in criminal sentences imposed against offenders convicted of eight Federal offenses can be statistically "explained." At the same time, from a variety of offender, offense, process, and court-related factors, variables are identified that appear to exert the greatest effect on sentence outcome, and the relative independent contribution of each is assessed,

These analytic reports are based on analyses completed in 1975, which are more fully presented in a document entitled *Criminal Sentencing: An Empirical Analysis of Variations in Sentencing Imposed in Federal District Courts.* This source document is available on loan from the Law Enforcement Assistance Administration Library, U.S. Department of Justice, Washington, D.C. 20531.

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## Highlights of the Findings

THIS REPORT, the second of four analytic reports on criminal sentencing, examines Federal sentencing data for eight major focal offenses (bank robbery, bank embezzlement, counterfeiting, auto theft, larceny, narcotics violations, marihuana violations, and Selective Service violations) in order to determine how a variety of offender, offense, process, and court-related variables are related to the sentencing decision. The sentencing decision itself has two distinct steps: first, the judge decides whether to imprison the offender; if so, the judge then determines the length of the prison term. This distinction is important because the variables that best predict the incarceration decision differ from the variables that best predict length of prison term.

Length of prison term was found to be more predictable than was the decision to (or not to) incarcerate. In determining length of prison term, the type of offense for which the defendant was convicted was the best predictor; method of conviction (jury trial or other) was the second best predictor. However, the best predictor of whether or not an offender would be incarcerated was prior criminal record. Method of conviction and type of offense were second and third best predictors of incarceration, but they appear to only marginally influence this sentencing decision.

Sentencing decisions were found to vary substantially according to type of offense:

1. Drug offense sentences were most predictable, method of conviction being the best predictor for outcome at both steps of the sentencing decision;

2. Bank robbery, counterfeiting, auto theft, and larceny sentences fell into a middle range of predictability;

3. Bank embezzlement and Selective Service violation sentences were the least predictable.

1

Overall, type of offense, prior criminal record, and method of conviction were the best predictors of sentence. Race was not at all significant. Sex was a significant predictor of imprisonment for offenders convicted of bank robbery.



## VARIATIONS IN FEDERAL CRIMINAL SENTENCES: A Statistical Assessment at the National Level

## Perspectives of Analysis

BECAUSE THIS REPORT simultaneously addresses a number of questions, it is useful to preview those dimensions so that the findings may be synthesized easily as they are presented. Information on the development of this design; the variables included; the measurement of sentence outcome; the selection of cases, jurisdictions, offenses; and the focal years upon which the analysis is based are presented in the first report on criminal sentencing in this series.<sup>1</sup>

#### Predictability of Sentence— The Proportion of Variance Explained

One of the principal aims of this investigation is to explain variations in criminal sentences. What proportion of the total variation in sentences can be accounted for in terms of certain quantifiable factors relating to the offense, the offender, and the process by which the offender was convicted?

Stepwise multiple linear regression analysis, the principal analytic technique used in this report, permits an exploration of the multivariate relation among numerous independent (predictor) variables and a single dependent variable, that is, sentence. Specifically, the stepwise approach searches for the variable bearing the strongest linear relationship to the dependent variable. After its effects are removed, the variable is identified that best explains the residual variation in the dependent variable, and so on. In this manner, the regression technique yields that linear combination of predictors that best summarizes or explains variation in the dependent variable.

The method yields a summary statistic—multiple  $R^2$ —that specifies the proportion of the total variation in the dependent variable (sentence) that can be "explained" by that set of independent predictor variables yielded by the regression solution. The  $R^2$  statistic can be thought to reflect the degree of consistency that underlies the sentencing decision: if the statistic is relatively high, for example, .800, it suggests that variations in sentence are quite systematic and that variations in sentence are relatively well explained by or can be fairly accurately predicted on the basis of the particular factors yielded by the solution.

A relatively low statistic, however, does not necessarily mean that the sentencing decision process is unsystematic or random. It only suggests that sentence outcome bears no strong *linear* relationship to those variables included in the analysis, Sentence outcome could be perfectly related to some set of objective criteria, but if that relationship is nonlinear, then a linear regression solution will provide an inappropriate summary of the relation. In the second place, it is altogether possible that factors outside this analysis (e.g., economic stability, family support) may correlate strongly with sentence outcome. Simply because those factors about which data are available may prove to be poor predictors of sentence, we must forego broad conclusions about how systematic or consistent sentencing is.<sup>2</sup>

tSutton, L. Paul, Federal Criminal Sentencing: Perspectives of Analysis and a Design for Research. Analytic Report SD-AR-16 (Washington, D.C.: U.S. Department of Justice, Law Enforcement Assistance Administration, National Criminal Justice Information and Statistics Service) 1978.

<sup>2</sup>The imitations of regression analysis and the inferential constraints imposed by those limitations are discussed in more detail elsewhere. See, for instance F. Kerlinger and E. Pedhazur, Multiple Regression in Pahavioral Research (New York: Holt, Rinehart and Winston, Inc.) 1973; and H. Blalock, Jr., Social Statistics (2d. Ed.) (New York: McGraw-Hill) 1972, especially pp. 362-376.

Granting the inferential limitations imposed by the analytic model used in this study, however, the regression results can still prove highly instructive with respect to the sentencing impact of those variables used in this analysis. Although no conclusions are possible about how systematic sentencing is; overall, it is possible on the basis of the available data to ascertain the degree to which those factors about which information is available contribute systematically-though perhaps unconsciously, from the judges' perspectives-to sentence outcome. Thus, at one level of inquiry, this approach can be used to test the level of influence that any particular variable (e.g., method of conviction, race) or any particular combination of variables (e.g., offense and prior criminal record) has on sentence outcome. At another level, the independent impact of one or several factors on sentence outcome can be assessed, once the influence of certain other specified variables has been controlled for. Assuming that variations in sentence are not altogether random, it is axiomatic that those variations are related to some presumably measurable factors that describe the sentencing milieu. Furthermore, interested parties (trial court judges, appellate courts, legislators, analysts, defense attorneys, and, certainly, criminal defendants) undoubtedly have some notions of which factors these are (as distinguished from which factors they "should" and "should not" be) and what proportion of the total variation in sentences can be attributed to each factor (which is, again, to be distinguished from the relative contribution to the total variance each of the factors should "properly" make), although these judgments are seldom articulated. Inasmuch as factors of presumed (or preferred) importance or insignificance to sentence outcome may be shown to be either more or less important to sentence outcome than originally preferred (or hypothesized), this research can prove most enlightening and instructive,

#### **The Predictors**<sup>3</sup>

Consistency is important, but is clearly vacuous as an end in itself. Clearly, no one could conscionably defend a scheme in which skin color was the systematic basis for any variation in sentence outcome. Thus, consistency is essential to equitable sentencing to be conscionable, equity presumes that the criteria upon which that consistency is to be based are both proper and relevant to the sentencing decision.

"Propriety" is used here to mean not only legal, but morally and ethically acceptable, as well. Unfortunately, the question of propriety of sentencing criteria is not always easily resolved. At one end of the spectrum, certain factors, considered by themselves, are *clearly* improper determinants of criminal sentence. The race and sex of the offender, for example, are generally considered improper to the determination of sentence. At the other end are elements such as seriousness of offense or the offender's prior criminal record that are generally deemed appropriate. The extremes aside, there is considerable uncertainty about the propriety of other factors, such as the method by which an offender was convicted (for example, by plea of guilty versus court or jury trial<sup>4</sup>).

<sup>4</sup>The efficiency of the process whereby a defendant offers a plea of guilty in exchange for sentencing concessions by the prosecuting attorney has long been the object of heated debate in criminal justice circles. For a defense of the practice, see **Santobello v. New York** 92 Sup. Ct. 495 (1971), where the court stated the following:

Disposition of criminal charges by agreement between the prosecutor and the accused... is an essential component of the administration of criminal justice. Properly administered, it is to be encouraged.

The California Supreme Court registered a similar opinion in **People v. West** 477 P. 2d 409 (1970). See also 26 **F.R.D.** 286 (1959).

The opinion of Chief Judge Campbell of the Northern District Court of Illinois precipitated what has become a classic judicial exchange on the practice of plea bargaining. Wrote Campbell:

When defendants plead guilty, they expect more leniency than when convicted by a jury, and must receive it, or there will be no such pleas. The truth is that a criminal court can operate only by inducing the great mass of actually guilty defendants to plead guilty, paying in leniency the price for the plea.

from U.S. v. Wiley 184 F. Supp. 67, 69 (N.D. III. 1960).

But on the other hand, a number of authorities suggest that method of conviction ought clearly to be viewed as irrelevant to the determination of criminal sanction. Consider, for

<sup>&</sup>lt;sup>3</sup>This analysis is based on a variety of offense, offender, process and court-related variables. They include type of offense; the age, race, sex, and criminal record (i.e., seriousness of court response to prior convictions) of the offender; type of counsel, if any, representing the accused (privately retained or court-appointed); time elapsed from filing to disposition of case; method of conviction (e.g., original plea of

<sup>&</sup>quot;guilty," original plea of "not guilty" that was subsequently changed to "guilty," conviction by court trial, or conviction by jury trial); and a number of aggregate measures of court "efficiency," including the number of criminal cases disposed of per judge (in 1971) in the district in which an offender was convicted, the median time required by the district to dispose of a criminal case in 1971, the proportion of the convicting court's 1971 dispositions that were effected by dismissal or conviction, the proportion of trials heard by a jury (versus a judge sitting without a jury present), and an index (juror usage index) measuring the convicting court's relative efficiency with respect to the proportion of jurors who actually serve on a jury, out of all those who have been *paid* to serve.

his/her presumed or diagnosed "needs,"<sup>5</sup> and a host of so-called aggravating and mitigating circumstances.

Related to, but separate from, the propriety of the information is its *relevance*. An element may be an altogether proper, that is, permissible consideration, but if it is not somehow *relevant* to the *objective* in sentencing, then it ought not to be considered. Nothing bars a judge from considering that a defendant has been troubled by insomnia since youth, for example; but most would argue that that factor is not a *relevant* concern. On the other hand, the age of the defendant—also a technically proper consideration—can be quite relevant to the determination of the appropriate type and length of sentence if, for example, the objective in passing sentence is to deter the defendant from committing additional crimes in the future.

If the objective were "just deserts,"<sup>6</sup> that is, a philosophy that would have an offender "punished" in a fashion commensurate with the severity of the offense, then the only factors relevant to sentence would be those that specifically detailed the circumstances of the offense. In contrast, the goal of

Consider also the discussion in Struggle for Justice. A Report on Crime and Punishment in America Prepared for the American Friends Service Committee (New York: Hill and Wang) 1971, pp. 135-139; the concurring opinion of Judge Charles L. Levin in 12 Mich. App. 186, 162 N.W. 2d. 777 (1968); the National Advisory Commission on Criminal Justice Standards and Goals recommendation that a plea of guilty not be considered in mitigation of sentence, in National Advisory Commission on Criminal Justice Standards and Goals, Corrections (Washington, D.C.: U.S. Government Printing Office) 1973, Standard 5.7, pp. 168-169. See also Federal Code of Criminal Procedure, § 526.

For a general discussion on plea bargaining, see American Bar Association Project on Minimum Standards for Criminal Justice, Standards Relating to Pleas of Guilty (Approved Draft, 1968).

<sup>5</sup>Although the "needs of the offender" still ranks high among sentencing considerations, authorities are increasingly vocal in their criticism of the inequities that are endured in the name of rehabilitation. See Wilkins, "Directions for Corrections" [A paper presented to the American Philosophical Soclety](November 1973), p. 16; and M. Frankel, **Criminal Sentences: Law Without Order** (New York: Hill & Wang) 1972, p. 92.

<sup>6</sup>For excellent discussions of the "just deserts" sentencing philosophy, see von Hirsch, "Prediction of Criminal Conduct and Preventive Confinement of Convicted Persons," 21 Buffalo L, Rev. 717 (1972) and N. Morris, The Future of Imprisonment (Chicago: University of Chicago Press) 1974. rehabilitation, that is, to make the offender a "better" person, introduces a host of factors as relevant—in short, anything about the individual that bears improving, as well as anything that might somehow bear upon one's attempt to change the offender. (It is in this fashion that current sentencing legislation, conditioned as it is upon the rehabilitative ideal, confers such latitudinal discretion upon the sentencing judge in terms of both what criteria may be considered in passing sentence and what relative weight each may carry.)

At any rate, it should be abundantly clear from these examples that relevance is largely a function of sentencing objective(s), because a criterion relevant to one objective may not be relevant to another. In a similar fashion, any assessment of the "propriety" of a criterion-inasmuch as propriety may turn, in part, on relevance<sup>7</sup>—may also depend on the particular ends envisioned for criminal sentencing. Although a few have written persuasively on the subject,8 resolution of the question of the "proper" ends of criminal sentencing is excluded from the scope of this research; so, also, is the question of the propriety of those criteria upon which sentence should be made to turn. The aim of this research is rather to identify those factors that are related to sentence outcome and to determine their respective contributions to sentencing variance.

#### Sentence Outcome—What to Measure

As noted in an earlier report,<sup>9</sup> most sentencing studies have focused on only *part* of the sentencing

<sup>8</sup>See, for example, L. Wilkins, op. cit., and Evaluation of Penal Measures (New York: Random House) 1969; N. Morris, op. cit.; M. Frankel, op. cit. For rather straightforward accounts of the traditional justifications of sentencing, see R. Dawson, Sentencing: The Decision as to Type, Length, and Conditions of Sentence. Report of the American Bar Foundation's Survey of the Administration of Criminal Justice in the United States (Boston: Little, Brown) 1969; E. Goffman, Asylums (Garden City, N.Y.: Doubleday) 1961; D. Rothman, The Discovery of the Asylum: Social Order and Disorder in the New Republic (Boston: Little, Brown) 1971; and D. Glaşer, The Effectiveness of a Prison and Parole System (New York: Bobbs-Merrill) 1974.

9See the discussion in L. Sutton, op. cit.

example, the opinion of the Seventh Circuit Court in its review of the Wiley case:

A defendant in a criminal case should not be punished by a heavy sentence merely because he exercises his constitutional right to be tried before an impartial judge or jury. U.S. v. Wiley 278 F 2d. 500, 502 (7th Cir. 1960).

<sup>7</sup>Interestingly, with respect to the "just deserts" philosophy, the relevance and propriety questions are indistinguishable. A factor is "proper" to consider if and only if it is relevant to the assessment of "desert." Being unrelated to the offense, a factor could carry no weight in the assessment of penalty. To consider it, despite its irrelevance, therefore, would be improper. As noted, the same does not apply for other strategies, e.g., deterrence or incapacitation, wherein a factor like sex might be "relevant" to the objective, but "a legally improper" basis for distinction, nevertheless.

decision. The results of this analysis tend to confirm the proposition that sentencing is operationally and conceptually bifurcated: that is, a determination is first made about whether to imprison, followed by a determination about the conditions (i.e., length) of imprisonment; moreover, it appears that the two determinations are based on different sets of objective criteria. Consequently, this discussion focuses on both aspects of the sentencing decision. Thus, the analytic foci discussed earlier—proportion of sentence variation explained and the objective factors that best predict sentence—will be used in addressing sentence outcome from the dual perspective of *type* as well as *length* of sentence.

In addition, comparisons at more complex levels of analysis were facilitated by a special weighting scheme found to be a useful measure of sentence severity. The scheme assigns each sentence a value ranging from 0 to 80, representing sentences from suspended sentence or fine to life imprisonment, respectively. The weighting scheme used in deriving the severity weights is presented in Table 1.10

Developing a scale, especially a concept like "sentence weight," is a complex enterprise. The scale used in this analysis reflects a number of considerations. It would appear that the primary difficulty of scaling "sentence severity" is the assignment of specific interval-level values to the spectrum of available sentences, especially where these sentences differ both quantitatively (length of sentence) and qualitatively (type of sentence). That is, if a suspended sentence (i.e., no imprisonment or probation) is assigned a value of "0" and 1 year of probation is valued at "1," the obvious and difficult problem becomes that of deciding how to weight 2 years probation (2?); 4 years probation (4?); 1 year of imprisonment (less than 4? more than 4? how much more than 4?); 10 years imprisonment (10 times the value of 1 year? more or less than 10 times the value of 1 year?); and so on, A second issue relates to whether different sentences should be treated "independently" for weighting purposes or whether they might usefully be grouped (e.g., prison sentences of from 6 to 10 years) and assigned the same "weight,"

The second issue was resolved by modeling the weighting scheme used on that designed by the Administrative Office of the U.S. Courts (A.O.) facilitating comparison of sentences of all kinds

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#### TABLE 1 Sentence weight index

Actual sentence	Weight assigned by the Administrative Office scheme <sup>a</sup>	Weight used in this study
Suspended sentence or fine only	0,1	0
Probation: Less than 3 years	1,2	1
3 years to less than 5 years	4	2
5 years or more	4	З
Prison: Less than 6 months	З	4
(Split sentence) prison 0 to 6 months and proba- tion	4	5
6 months to less than 1 year	5	6
(Mixed sentence) prison 6 to less than 12 months and probation	Not applicable	7
1 year to less than 2 years	8	8
2 years to less than 3 years	10	10
3 years to less than 4 years	12	12
4 years to less than 5 years	14	14
5 years to less than 6 years	25	20
6 years to less than 10 years ⊷		30
10 years to less than 15 years	) )	40
15 years to less than 20 years	50	50
20 years to less than 45 years		65
Life	/	80

<sup>a</sup>The Administrative Office's weighting scheme is reported in Hindelang, Dunn, Aumick, and Sutton, **Sourcebook of Criminal Justice Statistics-1974**, U.S. Law Enforcement Assistance Administration (Washington, D.C.: U.S. Government Printing Office) 1975, across jurisdictions and over time. The A.O. scheme groups sentence outcomes largely according to the categories listed in Table 1. It should be noted that the A.O. model was adapted to produce the scheme used in this study. A primary difference lies in the new scheme's attempt to divide some of the A.O.'s rather inclusive sentence categories into smaller categories. For example, the A.O. scheme used a single category with a weight of "50" for all prison sentences of from 10 years to life; the scheme used in this study uses 4 categories and, hence, 4 weights for the original group. Additionally, the new scheme's treatment of all sentences of imprisonment as more severe than any sentence of probation differs from that of the A.O. weighting scale,

In attempting to resolve the first issue, i.e., selection of appropriate "weights" for various sentence categories, several weighting schemes Gere tested. In the simplest, an ordinal ranking of weights from 0 to 17 was applied to the sentence categories listed in Table 1. Other, more complex intervallevel weighting schemes were also devised and tested, including the original scale used by the A.O. Regression analysis was performed to predict variations in outcome, as measured by each of the respective schemes. It is notable that among all the scaling models tested, the range in the level of variance explained (R<sup>2</sup>) was less than 5 percent points, Thus, the precise calibration of sentence weights beyond a simple ordinal ranking appears almost inconsequential when fewer than two dozen categories of penalty are used. Nevertheless, the scheme ultimately selected for this analysis, and presented in Table 1, represents the model that yielded the highest level of explained variance of all the models tested,

#### **Predictive Attribute Analysis**

A noted limitation of the regression model to be used here is its insensitivity to nonlinear relationships and interaction among variables.<sup>11</sup> Consequently, where regression results show particularly low levels of predictability of sentence outcome, predictive attribute analysis will be used to further explore the data.

#### **Offense-Specific Analysis**

Finally, because of the probable dissimilarity in sentencing patterns that characterize violent versus nonviolent, personal versus property, and conventional versus white-collar crimes; or crimes with victims as opposed to victimless crimes, it is important to separate the total crime picture into specific offense groups. Thus, each of the substantive, analytical, and methodological perspectives discussed above will be applied in the analyses of eight individual Federal offenses, including bank robbery, interstate transportation of a stolen vehicle, narcotics violations, Marihuana Tax Act violations, Selective Service Act violations, counterfeiting, bank embezzlement, and larceny from interstate commerce.<sup>12</sup>

## National Level Aggregate Analysis

In 1971, 9,384 offenders were convicted in Federal district courts<sup>1,3</sup> of the eight focal offenses mentioned. Approximately 46 percent were sentenced to probation, were fined, or had their respective sentences suspended. For those imprisoned, the mean maximum term was slightly more than 5 years (62.1 months). The mean sentence weight, which aggregates both prison and probation sentences, was 11.6, equivalent to a term of about 3 years of imprisonment.

#### **Proportion of Variance Explained**

No doubt, there is considerable variation among those several thousand sentences; indeed they cover the spectrum of legally authorized penalties, from suspended sentence to life imprisonment. The critical questions that surround the imposition of sentence and to which this analysis is principally addressed are unavoidable: what are the bases of observed variations in sentence and to what extent can

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<sup>&</sup>lt;sup>11</sup>See note 1, supra. For a good discussion of the adaptation of PAA to social science, see Wilkins and MacNaughton-Smith, "New Prediction and Classification Methods in Criminology," Journal of Research in Crime and Delinquency 19 (1964).

<sup>&</sup>lt;sup>12</sup>The offense classes were selected on the basis of several criteria, including substantive, conceptual, and numerical significance; homogeneity of behaviors falling within crime categories; and similarity to offenses generally proscribed by State penal codes. For a discussion of the criteria underlying the selection of focal offenses, see L. Sutton, op. cit., pp. 19, 20.

<sup>&</sup>lt;sup>13</sup>This includes only the 88 district courts of the United States proper. Excluded are the courts of the District of Columbia, Guam, Puerto Rico, the Virgin Islands, and the Panama Canal Zone.

sentence be explained, that is, predicted on the basis of those factors? The regression solutions summarized in Tables 2, 3, and 4 shed considerable light on the issue. (For an explanation of variable names and coding procedures used, see the Appendix.)

Table 2 illustrates that on the basis of the specific criteria used in this analysis, it is possible to account for nearly three-fifths of the variance in sentence weights accorded offenders sentenced for any of eight focal offenses in 1971, suggesting that, on the whole, criminal sentencing is hardly as random or capricious as many critics contend. Because any single measure of sentence severity threatens to obscure important differences that may distinguish the all important "in-out" determination from the "how long" decision, however, it is essential to examine each decision point, independently.

Indeed, compared to the predictability of sentence weight, Tables 3 and 4 are particularly instructive. They show, for example, that on the basis of the available predictors, the variability around the mean term of incarceration (62 months) can be better explained than can the variation in the type of sentence imposed, that is, whether the offender was sentenced to prison or probation. Table 3 shows that nearly half (49.9 percent) of the variance in sentence length is explained; in contrast, Table 4 shows that only slightly over one-quarter (26.4 percent) of the variance in the type of sentence imposed for eight focal offenses in 1971 could be explained on the basis of the same original set of 28 predictors.

Such a discrepancy requires that the proposition presented earlier, that sentencing is, on the whole, fairly systematic, be reconsidered because Tables 3 and 4 suggest that how systematic sentencing is, is largely a function of the particular type of decision being made. It appears that-at least with respect to this aggregate of eight offense types-judges are considerably more uniform in determining the duration of imprisonment than in deciding the critical threshold question of whether to incarcerate the offender at all. At the very least, the findings indicate that the factors used in this analysis are of substantially greater import to one part of the decision (sentence length) than to the other (sentence type). The significance of this pattern becomes clearer as the particular factors that account for variations in sentence outcome are examined.

#### **National Predictors of Sentence Outcome**

As discussed, the basis of whatever consistency may characterize sentencing is at least as important

# TABLE 2Proportion of variance explained in sentence weights<br/>imposed<br/>for all eight focal offenses at the<br/>national level, 1971

NOTE: Although the solution yielded at least 12 variables that were statistically significant at the .01 level, they were not considered substantively significant unless they independently accounted for more than 1 percent of the variance in the dependent variable. Consequently, such insubstantial variables were excluded from the summary tables and from the discussion. Variables are fully defined in the Appendix.

In the table below, the *r* statistics represent the simple zero-order Pearson's product moment coefficients between each variable and the outcome variable.

The *multiple R* figures represent the cumulative product moment coefficients between the outcome variable and various linear combinations of predictors.

The R<sup>2</sup>'s are the squares of the respective multiple R figures and measure the cumulative proportion of variance explained in the dependent variable by the specified combinations of predictor variables.

R<sup>2</sup> change measures the additional proportion of variance in outcome that is independently accounted for by each predictor. The predictors were introduced in a stepwise fashion in the solution presented below, meaning that the variable appearing first exhibited the strongest zero-order correlation with the outcome variable; the variable appearing second exhibited the strongest correlation with the outcome variable when the effect of the first variable was controlled; the variable appearing third exhibited the strongest correlation with the outcome variable when the effects of the first two variables were controlled; and so on.

Independent variable	Multiple R	R2	R² change	r
Robbery	.650	.422	.422	.650
Narcotics	.697	.485	,063	.168
Record	.737	.543	.05,8	.396
Jury trial	.760	.578	.035	.319

as the degree of the consistency itself. Table 5 shows that sentence—measured by all three outcome variables—varies markedly by offense. Imprisonment rates ranged from 2 in 10 (19.4 percent) for convicted embezzlers to 9 in 10 (91.4 percent) for bank robbers. The mean maximum term of incarceration for offenders imprisoned for the two offenses ranged from 1 1/2 years (19.9 months) to more than 12 years (148.3 months), respectively. On the basis of such offense-related variation in severity, it would TABLE 3Proportion of variance explained in length of sen-<br/>tences imposed<br/>for all eight focal offenses at the<br/>national level, 1971

NOTE: See NOTE, Table 2.

Independent variable	Multiple R	R2	R2 change	r
Robbery	.655	.429	.429	.655
Narcotics	.680	.463	.033	.099
Jury trial	.698	.487	.024	.257
Auto theft	.706	,499	.012	259

TABLE 4	Proportion of variance ex- plained in type of sentence imposed
	for all eight focal offenses at the national level, 1971
	NOTE: See NOTE Table 2

Independent variable	Muitiple R	R2	R² change	r
Record	.420	.176	.176	.420
Jury trial	.455	.207	.031	.229
Robbery	.481	.213	.024	.268
Narcotics	.503	.253	.021	.141
Auto theft	.513	.264	.011	.148

not be surprising to find, as Table 2 illustrates, that offense was unequivocally the best predictor of sentence weight. In particular, whether the offender was convicted of robbery versus *any* other focal offense was more strongly related to sentence weight than was any other single variable (r = .650). When the effects of the robbery/nonrobbery variable are controlled, another offense-related variable enters the solution. That is, whether the offender was convicted of a narcotics offense versus any other focal offense independently accounted for an additional 6.3 percent of the variation in sentence weight.

Once the effects of being convicted of robbery or narcotics are removed, offense appears negligible as a predictor of a sentence weight. Instead, a factor relating to the offender, rather than what he/she did, emerges third as a significant predictor of sentence

#### TABLE 5 Sentence outcome for all eight focal offenses and for each focal offense at the national level, 1971

Offense	Number of convic- tions	Mean sen- tence weight	Percent im- prisoned	Mean sen- tence length (months)
All eight focal offenses	9,384	11.6	54.5	62.1
Embezzlement	790	3.1	19.4	19.9
Selective Service	981	4.6	33.0	26,4
Larceny	1,041	5.2	37.9	26.8
Marihuana	1,726	7.0	42.4	36.7
Counterfeiting	727	8.4	50.8	40.1
Auto theft	2,027	9.1	68.4	34.B
Narcotics	1,014	18.8	74.5	77.4
Robbery	1,078	38.3	91.4	148.3

severity. Independent of offense, the prior criminal record of the offender explained an additional 5.8 percent of the total variance.

Finally, it seems that the effects of plea bargaining-explicit or implicit-are in evidence, because whether the defendant was convicted by jury trial versus some other means emerged fourth as a significant predictor of sentence weight at the national level. This finding lends weight to claims that the criminal justice system rewards those who make the fewest demands on its time and resources by offering them sentencing concessions in exchange for ready admissions of guilt and by otherwise imposing harsher penalties on those who unsuccessfully exercise the costly right to trial by jury. The zero-order correlation between sentence severity and being convicted by jury trial (versus any other method of conviction, e.g., court trial or guilty plea) was .319, suggesting that if all other variables are ignored, method of conviction explains 10.2 percent of the total variance in sentence weights imposed nationwide for eight focal offenses in 1971. When the effects of offense (robbery and narcotics convictions) and prior criminal record are controlled, however, method of conviction (jury trial) independently explained only 3.5 percent of the residual

variance. Although this single finding is insufficient in itself to confirm the proposition about the impact of plea bargaining, the persistent emergence of process-related factors as significant predictors of sentence outcome across offenses, jurisdictions, and time is persuasive evidence of the cost to the defendant for invoking the elements of due process.

When the effects of a robbery or narcotics conviction, prior criminal record, and the method of conviction were controlled, none of the remaining 19 predictors significantly<sup>14</sup> improved the predictive power of the regression equation that used only these four factors. In combination, they explained nearly three-fifths (57.8 percent) of the total variance in sentence weights imposed nationwide for eight focal offenses in fiscal year 1971.

#### Predicting Type and Length of Sentence—A Critical Distinction

As noted, the generally high predictability of sentence weight was misleading, inasmuch as the precise level of predictability was found to vary with the type of sentencing decision being made. The closer look is equally revealing with respect to the predictors of the two types of sentence decision. Returning to Tables 3 and 4, besides the marked discrepancy in the proportion of variance explained, one is struck by a significant distinction in predictors, as well.

Sentence length, which appeared the more systematic of the decisions, was almost wholly determined—insofar as it was explainable at all—by the offense involved. As it was for sentence weight, a robbery conviction was the best predictor of length of sentence, independently accounting for 42.9 percent of the variance. Conviction for narcotics versus non-narcotics and auto theft versus non-auto theft offenses explained an additional 3.3 and 1.2 percent of the variance in sentence lengths, respectively, Controlling for robbery and narcotics convictions, method of conviction (jury trial) independently explained a marginal 2,4 percent of the variance, Significantly, when the effects of these four elements are removed, factors relating to the offender exhibit no significant linear influence on the length of sentence.

Interestingly, the threshold decision of whether or not to imprison is sharply contrasted with the subsequent "how long" decision. As revealed in Table 4, the major distinction is the marked impact of the prior criminal record of the offender on the threshold decision about whether to imprison the offender or not. With a zero-order correlation of ,420, prior record was more strongly related to type of sentence imposed than any other variable introduced in the analysis. Recall that the offender's record did not even appear in the sentence length solution. Apart from their respective inclusion and exclusion of prior criminal record as a criterion, the sentence type and sentence length decisions reflected similar considerations-method of conviction and the offense committed. At the zero-order level. method of conviction (i.e., by jury trial) was moderately related to whether or not an offender was sentenced to prison (r = .229). Once the effects of prior record were controlled, however, the independent contribution of a jury trial conviction to the residual variance was even less-a marginal 3.1 percent of the total. This suggests that part of the correlation between being convicted by jury trial and receiving a sentence of imprisonment (r = .229) was spuriously explained by the tendency of offenders with more serious records to have been convicted by jury trial (r = .133). Although the commitment offense appeared relevant to both the type and length decisions, its significance varied sharply between the two. In contrast with its marked impact on sentence length, type of offense appears to have played a relatively minor role in the determination of sentence type. Even the zero-order correlations between offense and sentence type were moderate, as seen in Table 4. But after the effects of prior record and method of conviction have been removed, the independent effect of offense-robbery, narcotics, and auto theft-is lessened to explanatory levels of 2.4, 2.1, and 1.1 percent, respectively.

In sum, Tables 3 and 4 imply first, that the decision about the duration of imprisonment is considerably more systematic (i.e., predictable) than the threshold decision of whether to imprison an offender at all, and second, that the two determinations are the product of differentially ordered sets of objective criteria. On the whole, these findings strongly suggest that the change in focus of the sentencing decision is accompanied by a latent change of purpose. The implications of such a situation will be discussed later.

<sup>14</sup>In this analysis, no variable was considered a "significant" predictor if its marginal independent contribution to the regression equation was less than 1 percent of the total variance.

#### A Look at Interaction in Sentencing

Interaction is very familiar to researchers working in the behavioral sciences. It is not uncommon to find that the magnitude and even the direction of a relationship between two variables may vary across sample subgroups. It may be, for example, that among robbery offenders, age and severity of sentence outcome exhibit a strong positive correlation, while among Selective Service violators, age and severity of outcome are unrelated or even negatively correlated. From another perspective, the variable most strongly associated with one subgroup's possession of a specific attribute is not necessarily the one that is most strongly associated with the complementary subgroup's possession of the same attribute. Continuing with the example, it may be that for robbery offenders, the sex of the defendant exhibits a stronger correlation with severity of sentence than does any other variable, whereas for other than robbery offenders, the factor most strongly related to sentence severity is the defendant's prior criminal record.

One systematic method of investigating these problems is predictive atrribute analysis (PAA). By repeatedly splitting population subgroups on the basis of the presence or absence of the attribute found to be most strongly correlated with a criterion variable (e.g., sentence type), the attributes that appear most significant for various subgroups (e.g., male/female, black/white, etc.) of the population can be contrasted. In the same fashion, discrepancies can be identified in the strength of the association between the criterion variable and specific attribute variables for various subgroups throughout the population.

Though few people have systematically explored the question of interaction among variables in the sentencing decision,<sup>15</sup> there is reason to believe that some interaction does occur.<sup>16</sup> Analysis reveals, however, that although there is some evidence of interaction in the data, it is fair to say that the PAA results are generally consistent with the regression solutions, particularly with respect to the lowest order regression predictors. That is, variables that accounted for the most variation in the regression solutions were also responsible for the first few "splits" in the corresponding PAA solutions.

Both the PAA and regression solutions of the aggregate data at the national level, for example, show that the same variables are instrumental in determining sentence type. Recall that prior record, conviction by jury trial, and robbery, narcotics, and auto theft convictions, respectively, had the strongest effects on whether an offender received a prison or a nonprison sentence. Figure 1 illustrates that the first four of those variables, which accounted for nearly all of the variance that could be explained by the regression solution for length of sentence, also appeared in the PAA solution, However, there are also some interesting and theoretically significant instances of joint effects. Of those convicted of robbery, for example, the sex of the offender was most highly associated with type of sentence: over 90 percent of the males, but only slightly over half the females, were sentenced to prison terms. For those convicted of offenses other than robbery, however, prior record best distinguished those receiving prison terms from those receiving other dispositions. Proceeding to the next break, for the population of nonrobbers with major records (at least one prior incarceration for any amount of time), whether the offender was convicted of embezzlement versus some other offense was the best single predictor of imprisonment. Of all nonrobbers with minor criminal records (no arrest, or an arrest but no conviction, or a conviction but no previous sentence of incarceration), the manner in which the offender was convicted was the best predictor of outcome: more than two-thirds (68.6 percent) of those convicted by jury trial were sentenced to imprisonment; in contrast, fewer than one-third (31.6 percent) of those who were convicted either by plea of guilty or by court trial were so sentenced, Finally, regardless of whether nonrobbers with minor records were convicted by a jury trial or by some other method, a conviction for a narcotics offense was the surest guarantee of a prison sentence. Of those convicted by jury trial, 96.6 versus 61.3 percent of narcotics and non-narcotics offenders, respectively, received prison sentences. For the complementary group convicted by other than a jury trial, the corresponding rates of imprisonment were 60.4 and 28.7 percent.

<sup>&</sup>lt;sup>15</sup>Cf. L. Cohen, Juvenile Dispositions; Social and Legal Factors Related to the Processing of Denver Delinquency Cases, Analytic Report SD-AR-4. (Washington, D.C.: U.S. Department of Justice, Law Enforcement Assistance Administration, National Criminal Justice Information and Statistics Service) 1976.

<sup>&</sup>lt;sup>16</sup>Ibid., pp. 31-32, 35. Moreover, simply because of the low levels of sentence predictability (particularly with respect to the sentence-type decision) yielded by the linear model, it is important to explore the extent to which the model (i.e., regression) rather than the practice (i.e., sentencing) may be at "fault."

## FIGURE 1 Predictive attributes analysis of type of sentence imposed for all eight focal offenses at the national level, 1971

NOTE. Percentage ligures refer to the proportion of cases in respective "boxes" that were sentenced to imprisonment Definitions of mnomonic terms appear in the Appendix



<sup>a</sup>Cases reported in subcells may not add to the total number of cases because of missing values bSubgroups with the highest proportion of sentences to imprisonment

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One of the troublesome aspects of the regression solution for sentence type was that the optimal linear combination of the five best predictors was capable of accounting for only slightly over a quarter of the variance in type of sentence imposed against nearly 10,000 offenders convicted in 1971. The PAA summary presented in Figure 1 graphically illustrates the problem if the analysis is traced downward along the right-hand side of the branching scheme. As robbery, criminal record, method of conviction, and narcotics-the best four predictors of sentence type in both solutions are controlled, in turn, the strength of the correlation (Somers' d) between the criterion and attribute variable diminishes with each step; yet each break is successful in producing subgroups of quite discrepant sizes, a process likened to "splintering" rather than splitting. As Figure 1 shows, after the effects of the four best predictors of sentence, type are removed, there remains a rather massive subgroup of 3,803 offenders, with few variables left that bear any substantial relation to the criterion variable. For instance, the sex of the offender, the attribute bearing the strongest relation to sentence type of the fifth break, was only moderately related to outcome (d = .198). After the break, there still remain 3,299 male offenders (35.2 percent of the total) who were convicted by other than a jury trial for auto theft, counterfeiting, embezzlement, Selective Service, marihuana, or larceny, and who had no record of any prior incarceration. Nearly one-third (31.3 percent) of the group was sentenced to prison, but not one of the remaining attributes correlates with outcome at even the .150 level.

The pattern revealed by the PAA tends to affirm the suggestion made earlier that judges' decisions about whether to imprison offenders convicted of any of eight focal offenses are rather unsystematic (relative to the subsequent decision about the duration of imprisonment) and/or that sentence type—in sharp contrast with sentence length—turns largely on factors that were not included in this analysis.

The PAA results for the determination of sentence length are also quite compatible with the corresponding regression solution. For this analysis, sentence length was dichotomized into long and short sentences—3 years or more and less than 3 years. The criterion variable was long versus short sentence; the percentages reported refer to the proportion of each sample subgroup receiving a long sentence.

Because sentence length was dichotomized for the PAA but was defined on an interval scale for the regression analysis, this comparison of results may not be altogether proper. Yet, notwithstanding this discrepancy, the results of the two methods are similar. Recall from Table 3 that the regression solution yielded robbery, narcotics, jury trial, and auto theft convictions as the best predictors of length of imprisonment. Figure 2 shows that essentially the same factors are responsible for the most important breaks in the PAA scheme.

Figure 2 also shows a distinct advantage of the PAA approach; some factors are identified that may exert significant influence on sentence outcome with respect to particular subgroups of the original national population. A conspicuous example is the sex of the offender. Principally because there are relatively few female offenders, the regression solution seldom yields sex as an important predictor, Yet, as Figure 2 shows, its significance is compelling, even though it affects a very small portion of the population being studied. For example, Figure 2 indicates that only 50.0 percent of the females versus 94.1 percent of the males convicted of robbery in 1971 were sentenced to maximum prison terms of 3 or more years (Somers'  $d_{\text{ST, SEX}} = .441$ ).<sup>17</sup> Similarly, Figure 1 reveals the occasional significance of the offender's sex in the sentence-type decision (e.g., for persons convicted of robbery, and for offenders having minor records and convicted for other than robbery or narcotics by other than jury trial). The PAA diagrams also show the localized though significant effects of age, prior record, and method of conviction on sentence outcome.

An especially interesting feature of PAA that bears mention is its usefulness in developing offender "types." By clustering sentence-related attributes that maximize the distinction among subgroups with respect to the presence or absence of the criterion variable, that is, prison sentence, PAA can identify specific groups or "types" that have varying probabilities of "possessing" the criterion variable. The results of Figure 1 in this regard are quite remarkable. For example, given a population of 9,384 offenders convicted of the eight focal offenses of whom 54.4 percent were sentenced to prison, PAA can identify one group of 580 offenders (6 percent of the total)-male robbers with major criminal records who were convicted by other than court trial-of whom 96.7 percent were sentenced to prison. Conversely, PAA yields another group of 504 offenders (5 percent of the total)-females with

<sup>&</sup>lt;sup>17</sup>Sex was dichotomized, "male" receiving a value of 1 and "female" being coded as 0.

## FIGURE 2 Predictive attribute analysis of length of sentences imposed for all eight focal offenses at the national level, 1971

NOTE: Percentage figures refer to the proportion of cases in respective "boxes" that were sentenced to a long prison term, i.e. a maximum term of 3 years or more. Definitions of mnemonic terms appear in the Appendix.



minor records convicted by other than jury trial for other than robbery or narcotics offenses—of whom only 1 in 10 (11.5 percent) was sentenced to incarceration. If desirable, the process could certainly yield groups with even lower imprisonment rates if, for example, particular offenses from that group were included or excluded, rather than letting the breaking process continue according to conventions outlined in the earlier report.

In a similar fashion, PAA can also identify various constellations of factors that appear to produce specific probabilities of a sentenced defendant's receiving a long or short prison sentence. Of the focal population, 5,100 received prison terms; about half (48.1 percent) were sentenced to at least 3 years. Of these, PAA yields two numerically substantial subgroups of offenders, all of whom received long sentences. The highest risk groups included one subgroup of 580 (6 percent of the total) males with major criminal records who were convicted of robbery by guilty plea or jury trial. It is not surprising that this set of criteria is almost identical to the one that described the high-imprisonment-risk group identified in the PAA for sentence type.

On the whole, the PAA results were compatible with the regression solutions, notwithstanding the few instances of interaction in the data that were revealed by the PAA. Thus, regression analysis appears both a useful and reliable model upon which to proceed with this inquiry. When predictive attribute analysis is able to identify particular combinations of attributes that are particularly powerful in predicting sentence outcome, it will supplement the discussion based principally on the linear solutions.

Sentencing patterns would be expected to vary somewhat by offense. The nature, extent, and implications of that variability will be the subject of the rest of this discussion.

## Offense-Specific Variability in Sentencing

A brief preview of the offense-specific findings at the national level should greatly facilitate subsequent detailed treatment of the findings for each offense class.

No doubt, the most striking feature of the offense-specific findings relates to the marked reduction in the proportion of sentence variation that can be explained once offense is controlled. Earlier, 57.8 percent of the variation in sentence weight was explained on the basis of certain offense. offender, and process attributes. But the preponderance of the variation was accounted for solely by offense variables, because conviction for robbery and narcotics offenses jointly explained 48.5 percent of the variance (over 80 percent of the total explained). Hence, as Table 6 shows, looking at the regression solution yielded for each type of offense, the proportion of variation explainable on the basis of offender and process variables is considerably reduced. Predictability in sentence weight, for example, ranges from a high of 41.9 percent for narcotics convictions to a mediocre 7.5 percent for embezzlement.

The results for variations in sentence length are comparable. From 49.9 percent of the variance in the length of sentences imposed for all offenses, offense-specific predictability levels were generally cut in half, ranging from a high 29.1 percent for marihuana to a low 4.8 percent for embezzlement. In short, a much greater *proportion* of the variance in sentence length and sentence weights can be explained when sentences for all offenses are considered in aggregate than when sentences are analyzed separately for the individual offenses. Despite this across the board reduction in sentence predictability, the precise level of predictability still depends on the specific offense in question.

It was noted earlier that variations in type of sentence imposed not only were less amenable to prediction than were variations in sentence length, but also appeared to be the function of a different constellation of factors. Indeed, because commitment offense was of limited importance in whether

## TABLE 6 Proportion of variance explained in sentence weights, sentence lengths, and sentence types imposed

for all eight focal offenses and for each focal offense at the national level, 1971

NOTE: See NOTE, Table 2.

	All ما تنام	Ollense									
	focal offenses	Narcotics	Marihuana	Hobbery	Auto theft	Larcony	Counter- feiting	Selective Service	Embezzie- ment		
Sentence	57.8%	41.9%	31,0%	25.0%	23.5%	23.1%	21.5%	15,3%	7.5%		
weight	(N≐9,384)	(N=1,014)	(N≓1,726)	(N=1,078)	(N=2,027)	(N=1,041)	(N≕727)	(N≃981)	(N≕790)		
Sentence	49.9%	24,1%	29.1%	13,7%	9.9%	11.6%	22,2%	15.3%	4.8%		
length	(N=5,096)	(N=753)	(N≕731)	(N=984)	(N=1,387)	(N≓395)	(N=369)	(N⇔324)	(N=153)		
Sentence	26.4%	20.4%	15.1%	20.3%	19.5%	21.2%	16.7%	8.5%	11.8%		
type	(N=9,384)	(N=1,014)	(N=1,726)	(N=1,078)	(N≃2,027)	(N=1,041)	(N=727)	(N=981)	(N≕790)		

an offender was imprisoned, it appears that the overall predictability of sentence type is hardly diminished when specific offense groups are controlled. In this regard, Table 6 shows that about 20 percent of the variance in the type of sentence imposed for half of the focal offense groups can be explained, which is only slightly less than the proportion of variance that could be explained for the aggregate of focal offenses ( $R^2 = .264$ ). Even so, it is clear that the precise level of predictability for the type of sentence still varies by offense. On the basis of those factors included in this analysis, whether a convicted offender was sentenced to prison or not could be most accurately predicted for larceny offenders ( $R^2 = .212$ ). That decision was least explainable for Selective Service offenders ( $R^2 = .085$ ).

Table 7 summarizes the findings about the optimal linear combinations of sentence predictors for each of the focal offense groups. The results will be detailed later, but a few overriding patterns are worth noting here. First, it is clear that the configuration of factors that best predicts sentence outcome varies considerably from one offense to the other. That is, the linear combination of predictors that best predicts sentences imposed for robbery does not match that combination of predictors yielded for other offenses (e.g., embezzlement), Moreover, controlling for offense, there is still a discrepancy in the predictors of the respective sentencetype and sentence-length decisions. Only for offenders convicted of larceny do the decisions relating to type and length of sentence appear notably similar in terms of the configuration of sentence predictors.

Finally, focusing on the offense-specific findings, it is helpful to preview the focal offenses from a broader sentencing perspective. Table 8 capsulizes a variety of summary sentencing measures for each of the eight offenses. As would be expected, there is substantial variation in these measures across offense. Statutory maxima, for example, range from 5 years for embezzlement, auto theft, and Selective Service offenses to a possible 40-year term for marihuana and narcotic violations. The mean sentence weight actually imposed for all eight offenses in 1971 ranged from 3.1 for embezzlement to 38.3 for bank robbery, generally increasing in accord with the statutory maxima. One feature of Table 8 that would not necessarily be expected is the correlation between the total explained variance for an offense (R<sup>2</sup>) and the mean sentence weight imposed. In this regard, as mean sentence weight increases from 3.1 to 18.8, the corresponsing R<sup>2</sup> increases from .075 to .419 (rho = .762; p < .05). This association suggests the interesting thesis that the more serious the offense (i.e., the graver the mean sanction attached), the more systematic or consistent the judges in sentencing offenders convicted of the offense. Of course, this assumes that mean sentence weight and the maximum statutory term of imprisonment are reasonable measures of offense "severity." Visual inspection of the offenses and their respective weights reveals nothing that would violate that assumption. On the basis of these findings, it is a thesis that certainly bears investigation.<sup>18</sup>

Table 8 reveals another feature that appears to be associated with more serious offenses. The coefficient of variation (V)-a simple ratio of the standard deviation to the mean sentence weight-provides a useful measure of the relative homogeneity of several groups having different means.<sup>19</sup> On the basis of standard deviations alone, the more serious offenses (those with the largest mean sentence weight) exhibited the greatest dispersion in sentence weights. By expressing that variation relative to the mean, however, the coefficient of variation in a sense "controls" for the tendency of the standard deviation to increase with a larger mean. In doing so, the relative measures show that quite the reverse is true: that offenses with higher mean sentence weightsauto theft, robbery, and narcotics-exhibit less relative variability in sentence than do those with the lower mean weights-embezzlement, Selective Service, counterfeiting, and larceny. Therefore, sentences occasioned by the more serious offenses studied not only appear more "explainable" in terms of the factors identified in this analysis, but also exhibit less relative variability than sentences imposed for the less serious crimes.

<sup>19</sup>H. Blalock, Jr., op. cit., reports that the coefficient of variation (V) can be a more useful measure of dispersion than the standard deviation, especially because larger standard deviations with larger means might be expected (p. 88).

<sup>&</sup>lt;sup>18</sup>The findings of another study appear generally consistent with this theme, although it is not specifically addressed. See C. Engle, Criminal Justice in the City; A Study of Sentence Severity and Variation in the Philadelphia Criminal Court System (Temple University: Unpublished Ph.D. Dissertation) 1971.

Despite some considerable differences in Engle's and this design (e.g., criteria for selection of offenses to be studied, the measurement of sentence severity, and the specific predictor variables included in the analysis), his findings appear to support the proposition that the more serious the offense, the more systematic the sentence. Specifically, if an ordinal measure of association between the sentence weights and reported levels of explained variance (R<sup>2</sup>) for the 27 offense categories used in Engle's analysis is computed, the pattern is guite clear: rho = .622; p < .002.



#### TABLE 7 Inventory of significant predictors of sentence outcome for each focal offense at the national level, 1971

NOTE: This table is derived from the totality of 1971 offense-specific regression solutions for sentence weight (SWT), sentence length (SL), and sentence type (ST). Each of the "offense" columns below represents a single regression solution. Predictors were assigned a value from 4 to 1 according to the following specifications: the best independent predictor received a value of 4; the second best, 3; the third, 2; all other significant predictors down to and including only the first variable in the solution that could independently account for less than 2 percent but more than 1 percent of the variance were assigned a value of 1. Variables ranking fourth and lower were not assigned differential scores, because for most solutions, the R<sup>2</sup> change was relatively small-i.e., .02 or .01-for all variables that entered the equation after the third predictor. The mean value columns represent the sum of the rank values for each dependent variable across all eight offense groups, divided by 8. See Appendix for definitions of mnemonics.

															Of	ense										
Independent variables	Mean value		Robbery		Y	Larceny		1	Auto Embezzie theft ment			ezzle: ent	<ul> <li>Counter- feiting</li> </ul>			Marihuana		ina	Narcotics		cs	Selective Service				
		SWT	SL	ST	SWT	SL	ST	SWT	SL	ST	SWT	SL	ST	SWT	SL ST	SW	T SL	ST	SWT	SL	ST	SWT	SL	ST	SWT	SL S
lfender variabl	es:														-							*******		******		
Sex		.75	.25	1.13	3	2	4							3	1			2			2					
Race:	White	.13	,13													1	1							ind inner		
	Black																									
Record <sup>a</sup>		2.50	2.63	1,88	4	4	2	4	4	4	4	4	4		3	4	4	4	ť	2		3	3	1		
Age <sup>a</sup>		.50		.75															3		3	1		3		
ocess variables:																										
Indictmen	it .	.25	.38																	3		2				
Waiver					·····																					
Interval <sup>a</sup>		.13	,38	.38	1		3								3											
Plea:	Unchanged plea		,25	,50											******		1						1	4		
	Changed plea																		<u></u>							
Trial:	Court trial								- 4 - 11																3	
	Jury trial	2.00	1.88	1.13	2	З	1		3	3	3	3		4	2	3	2								4	4
	Trial/plea	1,38	1.00	1.25			()	3											4	4	4	4	4	2		
Counsel:	Assigned counsel	••••••		******	4																					
	Retained counsel	.45	.25	,50										2	4							1	2			
	None										, , , , , , , , , , , , , , , , , , , ,															
ourt variables <sup>a</sup> :																										
Criminal d	lispositions per judgeship																									
Median in	terval	.75		,38												2		3	2						2	
Dismissal	rote	.13		.38	1			*****																		3
Jury rate		.38	.75	,38					*****		2		3		4		1								1	2
Conviction	n rate	.25	.75	******		مي <b>ن</b> يوروني		2	2	<del></del>					*****	, ,	3			1						
Juror Usa	ge Index		,13	.25		1	منسست			2	ئىرىر تارىر			****		شور میشون می ا						*********	*******			تنسلموهمة جب

7

Offense	R² (sentence weight)	N	Mean sentence weight	Rank of mean sentence weight	Standard deviation	Coeffi- cient of varia- tion (V)	Statutory maximum (years)
All eight focal offenses	N.A.	9,384	11.6	N.A.	11.9	1.09	N.A.
Embezzlement	.075	790	3.1	8	3.9	1.26	5
Selective Service	.153	981	4.6	7	4.7	1.02	5
Counterfeiting	.215	727	8.4	4	9,6	1.14	15
Larceny	.231	1,041	5.2	6	6.4	1.23	10
Auto theft	,235	2,027	9.1	З	6.8	.75	5
Robbery	,250	1,078	38.3	1	19.7	.51	20/25/Lif
Marihuana	.310	1,726	7.0	5	8.2	1.17	10/20/40
Narcotics	.419	1,014	18,8	2	15.8	.84	10/20/40

#### TABLE 8 Summary sentencing statistics for all eight focal offenses and for each focal offense at the national level, 1971

In the examination of specific offenses, this discussion will focus first on the specific variables accounting for the greatest amounts of variation in sentence weight for each type of offense and, in turn, on whether and to what degree each of the available predictors is associated with different types of offenses.

#### offenses), but individual sentences did not vary substantially from the mean sentence of slightly over 12 years. In fact, Table 8 shows that robbery, with a coefficient of variation of .51, displayed the least relative variability in sentence of all the offenses studied. For convicted bank robbers, the judicial response was unequivocal: long-term incarceration.

## Robbery

By most accounts, bank robbery is the most serious of the offenses included in this study and among the most serious of all offenses, as it involves the forcible acquisition of what are usually substantial amounts of money. Moreover, because it is an open and public offense, the execution of the crime as well as the escape therefrom can physically endanger considerable numbers of bystanders. Not unsurprisingly, the official response to the crime is oneof undiminished severity; more than 9 in 10 persons convicted of bank robbery in Federal courts in 1971 were sentenced to prison and the mean maximum term of imprisonment was 12.35 years. The mean sentence weight, as well, is unparalleled-38.3. Additional testimony of the stern judicial reaction evoked by offenders convicted of robbery is the relative invariability of the response. Not only were more than 90 percent of those convicted of robbery imprisoned (the highest imprisonment rate of all the

#### Predicting Imprisonment for Convicted Robbers

Recall from Table 6 that analysis could explain only one-fifth ( $R^2 = .203$ ) of the variation in sentence type for robbery sentences on the basis of available predictors. Thus, although judges across the Nation appear to treat convicted robbers fairly consistently, discrepancies that do occur are not easily explained in terms of the factors used in this analysis.

Indeed, the multiple regression solution summarized in Table 9 indicates that observed variations in the judges' decisions about whether or not to imprison robbers are best explained by the sex of the offender; that is, males are more likely than females to be incarcerated (r = .316). Of the 964 males convicted in Federal district courts of bank robbery in 1971, 93.6 percent of them were sentenced to prison; only slightly more than one-half (54.5 percent) of the females convicted of the same offense received prison terms.

TABLE 9	Proportion plained in imposed f tional leve NOTE: See NO	n of va i type for robl l, 1971 DTE, Tab	<b>iriance</b> of sente pery at th ole 2.	ex- ence ne na-
Independent variable	Multiple R	R2	R² change	r
Sex	.316	.100	.100	.316
Interval	,385	.148	.049	217
Record	,427	.182	.034	.243
Jury trial	.451	.203	.022	.141

If the effects of the sex of the offender are removed, the time interval from the filing of the case to its disposition exhibited the strongest direct effect on type of sentence, independently explaining an additional 4.9 percent of the variance. The direction of the relationship was negative, indicating that the longer the interval from filing to disposition, the less the probability of imprisonment. When the effects of sex and the time interval were controlled, the prior record of the offender emerged as the best predictor of variation unrelated to the first two predictors  $(R^2 = .034)$ . The direction of the association is predictable: the more extensive the criminal record, the greater the likelihood of imprisonment. Controlling all three factors, method of conviction-whether the defendant was convicted by a jury trial versus a court trial or plea of guilty-explained only 2.2 percent of the total variation,

Even after the variation in sentence type that could be explained by these four factors was removed, four-fifths of the original variation in sentences remained unexplained; that variation was essentially unrelated to any of the remaining predictors. Although other variables entered the solution at statistically significant levels, none independently accounted for more than 1 percent of the total variance.

The PAA solution for robbery illustrated in the left-hand side of Figure 1 is helpful in sorting out the impact of each of the predictors yielded by the regression solution. First, although the sex of the offender was clearly the most salient determinant of imprisonment (Somers' d = .390), it was a distinguishing factor in only 55 cases (5.1 percent of the total).

The same kind of "splintering" occurs in the break on the next best predictor-method of convic-

tion. Only 24 of 964 male robbers were convicted by court trial. Those convicted by court trial appeared to receive some concessions (83.3 percent were imprisoned) over their counterparts who were convicted by other means (imprisonment rate of 93.8 percent), although the strength of the association is slight (Somers' d = -,105),

The next break—on prior record—is more even, but, again, the distinction made on the basis of prior record was not particularly telling, once sex and method of conviction were controlled. The preponderance of male robbers convicted by other than court (rial had been incarcerated at least once before (N = 580); 96.7 percent of them were sentenced to imprisonment. On the whole, the fate of their counterparts with no prior record of imprisonment (N = 237) was only slightly mitigated; 86.5 percent were imprisoned.

As noted earlier, one of the attractive features of predictive attribute analysis is the specification of multiple combinations of attributes that produce a particular effect or outcome, as illustrated in the example just given. It is also valuable in demonstrating important indirect effects of various attributes on sentence outcome. Some factors may exert certain indirect effects on outcome by acting quite powerfully within specified subgroups of the focal population, effects that are not detected by the linear additive model. Because it becomes cumbersome and unnecessary to verbally detail the results of each PAA solution, the summary illustrations should be examined for full appreciation of the nature and extent of these kinds of effects.

#### **Predicting Maximum Term of Imprisonment**

As noted, judges across the Nation exhibited little variation in decisions about whether to imprison offenders convicted of robbery; only a small proportion of the variation that did occur could be explained in terms of available predictors. Not only did judges exhibit less variability with respect to the maximum terms imposed than with respect to whether to imprison the offender at all, but variation around sentence maxima was also more difficult to explain ( $R^2_{sentence length} = .137; R^2_{sentence type} = .203$ ). Table 10 shows that the prior record of the of-

Table 10 shows that the prior record of the offender emerged as the most salient predictor of the sentence length of anyone convicted of Federal bank robbery in 1971 ( $R^2 = .059$ ). When record was controlled, conviction by jury trial emerged second, explaining an additional 3.9 percent of the variance.

TABLE 10	Proportion of plained in le tences impo for robbery at level, 1971	f variance ex- ngth of sen- sed the national
	NOT;3: See NOTE, '	Table 2.
Independent	Multiple	R <sup>2</sup>

variable	R	R2	change	<u>r</u>	
Record	.243	.059	.059	.243	
Jury trial	.313	.098	.039	.221	
Sex	.346	.119	.021	.201	
Juror usage index	.370	.137	.017	140	

Sex was third ( $R^2$  change = .021) and juror usage index—a ratio of jurors used to jurors paid in each district—was fourth ( $R^2$  change = .017).

As noted, one problem of regression analysis is that it tends to capitalize on chance variation. The consequence of the problem, of course, is to attribute undue significance to the order yielded by the stepwise solution, particularly when the zero-order correlations between the dependent variable and several independent variables do not vary substantially and/or significantly or when there is considerable intercorrelation among predictors. This is precisely the case with the 1971 solution for sentence length. In Table 10, the zero-order correlations between sentence length and prior record (r = .243), conviction by jury trial (r = .221), and sex (r = .201)vary only slightly. Consequently, the order yielded by the solution may be the product of chance variation, meaning that for a different sample of convicted bank robbers (e.g., those convicted in a different year) the correlations between sentence length and each of these three factors might well be different than they were for the 1971 solution, sufficiently different to yield a solution in which they would appear in an order other than that that best summarizes the 1971 group.

However, data comparable to the 1971 data used for this analysis were also available for 1964. The predictive patterns yielded for both the sentence type and sentence length decisions in 1964 were nearly identical to the 1971 patterns just described, sex being the best predictor of imprisonment, and prior record being the best predictor of the *length* of incarceration.

The results of the analysis of sentencing patterns for offenders convicted of bank robbery are particularly interesting (especially because the findings for the two different time periods were so comparable). In the first place, robbery appears to evoke a high rate of imprisonment. Sex rather consistently emerges as the best single predictor of whether an offender will be sentenced to prison or probation, males being significantly and substantially more likely than females to receive a prison term. In the second place, most of those who are sent to prison receive quite severe sentences, as there appear to be few deviations from a fairly stable mean maximum term of about 12 years. However, it appears that once the judge has decided on a prison term, the criterion that best explains the length of that term is the prior record rather than the sex of the offender, Method of conviction appears to play a residual role in both decisions: if the effects of criminal record and sex are controlled, a conviction by jury trial visa-vis other modes of conviction (especially guilty plea) appears to increase the likelihood of incurring a prison rather than probation sentence and, given a sentence of imprisonment, of incurring a long rather than a short term.

A few items regarding the dynamics and propriety of the decision process, itself, are also noteworthy. First, although robbery was among those offenses for which analysis could best account for variations in sentence, on the basis of the factors used here, analysis can account for only one-fourth of the total variance in sentence weight ( $R^{2}_{sentence weight} = .250$ ) at the national level.<sup>20</sup> No doubt, some of the variation exhibited at the national level is a function of geographical differences. Because no variable was introduced in the national solution to account for this particular source of variation, however, it remains part of the residual in the national solution. Analysis elsewhere<sup>21</sup> indicates that sentence outcome is generally more predictable for particular jurisdictions than for the Nation as a whole.

<sup>21</sup>The discovery of higher explanatory levels (R<sup>2</sup>) for the offense-specific circuit and district solutions will be addressed in a forthcoming report.

<sup>&</sup>lt;sup>20</sup>This level might seem relatively low, but it should be noted that it is certainly not significantly lower than "explanatory levels" reported elsewhere for sentencing decisions. See, for example, Engle, op. cit. It must also be recalled that the "levels" reported here are those yielded when *only* those criteria are considered that independently accounted for more than 1 percent of the total variance; hence, the levels reported will be consistently on the conservative side.

Second, some of the factors yielded by the analysis appear to be of questionable propriety. As noted earlier, it is beyond the scope of this study to resolve issues of ethics, morality, and propriety as they pertain to the results of the analysis. Rather, the purpose is to expose patterns, explore their probable implications, and summarize the findings of the analysis, leaving the judicial and legislative functions of judgment and reform to the agents charged with those tasks. Specifically, the findings here lend support to advocates or adversaries of the women's liberation movement, depending on their respective points of view concerning the role that the sex of the offender "should" play in sentencing. At any rate, in 1971 as in 1964, being female appears to have acted in mitigation of criminal penalty for robbery.

Of course, as is always the case, it is possible that the variable sex measures more than simply the gender of the offender. It might reliably correspond, for example, to a minor role in the offense, a factor that would lend legal justification to the distinction in sentence severity. Of course, it is pointless to speculate about the "real" meaning of predictor variables, except inasmuch as it is necessary and reasonable to temper conclusions about the data on the basis of the possible methodological ambiguity of those predictors.

As a criterion affecting sentence outcome, method of conviction generally evokes less criticism than does the sex of the offender; yet there is still a debate over the propriety of granting sentencing concessions in return for a defendant's plea of guilty. Consequently, the finding for robbery (and for other offenses, as well) that defendants appear to pay dearly for exercising a constitutional prerogative to receive a jury trial remains disconcerting—although not surprising—to adversaries of plea negotiation.

On another level, although most people would concede that criminal record is appropriate to the determination of sentence, even the propriety of using such a criterion in the determination of sentence is not unassaulted. A sentencing scheme founded strictly on the principle of just deserts, for example, would seem to leave the propriety of considering the *prior* record of an offender open to serious question. Advocates of the "just deserts" strategy essentially contend that punishment should be commensurate with the seriousness of the crime, There is nothing about the "just deserts" stance that would suggest that seriousness is somehow cumulative over time, being son ehow conditioned by an offender's prior involvement in other crimes.<sup>22</sup>

## Auto Theft

Auto theft has traditionally been among the most numerous of the major Federal offenses. In 1971, more than 3,000 persons were charged with the interstate transportation of a stolen motor vehicle; two-thirds were convicted and sentenced for the offense. Over time, auto theft has given way in number to other, perhaps more serious offenses like narcotics, but it still ranks high in the absolute number of defendants processed.

Other features distinguish it, as well, as shown in Table 11. A greater proportion of persons (68.3 percent) charged with auto theft in 1971 were represented by assigned counsel, compared with the national figure for the eight focal offenses (51.0 percent). A substantial 84.8 percent pled guilty to the charge rather than contesting their guilt by trial. Most offenders convicted of auto theft were also white (80.6 percent) and male (97.4 percent).

Nationally, two-thirds of those convicted of auto theft (68.4 percent) were sentenced to prison; the mean maximum term was nearly 3 years (34.8 months). In terms of mean sentence weight, auto theft ranks third in severity of all eight focal offensæs, despite the fact that it carries the lowest statutory maximum (5 years). Like robbery, auto theft appears to have relatively little dispersion of sentences around the mean (V = .75) compared to the other offenses, perhaps implying a tacit policy regarding the treatment of auto theft offenders.

Indeed, much of what is known about the processing of auto offenders fits the popular model of mechanized judicial processing<sup>23</sup>—low indictment rate, high plea rate, speedy disposition. Such a model of mechanization might also explain the marked uniformity in sentences imposed for the

<sup>&</sup>lt;sup>22</sup>But cf., von Hirsch, op. cit., who proposes that sentencing be a function of "just deserts" (the penalty should be a strict statement of the gravity of the offense). Inasmuch as record may become an element of the gravity of that offense, however, the author concedes that it may become relevant to sentencing.

<sup>&</sup>lt;sup>23</sup>See A. Blumberg, Criminal Justice (Chicago: Quadrangle Books) 1970. See especially the discussion on pages 26-34.
	All stabs		Offense						
	focal offenses	Robbery	Auto theft	Larceny	Counter- feiting	Embezzle- ment	Narcotics	Marihuana	Solective Service
Offender variables:		nine and a set of a set of a set of the set	<del>i Nevinini, i p</del> rotechi di	n an dha fan faile a fri a dar fail an di an	na na mana ang kana ang kana ang kana ang kana kana				
Age (mean years)	30.1	30.6	30.6	34,9	32.9	32,1	32.6	26.2	23,6
Race (percent white)	78.3	53,4	80,6	76.7	79.5	84.3	70.8	89.5	84,5
Sex (percent male)	91,3	94.6	97.4	98.6	90.1	56.7	89.0	90.7	99,9
Record (mean)	1.51	2,60	2,53	1,42	1.74	.27	1.63	.79	,36
Process variables:									
Interval (in months)	5:0	5.7	4.2	6,1	7,6	4,3	5.2	3,1	6,7
Indictment (percent)	67.0	81,4	61.3	71.2	81,3	59.0	67.7	45.0	92.1
Unchanged plea (percent)	50.2	36.7	58.8	40.8	31,4	64.2	39,5	73.6	29.9
Changed plea (percent)	30.5	35.1	26.1	43,0	49,0	29.6	33.7	17.9 <sup>.</sup>	27.4
Trial (percent)	19.3	28,2	15.2	16.1	19.7	6.2	26.8	8,5	42.7
Jury trial (percent)	13.2	25.3	13.0	12,8	14,9	4,3	22.2	7,0	8.7
Court trial (percent)	6.0	2.9	2.2	3,4	4,8	1.9	4.6	1.5	34,1
Assigned counsel (percent)	51.0	67.8	68.3	35.6	46.1	34,5	44.0	44.7	48.1
Retained counsel (percent)	43,3	28.7	22.3	58.7	50.3	56.1	54.6	54.1	40,9
No counsel (percent)	5.7	3,5	9.4	6.7	3.6	9.3	1,4	1.2	11.0
Sentence outcome:									
Mean length of									
imprisonment (months)	62.1	148.3	34,8	26,8	40.1	19.9	77.4	36.7	26,4
Percent imprisoned	54.4	91.4	68.4	37.9	50.8	19,4	74.5	42.4	33,0
Mean sentence weight	11.65	38.33	9.12	5.17	8.41	3.05	18.8	6.99	4.64

TABLE 11 Offender profiles for all eight focal offenses



offense. Hypotheses about the magnitude of the dispersion of sentences from the mean are only speculative, however; therefore this analysis concentrates on that question to which these data are suited—the nature of that dispersion.

Tables 12 and 13 summarize the 1971 regression solutions for auto theft sentences. For auto theft, as for robbery, analysis can better explain variations in the determination of type of sentence  $(R^2 = .195)$  than in the subsequent determination of sentence length ( $R^2 = .099$ ). Moreover, both decisions appear to turn principally on the record of the offender, although record was conspicuously more pertinent to the determination of sentence type (r =.419) than it was to the subsequent decision about how long an offender was to be incarcerated (r =.265). When record is controlled, jury trial ratejury trials as a percent of total trials conducted in 1971 in the jurisdiction where the defendant was convicted—was the factor explaining the most residual variation in the decision about whether a person went to prison. This correlation suggests that offenders convicted in districts where the preponderance of trials were jury trials (versus court trials) were more likely to get a prison term; conversely, those convicted in districts where most trials were court trials were more likely to receive fines, probation, or suspended sentence. Logically, as the ratio of jury to court trials increases, so does the probability of any given offender's being one of those convicted by the jury trial, which is confirmed by the moderate correlation between an offender's jury trial rate and conviction by jury trial (r = 107).<sup>24</sup> At the same time, a jury trial conviction and a sentence of imprisonment are also slightly correlated (r = ,086). Thus, it is possible that jury trial rate is a composite measure of a jury trial conviction and some other attribute. At any rate, because jury trial rate accounts for so little variance, it is of limited substantive importance to the solution. In short, the preponderance of the explainable variation in the type of sentence decision for auto theft turns solely on the prior record of the offender.

As noted, prior record also accounts for most ( $R^2$  change = .070;  $R^2$  = .070) of the explainable variation in the maximum prison terms imposed for auto theft offenders. When the effects of record are removed, method of conviction exhibits marginal influence, accounting for an additional 2.9 percent of

TABLE 12	Proportion of variance ex- plained in type of sentence imposed for auto theft at the national level, 1971				
N	IOTE: See NO	OTE, Tab	ole 2.		
Independent variable	Multiple R	R2	R² change	r	
Record	.419	.176	.176	.419	
rate	.442	.195	.020	.178	

TABLE 13	Proportion of variance ex- plained in length of sen- tences imposed for auto theft at the national level, 1971
1	NOTE: See NOTE, Table 2.

Independent variable	Multiple R	R²	R² change	r
Record	.265	.070	.070	.265
Jury trial	.315	.099	.029	.169

### TABLE 14 Proportion of variance explained in sentence weights imposed for auto theft at the

national level, 1971

NOTE: See NOTE, Table 2.

Independent variable	Multiple R	R2	R <sup>2</sup> change	r	
Record	.434	.188	.188 .188		
Jury trial	.466	.217	.028	.167	
Jury trial rate	,485	.235	.018	.192	

the variance. As Table 14 shows, sentence weight represents a composite of the two distinct sentence decisions. Criminal record, jury trial conviction, and the district's ratio of jury to total trials, in combination, account for nearly a quarter (23.5 percent) of the total variance in sentence weight. It is interesting to note that jury trial rate appears in the sentence weight solution, even after the statistical effects of jury trial conviction have been removed. Thus, the relative distribution of a jurisdiction's trial

<sup>&</sup>lt;sup>24</sup>Recall that a jury trial conviction indicates whether or not a *specific defendant* was convicted by jury trial; jury trial rate refers to the ratio of jury trials to total trials for the *jurisdiction* in which each defendant was convicted.

## FIGURE 3 Predictive attribute analysis of type of sentence imposed for auto theft at the national level, 1971

NOTE: Percentage figures refer to the proportion of cases in respective "boxes" that were sentenced to imprisonment. Definitions of mnemonic terms appear in the Appendix.



workload between jury trials and court trials apparently has some genuine independent effect on sentencing. The PAA scheme (Figure 3), summarizing the interplay of factors correlated with the determination of whether to imprison offenders convicted of auto theft, is quite remarkable, particularly in light of the rather straightforward findings of the regression analysis. Like regression analysis, PAA yielded prior record as the best zero-order predictor of outcome (Somers' d = .343): more than threefourths (78.7 percent) of those with a record of prior incarceration were sentenced to imprisonment; fewer than half (44.4 percent) of those with no prior incarceration were sentenced to prison.

1

The second break is quite revealing. For offenders who had prior incarceration, the most powerful determinant of imprisonment was type of legal representation. Neither group fared well, but fewer than two-thirds (63.7 percent) of those who retained private attorneys were sentenced to prison: more than four-fifths (81.3 percent) of their counterparts with assigned counsel or no counsel were sentenced to incarceration.

Whereas type of counsel was critical for auto theft offenders with major records, for those with no prior record of incarceration the offender's sex was the best predictor of imprisonment (Somers' d =.270). Fewer than one-fifth (18.8 percent) of the females in that category were sentenced to prison. Nearly half (45.8 percent) of their male counterparts received a sentence of incarceration. Of those males, the best discriminator of imprisonment was the method by which the individual was convicted: 65.8 percent of those convicted by jury trial versus 42.9 percent of those otherwise convicted received prison terms.

Additional splits beyond the points discussed above become tedious to trace. But there are patterns yielded by subsequent breaks that merit attention. One relates to the differential effect of sex on two complementary subgroups that were yielded after four successive splits of the original auto theft population. The focal subgroup consists of all auto theft offenders with a major prior record and without retained counsel who were convicted in districts that exhibited relatively low dismissal rates. The next (fourth split) best predictor of imprisonment for the group had to do with the size of the convicting district's criminal caseload-that is, its relative standing with respect to the number of criminal dispositions per judge. An interesting pattern arises at this point. Regardless of whether the offender was convicted in a district with a high or low ratio of criminal case dispositions per judge, the best predictor of imprisonment was the sex of the offender; however, the effect of sex on sentence outcome was different for the two groups. For persons convicted in districts having a *high* ratio of criminal cases per judge, females were more likely than males to be imprisoned; for their counterparts in districts with a low ratio of criminal cases per judge, males were more likely then females to be imprisoned.<sup>25</sup>

If the results are traced out completely, one also finds that although race emerges as an important attribute related to sentence, its influence was not always in the same direction. For offenders with major records who retained private lawyers and were convicted in districts where the relative number of jury trials to total trials was low, being white appeared to act in mitigation of sentence (Somers' d = -.297); that is, whites were substantially less likely (40,9 percent) than those of other races (70,6 percent) to be sentenced to prison. For another example-males with minor records, convicted by means other than jury trial in districts with a low jury trial to total trial ratio-race was also the best predictor of outcome. But for that group, whites were notably more likely to be sentenced to prison (40.7 percent) than were persons of other races (15.3 percent). The findings suggest an interaction between being other than white and having a prior record, so that the two factors in combination have a greater effect on sentence outcome than one would expect by summing their independent marginal effects, at least for auto theft offenders.

Another notable finding of the PAA solution—if for no other reason than its consistency—is the sub rosa effect of age. Space limitations make it impossible to detail the effects of age for the various levels at which it appeared to exercise important secondary effects on sentence outcome; similarly, verbal synopsis becomes too cumbersome to be meaningful. It should nevertheless be noted that for all three independent samples of auto theft offenders (numbering 348, 62, and 70) where age emerged as a significant predictor, age was positively associated with a sentence of imprisonment.

### Larceny

Larceny resembles auto theft in a number of important respects. The persons charged with larceny

<sup>45</sup>The relatively small N's involved, however, portend that the findings may represent only chance relationships.

from interstate commerce are generally white (76.7 percent) and male (98.6 percent). Most were represented by privately retained counsel (58.7 percent) and the overwhelming majority pled guilty to the offense (83.9 percent). Compared with auto theft offenders, larceny offenders were older (34.9 versus 30.6 years) and presumably more affluent (a presumption based on the higher rate of retained counsel).

Sentencing practices for the groups, however, were quite distinct. Whereas auto theft was third in average sentence severity, larceny ranked sixth, despite the fact that larceny carried *twice* the statutory maximum of auto theft. In 1971, larceny offenders had nearly the same odds of getting probation that auto theft offenders had of getting prison: 3 in 5. Moreover, the mean prison term for larceny was only 26.8 months, nearly a full year shorter than the mean term for auto theft.

As with robbery and auto theft, type of sentence is more predictable ( $R^2 = .212$ ) than length of sentence  $(R^2 = .116)$  for larceny offenders, apparently because record-the best linear predictor of both decisions—is more strongly associated with type of sentence (r = .409) than with the length of an offender's term (r = .243). When record is controlled, method of conviction is second in importance for both decisions, as Tables 15 and 16 show. The appearance of the aggregate "trial conviction" variable rather than one of the more specific criteria relating to manner of conviction (e.g., court or jury trial conviction) in the sentence type solution is interesting. It suggests one of at least two possibilities: in sentencing, the court did not distinguish between type of trial so much as between whether a defendant pled guilty or went to trial; or whatever sentence-related distinction the court might otherwise have made on the basis of type of trial was erased when the offender's criminal record was controlled,

With respect to the *sentence-length* decision, however, judges appear to have taken note of the type of trial, because being convicted by a jury was much more strongly associated with sentence length than was being convicted by court trial:  $r_{SL, JTRIAL} =$ .210;  $r_{SL, CTRIAL} = .013$ . Moreover, the distinction remains quite vital even after the effect of prior record on sentence length has been removed. Consequently, conviction by jury trial, appears second in the sentence-length solution, independently accounting for 3.9 percent of the total variance in sentence length.

If the effects of both record and manner of conviction are removed, any additional "explanation" of the residual variation in either decision is likely

### TABLE 15 Proportion of variance explained in type of sentence imposed for larceny at the na-

tional level, 1971

NOTE: See NOTE, Table 2.

Independent Variable	Multiple R	R2	R <sup>2</sup> change	r
Record	.409	.167	.167	.409
Trial conviction	,422	.195	,028	.184
Juror usage index	.460	,212	.017	.127

## TABLE 16Proportion of variance explained in the length of sen-<br/>tences imposed<br/>for larceny at the national level,

1971

NOTE: See NOTE, Table 2.

Independent variable	Multiple R	R2	R <sup>2</sup> change	r
Record	.243	.059	.059	.243
Jury trial	.314	.098	.039	.210
Conviction rate	.341	.116	.018	.157

the product of chance relationships. For sentence type the juror usage index accounts for just under 2 percent of the variance. However, at this point the marginal independent contribution of additional predictors was not substantial. Moreover, because so many other variables like the district's conviction rate; dismissal rate, jury trial rate, and median interval to disposition appear almost equivalent to the juror usage index in predictive power at the zeroorder; it is likely that the latter factor was merely a "chance" selection. The situation is similar for the third sentence length predictor-the district's conviction rate ( $R^2$  change = .018). Any of three other factors-interval, median interval, and dismissal rate-are sufficiently "powerful" at that point to suggest that the selection of the conviction rate factor, itself, was equally arbitrary.

In short, the decisions about first, whether to imprison, and second, the duration of imprisonment for larceny offenders, both appear, at the national level, to have turned most systematically on the prior record of the offender and the method of conviction.

### Counterfeiting

In this and the following section, it will become clear that counterfeiting and bank embezzlement, the two least conventional property-type offenses studied here, sharply contrast with each other in most respects-offender profile, sentence, predictability of sentence, and factors affecting the determination of sentence. The contrast is especially curious in light of the essential comparability found for the more conventional property offenses of auto theft and larceny. Indeed, counterfeiting is more like the auto theft and larceny groups, even more like bank robbery in some important respects, than it is like embezzlement. Underlying the contrasts and similarities between counterfeiting and the other types of offenses is the profile of the convicted counterfeiter in Table 11. Defendants convicted of counterfeiting in Federal district courts are only slightly older than average (32.9 years), predominantly white (79.5 percent) and male (90.1 percent), and have a criminal record slightly more serious than the national average (1.74 versus a national average of 1.51).

From an administrative perspective, disposing of the defendant charged with counterfeiting seems a uniquely expensive enterprise, a factor that may contribute in some measure to the severity the offense is accorded at sentencing. In the first place, an extremely high proportion (81.3 percent) of counterfeiting defendants were formally charged by indictment rather than by the more expeditious information process or by the defendant's voluntary waiver of indictment. Secondly, whereas the normal proportion of defendants pled guilty rather than formally contesting their guilt, a disproportionately high number of those pleas (49.0 percent versus a national figure of 30.5 percent) were original pleas of not guilty that were subsequently changed to pleas of guilty, a maneuver that suggests a defense strategy of delay, negotiation, and conciliation; because jury and court trial rates for counterfeiting were nearly identical with those for other offenses, the relatively long span of time that elapsed from filing to disposition (7.6 months) would also suggest extensive bargaining. An interesting contrast is the small proportion of counterfeiting defendants who retained private lawyers-50.3 percent-a surprisingly low

figure, given the presumption about the comparatively "professional" nature of the offense.

Counterfeiting carries a statutory maximum prison term of 15 years and severe penalties upon conviction of the offense should not be surprising. Convicted counterfeiters faced an even chance of imprisonment, whereupon they were sentenced to a mean duration of 40.1 months in prison in 1971. The mean sentence weight for counterfeiting placed that offense fourth after robbery, narcotics, and auto theft. Perhaps it is something about the judicially perceived severity of counterfeiting that causes sentences for that offense to resemble those imposed for nonviolent property offenses (auto theft and larceny) and potentially violent offenses (robbery), while at the same time dissociating it from white-collar property offenses (embezzlement).

The comparative analysis of sentence weight, for example, shows that counterfeiting-ranking only sixth in overall predictability—is not substantially different from those offenses already discussed in terms of either predictability or sentencing criteria. Of all four offenses, the highest explanatory level (robbery:  $R^2 = .250$ ) was not markedly discrepant from the lowest (counterfeiting:  $R^2 = .215$ ). Unlike any of the offenses previously examined, however, the explanatory level of the sentence length decision  $(R^2 = .222)$  for counterfeiting was greater than that for sentence type ( $R^2 = .167$ ), as Tables 17 and 18 illustrate. Such a pattern might suggest that judges are more systematic in determining how long an offender is to be formally detained for counterfeiting than in determining whether or not to detain the offender at all-at least on the basis of the predictors included in this analysis.

As Table 6 shows, this was the case for half the offenses studied. In 1971, for all of the property offenses except counterfeiting-robbery, auto theft, larceny, and embezzlement-the sentence type decision was more systematic than the determination of sentence length. However, for 1964 and 1971, that pattern was consistent only for robbery and auto theft-the two incurring the severest sentences of the four offense groups. For the other four offenses in 1971-counterfeiting, narcotics, marihuana, and Selective Service violations-the determination of the length of sentence was more systematically related to the predictors used here than was the decision about type of sentence. But only for narcotics offenses-again, the most serious of the four-did that pattern appear for both years. The inconsistency in the pattern for most offenses from one focal period to the next might suggest that the respective

TABLE 17 Proportion of variance explained in length of sentences imposed for counterfeiting at the national level, 1971

NOTE: See NOTE, Table 2.

Independent variable	Multiple R	R²	R² change	r
Record	.255	.065	.065	.255
Conviction rate	.343	.117	.053	.232
Jury trial	.394	.156	.038	.239
Jury trial rate	.430	.185	.029	.232
Unchanged plea	.453	.205	.020	.105
White	.471	.222	.017	.166

TABLE 18Proportion of variance explained in type of sentence<br/>imposed for counterfeiting at<br/>the national level, 1971

NOTE: See NOTE, Table 2.

Independent variable	Multiple R	R <sup>2</sup>	R² change	r
Record	348	.121	.121	.348
Median interval	.384	.147	.026	173
Sex	,408	.167	.019	.179

predictability of the two types of sentencing decision is largely a matter of chance,<sup>26</sup>

### **Different Criteria for Different Decisions**

Even more interesting than the differential explanatory levels of the two decisions for counterfeiting is the differentiation in the number and type of criteria relevant to each. Variance in the decision about type of sentence appears to have turned almost exclusively on criteria relating to the offender ( $R^2 =$ .140)-specifically, prior record and sex-as seen in Table 18. Only about one-third of the explainable variation in the length of prison terms imposed, however, is attributable to offender-related factors. Factors specifically related to the jurisdiction in which an offender was convicted—for example, the overall conviction rate and the ratio of jury trials to all trials in a district—explained an additional 8.2 percent of the total variance in sentence length. Finally, process variables relating to the manner of conviction-by jury trial, and by unchanged plea of guilty-reduced the residual variance in sentence length by 5.8 percent of the total. Thus, the concomitant of the higher predictability of the length of sentences for counterfeiting is a greater number and variety of predictors.

In their focus on criminal record and method of conviction, the decisions about both the type and length of sentences imposed for counterfeiting resemble the decision patterns for the other offenses studied. Beyond those factors, the comparability ceases. Removing the effects of record on sentence type shows, for example, that the best predictor of the residual variance is a court-related variable summarizing the median time interval for the disposition of all criminal cases in the district in which the particular offender was convicted (R<sup>2</sup> change = .026). When the effects of both record and median interval are controlled, the sex of the offender becomes important, though it independently accounts for little of the toal variance ( $R^2$  change = .019).

It is interesting to explore how a particular criterion may be used at one decision level and not another. For robbery, for example, sex was crucial to the decision about *whether* to imprison; but once that threshold determination had been made, the influence of sex on subsequent sentencing decisions about robbers appears to have vanished. Tables 17 and 18 show a similar pattern for the impact of prior record on sentences for counterfeiting. Criminal record is clearly relevant to both decisions, but it appears that record is less significant to the determination of the sentence length of imprisoned counterfeiters than it is to the court's threshold decision about whether to imprison them at all.

The decision about how long to imprison offenders convicted of counterfeiting is unique once the effects of prior record are removed. For the first time in this analysis, court-related variables enter the regression solution as significant predictors of sentence length. The appearance of the court's over-

<sup>&</sup>lt;sup>26</sup>Yet, realizing that the three offenses for which the respective patterns were consistent for both years were the most serious of the eight, there remains some question about whether, indeed, the observed variability in the predictability of the two types of decision is or is not systematic.

all conviction rate as the second best independent predictor of sentence length ( $R^2$  change = .053) suggests that counterfeiters convicted in districts that boast high overall conviction rates receive longer sentences than their counterparts who were convicted in districts with lower conviction rates.<sup>27</sup> The impact on sentence length of the district's ratio of jury trials to total trials, another court-related factor, was diminished but not erased by the control of criminal record, conviction rate, and jury trial conviction; the marginal explanatory power of jury trial rate was still 2.9 percent. The point of key significance is the implication that some factors relating neither to the offense nor even to the offender, but to aggregate processing features of the convicting jurisdiction, bear some relevance to sentence outcome for a particular group of offenders,

### **How Process Affects Outcome**

Factors relating to the processing of offenders invariably seem important considerations at sentencing. Counterfeiting offenses were no exception. However, the curious interplay here of the various processing factors does warrant a brief digression. In the stepwise solution presented in Table 17, both conviction by jury trial and by unchanged plea of guilty are significant predictors of sentence length, suggesting that both type of plea (whether the defendant pled "guilty" in the first place or changed a plea to "guilty") and type of trial (jury or court) bear such strong independent relationships with sentence length that both are systematically reflected in the regression solution. Analysis of other offenses would suggest some distinction would be made on the basis of the type of trial; but heretofore, type of plea has appeared inconsequential. Inspection of the matrix (Table 19) relating each of the relevant predictors to the two sentencing "decisions" should help sort out the interplay of variables. Earlier findings would suggest that the correlation between severity of sentence and process variables increases moving from unchanged plea of guilty to changed plea of guilty to court trial conviction to jury trial conviction, as is indeed the case with respect to the sentence-type decision. For sentence length, however, the pattern

differs from that expected. Specifically, an original plea of guilty occasions a severe sentence ( $r_{UPLEA, SL} = .105$ ), whereas a changed plea appears more likely to invoke a lenient response ( $r_{CPLEA, SL} = -.230$ ).<sup>28</sup> The explanation of this peculiar pattern may lie, in part, in the earlier suggestion that counterfeiters appear more likely than other offenders to "bargain" for sentencing concessions—particularly in terms of shorter prison terms—in exchange for their pleas of guilty.

### The Influence of Race

A final point worthy of brief discussion is the appearance of race as a significant predictor of sentence length for counterfeiters. In terms of independently accounting for sentence variance, it is clear that being white was only of marginal importance; yet for several reasons, it remains significant to this analysis. First, race was the only offender-related factor, other than record, that explained any of the variance in length of prison sentences imposed for counterfeiting. Second, for no other offense at the national-level analysis did race appear a significant sentencing predictor, at even so modest a level as this. Third, because of the focus on linear effects at the *national* level, the appearance of any variable as a predictor suggests either that the variable exerts a reasonably consistent effect across all the subgroups included in the analysis or that it exerts a fairly strong effect within one or more of the subgroups. Fourth, sentences for counterfeiting in 1964 indicate that the racial influence may be minor, but it is consistent. In fact, in 1964 both sentence type and length appeared to turn, in part, on the race of the offender,29

### Embezzlement

The patterns characterizing persons convicted of and sentences imposed for bank embezzlement in

<sup>&</sup>lt;sup>27</sup>It should be noted that conviction rate was slightly positively correlated with both sentence length and sentence weight for *each* of the focal offenses at the national level ( $r \approx .120$ ); however, only for counterfeiting did its linear association with sentence length maintain when other important variables were controlled.

<sup>&</sup>lt;sup>28</sup>It is also interesting to note how the association between a guilty plea and sentence severity varies in both magnitude and direction for the two types of decision. Pleading guilty in the first instance (as opposed to changing to a plea of guilty after an original plea of not guilty), for example, seems to invoke the less drastic sentence alternative ( $r_{UPLEA, ST} =$ -.105), while at the same time invoking a more severe prison term for those sentenced to imprisonment ( $r_{UPLEA, SL} =$  .105).

<sup>&</sup>lt;sup>29</sup>It is curious, however, that race appears to have had a differential effect on the two types of sentence decision in 1964. Specifically, being white was associated with a higher probability of imprisonment, but at the same time, with a shorter term of imprisonment.

	Unchanged plea	Changed plea	Court trial	Jury trial	Triat	Sentence length	Sentence type
Unchanged plea	1.00000	66215	15202	28235	33449	.10508	10511
Changed plea		1.00000	22030	40917	48473	23013	06436
Court trial			1.00000	09394	.45448	12255	.06729
Jury trial				1.00000	.84412	.23861	.18708
Trial					1.00000	.15260	,20362
Sentence length						1.00000	N.A.
Sentence type							1.00000

 TABLE 19
 Correlation matrix of selected process and sentence-related variables for counterfeiting at the national level, 1971

1971 were unique. In terms of the offender profile, embezzlement was markedly discrepant from the national norm. Sentences were generally lenient, though extremely variable and conspicuously unpredictable. Those variables exerting the greatest—albeit modest—direct effects on sentence outcome for embezzlement were also unique to this particular offense.

Clearly a white-collar offense, bank embezzlement, provides an interesting basis for comparison with counterfeiting and an optimal contrast with bank robbery. Actually, because counterfeiting appears more closely aligned with robbery than embezzlement in terms of offender profile and sentencing patterns, a focus on the contrast between bank robbery and bank embezzlement should amply serve both ends simultaneously.

Particularly in the wake of the recent political turmoil over the Watergate affair, the public conscience has been shocked into cognizance of the traditional sentencing leniency shown white-collar offenders. Many would submit that the behavioral elements that distinguish one who sits behind a desk and illegally converts \$15,000 to personal use, from his/her less sophisticated counterpart who forcibly demands the delivery of the same amount into a grocery bag—or who *nonforcibly* steals the sum (i.e., larceny from a bank)—do not justify the widely disparate sanctions that can attach upon conviction for the respective offenses.<sup>30</sup>

On the other hand, there is said to be considerable public toleration for white-collar offenders. They are often seen as simply the product of an overexuberant and misdirected sense of the Protestant ethic.<sup>31</sup> Certainly the resolution of either question the accuracy of the claims of public tolerance or the propriety of the statutory and operational distinction between blue-collar and white-collar offenses lies well beyond the intention of this analysis. The object here is to preface the analysis in this section with at least one perspective from which to assess the results of that analysis.

Before proceeding, one important caveat to any conclusions of judgments that may be derived from this analysis should be well-noted. It was mentioned at the outset of this discussion that embezzlement was marked by a uniqueness not only of sentence, but of offender attributes and procedural aspects, as well. It might well be that by virtue of the "uniqueness" of embezzlement with respect to these sen-

A study of public attitudes toward one kind of white-collar offense—Federal pure food law violations—suggests that although the public would prefer harsher penalties than those actually meted out by courts and administrative agencies, they would not penalize the offense on a par with sentences "traditionally imposed in conventional criminal cases involving offenses like burglary, larceny, and so on." Newman, "Public Attitudes Toward a Form of White-Collar Crime" in G. Geis (ed.), White Collar Criminal (New York: Atherton Press) 1968, pp. 287, 291.

<sup>31</sup>See, for example, R. Quinney, **The Problem of Crime** (New York: Dodd, Mead and Co.) 1970, pp. 175-177, D. Sutherland, in **White Collar Crime** (New York: Dryden Press) 1949, suggests that the toleration of white-collar orimes is highest among persons of the same socioeconomic class as the offenders,

<sup>&</sup>lt;sup>30</sup>Barring the felony-murder aspect of the Federal bank robbery statute and assuming the amount involves more than \$100, the maximum statutory prison term for bank robbery is 25 years if the offense involves an actual assault or the use of a dangerous weapon; barring an assault and/or the use of threatened use of a weapon, the offense of larceny from a bank still carries a 10-year maximum prison term. The theft, embezzlement, or misapplication of the same amount (more than.\$100) by a bank officer or employee carries a maximum sentence of only 5 years.

tence-related factors, bank embezzlement could properly be construed as a substantially different "event" than bank robbery. Even though the illicit behavior involved in the two offenses might involve very similar *conduct*, different kinds of *people* commit the respective offenses. The point is that as long as certain factors relating to the offender (e.g., criminal record) and certain aspects of the manner in which the case is disposed of (e.g., by plea of guilty), are deemed appropriate to the determination of sentence,<sup>32</sup> then the conclusion must follow that the white-collar embezzlei may be "appropriately" accorded more lenient treatment than a robber, though they may be guilty of very nearly the same conduct.

### A Profile of the Embezzler

As the embezzlement offender profile shows (Table 11), those traits that most strongly differentiate embezzlers from offenders convicted of other focal offenses are factors that tend to be strongly associated with sentencing patterns for the other offenses. For example, convicted embezzlers had the highest proportion of female offenders (43.4 percent) and the lowest "mean" criminal record (.27) of all the focal offenses, two factors consistently correlated with lenient sentencing (See Table 11). The processing of persons convicted of embezzlement suggests that they offer minimal "resistance" to the disposition process. That is, case disposition was speedy (the average interval from filing to disposition was 4.3 months); a relatively large proportion of cases (41.0 percent) were initiated by information or waiver of indictment rather than by formal indictment by a grand jury. Perhaps the most marked processing feature is the infrequency of formal contests of guilt; 93.8 percent of all convictions were the product of guilty pleas; two-thirds of those pleas (68.4 percent) were original, unchanged pleas of guilty. Only for marihuana convictions was the proportion of original concessions of guilt higher. A majority of embezzlement offenders also retained their own counsel (56.1 percent), second only to larceny offenders.

With the possible exception of retention of private counsel, each of these factors that so markedly distinguishes embezzlers from other offender groups studied was generally strongly related to decisions about both type and length of sentence at the zeroorder level. Moreover, embezzlers' "scores" on these factors were in the "leniency" direction. Thus the fact that embezzlers clearly received the lightest sentences of those convicted of the eight offenses studied is not surprising. One in five (19.4 percent) convicted offenders was sentenced to prison in 1971; in 1964, the imprisonment rate was a comparable 20.5. For those sentenced to prison in 1971, the mean maximum term of imprisonment was slightly more than 1 1/2 years (19.9 months).

### Sentencing the Embezzler— Difficult to Predict

Consistent with the pattern mentioned earlier, embezzlement sentences, evincing the lowest mean sentence weight, were also the *least explainable of the* focal offenses. In 1971, only 11.8 percent of the variance in sentence length could be explained.

Because they accounted for so little variance in either type  $(R^2 = .118)$  or length of sentence  $(R^2 =$ .048), the predictor variables with the greatest effects on sentence are of limited practical importance. Yet, their uniqueness warrants a brief discussion. The best single predictor of sentence type was the type of counsel representing the defendant. Convicted embezzlers who retained their own attorneys. were much more likely to receive a sentence of imprisonment (26.5 percent imprisonment rate) than were their counterparts who were represented by court-appointed counsel or who were not represented at all (10.3 percent imprisonment rate), Second to type of counsel in overall sentencing importance was the offender's prior criminal record (R<sup>2</sup> change = .035). When the effects of both were removed, a conviction by jury trial ( $R^2$  change = .026) was the next best predictor of sentence type,

As was the case with auto theft, the PAA solution (Figure 4) exhibits some interesting nuances in the overall sentencing pattern for embezzlement that were not revealed by the regression solution. According to the PAA solution, the factor that most strongly distinguished offenders who were sentenced to imprisonment upon conviction from those who were not was the method by which the offender was convicted. That is, at the zero-order level, a conviction by jury trial versus some other means better predicted type of sentence than did type of counsel or criminal record: 52.9 percent of all embezzlement offenders convicted by jury trial (N = 34) were sentenced to prison; fewer than one-fifth (17.9 percent) of their counterparts who were convicted by other

<sup>&</sup>lt;sup>32</sup>Of course, this is not to concede the relevance of either but only to point out to the logical effect of their being considered relevant. Perhaps the practical implication of each respective stance may help to resolve the relevance issue.

## FIGURE 4 Predictive attribute analysis of type of sentence imposed for embezzlement at the national level, 1971

NOTE: Percentage figures refer to the proportion of cases in respective "boxes" that were sentenced to imprisonment. Definitions of mnemonic terms appear in the Appendix.



<sup>a</sup>Cases reported in subcells may not add to the total number of cases because of missing values.

means (N = 756) received a prison sentence. Neither type of counsel nor criminal record at the zero-order level so effectively differentiated rate of imprisonment: 26.5 percent versus 10.3 percent of those with and without retained counsel, respectively, were sentenced to prison; likewise, only 34.1 percent versus 17.8 percent of those with and without major criminal records, respectively, incurred prison sentences.

An important caveat must be noted as long as this study's primary concern is with exploratory research and identification of (any) factors strongly associated with sentence outcome; either method— PAA or regression analysis—and concomitantly, either measure of association—Somers' d or Pearson's r—is satisfactory. The same variables, although in a different order were associated with outcome in both the regression and PAA solutions.<sup>33</sup> If the concern is ordering the importance of factors associated with outcome, then, obviously, the particular method and measure used will be critical.

It may be surprising to note the relatively minor role that the sex of the offender appears to have played in the imprisonment of embezzlers. Because of the tendency of regression analysis to ignore predictors about which the population is quite skewed, if sex did, indeed bear a strong linear relation to the sentence decision, then the embezzlement population would have been an ideal focus for the question because nearly one-half of those convicted for embezzling were female. As Table 20 shows, at the zero-order, the correlation (r) between sex and sentence type is as strong for the embezzlement group as for any other group except robbery offenders. Even so, type of sentence appears only marginally affected by sex, as Table 21 also clearly illustrates. Moreover, removing the effects of those variables that were more strongly related (at the zero-order level) to sentence type than was sex, shows that the marginal independent impact of sex is almost nil (R<sup>2</sup> change = .017). The PAA suggests that although the sex of the offender did appear the most important determinant of imprisonment for embezzlers at several levels (see Figure 4), its influence was consistently subdued, the absolute value of its predictive power never exceeding .160.

## TABLE 20Pearson correlation (r) be-<br/>tween sex and sentence<br/>outcome<br/>for all eight focal offenses and<br/>for each focal offense at the<br/>national level, 1971

Ollense	Sentence type	Sentence length	Sentence weight
All eight focal offenses	.179	.055	.132
Robbery	.316	.201	.319
Auto theft	.100	.026	.088
Larceny	.027	.095	.054
Counterfeiting	.144	.060	,179
Embezzlement	.180	.090	.157
Narcotics	.125	.048	.102
Marihuana	.168	.041	.135
Selective Serv- ice	045	.008	036

TABLE 21	Cross-tabu type by sex of embezzler level, 1971	Ilation of of offende ment at the	sentence rs convicted national
Type of sontence	SE Male	X Female	
Prison	25.1%	10.9%	N = 149
	(112)	(37)	
Non-	74.9%	89.1%	N = 637
prison	(334)	(303)	
	N = 446	N = 340	N ≔ 786
Somers' d (a	symmetric) =	.142	
r=.180	<b>6</b> 0		
Gamma = .4	66		
$x^{2} = 24.5 (p)$	< .001); Phi =	°.180	
1 .			

<sup>&</sup>lt;sup>33</sup>The explanation lies primarily in the different measures of association upon which the two approaches rely. Somers' *d*, the statistic used in the PAA solution, is much more sensitive to skewed distributions than is Pearson's product moment coefficient (r) upon which regression primarily relies.

### Maximum Prison Terms of Embezzlers— Infrequent, but Variable and Virtually Unexplainable

These observations about sentencing the embezzler accord with three general themes: leniency, variability, unpredictability. Among the most striking features is the leniency of sentencing. For two different years, 7 years apart, four of every five offenders convicted of embezzlement were sentenced to probation. The mean maximum prison term for the 20 percent who were imprisoned was only 1 1/2 years.

Relative to that comparatively short *mean* sentence, however, maximum prison terms varied substantially, from 1 month to the maximum allowable 5-year sentence. In fact, Table 5 shows that the standard deviation of sentence weights (relative to the mean) for embezzlement is greater than that for any of the other focal offenses. Thus, despite the fact that embezzlement sentences imposed in 1971 were incomparably short, they were also more variable (relative to the mean) than were sentences for any of the other focal offenses.

At the same time, the predictive criteria used could explain very little of the variation in the decision about sentence length, even less than for the decision about type of sentence. Together, jury trial rate and time interval to disposition—the only significant predictors yielded by the regression solution—accounted for less than 5 percent of the total variation in prison terms.

In this regard, it is interesting to note that prior criminal record-of principal importance in the sentencing of offenders convicted of more serious offenses-explains very little of the length of imposed prison sentences. One reason, no doubt, is that so few convicted embezzlers had any kind of major criminal record; even for those who did, sentences were not overwhelmingly harsher. About one in six persons (17.8 percent) with a minor or with no criminal record was sentenced to prison; two in six (34.1 percent) with a major record were incarcerated. Table 22 illustrates that the zero-order effect on sentence of an offender's record was almost negligible for those convicted of embezzlement; for most of the other focal offenses, it is much more critical. Simply put, the bases for the variation in sentences imposed against persons convicted of embezzlement are unknown. Whether those variations can be systematically explained or whether they are simply random must be the object of subsequent studies employing different or more refined predictors.

# TABLE 22Pearson correlation (r) be-<br/>tween prior record and sen-<br/>tence outcome for all eight<br/>focal offenses and for each<br/>focal offense at the national<br/>level, 1971

Ottense	Sentence type	Sentence length	Sentence weight
All eight			
ocal	400	005	000
Jilenses	.420	,230	,390
Robbery	.243	.243	.330
Auto theft	.419	.265	.434
arceny	.409	.243	.393
Counterfeiting	.348	.255	.357
Embezzlement	.172	002	.146
Narcotics	.216	.257	.327
Marihuana	.180	.201	.228
Selective			
Service	.110	042	.079
Service	.110	042	.07

### Drug Offenses

Drug offenses were included in this analysis for a variety of reasons. A principal consideration was their substantive importance to the crime picture at the State and local as well as the Federal level. In the last decade, the number of drug cases disposed of in the Federal courts has surged. Figure 5 shows that the Federal drug-related judicial workload multiplied well over three-fold from 1964 to 1972, a considerable part of that growth being the product of the sudden influx of Federal marihuana cases during the same period.

Another feature that makes drug offenses worthy of study relates to the controversy that surrounds the attempt to regulate drugs via *criminal* sanction. In some places, the debate over decriminalization of marihuana has resulted in the reduction of simple possession of small amounts of the drug from felony status to the level of a violation on a par with minor traffic offenses.<sup>34</sup> At the same time that State statutory penalties are being reduced, *actual* penalties imposed against persons convicted of

<sup>&</sup>lt;sup>34</sup>The Oregon, California, Alaska, Maine, and Colorado legislatures have done precisely this.

## FIGURE 5 Disposition of defendants charged with Federal drug offenses, 1945 to 1972

NOTE: These figures exclude the District of Columbia, the Canal Zone, Guam, and the Virgin Islands. All "narcotic" offenses include both narcotic and marihuana offenses. "Marihuana" offenses include only violations of the Marihuana Tax Act. Beginning May 1, 1971, figures include persons charged under the Drug Abuse and Prevention Act of 1970.



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marihuana offenses at the Federal level also appear to be decreasing in severity, even though statutory penalties have remained essentially unchanged. Figures 6 and 7 illustrate that in the decade from 1960 to 1970, both the imprisonment rate and the mean maximum term of imprisonment for Federal marihuana offenders dropped sharply.

Despite the evidence of decriminalization of the offense and the increasing leniency being accorded convicted marihuana offenders, the liberalizing trend has not been manifested across the board. Figure 5 shows that the same 10-year period exhibited a drastic increase in the number of defendants who were *processed* in Federal courts for alleged marihuana violations. If decriminalization and its concomitant implication of sentence leniency is a reality, then it could be that judges are more sensitive to public opinion than are prosecutors. However, many factors might explain the apparent discrepancy; hence, explanations offered in the absence of additional information must be regarded as conjecture.

Figures 5 through 7 show that the trends characteristic of marihuana offenses apply only partially to crimes involving "hard" or narcotic drugs. Yet, the debate over decriminalization of narcotic drug offenses is certainly as enthusiastic, if not as persuasive, as that involving marihuana.<sup>35</sup> The 10-year decrease in imprisonment rate and mean sentence length for narcotics offenders is evident, though not as pronounced as for persons convicted of less serious drug offenses. Furthermore, whereas the number of persons processed for marihuana offenses has been increasing since 1964, only recently (i.e., in 1971 and 1972) was there a comparable influx in the number of the more serious drug offenses disposed of at the Federal level.

The systematic study of any controversial phenomenon can serve several important functions: to inform the debate and possible policy decisions that may be generated therefrom; to cast light on undetected problems that may not otherwise have emerged; to test practical and theoretical assumptions under which advocates of both sides might be laboring; and to assess how certain areas of public administration, for example, sentencing, might be affected by controversy, in general.

Crimes involving, drug offenses also offer a means to explore the impact of mandatory sentenc-

ing provisions—an issue of compelling interest.<sup>36</sup> Depending primarily on the nature and extent of any prior drug involvement on the part of the offender. the mandatory minimum sentence for drug offenses ranges from 2 years to 10 years. For any narcotic or marihuana offense for which the penalty is not specifically stated in the section defining the offense,<sup>37</sup> or in any case if the offense is the offender's second or subsequent drug-related offense, then the suspension of sentence or the imposition of a. sentence of probation is prohibited; imprisonment is mandatory.38 Furthermore, if the offense did not involve an unauthorized drug sale or transfer and no specific penalty is otherwise provided, the term of imprisonment may be no less than 2 nor more than 10 years; if it is the offender's second Federal drugrelated offense, the term is no less than 5 nor more than 20 years; for the third such offense, the penalty is a mandatory prison term of no less than 10 nor

<sup>37</sup>Drug-related offenses for which penalties are specified are rate; moreover, such offenses are generally only peripherally related to drugs. For example, the penalty for the use of any communication facility in the commission or attempted commission of any drug offense or of any conspiracy to commit any drug offense (defined elsewhere) is specified: no less than 2 nor more than 5 years of imprisonment [18 USC §1403(a)]. Similarly, specific penalties are provided for offenses involving the illegal introduction of narcotics into drug treatment facilities (10-year maximum), the escape or attempted escape from such a facility (5-year maximum) or the alding or Abetting of an escape from such a facility (3-year maximum) in 42 USC §261(a), (b), and (c), respectively. Thus, the disclaimer "an offense for which no specific penalty is otherwise provided" excludes very few cases from the mandatory imprisonment requirement.

3826 USC § 7237(d).

<sup>&</sup>lt;sup>35</sup>See, for example, E. Schur, Crimes Without Victims (Englewood Cliffs, N.J.: Prentice Hall, Inc.) 1965, pp. 130-164.

<sup>&</sup>lt;sup>36</sup>Only one other very small class of offenders studied faces a mandatory minimum. Any person who, in committing or escaping to avoid apprehension for the commission of Federal bank robbery (18 USC § 2113), or who, in escaping from arrest or confinement for the same, kills or kidnaps anyone, faces a mandatory 10-year *minimum* prison term. The original provision that such an offender could be sentenced to death, if such were directed by a jury verdict, was held unconstitutional. **Pope v. U.S.** 392 U.S. 514 (1968). Outside of these offenses, mandatory minima are quite rare in the Federal code.

Various groups have speculated about the impact of mandatory maximum and minimum sentence structures on sentence "disparity." The Model Penal Code, op. cit., asserts that the mandatory maximum reduces "disparity" in sentences *imposed*. Defining "disparity" differently, that is, as variation in prison time *actually served*, framers of the Model Sentencing Act, on the other hand, maintain that disparity is best diminished by the elimination of minimum sentences. Although data do not allow a direct test of the accuracy of either proposition, this analysis does suggest that sentences imposed for offenses carrying mandatory minima are more systematic, that is, predictable, than sentences for offenses carrying no statutory minimum requirement, although the former were not necessarily less variable in absolute terms.

### FIGURE 6 Imprisonment rates for persons convicted of Federal drug offenses, 1945 to 1972

NOTE: These figures exclude the District of Columbia, the Canal Zone, Guam, and the Virgin Islands. All "narcotic" offenses include both narcotic and marihuana offenses. "Marihuana" offenses include only violations of the Marihuana Tax Act. Beginning May 1, 1971, figures include persons charged under the Drug Abuse and Prevention Act of 1970.



SOURCE: Derived from Federal Offenders in the United States District Courts – 1971 (Washington, D.C.: Administrative Office of the U.S. Courts) 1973; Tables H9, p. 155 and H12, p. 158

### FIGURE 7 Mean length of prison sentence for persons convicted of Federal drug offenses, 1945 to 1972

NOTE: These figures exclude the District of Columbia, the Canal Zone, Guam, and the Virgin Islands. All "narcotic" offenses include both narcotic and marihuana offenses. "Marihuana" offenses include only violations of the Marihuana Tax Act. Beginning May 1, 1971, figures include persons charged under the Drug Abuse and Prevention Act of 1970.



more than 40 years. If the offense involved the illegal sale or transfer of narcotics or marihuana and the offender has no prior Federal drug convictions, the penalty is a mandatory term of imprisonment for no less than 5 nor more than 20 years. If the sale was a second or subsequent drug offense (the first not necessarily involving sale), or the offender was 18 years of age or older at the time of the offense and the buyer or receiver was less than 18, or if the offender was 18 years of age or older and the offense consisted of a conspiracy to sell a narcotic drug or marihuana to a person who was less than 18 years of age, then the penalty is a mandatory minimum prison term of 10 years with a maximum of not more than 40 years.

The impact of mandatory sentencing provisions on sentences has been marked, as exhibited in Figure 7, which presents the annual mean sentence length of persons convicted of narcotic drug and marihuana offenses for the period from 1945 to 1972. The mandatory provisions just discussed became effective at the beginning of the 1956 fiscal year. In that year, the mean prison sentence for drug offenses increased only slightly over the previous year. But the following year saw a staggering surge from the 1956 mean sentence of 45.8 months to a 1957 figure of 66.0 months. Not until 1971 did the mean sentence for all drug offenses drop to less than 60 months. In 1972, a decade and a half after the enactment of the mandatory provisions, the mean term of imprisonment still remained above the 1956 mark, 39

Both types of drug offense have been included in this study to allow an assessment of differences in both offender profile and the official judicial response to them. Too often, conclusions are drawn about the handling of "drug" offenses and "drug offenders," when it may be altogether inappropriate to treat marihuana and narcotic offenses homogeneously. By examining these two offense groups separately, this analysis will explore the accuracy and utility of aggregating a multitude of persons convicted of both major and minor kinds of drug-related crimes into a single "drug offender" group. As already discussed, for example, marihuana offenses are moving more speedily and convincingly toward nonincarcerative sentences and

<sup>39</sup>The rate of imprisonment for drug offenses was apparently already so high in 1956 that the mandatory imprisonment clauses effected no appreciable increase in the proportion of drug offenders sentenced to prison. The statutory change seems to have principally affected the *duration* rather than the *imposition* of imprisonment. shorter prison terms than are crimes involving the harder narcotic derivatives.

Indeed, the "drug offender" population reveals considerable and extensive differences in the respective 1971 profiles for marihuana and narcotics offenders. Marihuana offenders were much younger, averaging 26.2 years of age, than persons convicted of narcotics offenses involving heroin, morphine, opium, and addictive derivatives thereof (mean age 32.5). The "hard narcotics" group also had a much larger contingent of those other than white (29.2 percent) than did the marihuana group (10.5 percent). Finally, and most importantly, hard narcotics offenders had more serious criminal records (mean record = 1.53) on the average than did marihuana offenders (mean record = .79).

Examining the processing of the two types of offenders makes one distinction abundantly clear: the "resistance" of those eventually convicted of offenses involving hard narcotics vis-a-vis the relative ease of disposition of those convicted of crimes involving marihuana.<sup>40</sup> Marihuana convictions were generally initiated by information or waiver of indictment (55.0 percent) and were overwhelmingly effected by original (73.6 percent) or changed (17.9 percent) pleas of guilty. Fewer than 1 in 10 (8.5 percent) was the product of a trial conviction. The mean time from filing to conviction was only 3.1 months the briefest of any of the focal offenses.

Convictions for hard narcotic violations, on the other hand, took almost twice as long—5.2 months. Most narcotics cases were initiated by formal indictment (67.7 percent). Only 8 in 20 (39.5 percent) offenders conceded their guilt outright; 7 in 20 (33.7 percent) changed their pleas to "guilty." About 5 in 20 (26.8 percent) were convicted by trial, most of those by jury trial. Few other Federal offenses evince so high a rate of jury trials.

As noted earlier, Federal sentencing statutes hardly distinguish marihuana from the harder narcotic drugs because both generally carry identical maxima (as well as mandatory minima, where applicable). Yet judges do appear to distinguish the two types of offenders, at least with respect to sentence severity. Narcotics sentences ranked among

<sup>&</sup>lt;sup>40</sup>Compared with the other focal offenses, the narcotics offender profile displayed no marked differences except for slightly higher than average trial conviction and retained counsel rates. The marihuana profile, however, diverged substantially from the national mean on most of the attributes and in the direction that would suggest that convicted marihuana offenders offered less resistance to conviction than offenders convicted of any of the other focal offenses.

the highest for all Federal crimes (sentence weight = 18.8). Marihuana on the other hand, ranked fifth among the focal offenses in 1971 (sentence weight = 7.0). Three-fourths and two-fifths of each group, respectively, were sentenced to imprisonment in 1971; the term for the two drug groups ranged from a mean maximum of 3 years for marihuana to 7 1/2 years for narcotics offenses.

In light of the sharp contrast between the constituencies of, the manner of disposition of, and the severity of sentences imposed against the respective drug offender populations, their *comparability* with respect to the overall predictability of and optimal predictors of sentence outcome is remarkable. These findings suggest a real—albeit tacit—policy underlying the sentencing of drug offenders, especially considering that the patterns were essentially comparable for both years studied.

In the first place, variations in sentences imposed for the two drug offense groups proved more explainable than for any of the other focal offenses studied in 1971:  $R_{sentence weight}^2 = .419$  for narcotics offenses;  $R_{sentence weight}^2 = .310$  for marihuana offenses.<sup>41</sup> Type and length of sentences imposed for drug offenses were proportionately less predictable than sentence weight, as was typical of all the offenses. But even at the different specific decision points, drug offenses remain among the most predictable.

Even more remarkable was the consistency in predictors of sentence outcome for drug-related offenses. The regression solutions summarized in Tables 23 through 26 indicate that both sentence decisions (type and length) for both drug offense groups (narcotics and marihuana) appear primarily to be a function of the same factor-whether the defendant pled guilty or was convicted by trial, Moreover, the impact of a trial conviction was more pronounced with respect to the length of imprisonment incurred than it was with respect to the prior decision about whether to imprison: the zero-order correlations between a trial conviction and sentence length were r = .431 and r = .405 for marihuana and narcotics offenses, respectively; in contrast, the correlations between a trial conviction and type of sentence for the respective groups were r = .287 and r =.319.

When the effects of method of conviction are controlled, the age of the offender emerged as the best predictor of imprisonment for both types of

plained in type of sentence imposed for marihuana offenses at the national level, 1971													
NC	DTE: See No	OTE, Tab	ole 2.										
Independent variable	Multiple R	R² Change	r										
Trial													
conviction	.287	.082	.082	.287									
Age	.360	.130	.047	.262									
Sex	.389	.151	.022	.168									

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### TABLE 24 Proportion of variance explained in length of sentences imposed for marihuana offenses at the

national level, 1971

NOTE: See NOTE, Table 2.

Independent variable	Multiple R	R²	R² change	r
Trial conviction	.431	.185	.185	.431
Indictment	.502	.252	.066	.376
Record Conviction	,529	.280	.028	.201
rate	.540	.291	.012	.169

drug offender: the older the drug offender the greater the likelihood of receiving a prison term.<sup>42</sup> Given a decision to imprison a drug offender, however, the age factor appears irrelevant to the subsequent determination of length of imprisonment. The length decision for both offense groups appears, instead, to turn on the prior record of the offender, as Tables 24 and 26 show.

<sup>41</sup>The same was true for Engle's analysis of sentencing in the Philadelphia courts, op cit.

<sup>&</sup>lt;sup>42</sup>This relation may be due to the intervening influence of criminal record, because older offenders are more likely to have a prior record ( $r_{AGE,REC} = .223$  for marihuana;  $r_{AGE,REC} = .179$  for narcotics). As noted earlier, the existence of certain prior *drug-related* convictions may call for mandatory imprisonment. But, of course, because "record"—as measured here—refers to *any* prior convictions and not just *drug-related* convictions, it is impossible to say what proportion of those with a prior record actually had any prior drug-related convictions.

### TABLE 25 Proportion of variance explained in type of sentence imposed

for narcotics offenses at the national level, 1971

NOTE: See NOTE, Table 2.

Independent variable	Multiple R	R <sup>2</sup>	R² change	r
Unchanged				
plea	.332	.110	.110	332
Age	.402	.162	.051	.284
Trial				
conviction	.433	.187	.026	.319
Record	.451	.204	.016	.216

TABLE 26Proportion of variance explained in length of sen-<br/>tences imposed<br/>for narcotics offenses at the<br/>national level, 1971

NOTE: See NOTE, Table 2.

Independent variable	Multiple R	R2	R² change	r
Trial	405	104	104	405
conviction	,405	,164	.164	.405
Record	.453	.205	.041	.257
Retained counsel	.491	.241	.036	.226
Unchanged plea	.514	,264	.024	358

Indeed, the relation of prior record to sentence outcome for drug offenders assumes an interesting pattern. In the first place, for each of the drug offense groups, prior record was more strongly related to the length than to the type of sentence. In the second place, for both stages of the sentencing decision, record was more important to outcome for the presumably more serious narcotics offenses than it was for marihuana offenses. Table 27 summarizes the pattern: as the case situation becomes more serious—that is, moving from the sentence type to the sentence length decision and from marihuana to narcotics offenses—the prior record of the offender

- TABLE 27Pearson correlation (r) between<br/>prior record and sentence out-<br/>come for drug offenses, con-<br/>trolling for type of sentence de-<br/>cision and type of offense at the<br/>national level, 1971
- NOTE: *r* represents the zero-order Pearson's Product Moment Co-efficient; *R*<sup>2</sup> change represents the independent marginal proportion of variance explained by record after the influence of other more powerful predictors have been controlled for. The statistics are taken from the figures summarizing the regression results. The arrows signify the pattern discussed in the text.



becomes increasingly critical to sentence outcome. The differences in the magnitudes of association for the four focal levels are not especially pronounced, but the overall consistency of the pattern does suggest an interesting trend.

Apart from method of conviction, age, and criminal record, other significant predictors of sentence outcome do not exhibit broad patterns like those discussed above; rather, their impact tends to be more sharply focused on type of decision for one or the other drug offense. Sex, for example, emerged as a significant predictor only for the sentence *type* decision for *marihuana* offenders ( $\mathbb{R}^2$  change = .022). In particular, one in six females (16.5 percent) as opposed to one in two males (45.0 percent) convicted for a marihuana offense was incarcerated. For narcotics convictions, on the other hand, sex was a much less salient predictor of imprisonment, as females were less likely (59.1 percent) than males (76.5 percent) to receive a prison sentence.

The PAA results shown in Figures 8 and 9 are notable in their affirmation of the regression solutions. Method of conviction clearly emerges as the most powerful determinant of sentence outcome for both offenses and for both types of decision (the PAA diagrams are not shown for the sentence length decision). With respect to the sentence-type decision, for example, method of conviction acts

### FIGURE 8 Predictive attribute analysis of type of sentence imposed for marihuana offenses at the national level, 1971

NOTE: Percentage figures refer to the proportion of cases in respective "boxes" that were sentenced to imprisonment. Definitions of mnemonic terms appear in the Appendix.



<sup>a</sup>Cases reported in subcells may not add to the total number of cases because of missing values.

almost as a constraint on the decision about whether to imprison an offender convicted of *either* drug offense; in effect, a trial conviction was tantamount to a sentence of imprisonment for both marihuana and narcotics offenders: 90.8 percent of marihuana offenders convicted by jury trial were sentenced to prison, compared to only 38.8 percent of those convicted by other means. Similarly, a remarkable 97,4 percent of *narcotics* offenders convicted by trial (court or jury) were sentenced to imprisonment, whereas only 66.0 percent of their counterparts who pled guilty were met with such a stern response.

## FIGURE 9 Predictive attribute analysis of type of sentence imposed for narcotics offenses at the national level, 1971

NOTE: Percentage figures refer to the proportion of cases in respective "boxes" that were sentenced to imprisonment. Definitions of mnemonic terms appear in the Appendix.



a Cases reported in subcells may not add to the total number of cases because of missing values.

Even beyond method of conviction, the attributes designated significant by the PAA solutions were comparable with those yielded by the regression analyses—the age and sex of marihuana offenders being important to the question of imprisonment, the age and record of narcotics offenders being important to the same decision.

In sum, the results convincingly suggest that despite the discrepancies in the populations of the respective "types" of drug offenders, sentences for drug offenders are among the most explainable of those imposed for any Federal offense. Additionally, drug sentences appear to turn more consistently and predominantly on method of *conviction*—to the near total exclusion of the offender's criminal record than do sentences for any other focki offense. Marihuana sentences were clearly more lenient than those imposed against hard narcotics offenders, but there seems to be little difference in the nature of the criteria upon which sentences for the respective

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offenses are based. Finally, because these observations were confirmed with respect to the 1964 data, as well, it is clear that some kind of tacit sentencing policy strongly distinguishes the treatment of drug offenders from others who are sentenced in Federal courts.

## Violations of the Selective Service Act

Violations of the Selective Service Act were included principally because of the public controversy that attended the enforcement of that law.<sup>4,3</sup> Since the advent of the "Volunteer Army," of course, debate over the appropriateness and fairness of sentences imposed against Selective Service violators has begun to subside. Yet studying the sentencing patterns that have characterized the official response to so controversial an offense may increase understanding of the implications that widespread public debate may carry for criminal sentencing.

In addition, focusing on Selective Service violations can add another dimension to the analysis of how sentencing patterns may vary for different kinds of crimes. Failure to register or to report for active military duty constitutes a form of criminal conduct that is perhaps unique among offenses studied here. Whereas the victim-like the injury-of most other offenses is immediate, direct, and tangible, the "victim" of the draft register is amorphous, the harm of the offense difficult to measure. At best, the victim might be society and the harm might be calibrated in some nondescript units of national security or order. Whereas robbery, auto theft, counterfeiting, even embezzlement entail a culpable and blameworthy state of mind, the violation of the Selective Service law is very often intended as a purposive statement against something-that is, war conscriptionbelieved to be even more culpable and blameworthy than the proscribed act, itself. Indeed, for Selective Service offenses, precisely the state of mind, more so than the conduct, may constitute the real offense against social order and elicit the criminal sanction.44 At any rate, granting the unique nature of the

Selective Service violation, it will be interesting to discover the consistency in sentences imposed against draft offenders. In the same fashion, where consistent patterns do emerge, it will be interesting to note what specific criteria appear to be systematically employed in the determination of sentence. Doing so may generate some hypotheses about sentencing patterns for controversial offenses that may lie on the borderline of the conventional notion of "criminal" conduct.

Summary data on Selective Service offenders reveal that they are among the youngest (mean age = 23.6 years) and least delinquent (mean record = .36) of Federal offenders (Table 11). Most interesting and most conspicuous about their profile, however, is the *resistance they pose to conviction*, their cases averaging 6.7 months from filing to conviction. Nearly all eventual convictions (92.1 percent) were initiated by grand jury indictment, compared to a national average of only 67.0 percent for the eight focal offenses. Pleas of guilty were relatively scarce, as only slightly over half (57.3 percent) of those convicted pled guilty to the charge, compared to a national figure of 80.7 percent for all focal offenses and 85.8 percent for all Federal crimes.

The incredibly high proportion of trials and court trials is symptomatic of the Selective Service controversy. Assuming (1) that the individual philosophy of judges and/or juries plays a part in their respective determinations of guilt, (2) that judges' personal views about the Selective Service offense is instrumental in their ultimate sentencing decisions, and (3) that defendants perceive these tendencies, then observations regarding the high trial rate, the differential distribution of court and jury trials, and the differential conviction rates of each are given a sense of order. In the first place, a substantial proportion of persons *charged* with Selective

<sup>&</sup>lt;sup>43</sup>Probably the most popular protest of the law is made in W. Gaylin's in Service of Their Country: War Resistors in Prison (New York: Viking Press) 1970.

<sup>&</sup>lt;sup>44</sup>Of course, it is axiomatic that there can be no crime if there is no conduct. The point here is merely that attitude is more integral to the violation of Selective Service regulations than it is to more conventional crimes. That is, the conduct is a specific behavioral expression of an attitude. For other

offenses like robbery or larceny, the state of mind only attends the conduct; it is not so integral to the act as it is with respect to Selective Service offenses.

Aggregate data reported by the Federal Bureau of Prisons tend to support the point that the state of mind--as much as conduct--constitutes the objectionable portion of the "offense." Specifically, In 1970, the philosophical-theological basis for one's conduct appears to have been relevant to the sentence one received, at least for white offenders (78 percent of the total). Of whites sentenced to prison for Selective Service violations (N = 388), Jehovah's Witnesses (N = 205) received considerally shorter terms (mean = 35.5 months) than "religious objectors" (N = 32; mean = 41.4 months); the balance of the white offenders (N = 151) had a mean sentence of 39.7 months.

Statistics from Federal Bureau of Prisons, Statistical Report, Fiscal Years 1969 and 1570 (Washington, D.C.: U.S. Department of Justice) Table A-3, pp. 24-25.

Service offenses-nearly one in four (22.9 percent<sup>45</sup>)—exercised the right to be formally tried in court on the issue of guilt. Their individual determinations of where to contest the issue, before a judge or a panel of citizens, is also quite revealing, especially considering the respective success rates of defendants going the two routes, Jury trials far outnumber court trials for most offense groups. Yet persons charged with Selective Service offenses overwhelmingly opted for court rather than jury trials-19.1 versus 3.9 percent of all Selective Service defendants disposed of in 1971. Indeed, the discrepancy appears to have been the product of a rational choice; conviction rates for court trials (61.7 percent) vis-a-vis jury trials (83.5 percent) for Selective Service offenses suggest that judges may be more easily persuaded of the "innocence" of these offenders than are juries.46

Indeed, that judges do entertain quite varying attitudes about this offense and that these differences are reflected in their decisions is the conclusion of a recent investigation of sentencing in the Southern District of New York.<sup>47</sup> Table 28 presents the results of an analysis of type of sentence imposed by individual Southern District judges in Selective Service cases disposed of in the 3 years from 1970 to 1972. Clearly, the determination of type of sentence imposed against Selective Service offenders varied widely by individual judge. Especially when a judge consistently sentenced such offenders to prison or probation, decisions might reasonably be suspected to be the function of some general attitude about the nature of the Selective Service offense or offender. The combination of these observations, including the unusually high proportion of court rather than jury trials, suggests that Selective Service offenders and, in a broader sense, persons charged with controversial offenses might be inclined to "shop" for a judge (at least where that practice has not been proscribed by the random assignment of cases).

Sentences imposed for Selective Service offenses on a national level exhibit several patterns. First, sentences are generally lenient, relative to the other focal offenses. One in three Selective Service offen-

TABLE 28	Rate of imprisonment for persons convicted of Selec-
	in Southern District of New

Judge	Percen to p	t sentence prison
1	100	(N = 10
2	100	(N = 1)
3	80	(N = 5)
4	75	(N = 4)
5	60	(N = 5)
6	60	(N = 5)
7	57	(N = 7)
8	50	(N = 4)
9	50	(N = 2)
10	50	(N = 2)
11	50	(N = 2)
12	40	(N = 5)
13	40	(N = 5)
14	33	(N = 9)
15	33	(N = 6)
16	33	(N = 6)
17	15	(N = 13
18	0	(N = 6)
19	0	(N = 4)
20	0	(N = 3)
21	0	(N = 2)
22	0	(N = 2)
23	Ö	(N = 2)
24	0	(N ≈ 1)
25	0	(N = 1)

ders was sentenced to prison in 1971, with a mean term of slightly more than 2 years (26.4 months). Second, the decision relating to *type* of sentence was found to be quite variable relative to the mean (V =1.42) of the focal offenses; only embezzlement exhibited more variability in sentence type. Third, the

<sup>45</sup>Administrative Office of the U.S. Courts, Federal Olfenders in United States District Courts—1971 (Washington, D.C.: U.S. Government Printing Office) 1973, Table 5, p. 41.

<sup>48</sup>In fact, aggregate data on major Federal olfenses indicate that the court and jury trial conviction rates for Selective Service offenders are the *lowest* and second *highest* respectively for the 21 categories of major Federal crimes. Ibid.

<sup>47</sup>Seymour, "1972 Sentencing Study for the Southern District of New York," N.Y.S.B.J. 163, 166 (April 1973).

sentence *length* decision showed very *little* relative variability (V = .60); only for robbery was there less variability in the length of sentence.

The discussion of the controversy that attends Selective Service cases and the implication that sentencing practices often turn on highly personal judicial attitudes about the offense suggest that not much of the variance in sentence is explainable, nor does much of the explainable variance turn on factors relating to the offender. Such is precisely the case, as Table 29, which presents the zero-order correlations between the predictor and criterion variables, confirms.

### **Imprisonment of Draft Evaders**

Method of conviction is the only factor bearing a notable relation to type of sentence at the zeroorder (r = .261). Controlling for whether the offender was convicted by trial or by plea of guilty, type of trial emerges as the next best and only other significant predictor ( $R^2$  change = .017; table not presented).

At the first break, PAA (Figure 10) affirms the regression output: method of conviction was the best single predictor of outcome for Selective Service violators. Whereas only 29.9 percent of those convicted by plea or court trial were sentenced to prison, a jury trial conviction more than doubled the chances of imprisonment (65.9 percent). Figure 10 also exposes the subtle and otherwise unnoticeable impact of type of counsel, age, and record in determining whether a draft law offender was sentenced to prison. Among Selective Service violators convicted by jury trial, those who had defended themselves fared considerably poorer (100 percent were sentenced to prison) than did their counterparts who had some kind of legal representation (62.7 percent were sentenced to prison).

 
 TABLE 29
 Pearson correlation (r) between variables and sentence outcome for Selective Service offenses at the national level, 1971

Predictor variables	Sentence type	Sentence length	Sentence weight
Indictment	.014	.069	.038
Waiver	.051	034	.028
Interval	.013	050	.007
Unchanged plea	127	064	136
Changed plea	160	132	175
Court trial	.145	048	.123
Jury trial	.215	.263	.291
Trial	.261	.156	.283
Assigned counsel	010	103	029
Retained counsel	.016	,016	.014
No counsel	008	.142	,025
Sex	-,045	.008	036
White	.086	134	.050
Black	075	.134	040
Record	.110	042	.079
Age	032	012	042
Criminal dispositions			
per judge	.0,74	-,065	.035
Median Interval	133	108	148
Dismissal rate	023	261	084
Jury trial rate	,047	.231	.083
Conviction rate	.038	.251	089
Juror usage index	.010	,042	.060

## FIGURE 10 Predictive attribute analysis of type of sentence imposed for Selective Service offenses at the national level, 1971

NOTE: Percentage figures refer to the proportion of cases in respective "boxes" that were sentenced to imprisonment. Definitions of mnemonic terms appear in the Appendix.



aCases reported in subcells may not add to the total number of cases because of missing values.

For those convicted by other than jury trial, age was the strongest determinant of outcome, younger draft offenders (less than 30 years old) being much more likely to receive imprisonment (30.1 percent) than their seniors (30 or older), of whom only 6.7 percent were sent to prison.48 Whereas convicted Selective Service offenders were notably record-free (mean record = .36; national mean record = 1.51), record did appear to influence sentence outcome among youths convicted by other than jury trial; draft offenders with a record of any prior incarceration were twice as likely to go to prison (49.1 percent) as those with no such record (27.5 percent). Of those with no record of incarceration, method of conviction again emerged significant. This time conviction by court trial was the most salient predictor of outcome: 41.4 percent of the group who were convicted by court trial were imprisoned; only 19.0 percent of their counterparts who pled guilty were sentenced to prison.

In sum, the type of sentence imposed on Selective Service violators was not only extremely variable, but that variation was also particularly difficult to explain. Less than 10 percent ( $R^2 = .085$ ) of the variance in sentence type at the national level in 1971 could be explained in terms of the predictors used here.

Sentence length was notably less variable than the determination of sentence type but was not substantially more predictable ( $R^2 = .153$ ). Table 29 indicates that for sentence length, as for sentence type, few predictors bear any strong zero-order association with sentence outcome. In fact, the method by which the offender was convicted proved to be the factor most strongly correlated to both the type and length of sentence.

Once method of conviction is controlled, the residual variation in sentence length is difficult to explain. Furthermore, the predictors of the residual relate neither to the offender nor to the specific method of conviction. Rather, they characterize the judicial district in which the offender was convicted, tending to confirm the proposition that not only sentences, but indeed, sentencing philosophies differ geographically. Particularly for Selective Service offenses, it appears that the sentence may not be so much a function of what the offender has done or even of who he is, as it is a function of the district of sentencing. In addition, Table 29 shows that two court-related measures—the proportion of all dispositions in the convicting jurisdiction effected by case dismissal (r = -.261) and the ratio of jury trials to all trials held in the district (r = .231)—are nearly as highly related to sentence length as is method of conviction (r = .263) at the zero order. Removing the effects of a jury trial conviction, each still explains some of the residual variation: R<sup>2</sup> change = .065 and .019, respectively.

In interpreting these results, one must recall that the district measures relate to the total business of the court in a year; they are non offense-specific, Thus, a high "dismissal rate" does not necessarily mean that a district dismissed a large proportion of Selective Service offenders, only that it dismissed a large proportion of its total caseload. Consequently, conclusions about the significance of district measures must remain tentative. The negative relation between sentence length and dismissal rate indicated that the larger the proportion of defendants dismissed in the district where a Selective Service offender was convicted, the shorter the maximum term of incarceration. This pattern might suggest an underlying district-wide conciliatory attitude that spuriously manifested itself in both a high overall dismissal rate and low maximum terms for Selective Service offenders. However, such conjecture exceeds the limits of the data.

### Summary

Because this analysis addressed sentencing from so many perspectives at once, findings are not as easily summarized as one might wish. What was true about sentences imposed for the eight focal offenses was not necessarily true for each of the offenses separately. In fact, both the predictability and the predictors of sentence outcome varied according to the particular offense and to the specific sentencing decision involved. Despite the marked variability in findings, however, some general observations and a few individual patterns are particularly notable.

Perhaps the most important single discovery is that, through multiple regression analysis, a substantial portion of the total variation in sentences imposed in 1971 for the eight Federal offenses studied was explained. The implication of this finding is at least twofold. First, at the aggregate national level, sentences appear to turn fairly consistently and uniformly on a number of identifiable, quantifiable factors; where this is true, charges of judicial caprice

<sup>&</sup>lt;sup>48</sup>It is quite possible that age indicates something about the nature of behavior constituting the offense, for example, aiding and abetting an evader, as opposed to the act of evasion, itself. Such an age-related distinction in conduct might well justify a different judicial response. Of course, absent more detailed data, it cannot be known if such is the case.

would appear to be unfounded. At the same time, the formal routinization of certain sentencing criteria appears less remote than seemed probable. Notwithstanding the significance of this notable level of prediction, however, nearly half of the total variation in sentences remains to be explained after the effects of such weighty factors as the offense, the prior criminal record of the offender, and the method of conviction have been considered. Research must continue to explore the correlates of this residual by including other variables (e.g., aggravating and/or mitigating circumstances of the offense, the defendant's socioeconomic standing and psychological stability) and by refining the definition of other factors like prior criminal record to reflect subtle but important aspects of factors already known to be important to sentencing.

It has been noted that consistency is vacuous as an end in itself, that the bases of whatever uniformity might characterize sentencing *must* be both proper and relevant considerations. In this regard, the factors that appeared most strongly related to sentence outcome at the aggregate national level are generally-though not universally-accepted as appropriate to the determination of criminal sentence. The conviction offense was overwhelmingly more important to sentence outcome, for example, than any other factor included in the analysis. Second was the offender's prior criminal record; third was conviction by jury trial versus some other method. Few would challenge the relevance or propriety of the offense or the offender's prior criminal record; method of conviction, on the other hand, is not altogether unassailable as a criterion of sentence outcome. Table 30 indicates that neither the level of predictability nor the nature of the predictors of sentence weight remain constant, when the specific offenses are compared with the 1971 aggregate national sentence-weight picture. Even at the aggregate level, for example, there is a significant difference in both the predictability and predictors of outcome, according to the particular nature of the sentencing decision being made-that is, whether the judge is making the threshold determination of whether or not to imprison the offender or whether the judge is contemplating the *length* of the term to be imposed. In the first place, it is possible to explain remarkably less variation in whether an offender was imprisoned (26.4 percent of the total) than in the lengths of sentences of imprisonment (49.9 percent of the total), though the same items of information were used in the analysis of both questions.

In the second place, the respective "in or out?" and "how long?" decisions appear to turn on quite different criteria. The offender's prior record was correlated to the in-out disposition more strongly than any other single factor analyzed, followed by the comparatively negligible impact of a conviction by jury trial, and the conviction offense. In contrast, variation in the maximum terms of incarceration imposed was almost wholly a function of the offense involved; method of conviction explained only a marginal 2.4 percent of the total variation. The offender's record, the strongest single determinant of *whether* an offender was to be imprisoned, appeared to exert no independent systematic effect on the *length* of imprisonment.

Moving from the aggregate to the offensespecific findings, the patterns change in three important respects. First, because offense was the strongest single predictor of variations in sentence weight, prediction levels drop markedly when the offenses are analyzed individually: compared with an aggregate figure of 57.8 percent, the proportions of variance explained in sentence weights imposed for the individual offenses ranged from less than 10 percent for embezzlement to slightly more than 40 percent for narcotics offenses.

Second, because offense was notably more important to length than to type of sentence, the offense-specific drop in prediction levels would be expected (correctly) to be more strongly marked for the sentence length decision than for the sentence type decision. Indeed, the bottom row of Table 30 shows that the predictability of sentence type did not fall markedly with the disaggregation of offenses: compared to an aggregate prediction level of 26.4 percent, the offense-specific figures for half of the offenses held closely around the 20 percent level. In contrast, the predictability of sentence length decreased from an aggregate level figure of 49.9 percent to offense-specific figures ranging from less than 5 percent (embezzlement) to slightly less than 30 percent (marihuana).

Moreover, whereas length of sentence was notably more predictable than type of sentence when the offenses were aggregated, that pattern disappeared when the offenses were examined separately. In fact, for only half of the offense groups studied (counterfeiting, narcotics, marihuana, and Selective Service offenses) were variations in the lengths of sentences more explainable than were variations in the types of sentences imposed. For the other half (robbery, auto theft, larceny, and embezzlement) the pattern was

TABLE 30	Impact for offe	: of o	offen	se, of	fend of all	ler, p eight	rocess focal c	, an Iffen	d co ses ar	urt-re nd for	lateo each	l vari focal	ables offense	on s e at t	enter he nat	nce o tional	u <b>tco</b> level	me , 197	1									
	NOTE	: The men jud vari agg regi resu	e entrie chod o geship, ables v regate ression alts. Indivic	es belo f convi media with re of eigl result: dual en	iw refi iction, an int spect ht foc s, varia tries r	er to t type o erval f to out al offe ables t nay no	he perc of coun from fil come va inses an hat exp ot sum e	ent c sel), ling t arlabi id fo laine exact	of vari offence o dis es-se r each d no r ly to	ance ex der (age position ntence of the nore th the resp	plaind , race n, dis weigh a offe an 1 p pective	ed by , sex, j missal it (SW nses, c percent e total	the sum rate, ju T), sent consider of the s of var	imation minal iry tr ence ed se total lance	ons of l record lal rat type () parate variand explai	offense d), and e, conv ST), an ly. Her ce in ou ined be	e, pro cour iction d ser e, as tcom cause	icess ( t (crin n rate itence for D ie wer of ro	linterva ninal di , juror length ther tal e not in bunding	I, indi sposit usage (SL)- oles re oclude	ictment ions pe index -for th eportin ed in th	t, ;r ;} ;e ;g ;e		- <u></u>	-			
Type of	All eight focal Type of offenses	All eight focal Type of offenses			R	lobber	Y	1	Auto heft		L	.arcen	y	Co	ounte eiting	r.	En	bezz nent	le.	N	arcoti	ics	Ma	rihua	na	Se	lectiv ervic	10 0
Variable	SWT	ST	SL	SWT	ST	SL	SWT	ST	SL	SWT	ST	SL	SWT	ST	SL	SWT	ST	SL	SWT	ST	SL	SWT	ST	SL	SWT	SŤ	SL	
Offense	48,5	5.7	47.5	Not	applic	able	Not a	pplic	able	Not	appli	able	Not	applic	able	Not	pplic	able	Not	applie	cable	Not	applic	able	Not	appli	able	
						÷ •	20		20	5.2	. 7 9	20	4.1		5.9	5,2	6.7	1.3	33.4	15.0	22.4	72.1	0 7	05.0	12.1	8.5	6,9	
Process	3,5	3,1	2,4	6,3	7.0	3.8	2.0	_	2.0		<i></i> 0	0.0									B.A.1.7		0,2	20.4		-,-		
Process Offender	3,5 5,8	3,1 17,6	2,4 	6,3 17 <b>,</b> 1	7,0 13,3	3.8 8,1	2.8 18.8	17.6	7.0	15.4	16.7	5,9	14.3	14.0	8,2	2,3	5,2	-	8,6	6,8	4,1	6.6	6.9	25.2	-		-	
Process Offender Court	3,5 5,8	3.1 17.6 	2,4  	6,3 17,1 1,5	7.0 13.3 	3.8 8,1 1,7	2.8 18.8 1.8	 17.6 2.0	7.0	15.4 1.3	16.7 1.7	5,9 1.8	14.3 3,2	14.0 2.6	8,2 8,1	2,3	5,2 	 3.5	8.6 	6.8 	4.1	6.6	6.9 -	25.2 2.8 1.2	 3.2		 8.3	



the inverse: variations in type of sentence imposed were considerably more explainable than were variations in the lengths of prison terms imposed.

Third, when offense is controlled, the relative effects of offender, process, and court-related variables are allowed to emerge, permitting an examination of the sentence impact of each type of criterion for different kinds of offenses and for different types of decisions. Meaningful generalizations are difficult to make at this point, but a few are still possible. One striking pattern is clear from Table 30: offender variables—age, race, sex, and prior criminal record—were more strongly related to the type than to the length of sentence imposed for every one of the offenses studied. Neither process nor court variables were generally found to be as strongly related to one or the other sentencing, decisions.

At the decision about whether or not to imprison an offender, offender variables (particularly criminal record) are the best predictors of imprisonment for four offenses—robbery, auto theft, larceny, and counterfeiting. Process variables (particularly method of conviction) are the best predictors of imprisonment for the other four offenses—narcotics, marihuana, Selective Service, and embezzlement.

It is interesting that the predictors assume an identical pattern with respect to the determination of the maximum term of imprisonment, as well. That is, offender variables are again the best predictors of outcome for robbery, auto theft, larceny, and counterfeiting offenses; similarly, process variables were of overwhelming import to the length of sentences imposed against both drug offender groups and were second only to court-related factors as determinants of sentence outcome for embezzlement and Selective Service offenders. The persistence of this pattern suggests that the nature of the particular criteria responsible for sentence outcome turns more on the specific offense involved than on the type of decision being made. In short, for the more conventional theft-related crimes of robbery, auto theft, and larceny, and for counterfeiting, both the type and length of sentence appear to turn more on factors relating to the offender than on those factors describing the manner of disposition of the case. For both of the drug offense groups, for controversial Selective Service violations, and for white-collar crimes, the pattern appeared to be the inverse, process-related factors bearing a stronger impact on sentence outcome than did factors describing the offender.

The significance and implications of these findings will, of course, vary according to the perspective and preconceptions of the reader. The generally low level of prediction with respect to sentence outcome for the *individual offenses*, for example, might rekindle doubts about the uniformity of sentencing, on the one hand. It is interesting that sentences imposed for the offenses that have generated the most controversy about whether criminal sanction was appropriate at all—Selective Service violations and embezzlement offenses—proved the least predictable of all, perhaps reflecting the public uncertainty about how to respond to these offenses.<sup>49</sup> In the same vein, the generally low levels of prediction at the national level may indicate a lack of common principles to guide the imposition of sentence.

On the other hand, one might prefer to withhold judgment on the uniformity of sentencing until the effects of additional factors have been measured and evaluated. No doubt, the circumstances surrounding each offense are responsible for some of the variation in sentences that are subsequently imposed. The extent to which such offense-related factors that are independent of the legal definition of the crime may systematically contribute to variation in sentences, as well as the impact of other offender variables, remains a question for future research.

Whatever the implication of the predictability of sentences, the findings here strongly suggest that the specific factors upon which sentences have been shown to turn are not the same from one offense to another, nor, to a lesser extent, from one decision type to the other. The most powerful single determinant of whether a convicted robber was sentenced to prison or not, for example, was the offender's sex. In contrast, as noted above, both the type and length of sentence imposed for drug offenses were primarily a function of how the offender was convicted. The type of defense counsel proved to be the factor most highly correlated with whether an embezzler was imprisoned or not upon conviction; the proportion of jury to total trials in the district where the embezzler was convicted was the strongest single indicator of the maximum term of incarceration.

The effect of the race of the offender—by its conspicuous *absence* throughout the analysis—also warrants special attention. Moreover, where race did appear to have some impact on sentence, it was not always to the disadvantage of the black offender,

<sup>&</sup>lt;sup>49</sup>In this regard, the contrasting high level of predictability of marihuana sentences is curious, given the intense controversy over that offense. It is perhaps the mandatory minimum provisions that attach to drug offenses that lend such predictability to marihuana sentences.

as the literature seems to indicate. Finally, in the few instances where the race of the offender did appear to affect sentence, the absolute magnitude of its impact was negligible.

This report has explored the relation of offender, offense, process, and court-related variables to variations in the types and lengths of criminal sentences imposed against offenders convicted in 1971 of eight major Federal offenses. Subsequent reports will examine whether the national-level findings discussed in this study change when the focus is narrowed to the individual circuits and to the specific districts in which those offenders were actually sentenced, exploring how the predictability of sentences (based on the factors introduced here) and the criteria that underlie sentencing decisions may vary from one Federal jurisdiction to the next, and finally, whether and the degree to which they appear to change over time.

### **APPENDIX** Independent Variables

The mnemonic terms in parentheses in the definitions below (e.g., ROB) have been used in some of the analytic reports in this series and in the source document from which these analytic reports derive.

1. Offense. Each of eight offenses was dummied and treated as an independent variable. This means that a variable was created for *each* offense and coded such that all persons convicted for that offense were assigned one value, e.g., 1, and all persons convicted for any of the other seven focal offenses were assigned another value, e.g., 0. These dummied variables included bank robbery (ROB), bank embezzlement (EMB), larceny from interstate commerce (LARC), counterfeiting (COUNT), auto theft (AUTO), Marihuana Tax Act (MARH), narcotics (NARC), and Selective Service violations (SS).

2. Age. The age of the offender at the time of sentencing was also reported. Where dichotomized in the analysis, age was broken so that about half the population would be in each category. The "young" category includes those under 30 years of age, the "old" includes everyone 30 years of age or older.

**3. Race.** Only about 1 percent of all offenders were reported to be neither white nor black. However, it was not known into which category—for practical or theoretical reasons—these individuals ought to be placed. Consequently, race was dichotomized as two variables: white/other than white and black/other than black.

4. Sex. Sex forms a natural male/female dichotomy and was so coded. Other than individual offenders—that is, corporations and firms—were excluded from the analysis, since they were quite rare.

5. Prior Criminal Record (REC). Criminal record forms a natural ordinal scale. Least serious is "no record of prior conviction." Next is a "prior conviction which resulted in a nonincarcerative sentence," for example, fine, probation, or suspended sentence. Third is a "prior conviction which resulted in an institutional commitment for a maximum of less than 1 year" (misdemeanor). Fourth is a "prior conviction and institutional commitment under juvenile delinquency procedures."<sup>1</sup> Fifth and most serious is a "prior conviction resulting in imprisonment for a maximum of more than 1 year" (felony). When dichotomized, prior record was broken into record of incarceration (for those having been convicted and previously institutionalized for *any* period of time) and no record of incarceration (for those having either no prior convictions at all, or a conviction that resulted in a nonincarcerative sentence).

6. Type of Counsel. Legal representation falls basically into one of three categories; 1) waived or no counsel (NOCNS); 2) assigned counsel, whether court-appointed or a public defender (ACNS); and 3) privately retained counsel (RCNS). A simple counsel/no counsel dichotomy would not permit exploration of the possibly differential impact on sentence of assigned versus private counsel. Therefore, each of the three categories was dummied (dichotomized) according to the presence or absence of the type of representation: counsel/no counsel, assigned counsel/not assigned counsel (the latter referring to defendants with retained counsel or no counsel), and retained counsel/no retained counsel (the latter referring to defendants with assigned counsel or no counsel).

Perhaps most salient to the severe scaling of juvenile record is that the Bureau of Prisons, op. cit., Table B-16A, pp. 142-143, reports that the mean maximum sentence length for a Federal juvenile delinquent committed in 1971 was relatively substantial. Nearly three-fourths (203 out of 280) were committed for the duration of their "minority"—that is, until they reached legal adulthood (age 21), an interval that average 39.6 months. The average sentence of those committed for less than their minority was 22.7 months. By comparison, the average maximum term for *all* sentenced offenders received by the Bureau of Prisons in 1971 was 34.6 months.

The point, in sum, is that a record of prior juvenile commitment can be fairly viewed as more serious than a record of incarceration for less than 1 year.

<sup>10</sup>ne might dispute the relatively high rank of a juvenile record. But it must be realized that juveniles (under 18 years of

age at the time of the offense) 1) are generally committed for only the more serious offenses and 2) are seldom institutionalized for their first conviction. For example, the Federal Bureau of Prisons' Statistical Report, Fiscal Years 1971 and 1972, Table B-15A, pp. 136-137, reports that most juveniles committed under the Federal Juvenile Delinquency Act (F.J.D.A.) had been convicted of auto theft (84 out of 280 juveniles, or 30 percent), drug offenses (30 out of 280, or 11 percent), or robbery (22 out of 280, or 8 percent). Moreover, an annual statistical report of the Administrative Office of the U.S. Courts, Federal Offenders in U.S. District Courts, 1971, reports that of the 261 youths who were received by prisons in 1971 as F.J.D.A. commitments and for whom information on prior record was reported, 189 (72 percent of the total number sentenced to prison) already had a prior criminal record (Table 20, p. 58).

7. Method of Conviction. One may be convicted in one of several ways; by an original (unchanged) plea of guilty or nolo contendere; by a plea of guilty or nolo contendere after an original plea of not guilty; by a court or "bench" trial (judge sitting without a jury); or by a jury trial. Because pleas of nolo contendere are relatively rare and are essentially pleas of guilty, the two types of plea were not distinguished. As a result, four variables, each dummied in the fashion described above, were created: unchanged plea of guilty (UPLEA)/other than unchanged plea of guilty, changed plea of guilty (CPLEA)/other than changed plea of guilty, court trial (CTRIAL)/other than court trial, and jury trial (JTRIAL)/other than jury trial. Additionally, in order to explore the broader relationship of method of conviction to sentence, a fifth dichotomized variable, conviction by trial (TRIAL)/plea of guilty was created.

8. Interval (INT). The interval of time elapsed from the original filing of the case to its ultimate disposition by the court (sentencing) is recorded in months. Where it was necessary to dichotomize the time interval, the break was made so that the created categories were approximately equal in size—3 months or less/over 3 months.

9. Method of Case Initiation. Two variables were dummied to describe method of case initiation: case initiated by indictment (INDICT)/other than indictment, and defendant waived right to formal indictment hearing and consented to be charged by information (WAIVER)/other than waiver.

The following district-related factors were computed from 1971 data and were used only in the 1971 analysis.

10. Criminal Dispositions per Judgeship (CRDPJ). Criminal dispositions per judgeship refers to the number of criminal cases disposed of (including dismissals and acquittals)<sup>2</sup> in a district, divided by the number of judgeships authorized for that district in the same fiscal year (1971).<sup>3</sup>

11. Total Dispositions per Judgeship (TDPJ). Because much of the business of Federal courts relates to civil processes, one might argue that a truly representative measure of the judicial workload—inasmuch as one is exploring the relationship between criminal sentences and the caseload (or "business") of the court—ought to include civil as well as criminal cases. This variable measures the *total* dispositions per judgeship in the same fashion as criminal dispositions per judgeship measured the crime-related workload.<sup>4</sup> The number of total dispositions per judgeship ranged from 119 (Delaware) to 1,058 (Southern California).

12. Weighted Filings per Judgeship (WFPJ). This more sophisticated measure of judicial workload considers not only the number but also the difficulty of the kinds of cases being handled. The weighting scheme was developed by the Administrative Office on the basis of the amount of time required for the disposition of different types of both civil and criminal cases.<sup>5</sup> Thus, two districts that rank the same on weighted filings can be considered to have comparable workloads, even though one may annually process hundreds more cases than the other. Across the 88 districts, the number of weighted filings per judge ranged from 98 (North Dakota) to 577 (Western Wisconsin) in fiscal year 1971.

13. Criminal Dispositions Standardized by Civilian Population (ZDISP). This weighted measure of court caseload standardizes the number of criminal cases disposed of in fiscal year 1971 by units of 100,000 civilian population.<sup>6</sup> In 1971, the

<sup>4</sup>Since the data tapes used in this analysis have no information relating to noncriminal cases, these figures were obtained from the Administrative Office of the U.S. Courts **1972** Annual Report of the Director, Table 20, pp. II-35, II-36.

<sup>5</sup>Data for this variable were obtained from Management Statistics, 1971, op. cit.

<sup>&</sup>lt;sup>2</sup>The number of criminal dispositions was derived directly from the data tapes used in the analysis. According to that record, 47,945 cases were disposed of by Federal courts in 1971. This number *excludes* 75 cases from the Southern District of New York, which were coded as "statistical dismissals" cases that. In fact, had not yet actually been disposed of in 1971.

The number for all percentage figures subsequently based on the number of criminal dispositions per district was derived by subtracting from the total number of criminal dispositions: 1) all cases that were coded as "statistical dismissals," 2) all Narcotic Addiction Rehabilitation Act commitments [28 USC 2902(a), (b)], and 3) cases having no value recorded for method of conviction. There were few instances of any of the three cases.

<sup>&</sup>lt;sup>3</sup>The number of authorized judgeships for each Federal district in 1971 is reported in Administrative Office of the U.S. Courts, **Managemeni Statistics for U.S. Courts**, 1971. The actual value used here was computed by dividing the number of "vacant judgeship months" for each district by 12 and then subtracting this number from the reported number of authorized judgeships for the year. The correction, while yielding a more precise measure of the actual number of judges sitting in a jurisdiction, resulted in only minor adjustments of the original figure for "authorized judgeships."

<sup>&</sup>lt;sup>6</sup>The 1970 census figures for Federal Judicial districts is reported in **Reports of the Proceedings of the Judicial Conference of the United States**, March 15-16 and October 28-29, 1971, (Washington, D.C.: U.S. Government Printing Office), 1972, Table X-10, pp. 421-423.
districts ranged from 6 (Northern New York) to 214 (Southern California) criminal dispositions per 100,000 population.

14. Median Interval from Filing to Disposition of All Cases (MINT). This factor is a measure of the median time (in months) required for the disposition of *all* cases disposed of within the jurisdiction during fiscal year 1971.<sup>7</sup> Values ranged from .3 (Southern Texas) to 12.4 months (New Jersey).

With respect to the variables that follow, two points are important: first, for all rate figures that used total criminal dispositions as a base, all statistical dismissals, Narcotic Addiction Rehabilitation Act commitments, and cases with missing values were excluded from the base figures before the rates were calculated;<sup>8</sup> second, no rate was calculated if the base "N" was less than 10.

15. Dismissal Rate (DSMRT). Dismissal rate is the percent of all criminal defendants who were disposed of by the dismissal of charges. Clearly, dismissal rates varied widely across the nation. In Southern Texas, for example, only 7 percent of all dispositions were by dismissal. In contrast, nearly half (47 percent) of those cases that were concluded in Nevada were dismissed.

16. Plea Rate (PRT). Plea rate refers to the proportion of criminal case dispositions in a district that were effected by a changed or an unchanged plea of guilty or nolo contendere. Plea rates ranged from a low of 37 percent in Nevada to a high of 90 percent in Southern Texas.

17. Trial Rate (TRT). Trial rate refers to the proportion of a district's total criminal case dispositions that were effected by a court or a jury trial. A high trial rate suggests that a district is expending considerable human and material resources on the adjudication process compared to districts that have high dismissal and/or plea rates. District values range from a low 2 percent for Southern Texas to a marked 36 percent in Eastern Tennessee. Half the defendants processed in 1971 were disposed of in jurisdictions wherein fewer than 15 percent of all dispositions were by trial.

18. Jury Trial Rate (JRT). This factor (jury trials as a percentage of all trials) refers to the proportion of all trials that were heard before a judge and jury (vis-a-vis bench trials that are argued

before a single judge without a jury). The distribution of court and jury trials varied considerably from one district to the next. In Middle North Carolina, for example, only one in five trials (21 percent) in 1971 was heard by a jury. On the other hand, every one of Rhode Island's 22 Federal trials was presented to a jury. Across districts, "preference" was clearly for *jury* trials in 1971, despite their apparent "cost" to the defendant in terms of relatively severe sentences, a factor that will be explored in detail in reports in this series. In 1971, half the persons convicted in the 88 major Federal district courts were convicted in districts where nearly three-quarters of all trials were jury trials.

19. Conviction Rate (CVRT). A summary rate of convictions for each district was also calculated and assigned to each individual record. Any disposition other than a dismissal, an acquittal, a statistical dismissal, or a missing value was tabulated as a conviction. The lowest conviction rate of any district was 49 percent (Nevada). In sharp contrast, more than 9 in 10 (92 percent) of those persons whose cases were processed in Southern Texas were convicted. Half of all defendants disposed of in 1971 were processed in jurisdictions exhibiting conviction rates of better than 68 percent.

20. Plea Conviction Rate (PCRT). This variable reflects the number of pleas of guilty or nolo contendere expressed as a percentage of all convictions in a district. This rate is extremely high, ranging from a low of 63 percent (Eastern Tennessee) to a high of 98 percent (Southern Texas), emphasizing that the preponderance of convictions in every Federal court derive from the defendants' own admissions of guilt.

21. Trial Conviction Rate (TCRT). Trial conviction rate is a measure of trial "effectiveness," as it reflects the percent of all trials within each jurisdiction that resulted in convictions. Values ranged from 31 percent in Alaska to a staggering 100 percent in Hawaii. Most jurisdictions have a better than even record of trial victories; indeed, over half (which were responsible for disposing of about half of all Federal cases) exhibited trial conviction rates of around 75 percent in 1971!

22. Court Trial Conviction Rate (CCRT). Court trial conviction rate measures the "effectiveness"—with respect to convictions—of nonjury trials, that is, those heard only by a judge without a jury. The proportion of victories in court trials ranged from 32 percent (New Jersey) to 100 percent (Hawaii and Kansas).

<sup>&</sup>lt;sup>7</sup>The values for this variable were taken from Management Statistics, 1971, op. cit.

<sup>&</sup>lt;sup>8</sup>These exclusions were generally limited to no more than 2 or 3 percent of the respective district totals.

23. Jury Trial Conviction Rate (JCRT). The counterpart of court conviction rates for jury trials relates a district's conviction rate for all jury trials. Not unlike the range for court effectiveness, jury trial effectiveness ranged from 30 percent (Alaska) to 96 percent (Western Kentucky). On the whole, however, jury trials were much more "effective" than court trials.

24. Juror Usage Index (JUI). A popular hypothesis used to account for the often cited relationship between a jury trial conviction and a severe sentence relates "cost" and tedium—in terms of human and material resources—of a jury trial versus the economy and expedience of a guilty plea. The Juror Usage Index provides a rather sophisticated measure of how the expense of jury trials may vary from district to district.9 The Index is a ratio of the number of jurors on hand and paid *per jury trial day* during the year. One "jury trial day" is counted for each day each trial is being held in the district. Thus, if there were five jury trials going on for 4 days, that would count as 20 jury trial days. If 400 jurors were compensated during that period, the index for the 4-day period would be 400 jurors paid divided by 20 jury trial days = 20 (actually, the JUI is tabulated for the entire year). In 1971, JUI ranged from an economical 15 jurors paid per jury trial day (Colorado, Wyoming, Western Michigan) to a high of 58 (Southern New York).

<sup>&</sup>lt;sup>9</sup>The Index was developed by the Administrative Office and is defined and reported in Management Statistics, 1971, op. cit.

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