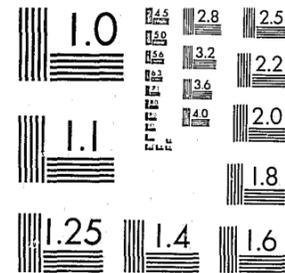


National Criminal Justice Reference Service



This microfiche was produced from documents received for inclusion in the NCJRS data base. Since NCJRS cannot exercise control over the physical condition of the documents submitted, the individual frame quality will vary. The resolution chart on this frame may be used to evaluate the document quality.



MICROCOPY RESOLUTION TEST CHART  
NATIONAL BUREAU OF STANDARDS-1963-A

Microfilming procedures used to create this fiche comply with the standards set forth in 41CFR 101-11.504.

Points of view or opinions stated in this document are those of the author(s) and do not represent the official position or policies of the U. S. Department of Justice.

National Institute of Justice  
United States Department of Justice  
Washington, D. C. 20531



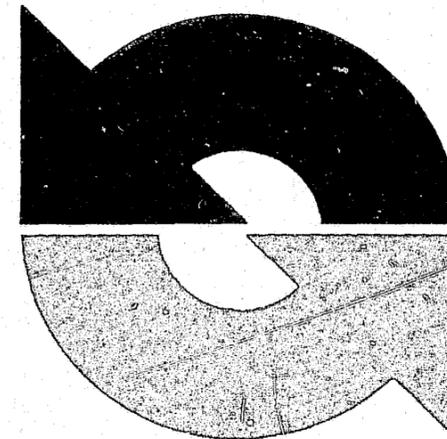
U.S. Department of Justice  
Office for Improvements in the Administration of Justice  
Federal Justice Research Program



# Analysis of Federal Sentencing

## FJRP-81/004

by *William M. Rhodes*  
*Catherine Conly*



May 1981

82880

ANALYSIS OF FEDERAL SENTENCING

FINAL REPORT

William M. Rhodes  
Catherine Conly

FJRP-81/004

This material is based on research supported by the  
Department of Justice under Grant Number J-42723

Any opinions, findings, conclusions, or recommendations  
expressed in this publication are those of the authors  
and do not necessarily reflect the view of the  
Department of Justice

U.S. Department of Justice  
National Institute of Justice

This document has been reproduced exactly as received from the  
person or organization originating it. Points of view or opinions stated  
in this document are those of the authors and do not necessarily  
represent the official position or policies of the National Institute of  
Justice.

Permission to reproduce this copyrighted material has been  
granted by

Public Domain/LEAA  
U.S. Dept. of Justice

to the National Criminal Justice Reference Service (NCJRS).

Further reproduction outside of the NCJRS system requires permis-  
sion of the copyright owner.

INSLAW, Inc.  
1125 15th Street, N.W.  
Washington, D.C. 20005

May 8, 1981

ACKNOWLEDGEMENTS

We would like to thank our colleagues at INSLAW, especially ~~Brian Forst, Deborah Buchner, Barbara Boland,~~ and John Bassler, for their thoughtful comments on this manuscript. Don Gottfredson and Leslie Wilkins also provided invaluable guidance throughout this project, as did Charles Wellford, the contract monitor.

William M. Rhodes

CONTENTS

|  | <u>Page</u> |
|--|-------------|
| I. Introduction . . . . .  | I-1         |
| II. Methodology . . . . .  | II-1        |
| III. Interpretation . . . . .  | III-1       |
| IV. Offender Characteristics . . . . .                                       | IV-1        |
| V. Bank Embezzlement . . . . .   | V-1         |
| VI. Income Tax . . . . .   | VI-1        |
| VII. Forgery . . . . .   | VII-1       |
| VIII. Drugs . . . . .  | VIII-1      |
| IX. Mail Fraud . . . . .   | IX-1        |
| X. Bank Robbery . . . . .  | X-1         |
| XI. Postal Embezzlement . . . . .  | XI-1        |
| XII. Homicide . . . . .  | XII-1       |
| XIII. Bribery of Public Officials . . . . .                                  | XIII-1      |
| XIV. False Claims and Statements . . . . .                                   | XIV-1       |
| XV. Random Other . . . . .   | XV-1        |
| XVI. Converting Statistical Analyses<br>into Sentencing Guidelines . . . . . | XVI-1       |
| APPENDIX A: Factor Analyses of Defendant Characteristics                     |             |
| APPENDIX B: Regression Results   |             |

## I. INTRODUCTION

The state exercises no control over citizens that is more profound than the authority it assumes in imposing a criminal sanction. Recognizing this awesome power, legal philosophers have emphasized the necessity of limits to the state's authority to punish.[1]\* In a nation of laws, sentencing should be rational, evenhanded, and consistent. Yet observers as knowledgeable as Judge Marvin Frankel have observed: "We have in our country virtually no legislative declarative of the principles justifying criminal sanctions." [2] And researchers have found that in jurisdiction after jurisdiction sentencing could be described as disparate, or at best, inconsistent.[3]

Both the United States Senate and the House of Representatives have responded to these concerns with major revisions of the federal criminal codes, including changes in the sentencing process aimed at making sentences more purposeful and fair.[4] Both chambers of Congress have proposed bills that would institute sentencing guidelines.[5] And both have insisted that these guidelines take into account the purposes of sentencing as explicitly enunciated in legislation.[6]

At the time of this writing, differences in the Senate and House versions of the revisions have not been reconciled. It seems, however, that the two houses will agree on the propriety of sentencing guidelines and that this call for guidelines will

---

\*Numbered notes appear at the end of the chapter.

require empirical study of sentencing as it is currently practiced in the federal courts. With this in mind, the Federal Justice Research Program of the Department of Justice contracted with the Institute for Law and Social Research to conduct research on sentencing in the federal district courts. This report presents findings from one aspect of that study.

#### A. THE CALL FOR GUIDELINES

The Federal Sentencing Research Project was not commissioned to actually develop guidelines. Rather, the focus of the research effort was more narrow, namely, to provide a Federal Sentencing Commission with information that it could use to formulate guidelines. An important aspect of this body of information is the identification and analysis of those factors about offenders and their offenses that seem to explain how judges currently sentence.

In order to develop and institute guidelines, the Senate has called for a sentencing commission that will have responsibility for conducting sentencing studies and developing from those studies a set of guidelines to be used by federal judges. In general,

The Commission, in the guidelines promulgated ... shall, for each category of offense involving each category of defendant, establish a sentencing range that is consistent with all pertinent provisions of title 18, United States Code. If a sentence specified by the guidelines includes a term of imprisonment, the maximum of the range established for such a term shall not exceed the minimum of that range more than 25 percent.[7]

The Senate further indicated factors that might be considered in those guidelines, including the grade of the offense, the

nature and degree of harm caused, and so on.[8] It also proscribed some factors as being inappropriate for inclusion, such as the offender's race, sex, and socioeconomic status.[9]

Of course, the Senate could not be precise in specifying the weight that should be attached to each factor. Therefore, it made the following stipulation:

The Commission, in initially promulgating guidelines for particular categories of cases, shall be guided by the average sentences imposed in such categories of cases prior to the creation of the Commission, and in cases involving sentences to terms of imprisonment, the length of such terms actually served, unless the Commission determines that such a length of term of imprisonment does not adequately reflect a basis for a sentencing range that is consistent with the purposes of sentencing described in subsection 101(b) of title 18, United States Code.[10]

This provision of the revised federal codes constituted a beginning research agenda for this sentencing project--the analysis of historical sentencing patterns in the United States District Courts.

This analysis is only a first step in the formulation of guidelines. For one, we have attempted to analyze only the sentences that judges have historically imposed. Going beyond this statistical study to make policy decisions relevant to guidelines will have to be done by a sentencing commission. We trust they will be assisted, but certainly not limited, by the statistical analysis in completing the formulation of guidelines.

There is another reason why this study is only a first step in guidelines construction. To the extent that the imposition of sentences has, in the past, been seen as irrational or not in conformity with prevailing norms, predicating guidelines on

statistical analysis of historical patterns would tend to solidify these past deficiencies. Congress clearly intended something other than repeating any existing errors when it advised judges and the sentencing commission to consider the following:

- (1) the nature and circumstances of the offense and the history and characteristics of the defendant;
- (2) the need for the sentence imposed--
  - (a) to afford adequate deterrence to criminal conduct;
  - (b) to protect the public from future crimes of the defendant;
  - (c) to reflect the seriousness of the offense, to promote respect for law, and to provide just punishment for the offense; and
  - (d) to provide the defendant with needed educational or vocational training, medical care, or other correctional treatment in the most effective manner.[11]

Thus we recognize congressional intent that guidelines should be dynamic, responding to changing norms, new scientific findings, and informed opinions. This report does not address all these concerns, although additional research being conducted under this contract (reported in companion reports[12]) is germane, and we do indicate in other separate reports how the guidelines might be modified in order to implement congressional intent.[13]

#### B. OUTLINE OF THIS REPORT

In this report, we present the findings pertaining to the sentencing of offenders in federal district courts. The analysis concentrates on 11 offenses: bank embezzlement,

postal embezzlement, forgery, mail fraud, bank robbery, drug offenses, income tax violations, homicide, bribery, false claims and statements, and other federal offenses (consisting of a random sample of all offenses not named here). Although this list does not specify each and every type of federal offense, the research should serve as a model for expanded study, presumably under the auspices of a sentencing commission. Most of the analysis was conducted using data from eight district courts: New Jersey, Northern Ohio, Middle Florida, Northern California, Eastern New York, Western Oklahoma, Connecticut, and Northern New Mexico. For reasons explained later, it was decided that these districts are representative of the federal circuits. Some of the analysis was conducted on a national sample.

Data for the study were drawn primarily from presentence investigation reports and, to a lesser extent, from the automated files of the Administrative Office of the U.S. Courts. The years sampled were 1973-1978. We are grateful to officials for the Administrative Office of the U.S. Courts, the Federal Judicial Center, and other in the judiciary for being instrumental in this data collection.

In Chapter II, a detailed account of the research design is presented. This account first summarizes selected studies of sentencing practices, including some pertaining to federal courts, and critiques the methodology used in those studies. This critique lays the groundwork for the approach taken in this study. Then the chapter turns to data requirements and

how those requirements were met. The chapter closes with a discussion of the study's methodology.

In Chapter II, we suggest how the statistical tool used in this study might be interpreted. Then in Chapter IV, some descriptive statistics on the offenders included in the sample are provided.

Chapters V through XV constitute the bulk of the report. These chapters report the findings pertaining to sentencing for each of the 11 offense categories. Each chapter contains a descriptive profile of the offense and convicted offenders. Each chapter also reports on the determinants of the imposition of a prison sentence, of the length of time served by offenders who were sent to prison, and of the length of probation for offenders not sentenced to prison. When relevant, these chapters include an analysis of sentencing differences across the eight districts included in the study. In the final chapter, XVI, we turn to heuristic methods by which preliminary guidelines might be derived from these results.

#### NOTES

- [1] H.L.A. Hart, Punishment and Responsibility: Essays in the Philosophy of Law (London: Oxford University Press, 1967); H.L. Packer, The Limits of the Criminal Sanction (Stanford, Calif.: Stanford University Press, 1968); N. Morris, The Future of Imprisonment (University of Chicago Press, 1974); and J. Coffee, Jr., "The Repressed Issue of Sentencing: Accountability, Predictability, and Equality in the Era of the Sentencing Commission," Georgetown Law Journal 66, no. 4 (April 1978).
- [2] M. Frankel, Criminal Sentences (New York: Hill and Wang, 1973): 106.
- [3] See the review provided in Chapter II. See also S. Shane-Dubow, et al. Felony Sentencing in Wisconsin (Madison, Wis.: Public Policy Press, 1979).
- [4] S. 1722, 96th Congress, 1st session; H.R. 6915, 96th Congress, 2nd Session.
- [5] S. 1722, Chapter 58; H.R. 6915, Chapter 43.
- [6] Ibid.
- [7] S. 1722, 994(b)
- [8] S. 1722, 994
- [9] Ibid.
- [10] S. 1722, 994(1)
- [11] S. 1722, 2003(a)
- [12] Brian Forst, William Rhodes, Charles Wellford, "Sentencing and Social Science: Research for the Formulation of Federal Sentencing Guidelines," 7 Hofstra Law Review 2 (Winter 1979): 355-378.
- [13] See the companion reports, "Alternative Logics for the Structuring of Federal Sentencing Guidelines," and "Review and Revision of A Sentencing Guideline System" (INSLAW, 1980).

## II. METHODOLOGY

Seminal work in constructing sentencing guidelines can be attributed to Wilkins, Gottfredson, and Kress,[1] and recent studies have made major advances in this area.[2] In addition to social scientists interested in guidelines construction, other researchers have analyzed sentencing patterns without applying their results to policy questions.[3] Taken together, these guideline and non-guideline works have paved the way for an analysis of sentencing behavior by contributing to both a theory of sentencing and a methodology of analysis. We gratefully acknowledge the lead that these past studies provided our study.

New research settings and somewhat different concerns give rise to new analytical problems, however, and necessitate that future research build on the past without necessarily replicating it. Therefore, we open this chapter with a brief review and critique of prior research in order to indicate how our analysis both differs from and is similar to what has been done previously. To the extent that our analysis differs from the analysis conducted by others, care is taken in Section A to explain this departure.

The present research also required a somewhat different data base than that used in previous analyses. In Section B of this chapter, we turn to a discussion of those data needs. Then in Section C, we detail, step-by-step, how the analysis was actually conducted.

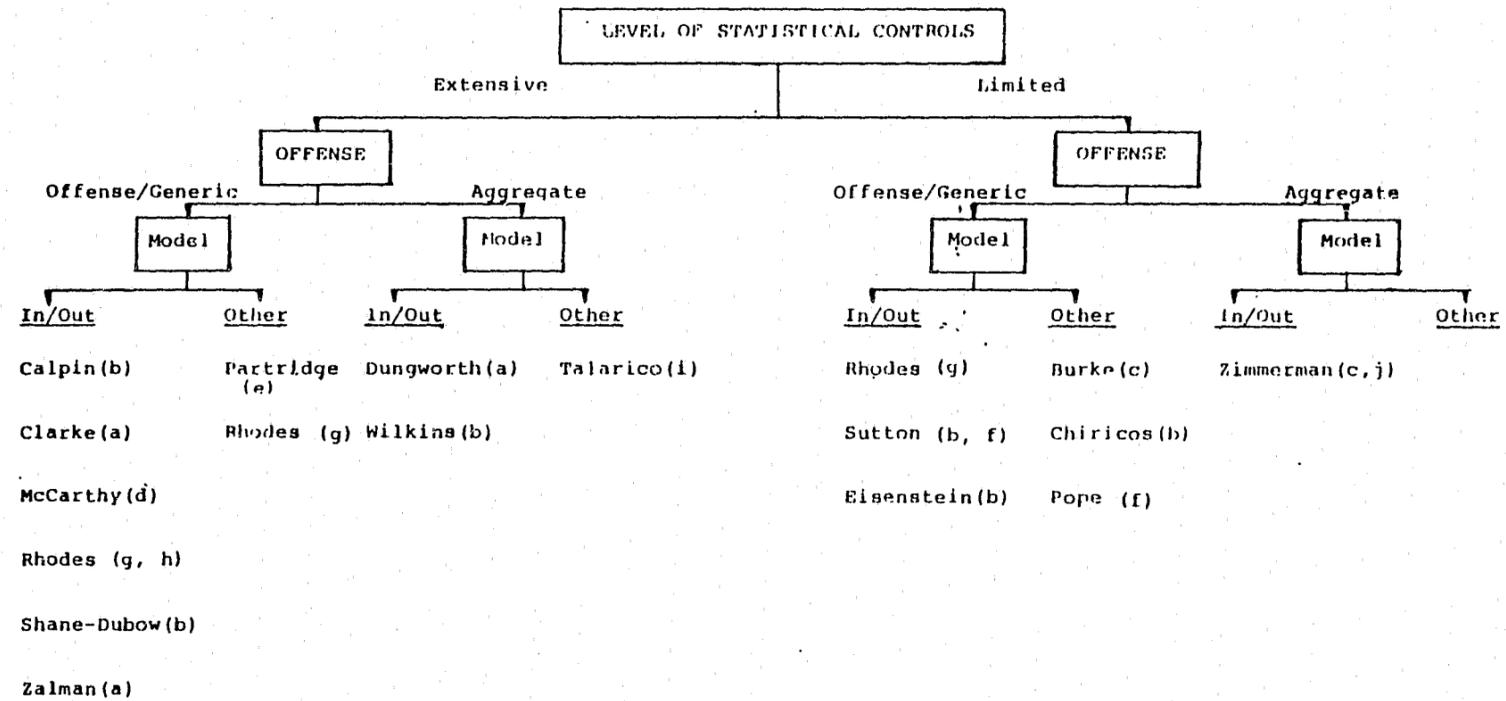
Overall, this chapter is technical. Although we attempted to limit the use of statistical jargon and rigorous justifications of techniques, it is impossible to avoid altogether the technical aspects of statistical analysis. Therefore, we have sought a middle ground. Readers with little or no quantitative background may choose to skim this chapter, taking largely on faith the results presented in Chapters V through XVI. Those readers who have a more advanced grasp of empirical analysis will, presumably, find the chapter useful in explaining our methodology. It is hoped that methodologically sophisticated readers will recognize our desire to reach readers with less sophistication and bear with us during the attempt.

### A. CRITIQUE OF THE SENTENCING LITERATURE

Sophisticated statistical methods have only recently been used in conjunction with large data bases to analyze the determinants of sentences in state and federal courts. In this section, we review some of those studies, paying special attention to the methods used in the empirical analysis. The purpose of this review, which will indicate advantages and disadvantages of each technique, is to suggest an analytical strategy that can be used in the present study.

Existing studies can be classified according to three criteria (see Figure II.1). First, studies vary according to the level of statistical controls and can be classified as having extensive controls, limited controls, or no controls. Those employing extensive controls typically use a data base that includes at least a majority of the key variables that a judge

Figure II.1. CLASSIFICATION OF EMPIRICAL SENTENCING STUDIES



II-3

KEY: Statistical Techniques employed:

- |  |                                   |
|--|-----------------------------------|
| (a) multiple regression (OLS)                | (f) predictive attribute analysis |
| (b) stepwise regression(OLS)                 | (g) probit                        |
| (c) log-linear contingency table             | (h) tobit                         |
| (d) multiple regression with factor analysis | (i) discriminate analysis         |
| (e) simulation                               | (j) logit                         |

Numbers in brackets refer to studies listed in Bibliography.

would likely consider when imposing a sentence. Those studies employ statistical techniques suitable to "holding constant" all other factors while the researcher examines the relationship between sentence and an independent variable of interest. Other studies make limited use of controls, use a reduced data base containing a subset of variables that a judge might consider relevant to sentencing, and often employ a less sophisticated statistical technique. Still other studies lack statistical controls and rely on inferences drawn from bivariate correlations between pairs of variables.

Second, studies differ according to the extent to which they distinguish types of offenses. At one extreme researchers have analyzed separate offense types (robbery, burglary and so on). At the other extreme, researchers have aggregated crimes, sometimes using crude measures, such as dummy variables, to "control" for the offense. Between these extremes, still other researchers have analyzed sentencing within generic offense categories, such as property crimes, violent crimes, and sex offenses.

A third dimension along which sentencing studies vary is in model construction. A popular theory has been the in/out paradigm, according to which sentencing is a bifurcated process. In this model, it is assumed that the judge initially makes a determination about the appropriateness of a prison sentence for a given offender and offense. Once the determination is made, the judge is assumed, in the second stage of the decision-making process, to impose a prison term, if incarceration is warranted, or otherwise a term of probation or a fine.

Alternatives are possible, including a paradigm in which the imposition of a prison term and its length are simultaneous considerations.

Finally, numerous statistical techniques have been used, including two-way contingency tables, multiple linear regression, probit, logit, discriminate analysis, log-linear contingency table analysis, and predictive attribute analysis. A few researchers have used simulation techniques, supported by statistical analysis. Only a handful of researchers have employed techniques--such as analysis of covariance--that are directly suitable to analyzing sentencing patterns across districts.

We reviewed several empirical studies of sentencing in state and federal courts. A list of these studies, broken down by the categorization presented above, appears in Figure II.1. Excluded from this list are early studies that used very limited or no statistical controls. These studies were previously summarized by Hagan, and more recently by Shane-DuBow.[4]

Our review led to the belief that extensive statistical controls were necessary to avoid "specification error" in the empirical analysis. In the present context, specification error means that if an important variable is excluded from the statistical model, the exclusion of that variable may cause another included variable (that is highly correlated with the excluded variable) to appear to influence sentencing when, in fact, it is the effect of the excluded variable acting through the included variable that is important. As an example, race

and employment may be strongly correlated. If race has no influence on the sentence imposed, while employment is considered by judges to be important when imposing a sentence, then any analysis that includes race but excludes employment would appear to find a relationship between race and sentence. To avoid making similar spurious interpretations, we considered it mandatory to assemble a large amount of information about the offender's background, his criminal history, the offense he committed, and processing variables, such as the method of his conviction.

Our review also led us to believe that sentencing analysis should be conducted on a crime-specific basis. Conducting the analysis on all crimes taken as a group, or even on generic groups of offenses, can lead to misleading results. As an example, compare the significance of the dollar loss resulting from an embezzlement with the dollar loss resulting from a bank robbery. In the former, the loss may signify the magnitude of the offense. But in the latter, the seriousness of a robbery, in which persons are put into danger, may dwarf the effect of any pecuniary loss. The consequence may be that judges give little or no weight to dollar loss for robbery cases but pay a great deal of attention to the loss for embezzlement. If both offenses entered into a single regression specification, the coefficient associated with dollar loss would be an amalgam of the effects of the loss variable for the two offenses taken individually. Inferences drawn from the analysis might be incorrect.

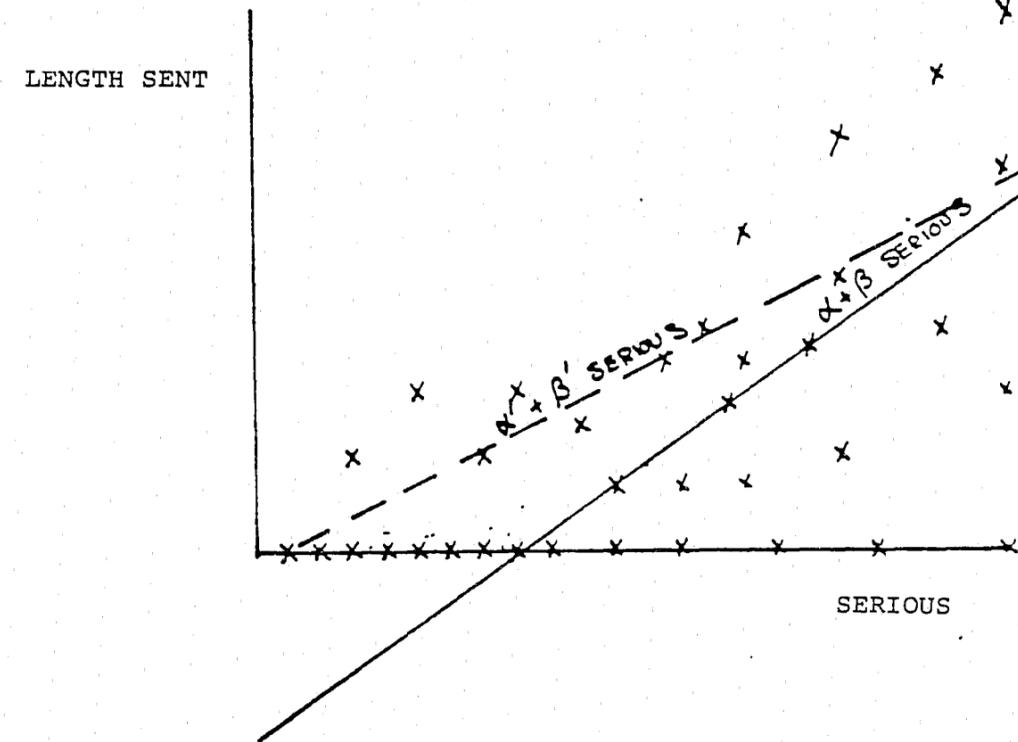
An additional aspect of the sentencing analysis that has often escaped scrutiny is the choice of a model to be used in the research. Models are very important in empirical analysis. Besides guiding the statistical analysis, they lend interpretations to statistical findings. Without a good model, the researcher is left with "patterns" but not "explanations."

The most widely used is the in/out model. Some researchers have addressed only the first part of this model, the decision to sentence an offender to jail or prison. Occasionally, analysis has been expanded to look at an ordinal variable, such as no prison, jail (a short term), or prison (a long term). Other researchers have looked only at the second stage of the decision-making process: the length of prison time. Still other researchers have analyzed both the in/out decision and the length of incarceration.

Due to the important distinction between prison and probation, it is appropriate to investigate the in/out decision. No special difficulty arises in the way that researchers have approached this estimation problem, although we do recognize and will address later some related statistical issues.

In contrast, estimates of incarceration length have been problematic. Researchers who estimate sentence length by assigning a value of zero to nonprison sentences risk introducing a specification error into their model. As an illustration of this possibility, look at Figure II.2. The horizontal axis measures the seriousness of the offense (x), which, in this hypothetical illustration, is assumed to be the only variable relevant to sentencing. Prison length (y) is

Figure II.2



measured on the vertical axis, with the value of zero being assigned to probation. Prison length equals  $\alpha + \beta x + \epsilon$ , where  $\epsilon$  is truncated normal; that is, prison lengths of less than zero are unobservable. Using ordinary least squares to regress y on x violates theoretical assumptions that underlie this statistical technique and leads to biased estimates of  $\alpha$  and  $\beta$  that may be misleading. If for example, a regression line is fit to all offenders regardless of whether they were sentenced to prison, the regression line lies everywhere above the true line and is skewed so that offenders committing less serious offenses appear to receive more severe sentences. There is little consolation in examining the sentences given to the subset of offenders who are sentenced to prison, since for this subset the regression line is even more distorted away from the true sentencing line.

Solutions to the problems identified above require the use of appropriate statistical techniques. In this regard, the methods used by researchers have not always been equal to the task, as the following discussion indicates.

It is desirable to use a multivariate tool to estimate the severity of a sentence, and numerous techniques have been employed. Looking first at the probability of receiving a prison sentence, ordinary least squares (OLS) has frequently been used. There are other methods that are theoretically more sound (probit, logit, log-linear contingency tables), but these have not in practice been shown to be superior when drawing inferences about sentencing.

Researchers have also used OLS regression to analyze the length of sentence, although in this latter application, the use of OLS regression is not as well advised. Some researchers have fit their model to the full complement of data, including offenders sentenced to prison and offenders sentenced to probation. Other researchers have fit their models to the subgroup of offenders who receive prison terms. In either case, the estimation technique may suffer from biases associated with estimating regressions on limited (i.e., bounded or discrete) dependent variables. And, estimating the sentence based only on offenders who receive prison terms further complicates the analysis by reducing the variance in the independent variables. Note how, in the illustration, the variable seriousness has a concentration of values in the high range when observations are limited to those persons sentenced to prison. It is well known in the literature of multivariate

statistics that the less variance in the independent variable, the less precise the estimates of the regression coefficients. In fact, given the reduced sample size when observations are so limited, statistical inference becomes tenuous for offenses infrequently resulting in prison. In this analysis, we will suggest a technique, tobit, for estimating the expected length of incarceration.

Many researchers have used stepwise regression analysis (or related techniques, such as all sets regression and predictive attribute analysis) as a data-reduction technique. Basically, stepwise regression requires the researchers to look first for the single variable that explains the maximum amount of variance in the dependent variable. Then, partialing out the effect of this variable, the researchers look next for a second independent variable that explains the largest amount of residual variance. This procedure continues until the remaining variables explain an arbitrarily small amount of the residual variance and are therefore excluded from further consideration.

A trouble with stepwise techniques is that the magnitude and statistical significance of the regression weights really indicate not only the impact of the included variable, but also the impact of other excluded variables that are correlated with both the included variable and the dependent variable. That is, the regression weights are sensitive to the intercorrelations among the included, excluded, and dependent variables. Thus, stepwise techniques have only limited appeal in explaining sentencing variation, especially when prior research

provides justifications for which variables to include in the model.

In addition to the above considerations, comparing sentences across jurisdictions requires special techniques. Only a few researchers have actually made sophisticated analyses of this type, although some researchers have made more casual attempts at comparisons. Analysis of covariance is the appropriate technique for evaluation of data from different jurisdictions.

The above summary has identified several problems confronted in the past by researchers and has also uncovered some new problems that will have to be addressed in the present research. This summary is now used for two purposes: (1) to indicate the type of data that will be used to accommodate the analysis and (2) to indicate, step-by-step, how the analysis is conducted.

#### B. DATA REQUIREMENTS

Data needs are implied by the above discussion. We indicated the need to identify variables that are known or strongly expected to influence sentences. This requirement virtually necessitates that a data file be used that has been coded for research purposes from a large number of presentence investigation reports.

We also pointed out that the analysis should be conducted on a crime-specific basis. Analysis that is based on a data file that aggregates diverse offenses, or even a data file that differentiates between generic offense types, is unlikely to be useful. Such data bases run too great a risk of leading to results to which the researcher may attach spurious inferences.

Thus, it is evident that the data file must contain a sufficient number of observations per offense type to make statistical analysis meaningful.

We have also indicated that analysis of covariance would be the appropriate approach to take in analyzing interdistrict sentencing variation. Using this technique imposes a further constraint on the data base, namely, that there be a sufficient number of observations per offense for multiple sites included in the analysis.

Since project resources precluded the analysis of all federal crimes, it was necessary to select a limited set of offenses and conduct a prototypical analysis on this subset. To be chosen for analysis, an offense had to satisfy three criteria:

- (1) There had to be a sufficient number of federal convictions for the offense to assure an adequate sample for the interdistrict comparison. This generally meant an excess of 1,000 convictions for a given year.
- (2) An offense had to be reasonably homogeneous, meaning that the offense classification could not represent generically similar but substantively different offenses. Homogeneity was determined by inspecting subcategories for logical consistency (e.g., transportation of forged securities did not seem sufficiently like postal forgery to include both offense types in the category "forgery"), and by assuring that the subcategories of an offense resulted in prison sentences at about the same rate (e.g., if offense X and offense Y typically resulted in prison 80 percent and 20 percent of the time, respectively, they were not included in the analysis even though they otherwise seemed to resemble each other).
- (3) Some offenses--such as auto theft--were eliminated from consideration because of information that elements of this offense differed greatly across the country due to U.S. Attorney declination policy.

At this stage, the categorization and data were drawn from published reports by the Administrative Office of the U.S. Courts (A.O.).[5]

Following consultation with the project's advisory board, Department of Justice officials, and others, the project team selected seven offenses to include in the analysis. These offenses are listed in Table II.1, along with their A.O. codes. Note that one offense--random others--consists of a random sample of offenses that were not included among the other specific offenses. This was done to enable the inclusion of all federal offenses in the analysis, recognizing the inherent limitations in using any "miscellany" category.

Table II.1 OFFENSES EXAMINED

| <u>Offense</u>               | <u>A.O. Code</u>        |
|------------------------------|-------------------------|
| Bank Robbery                 | 1,100                   |
| Embezzlement                 | 4,100<br>4,200          |
| Income Tax                   | 4,510<br>4,520<br>4,530 |
| Postal Fraud                 | 4,700                   |
| Forgery                      | 5,600<br>5,710<br>5,720 |
| Drugs                        | 6,500-<br>6,899         |
| Other                        | -                       |
| <hr/>                        |                         |
| False Claims                 | 4,991                   |
| Homicide                     | 100-<br>310             |
| Bribery of Public Officials  | 7,100                   |
| Lending Institutions (Fraud) | 4,600                   |

After this selection had been made and the preliminary steps taken toward data collection, we found that we would be able to include additional white collar offenses and homicide in the analysis, thus allowing us to cover the full range of federal offenses by major sentence-severity group. Augmenting the data with four additional offenses posed some different problems. Because of the relative scarcity of convicted white collar and homicide offenders, we were forced to expand this part of the analysis to a national sample, thus precluding an interdistrict comparison of sentencing for these four crimes. In addition, it was discovered that unlike the seven offenses chosen earlier, presentence investigations (PSIs) are rare for many white collar offenses. Since PSIs were the primary data source, we concluded that excluding cases for which PSIs were not prepared might impose sampling errors on the data collection. Therefore, an additional criterion was added to those criteria used in selecting cases: only white collar offenses that had PSIs prepared for 80 percent of the offenders would be considered for inclusion in this study. After consulting with advisory board members, DOJ officials, and other knowledgeable persons, four offenses (listed at the bottom of Table II.1) were selected. Ultimately, we were unable to analyze the "lending institutions fraud" data due to time and resource limitations.

Having chosen the offenses of interest, we proceeded to select the districts to be included in the sampling frame for the 11 offenses. Selection was purposeful. It was our

intention to choose districts that represented different sizes and regions of the country.

Before reviewing this selection, a second concern should be discussed. Interest centered on the average sentence imposed on federal offenders, given the offenders' backgrounds and the crimes committed. Therefore the analysis concentrated on districts whose overall sentencing patterns appeared to correspond to the overall national average. It was hoped, thereby, that atypical districts would not enter the statistics that might be used in the construction of sentencing guidelines.[6] To make this determination, districts were ranked according to the following formula:

$$S_i = \frac{\sum_{j=1}^5 \left[ \frac{X_{ij}}{P_i} \right] X_{ij}}{\sum_{j=1}^5 X_{ij}} = \frac{\sum_{j=1}^5 \frac{X_{ij}}{P_i}}{\sum_{j=1}^5 X_{ij}}$$

where:

$S_i$  = district i's severity score,

$X_{ij}$  = the number of prison sentences for offense j in district i,

$X_{ij}$  = the number of convictions for offense j in district i, and

$P_i$  = the proportion of prison sentences for offense i in all j districts,

$$P_i = \frac{\sum_{j=1}^{94} X_{ij}}{X_{ij}}$$

A severity index was calculated over five offenses: robbery, larceny, embezzlement, fraud, and drugs. These five were chosen because they are the highest volume felonies in the federal system. A district was selected for possible inclusion in the study if its severity index fell within one standard deviation of the overall mean.

Following consultation with officials from the Probation Division of the Administrative Office of the U.S. Courts, we concluded that 22 districts that otherwise satisfied the research needs were known to regularly produce "good" presentence investigation reports. From this list, 8 districts were selected that provided both geographic spread and variation in office size. These 8 are listed in Table II.2, along with the number of offenders convicted during 1977, the district's rank in terms of the number of convictions, and the number of standard deviations above or below the mean of the severity index previously discussed. The selection is somewhat biased toward larger districts, and it includes somewhat more districts that were above the mean of the severity index.

From the eight districts, termination tapes[7] supplied by the Administrative Office of the U.S. Courts were used to systematically sample the most recent 120 PSIs, per offense, from each of the five largest districts and the most recent 40 PSIs, per offense, from each of the three smaller districts. While this sample was not random, potentially biasing the results in an unknown way, we concluded that the most recent PSIs would have the most validity for the construction of sentencing guidelines, given both the likelihood that future

Table II.2 DISTRICTS EXAMINED

| District               | No. of Cases,<br>1977 | Size<br>Rank | Std. Dev.<br>Above/Below<br>Severity Index |
|------------------------|-----------------------|--------------|--|
| New Jersey             | 1,164                 | 7            | -.54                                       |
| Eastern<br>New York    | 965                   | 14           | +.22                                       |
| Northern Ohio          | 734                   | 20           | +.42                                       |
| Northern<br>California | 641                   | 24           | +.25                                       |
| Middle<br>Florida      | 539                   | 29           | -.12                                       |
| Western<br>Oklahoma    | 398                   | 35           | +.56                                       |
| Connecticut            | 286                   | 45           | +.56                                       |
| New Mexico             | 246                   | 51           | +.56                                       |

sentencing patterns might follow recent historical trends, and the absence of a compelling reason to study older sentencing decisions. Also, for every district sampled, the data were drawn from multiple years, which vitiated any problems with "seasonality." [8]

The time frame for the sample was 1973-1978. When fewer than the intended 120 (40) PSIs were found, we did not search earlier than 1973, preferring not to tax excessively the good will of the districts that provided the data and thus opting to select somewhat fewer than the targeted number of PSIs. For the national sample, the intent was to select the 660 most recent PSIs regardless of district. As was true of the

district-by-district sample, the search for PSIs ended in 1973, even if fewer than the targeted number were available.

The "random other" offense sample was systematically drawn by selecting every tenth PSI, starting with the most recent, excluding the offenses sampled above. Because of the timing of the decision to analyze additional offenses, white collar and homicide offenses were originally included in the "random other" sample. Eventually these offenses were extracted from the random other file.

The PSIs were collected in Washington, D.C., through the cooperation and under the auspices of the Probation Division of the Administrative Office of the U.S. Courts. Code forms were developed by INSLAW staff, coders were trained, data were coded and made machine-readable, and quality checks were instituted to assure the overall reliability of the resulting data. These steps are detailed in a separate report. [9]

The end product was a data base consisting of somewhat less than 660 federal offenders for each of 11 offenses. [10] These data consisted of a quantification of the narrative information considered by a sentencing judge, as that information is reported in the presentence investigation report. Steps were taken to ensure that these data were of high quality and that the data were representative of cases coming before judges across the U.S. District Courts. We also attempted to ensure that these data would be adequate to analyzing sentencing differences across the country. In the next section, we discuss how these data were analyzed.

### C. THE ANALYSIS OF SENTENCING DATA

We analyzed the PSI data in order to identify factors that influence the sentences received in U.S. District Courts and to determine if there was general agreement across districts about the factors that should influence the severity of the criminal sanction. Although this problem was clear, methods used to address it were not straightforward. In this section, we indicate how the analysis was conducted and provide an explanation for the techniques employed.

Several aspects of sentencing were deemed sufficiently important to command the attention of this study. The decision to imprison was qualitatively different from any other sentence that the state could impose, so part of the analysis was concerned with the imposition of a prison sentence. For present purposes, the term "prison" includes all incarceration terms in excess of 15 days--in federal and state prisons, local jails, and community corrections facilities.

Although the qualitative distinction between prison and no prison is important, we could not ignore the quantitative differences among sentences of different lengths. Therefore, the analysis also examines the length of a prison stay. The length of prison is quantified in two ways. For the most part, this analysis will concentrate on the length of time that an offender actually serves. Of course, time served is not directly observable in our data base since many offenders included in the sample were still imprisoned at the time of data collection. The only way to include time served in the

analysis is to estimate it from the maximum sentence imposed by the judge, a task that can be accomplished with considerable accuracy given the "good time" release practices of the Bureau of Prisons, the parole guidelines used by the U.S. Parole Commission, and the sentencing statute.[11] An alternative way of quantifying time served was to use the maximum sentence imposed by the sentencing judge.

These two alternative methods for quantifying sentence length have different implications for the research. Analysis that is predicated on time served rather than time sentenced does not model pure judicial behavior. On the contrary, such analysis reveals a combination of judicial and administrative decision making. Our concern is with sentencing guidelines, and because the Senate's version of the criminal code revisions specifies that time served is to be used as a basis for guideline construction, our analysis will concentrate on time served. Nevertheless, judicial decision making is of more than passing interest, so we have also analyzed the sentences imposed by judges. This latter part of the analysis--sentence imposed--will be referred to several times in the following chapters, although time served receives most of our attention.

For offenders not sentenced to prison, alternatives to confinement are relevant. Probation is the most frequently used alternative, and as such, it will occupy much of our attention. Fines are less frequently employed and the analysis revealed little regularity in their application. Therefore,

the analysis of fines will be limited. Other alternatives, including community service and restitution, are infrequently imposed and do not figure in this report.

Beyond choosing a dependent variable, it is necessary to select a model to be used to guide the analysis and interpret the statistical findings. The in/out model has figured prominently in studies of sentencing, virtually dominating the empirical analysis used to support guideline construction. The in/out model is used in the present analysis, although not exclusively, as will be pointed out.

In estimating a statistical model that conforms to the in/out paradigm, researchers have typically fit an ordinary least squares (OLS) regression to a binary dependent variable that indicates whether the offender was sentenced to prison. Researchers of a more sophisticated bent have used some alternative techniques, such as probit, logit and log-linear contingency tables, all of which have a more rigorous theoretical justification, but are more difficult to interpret. By and large, our experience indicates that both techniques lead to comparable results. When the probability of prison is estimated in this study, statistical significance will be assessed using the probit model, but when we discuss substantive meaning, the parameters associated with OLS regression will be used.

When estimating the second stage of the in/out model, we will use OLS regression on the subset of offenders sentenced to prison. Thus, the parameters estimated will serve as measures

of substantive meaning, while the derived tscore will indicate statistical significance.

Reservations have been voiced above about using OLS regression to estimate time served. As the analysis will reveal, these reservations appear to be well founded. Thus a second model--called the "expected length of incarceration" model--was also adopted. This model assumes that the judicial decision making process occurs in one step. That is, the judge determines the length of incarceration at the same time that he determines whether a prison sentence should be imposed. To determine the length of the sentence, all the data--not just that pertaining to offenders sentenced to prison--are included in the analysis. The statistical technique used for this model is tobit, which reveals both the statistical significance of explanatory variables and their substantive impact on the length of time served.

Using OLS regression, we also estimate the length of probation imposed on offenders. Estimating probation this way suffers from the same problem of truncated dependent variables that was attributed to the second stage of the in/out model. Unfortunately, statistical methodology does not appear to be readily available to adjust for this problem with respect to probation, and out of necessity we have had to content ourselves with OLS regression.[12]

There are a total of four types of regressions fit to the PSI data: the probability of prison (OLS and probit), the length of prison time for offenders serving time (OLS), the

expected length of prison time for all offenders (tobit), and the length of probation for offenders sentenced to probation (OLS). The dependent variable took on several forms: an indicator that prison was imposed, the length of time actually served, the maximum sentence imposed by the judge, and the length of probation.

Taken together, these regressions "explain" the normal sentences meted out by federal judges as these sentences are modified by Bureau of Prison and Parole Commission policy. In addition to explaining the normal sentence, we were interested in answering the question of whether judges agree among themselves about the sentences that should be received by offenders convicted under similar circumstances. Due to the small sample size per judge, this question could not be answered directly. Instead, it was necessary to address a somewhat broader question of whether the sentences imposed on similar offenders under similar circumstances differed across the eight districts examined in this study. To the extent that such differences are uncovered, this findings could imply that judges themselves disagree about sentences, at least from one district to another.

In order to test for these potential interdistrict differences, it was necessary to fit a separate regression to each offense for each district. Two models were fit. Probit was used to test for differences in the rates of imprisonment. Tobit was used to test for differences in the length of time served. A maximum likelihood ratio test was used to determine

whether the differences across the districts were statistically significant.[13] Due to software limitations, the probit model could not always be tested. Where these difficulties arose, OLS regressions were used as substitutes, and an F test was employed to test for statistical significance.

This summary described the analysis that will be presented in the following chapters. But it does not provide much detail about how the analysis was conducted. Some of this detail is provided next.

Analyzing sentencing requires that explanatory variables be selected carefully. It is impossible to select every piece of information that might matter to the sentencing judge. Such an all-encompassing approach would provide too much information for the statistical model to handle. In pruning the data set, however, the researcher may be making policy decisions since he is, in fact, determining variables that are likely to enter into sentencing guidelines.[14] We wish to be explicit about how this problem of variable selection was approached.

The first step in selecting variables was to develop a data coding instrument. Variables that were omitted at the coding stage were obviously unavailable for analysis at a later date. While we cannot discuss in detail here the development of the coding instrument (see report referenced in note 9), it is noteworthy that this instrument was quite comprehensive.

The initial significant step in selecting variables followed inspection of descriptive statistics of the variables found in the PSI. Variables that had little natural variance

were generally excluded from consideration. This decision was made because these variables were unlikely to be found to be statistically significant.[15]

An additional important step was to eliminate from consideration variables that seemed unlikely to matter to the sentencing judge. Here we were guided by past research as well as by members of the advisory board. As an example, eye color was not included in the analysis, but an offender's race was. Eye color was judged to be irrelevant to the sentencing decision. Note that race is likely to be judged as inappropriate to the sentencing decision but perhaps not irrelevant. It is very important that the analysis include all variables that have a significant impact on sentencing even if a sentencing commission should, at a later date, not want to include them in the guidelines. To do otherwise would be to include a variable such as race implicitly in the analysis, by allowing the impact of race to affect the apparent effect of a different, legitimate variable, such as employment. Therefore, this analysis included variables that were potentially relevant to sentencing whether or not these factors were ethically justifiable.[16]

A large number of variables typically remained at this stage. In order to reduce this number, factor analysis was employed to reduce a large set of background variables to a smaller set of factor scores. As a rule, between 27 and 31 background variables were reduced to between 8 and 10 salient factors, such as employment and drug use. These factor scores

were then used in the analysis along with the offender's criminal record, descriptors of the offense and processing variables.

Once these steps were completed, the analysis still used between 20 and 30 variables. As a rule, we attempted to err on the side of over-inclusion, a luxury that the ample sample sizes afforded. There were good reasons for over-inclusion. For one, there exist only limited lists of variables that might, on an a priori basis, be included in the analysis. If a relevant variable is left out of the analysis, statistical results will obviously fail to reveal the importance of that excluded variable. In addition, the importance that is attached to a different included variable may in reality be attributed to the absence of the excluded variable.

To guard against such potentially serious omissions, the models were highly inclusive. For this same reason--concern that an included variable would stand in for variables excluded from the model--stepwise and related procedures were eschewed.

Notwithstanding the concern for specification error, there were times when variables were eliminated from the model simply for parsimony. That is, the results were sometimes clearer when seemingly excess variables were eliminated and regressions were rerun. This decision to eliminate variables that were statistically insignificant was particularly useful in those instances in which the statistical analysis would otherwise have been constrained by missing information.

Two variables were eliminated from the analysis despite their theoretical importance. The type of attorney employed by the offender was one of those variables. We feel safe in its elimination because early analysis revealed it to be statistically insignificant for the offenses in which it was included, and there seemed to be no compelling reason to include type of attorney in a guideline scheme. The fact that the offender was held in jail pending trial was a second variable eliminated from the analysis. Here we were less secure because this variable was highly significant in explaining sentence in early analyses for those offenses for which it was tested.

Why was pretrial release eliminated? Although the relationship between pretrial release and sentence was strong, it was difficult to know whether the effect should be attributed to the fact that the offender was jailed or to the fact that pretrial release is highly correlated with the seriousness of the offense and the blameworthiness of the offender, that is, the same factors that influence the severity of the sanction. If the former, then, the variable should have been included in the model. Otherwise a specification error might follow. However, if the latter is true--and there is evidence that judges anticipate the future sentence when making pretrial release decisions--then pretrial release to some extent stands in for other explanatory variables. This would not be a serious problem[17] if it were not for the presumption that many of the explanatory variables are measured with a fair

amount of error. (See summary report and assessment of federal data sources.[18]) The result may be that pretrial release serves as a proxy for those variables that are measured with error, and in so doing, tends to mask the actual impact of those proxied variables. We concluded that the latter problem was the more serious and decided, therefore, to eliminate the variable pretrial release from the sentencing model. It should be noted, however, that few of the offenders analyzed in this study were held in jail prior to trial. The exceptions were offenders convicted of homicide, bank robbery, and drug offenses.

#### D. SUMMARY

In this chapter, we have commented on past studies of sentencing practices in federal and state courts. Finding the methodology from these studies to be basically sound, we nevertheless recommended modifications suited to the analysis of sentencing in federal courts. Our analysis includes estimates of the probability of prison, the length of time served for persons going to prison, and the length of probation for persons not going to prison. The analysis also examines the extent to which sentences are uniformly imposed on similar offenders convicted under similar circumstances across federal courts.

It was impossible to avoid discussing the use of statistical methodology when writing this report. In order to make the findings available to a methodologically less

sophisticated audience, the substantive findings reported in Chapters V through XVI are reported in a nontechnical fashion, and technical material is placed in appendixes. In the next chapter, we explain how the nontechnical discussion follows from the statistical analysis.

#### NOTES

1. Leslie T. Wilkins, et al., Sentencing Guidelines: Structuring Judicial Discretion (Washington, D.C.: Government Printing Office, 1978).
2. Joseph C. Calpin, Jack M. Kress, and Arthur M. Gelman, "The Analytical Basis for the Formulation of Sentencing Policy," (Draft, Albany, N.Y.: Criminal Justice Research Center, 1978); Marvin Zalman, et al., Sentencing in Michigan: Report of the Michigan Felony Sentencing Project (Lansing, 1979); Sherwood Zimmerman and Alfred Blumstein, "A Strategy for the Empirical Analysis of Sentencing Behavior in Sentencing Guideline Development," paper presented at the annual meeting of the American Society of Criminology, Philadelphia, November 9, 1979; and John P. McCarthy, Jr., "Report of the Sentencing Guidelines Project to the Administrative Director of the Courts," State of New Jersey Administrative Office of the Courts Sentencing Guidelines Project.
3. An excellent review is provided by Sandra Shane-Dubow, et al., Felony Sentencing in Wisconsin (Madison, Wis.: Public Policy Press, 1979).
4. Shane-Dubow, Felony Sentencing; John Hagan, "Extra-Legal Attributes and Criminal Sentencing: An Assessment of a Sociological Viewpoint," Law and Society Review 8, no. 2 (Winter 1974)
5. Annual Report of the Director, Federal Offenders in the U.S. Courts (Washington, D.C.: Administrative Office of the U.S. Courts, 1977), Table D4AD.
6. This method of selection, which excludes the extreme districts that might appear in a random sample, conflicts with a secondary objective in the analysis: to analyze sentence differences across districts. However, we considered that the primary task should be to determine the conditional average sentences for average districts.
7. As their name implies, the termination tapes constitute an automated file of all criminal cases terminated in the U.S. District Courts for a specified year.
8. A problem remains that the smaller the district the older its PSIs. If extreme temporal patterns are apparent over a four-year period, that could complicate the analysis. Evidence presented elsewhere (see the companion project report on "Review and Revision of a Sentencing Guideline System") suggests that this problem is not great. Therefore, we have ignored it in the analysis.
9. See the companion project report on "Data Documentation for the Analysis of Sentencing Decisions."

NOTES (cont'd)

10. The number for less than 660 if the number of observations available over the sampling time frame was less than the targeted 660.
11. Anthony Partridge, et al., The Sentencing Options of Federal District Judges (Washington, D.C.: Federal Judicial Center, 1979).
12. A parole sentence has both an upper and a lower limit, which makes the statistical problem more difficult. Also, the specification of the model, in which probation time increases and then falls to zero when a prison sentence is imposed, is difficult.
13. It bears repeating that the probit model tests for differences among districts, but that the tobit model, which examines time served, somewhat confounds the differences across districts by introducing the Bureau of Prisons and the Parole Commission, both of which are assumed to employ guidelines uniformly across the nation.
14. In fact, the variables that are put into the model likely somewhat "represent" variables that are excluded from the model. This issue is known in the statistics literature as specification error.
15. There is a technical reason for this. Other things equal, the measured correlation between two variables decreases along with the variance in either one of them. As the distribution of one of the variables approaches a constant, it is unlikely that their relationship will be seen as statistically significant. This makes intuitive sense. In order to see how factor X affects sentences, it is necessary to see some variance in factor X, accompanied by some variance in the sentence. If factor X does not vary, then the relationship obviously cannot be detected.
16. Besides being methodologically correct, this strategy greatly reduces the policy role that a researcher would have to take if the researcher himself had to decide which variables to eliminate as inappropriate. We believe, in addition, that there is little hope to eliminate this policy role by allowing an advisory board to make the decision.
17. Inclusion of pretrial release does introduce some collinearity between the other explanatory variables and makes statistical inference less precise.
18. See note 9.

III. INTERPRETATION

The analytical techniques used in this study were reviewed in the previous chapter. Many of these techniques are likely to be unfamiliar to some readers, which creates difficulty in communicating statistical findings. In order to overcome problems with exposition, we have attempted to make available both a nontechnical and a technical version of the results.

The findings are presented in a nonrigorous fashion in the main text. One concern in the text is to list those variables that are of apparent importance to the sentencing decision, as determined by the variables' statistical significance in a regression equation. A second concern is to indicate the substantive meaning of the findings by assessing the quantitative impact that a statistically significant variable has on the sentence administered. In this latter regard, it will often prove possible to approximate the effect that a given variable has on the probability of an offender's going to prison and on the length of time served in prison, using point estimates to measure the impact. These findings can generally be communicated with simple illustrations that require no statistical background to understand.

The findings are presented in a more rigorous fashion in the statistical appendixes that follow the substantive chapters. Results from the numerous regressions, as well as the factor analyses, are reported in considerable detail for readers with methodological backgrounds. It is hoped that this approach of placing technical material after the nontechnical discussion will allow methodologically less sophisticated

readers to appreciate the findings and afford professional scrutiny by persons of a more empirical bent.

In this chapter, we indicate how the nontechnical aspects of the substantive chapters were derived from the statistical analysis reported in the appendixes. This is necessary to provide a measure of assurance that the claims made in the text are buttressed by the empirical analysis. The empirical analysis itself draws on five statistical techniques: ordinary least squares regression, probit, tobit, principal component factor analysis, and one-way analysis of variance. In conjunction with the above, the study also makes use of analysis of covariance techniques. When any of these techniques is employed, an illustration or textual "summary" is provided. In the remainder of this chapter, the relationship between this summary and the statistical findings is explained.

#### A. ORDINARY LEAST SQUARES REGRESSION

An ordinary least squares regression model takes the general form:

$$Y_i = \beta_0 + \sum \beta_j X_{ij} + \epsilon_i \quad (1)$$

where  $Y_i$  is the  $i^{\text{th}}$  observation of the dependent variable,  $X_{ij}$  is the  $i^{\text{th}}$  observation of the  $j^{\text{th}}$  independent variable, and  $\epsilon_i$  is a random error term assumed to be normally distributed with a mean of zero and a standard deviation of  $\sigma$ . The Greek letters  $\beta_0$  and  $\beta_j$  are parameters estimated by the method of least squares.[1]

As it is presented in (1), this model assumes a linear relationship between the dependent and independent variables. This assumption is retained throughout the analysis, with the exception that certain variables have been transformed using logarithms. Logarithmic transformations were used to somewhat dampen the influence of extreme values of independent variables. It was anticipated that threshold effects might exist for some variables--such as number of counts in the convicting offense--whereby a distinction between small values of the independent variable would likely be important, but the differences between middle and large values would probably be slight. Logarithmic transformations were also used to account for these threshold effects. Although we report on limited attempts to search for interaction terms, for the most part this search was constrained by (1) the lack of theory to guide the search, (2) a concern that the search for interactions using such techniques as AID are ad hoc and apt to be "driven" by vagaries in the data, and (3) by the small sample size. Other researchers, of course, might prefer to search beyond the linear model and may be somewhat disappointed in our analysis.

The ordinary least squares regression model is used at two places in the analysis. It is used when estimating the probability that an offender receives a prison sentence. When this is the use, the dependent variable is measured on a nominal scale and is coded one for prison and zero otherwise. The regression weights--the  $\beta$ s in (1)--then have a straight-

forward interpretation. As the independent variable  $X_{ij}$  changes by one unit, the probability of prison changes by an estimated  $\beta_j$  units. This interpretation is often used in the text when such statements are made as "men are sentenced to prison with a probability that is .15 greater than that of women."

Ordinary least squares regression is also used when estimating the second stage of the in/out model. When this is the case, the dependent variable is the length of time served, and the regression is estimated for the subset of offenders who actually received jail or prison terms. Here the regression weights have a somewhat different interpretation: as  $X_{ij}$  changes by one unit, the length of confinement changes by  $\beta_j$  units. Thus, at points in the text, we make statements like "as the amount of money stolen increases by \$1,000, the length of confinement increases by one month."

It was also convenient to report beta weights (standardized regression coefficients) for the second stage of the in/out model. The formula for a beta weight is:

$$\beta'_j = \beta_j \left[ \frac{S_{xy}}{S_y} \right] \quad (2)$$

where  $\beta'_j$  is the standardized regression coefficient,  $\beta_j$  is the regression weight,  $S_{xj}$  is the standard error of the independent variable, and  $S_y$  is the standard error of the dependent variable. The utility of this mathematical transformation on the regression weights is that it allows the effects of the independent variables to be compared. Thus, when these standardized weights are presented in a diagram, the diagram provides a

visual impression of the relative explanatory power of variables entering into the sentencing decision.

The error term  $\epsilon$  represents the effect of variables that may have been inadvertently excluded from the model, errors in measuring variables, and a presumed randomness in the way that sentences are administered. The classical assumptions made about this error term are that it is normally distributed with a mean of zero and a constant standard deviation. In practice, these assumptions are rarely met, invalidating the OLS technique in a strict, theoretical sense. The technique is robust, however, meaning that the assumptions need not hold exactly for inferences drawn from statistical analysis to be reasonable. But in the present case, deviations from the classical assumptions appear to be great, and they cause potential problems that need to be addressed.

When the probability of prison is estimated using OLS regression, the dependent variable takes on either of two values--zero or one. Consequently, the assumptions made about the error term cannot hold, even approximately. First, a binary variable cannot be normally distributed. Second, the variance of the error term will not, in general, be constant. Moreover, the regression equation is misspecified such that the estimated probability could be in excess of one or less than zero for certain combinations of the  $X$ s. Thus, the ordinary least squares regression models may be unacceptable for estimating the probability of a prison sentence.

Use of OLS regression may also be questionable when estimating the length of prison time served. When the length

of prison time is estimated using the OLS regression, the dependent variable is "truncated," meaning that while positive values of prison time can be observed, no value of prison time less than zero is possible. Under these conditions the error term cannot be normal, but rather, it may be "truncated normal." Additionally, discarding cases in which no prison sentence was administered leaves a distorted data sample, as was discussed in the previous chapter.

Because of the problems with using OLS regression to estimate the conditional probability of prison, probit was also used to estimate this stage of the sentencing model. And due to the difficulties with using OLS to estimate time served, tobit was also applied to this aspect of the sentencing decision. Both of these techniques are discussed below.

#### B. PROBIT

The general form of the probit[2] model can be written:

$$\Pr[Y_i = 1] = \Phi \left[ \frac{\mu - \beta_0 - \sum \beta_j X_{ij}}{\sigma} \right]$$

where  $\Phi$  represents the cumulative standard normal distribution function. The  $\mu$  and  $\beta$ s are parameters estimated using maximum likelihood techniques. The parameter  $\mu$  is set equal to zero:  $\sigma$  is set equal to one (this serves to fix the units).  $\Pr[Y_i = 1]$  is the probability that the  $i^{\text{th}}$  observation of the dependent variable equals one,

where

$Y_i$  equals one if the  $i^{\text{th}}$  defendant was sentenced to prison.

$X_{ij}$  is the same as defined above.

While probit provides a theoretically more compelling technique for estimating the probability of prison, it is much more difficult to interpret.[3] No longer can the  $\beta$ s be interpreted as the increase in the probability of prison given a unit change in the independent variable, because the impact of a given  $\beta$  now depends on the magnitude of the entire set of  $\beta$ s as well as on the values for all the  $X$ s. Therefore, whenever a statement such as "the increased probability of prison for men ...." is made, these descriptive statements will be drawn from the OLS regressions. On the other hand, whenever a statement is made about the statistical significance of a variable on the probability of prison, significance is based on the probit model.

Also, whenever the standardized regression weights for the decision to imprison an offender are provided, these weights are drawn from the probit model. Standardized weights were calculated using the formula:

$$\beta'_j = \beta_j S_{x_j}$$

#### C. TOBIT

In the tobit[4] model, assumptions are analogous to those made in the OLS and probit models. Let:

$$E[L_i] = \left\{ (\beta_0 + \sum \beta_j x_{ij}) \Phi \left[ \frac{\beta_0 + \sum \beta_j x_{ij}}{\sigma} \right] \right\} + \sigma \Phi \left[ \frac{\beta_0 + \sum \beta_j x_{ij}}{\sigma} \right] \quad (3)$$

where  $x[L_i]$  is the expected value of the length of prison time served by the  $i^{\text{th}}$  offender. As before,  $\Phi$  represents the cumulative standard normal distribution function;  $\phi$  represents

the unit normal probability density function. The  $\beta$ s and  $\sigma$  are parameters to be estimated.

In this model, the  $\beta$ s have interpretations that are very similar to the interpretations given the  $\beta$ s in the OLS model.[5] For offenders who have a probability of prison that is close to one, the relationship between the length of time and the independent variables is given by  $\beta$ . Thus, when such statements are made as "the length of time served increases by one month for every count in the convicting offense," we are merely verbalizing the implications of the regression weights. Such a statement is only approximate. The reader should note that any variable  $x$  has an impact on both the probability and length of prison, and the statement must be modified for offenders who have a probability of prison that is less than one.[6]

It is also possible to compute a standardized regression weight for the tobit model. The formula is

$$\beta_j^i = \beta_j S_{xj}$$

where the variables were defined earlier. When illustrations of the results of the expected length of time served are provided, these illustrations draw on these standardized regression weights.

#### D. ANALYSIS OF COVARIANCE

One of the purposes of this analysis is to compare sentencing patterns across district courts. This has been done for the decision to sentence offenders to prison and the decision as to the expected length of time that those offenders serve in

confinement. There are standard statistical techniques for conducting this type of analysis. Using probit to estimate the probability of prison, the regressions were fit to all districts taken together, and to each district taken separately. Only districts with "sufficient" observations were included in the analysis. A likelihood ratio test was used to see if sentencing patterns differed across the districts. The analysis was repeated for sentence lengths using tobit as the estimating technique.

There were times when it was impossible, due to software limitations, to estimate the probit model. When this was the case, OLS was used to conduct the test. An F ratio was used to test for statistical significance.

In interpreting results, it must be remembered that the null hypothesis is that all the  $\beta$ s are constant across the districts. If the null hypothesis is rejected, it is rejected in favor of the research hypothesis that at least some of  $\beta$ s differ from zero. It is not necessary that all  $\beta$ s differ from zero, however. Substantively this means that judges may agree on the salience of some offender/offense/processing variables but disagree about the significance of others. A statistically significant finding does not say which of the variables have different impacts across the districts.

It is important to point out the limits of statistical inference in this regard because of the way that findings are reported in the text. In order to illustrate results, we have compared the regression weights across the districts,

indicating, for example, that a trial results in 5 additional months of sentence in one jurisdiction, 10 additional months in a second, and 15 months in a third. When these results are presented in this form, they go beyond the statistical analysis. We cannot, in the illustration, say that the 5-, 10-, and 15-month difference is statistically significant just based on the findings that sentences differ across the districts. As a result, these findings must be interpreted with some caution.

When conducting the covariance analysis, we fit a parsimonious model with fewer variables than the full regressions. Using a parsimonious model increases the chances for specification errors in the statistical equations. How much of the statistical significance "uncovered" across the districts can be attributed to these specification errors is unknown.

#### E. FACTOR ANALYSIS

Principal component factor analysis[7] was used to reduce the number of background variables to a more manageable set. This factor analysis was conducted over the entire sample of offenders regardless of the crime for which they were convicted. It was also conducted individually within each offense group. The text makes clear which set of results is being used at any given time.

The number of factors extracted in any analysis was determined by the number of eigenvalues in excess of one. This generally produced between 8 and 10 factors. In order to

improve the interpretation of the factor scores, a vari-max rotation was conducted. For the most part, this rotation produced factors that had straightforward interpretations, hence the names attributed to those factors in the text--employment, marital ties, and so on. However, the reader should be cautioned that factor scores frequently run counter to intuition. For example, the factor labeled employment always decreases with employment and increases with unemployment. The appropriate interpretation can be gleaned from inspecting the statistical results provided in the appendixes.

Factor scores were used in the regression analysis. These scores were calculated by multiplying the factor coefficients by the standardized values of the background variables. Although the resulting reduction in data, and the corresponding reduction in the number of parameters that must be fit, has its advantages, the data reduction technique also has at least one disadvantage. The regression weights no longer have simple interpretations. At times in the text, such statements appear as "the probability of prison increases by .10 per standard deviation of employment." The reader might find it useful to assume that the difference between offenders with the best employment and worst employment histories is about four standard deviations. Therefore, in this illustration, the difference in the risks they incur in being incarcerated is on the order of .40. Some caution must be exercised, since the distributions of variables such as employment are not

necessarily normal, and thus, the rule of thumb about standard deviations is only approximate.

#### F. ONE-WAY ANALYSIS OF VARIANCE

At several places in the analysis, it was convenient to compare factor scores for offenders across offense groups. One-way analysis of variance was frequently a useful statistical tool for determining whether an offense or offender group differed according to a factor score. A statistically significant F statistic indicated that these factor scores did differ across the group examined.

In reporting the results, we have often given the average factor score for a group. As an illustration, the drug usage of offenders was compared for offenders in Eastern New York and Western Oklahoma by providing the average factor score in those two districts. The reader is advised to treat a mean of zero as an average score in such cases and to compare this average to the number of standard deviations (equal to one) that a group is above or below the mean. Of course, the statistical test is for the null hypothesis that the group means are all equal, and rejecting this hypothesis does not imply that the means differ for every group in the analysis.

#### G. SUMMARY

None of the statistical techniques used in this study is novel, although some are innovative to the analysis of sentencing. In the rest of this report, we will largely avoid referring to these statistical techniques. Nevertheless, it is

hoped that the reader will bear in mind the role that these tools play in the analysis and that the conclusions drawn in the text are inferred from findings resulting from this analysis.

NOTES

1. Numerous references discuss ordinary least squares regression analysis. See Arthur Goldberger, Econometric Theory (John Wiley & Sons, 1964); John Johnston, Econometric Methods (New York: McGraw Hill, 1972); Fred Kerlinger and E. Pedhazur, Multiple Regression in Behavioral Sciences (New York: Holt, Rinehard and Winston, 1973).
2. R. McKelvey and W. Zavoina, "A Statistical Model for the Analysis of Ordinal Level Dependent Variables," Journal of Mathematical Sociology 4 (1975): 103-120; Eric Hanushek and John Jackson, Statistical Methods for Social Scientists (New York: Academic Press, 1977).
3. Sherwood Zimmerman and Alfred Blumstein, "A Strategy for the Empirical Analysis of Sentencing Behavior in Sentencing Guideline Development," paper presented at the annual meeting of the American Society of Criminology, Philadelphia, November 9, 1979.

For a more general explanation, see: M. Nerlove and S.S. Press, Univariate and Multivariate Log-linear and Logistics Models (Santa Monica: The Rand Corporation, 1973).

4. James Tobin, "Estimation of Relationships for Limited Dependent Variables," Econometrica 26 (1958); T. Ameniya, "Multiple Regression Analysis When the Dependent Variable is Truncated Normal," Econometrica 41 (1973); see also, Annals of Economic and Social Measurement 5, no. 4 (1976).
5. John F. McDonald and Robert A. Moffitt, "The Uses of Tobit Analysis," LXII The Review of Economics and Statistics 2 (1980).

6. More precisely, 
$$\partial E[L_{ij}] / \partial X_{ij} = \phi \left[ \frac{\beta_0 + \sum \beta_j X_{ij}}{\sigma} \right] \beta_j$$

7. Harry Harman, Modern Factor Analysis, (Chicago: University of Chicago Press, 1976); William Cooley and Paul Lohnes, Multivariate Data Analysis (New York: John Wiley, 1971); David Greenberg, Mathematical Criminology (New Brunswick: Rutgers University Press, 1979).

IV. OFFENDER CHARACTERISTICS

For each offense taken individually, we "factor analyzed" variables that measured the offender's background characteristics. (The list of variables that entered these analyses and the derived factor scores are reported in the appendixes.) The offender-specific factors were then utilized to make comparisons of the same type of offender across districts. By looking at the interdistrict differences in mean factor scores for any one characteristic, we were able to determine the degree to which convicted offenders in various districts were similar with respect to that characteristic.

We also performed a separate factor analysis to determine the ways in which groups of offenders who were convicted of nine separate offenses varied from each other.[1] As a consequence of comparing mean factor scores, we were able to deduce the degree to which offender type A averaged higher or lower on a particular factor than offender types B through I. The variables entering this analysis and their factor coefficients are reported in Table IV.1.

The following 10 factors emerged from this second factor analysis: employment history (EMPLOYMENT); marital status (MARITAL); drug use (DRUGS); interaction with criminal peers (INTERACT); contact with criminal family members (FAMILY); contact with criminal cohabitants (COHAB); social adjustment (SOCIAL); formative years (FORMATIVE); mental health (MENTAL); and a mixed category that did not demonstrate any particular loading pattern and was subsequently dropped from the analysis.

Table IV.1. FACTOR LOADINGS FOR NINE OFFENSE TYPES

|          |    | EMPLOYMENT | MARITAL | DRUGS | INTERACT | FAMILY | SOCIAL | MIXED  | MENTAL | FORMATIVE | COHAB |
|----------|----|------------|---------|-------|----------|--------|--------|--------|--------|-----------|-------|
| LASTMO   | 56 | 0.919      | 0.000   | 0.000 | 0.000    | 0.000  | 0.000  | 0.000  | 0.000  | 0.000     | 0.000 |
| TIME OF  | 57 | 0.907      | 0.000   | 0.000 | 0.000    | 0.000  | 0.000  | 0.000  | 0.000  | 0.000     | 0.000 |
| PAST2    | 55 | 0.783      | 0.000   | 0.000 | 0.000    | 0.000  | 0.000  | 0.000  | 0.000  | 0.000     | 0.000 |
| SUBSIST  | 59 | -0.712     | 0.000   | 0.000 | 0.000    | 0.000  | 0.000  | 0.000  | 0.000  | 0.000     | 0.000 |
| EMSUP    | 43 | 0.000      | 0.919   | 0.000 | 0.000    | 0.000  | 0.000  | 0.000  | 0.000  | 0.000     | 0.000 |
| ECSUP    | 42 | 0.000      | 0.900   | 0.000 | 0.000    | 0.000  | 0.000  | 0.000  | 0.000  | 0.000     | 0.000 |
| MARITAL  | 7  | 0.000      | -0.780  | 0.000 | 0.000    | 0.000  | 0.000  | 0.000  | 0.000  | 0.000     | 0.000 |
| STIMUL   | 49 | 0.000      | 0.000   | 0.765 | 0.000    | 0.000  | 0.000  | 0.000  | 0.000  | 0.000     | 0.000 |
| MARIU    | 48 | 0.000      | 0.000   | 0.687 | 0.000    | 0.000  | 0.000  | 0.000  | 0.000  | 0.000     | 0.000 |
| SEDATIVE | 50 | 0.000      | 0.000   | 0.665 | 0.000    | 0.000  | 0.000  | 0.000  | 0.000  | 0.000     | 0.000 |
| INTERC   | 35 | 0.000      | 0.000   | 0.000 | 0.820    | 0.000  | 0.000  | 0.000  | 0.000  | 0.000     | 0.000 |
| INTERS   | 36 | 0.000      | 0.000   | 0.000 | 0.814    | 0.000  | 0.000  | 0.000  | 0.000  | 0.000     | 0.000 |
| FAMC     | 33 | 0.000      | 0.000   | 0.000 | 0.000    | 0.875  | 0.000  | 0.000  | 0.000  | 0.000     | 0.000 |
| FAMCRI   | 30 | 0.000      | 0.000   | 0.000 | 0.000    | 0.802  | 0.000  | 0.000  | 0.000  | 0.000     | 0.000 |
| SOCADJ   | 29 | 0.000      | 0.000   | 0.000 | 0.000    | 0.805  | 0.000  | 0.000  | 0.000  | 0.000     | 0.000 |
| ACAD     | 28 | 0.000      | 0.000   | 0.000 | 0.000    | 0.000  | 0.799  | 0.000  | 0.000  | 0.000     | 0.000 |
| SOCACT   | 41 | 0.000      | 0.000   | 0.000 | 0.000    | 0.000  | 0.000  | 0.641  | 0.000  | 0.000     | 0.000 |
| CHURCH   | 40 | 0.000      | 0.000   | 0.000 | 0.000    | 0.000  | 0.000  | 0.533  | 0.000  | 0.000     | 0.000 |
| PSYCHT   | 44 | 0.000      | 0.000   | 0.000 | 0.000    | 0.000  | 0.000  | 0.000  | 0.747  | 0.000     | 0.000 |
| MENTAL   | 45 | 0.000      | 0.000   | 0.000 | 0.000    | 0.000  | 0.000  | 0.000  | 0.728  | 0.000     | 0.000 |
| NECES    | 26 | 0.000      | 0.000   | 0.000 | 0.000    | 0.000  | 0.000  | 0.000  | 0.000  | 0.833     | 0.000 |
| ABUSED   | 27 | 0.000      | 0.000   | 0.000 | 0.000    | 0.000  | 0.000  | 0.000  | 0.000  | 0.727     | 0.000 |
| COHABC   | 31 | 0.000      | 0.000   | 0.000 | 0.000    | 0.000  | 0.000  | 0.000  | 0.000  | 0.000     | 0.848 |
| COHABS   | 32 | 0.000      | 0.000   | 0.000 | 0.250    | 0.000  | 0.000  | -0.317 | 0.000  | 0.000     | 0.630 |
| HEALTH   | 53 | 0.000      | 0.000   | 0.000 | 0.000    | 0.000  | 0.000  | 0.000  | 0.000  | 0.000     | 0.000 |
| OPIATES  | 51 | 0.285      | 0.000   | 0.488 | 0.000    | 0.000  | 0.000  | 0.000  | 0.000  | 0.000     | 0.000 |
| EDUCATE  | 6  | -0.268     | 0.000   | 0.000 | 0.000    | 0.000  | 0.353  | 0.477  | 0.000  | 0.000     | 0.000 |
| DRINKER  | 46 | 0.000      | 0.000   | 0.000 | -0.258   | 0.000  | 0.000  | -0.471 | 0.370  | 0.000     | 0.000 |
| FAMS     | 34 | 0.000      | 0.000   | 0.000 | 0.000    | 0.408  | 0.000  | -0.317 | 0.000  | 0.000     | 0.000 |
| VP       |    | 3.210      | 2.525   | 1.905 | 1.700    | 1.682  | 1.639  | 1.578  | 1.390  | 1.372     | 1.293 |

IV-2

The above factor loading matrix has been rearranged so that the columns appear in decreasing order of variance explained by factors. The rows have been rearranged so that for each successive factor, loadings greater than 0.5000 appear first. Loadings less than 0.2500 are being placed zero.

EMPLOYMENT consisted of measures of offenders' employment histories during the two years preceding their offenses, during the month preceding the offenses, and at the time the offenses occurred. This factor also included a measure of offenders' methods of subsistence. Because of the way each variable was measured, a negative score indicated a stable employment history and a positive score indicated an erratic record.

The factor MARITAL was used as an indicator of offenders' marital stability, including their willingness or ability to provide economic and emotional support to dependents. It, too, was interpreted so that a negative score indicated strong marital ties and a positive score denoted weak ties.

The factor DRUGS was a measure of the frequency with which offenders used stimulants, marijuana, sedatives, and opiates. Offenders within a particular offense category were considered heavy drug users if their mean factor score for DRUGS was large and positive.

Three variables form the factor INTERACT. Two measured the extent of close friends' involvement in crime and the friends' likelihood of encouraging or discouraging the offenders' criminal activity. The nature of the normative support (social support in leading a life free from criminal activity) that offenders received from friends also loaded to form this factor. A negative mean score indicated that offenders were most likely to have non-criminal peers.

Like INTERACT, FAMILY was a measure of the normative support that offenders received from members of their immediate families. The factor consisted of three measures of family

crime: criminal activity engaged in by family members when offenders were children; crime among family members with whom offenders had frequent contact as adults; and the level of normative support that the latter family members provided adult offenders. Strong support for legitimate institutions was indicated by larger negative mean scores.

COHABITANT was a factor that measured the extent to which cohabitants provided offenders with normative support and the nature of cohabitants' criminal records. A large, negative mean factor score was taken to mean that cohabitants might encourage continuance in criminal activity.

The factor FORMATIVE showed something about the quality of the offenders' early family life. It indicated whether offenders had been abused as children and if their parents had had difficulty providing the necessities of life. A negative mean factor score denoted that offenders had not had problems in early family life.

SOCIAL was a measure of offenders' early academic adjustment. Three measures--school adjustment, academic performance and level of education--formed this factor. A strong positive score indicated that offenders had evidenced good social adjustment.

Finally, if offenders had ever undergone psychiatric treatment, or if the probation officer indicated that mental defect led to the commission of crimes, these facts were reflected in a strong positive score for the factor MENTAL.

Table IV.2 shows the mean factor scores for offenders convicted of nine different offenses. The reader should keep

Table IV.2

MEAN FACTOR SCORES FOR NINE OFFENSE TYPES<sup>a/</sup>  
AND TEN FACTORS

| FACTORS    | HOMICIDE | BANK ROBBERY | BANK EMBEZZLEMENT | INCOME TAX | MAIL FRAUD | FALSE CLAIMS | FORGERY | DRUGS | BRIBERY |
|------------|----------|--------------|-------------------|------------|------------|--------------|---------|-------|---------|
| EMPLOYMENT | .33      | .66          | -.29              | -.51       | -.08       | -.18         | .25     | -.12  | -.35    |
| MARITAL    | .40      | .36          | .04               | -.48       | -.14       | -.14         | .26     | .10   | -.52    |
| DRUGS      | .15      | .52          | -.16              | -.23       | -.22       | -.21         | .16     | .26   | -.10    |
| INTERACT   | -.36     | .44          | -.24              | -.07       | .19        | -.30         | .14     | .96   | -.44    |
| FAMILY     | .03      | .17          | -.16              | -.01       | .01        | -.08         | .17     | -.00  | -.22    |
| COHAB      | -.18     | .00          | -.10              | .15        | .23        | -.00         | .16     | .25   | -.44    |
| FORMATIVE  | .12      | .09          | -.20              | -.05       | -.11       | -.03         | .12     | -.11  | .02     |
| SOCIAL     | -.02     | -.39         | .19               | .29        | .01        | .11          | -.22    | -.02  | .23     |
| MENTAL     | .24      | .05          | -.11              | .08        | .21        | -.09         | -.04    | -.22  | -.18    |
| MIXED      | -.59     | -.07         | .24               | .15        | .01        | .10          | -.22    | -.02  | .50     |

a/ Time constraints did not allow calculation or factor scores for "Random Other" and Postal Embezzlement.

in mind that a factor score has a mean of zero and standard deviation of one across the total sample. These findings will be discussed where relevant in Chapters V through XV.

In addition to examining factor scores in each crime-specific analysis, we also studied offenders' records of prior convictions (PRIORREC). To measure the variable, we used the categorization of prior record that is employed by the Administrative Office of the U.S. Courts. The item has the following groups: (0) the offender has no known prior convictions; (1) the offender has prior conviction(s) that resulted in sentences of probation or suspended sentence without probation; (2) the offender has prior conviction(s) resulting in incarceration for less than one year; (3) the offender was previously committed under a juvenile delinquency procedure; and (4) the offender has prior conviction(s) that resulted in incarceration in excess of one year.

Table IV.3 presents the results of cross-tabulating PRIORREC with the 11 offense types. A quick glance at the table reveals something of a white collar/street crime dichotomy. Although most bank embezzlers, bribers, postal embezzlers, income tax violators, and false claims offenders have no known histories of conviction, over 60 percent of the offenders in each of the random other, homicide, forgery, and bank robbery categories do. Conversely, although 10 percent or fewer of those offenders who fall into each of the bank embezzlement, bribery, postal embezzlement, income tax, or false claims groups have records of incarceration in excess of one year, appreciably more of the homicide, random other,

Table IV.3

CROSS-TABULATION OF DEFENDANTS' PRIOR RECORDS  
BY OFFENSE TYPE

| Prior Record  | Bank<br>Embezzlement | Bribery       | Postal<br>Embezzlement | Income Tax<br>Violations | False<br>Claims | Drug<br>Violations | Homicide      | Random<br>Other | Forgery       | Bank<br>Robbery | Mail<br>Fraud |
|---|----------------------|---------------|------------------------|--------------------------|-----------------|--------------------|---------------|-----------------|---------------|-----------------|---------------|
| No Known Prior<br>Convictions   | 85.8<br>(424)        | 83.0<br>(449) | 72.9<br>(105)          | 65.0<br>(341)            | 60.3<br>(310)   | 40.6<br>(185)      | 35.1<br>(185) | 32.7<br>(200)   | 26.6<br>(179) | 19.7<br>(129)   | 45.0<br>(200) |
| Prior Convictions Re-<br>sulting in Sentences<br>of Probation or<br>Suspended Sentence<br>Without Probation | 10.7<br>(53)         | 11.6<br>(63)  | 21.5<br>(31)           | 21.7<br>(114)            | 21.6<br>(111)   | 32.3<br>(210)      | 22.2<br>(117) | 30.2<br>(185)   | 25.1<br>(169) | 18.9<br>(124)   | 26.1<br>(116) |
| Prior Convictions Re-<br>sulting in Incarceration<br>for Less Than One Year                                 | 1.8<br>(9)           | 2.0<br>(11)   | 2.8<br>(6)             | 5.1<br>(27)              | 7.6<br>(39)     | 9.5<br>(62)        | 14.6<br>(77)  | 13.4<br>(82)    | 17.1<br>(115) | 12.7<br>(83)    | 9.2<br>(41)   |
| Commitment Under<br>Juvenile Delinquency<br>Procedure   | 0.4<br>(2)           | 0.4<br>(2)    | 1.4<br>(2)             | 0.4<br>(2)               | 0.2<br>(1)      | 1.2<br>(8)         | 3.4<br>(18)   | 1.1<br>(7)      | 2.1<br>(14)   | 6.2<br>(41)     | 1.6<br>(7)    |
| Prior Convictions Re-<br>sulting in Incarceration<br>in Excess of One Year                                  | 1.2<br>(6)           | 3.0<br>(16)   | 1.4<br>(2)             | 7.8<br>(41)              | 10.3<br>(53)    | 16.4<br>(107)      | 24.7<br>(130) | 22.5<br>(138)   | 29.1<br>(196) | 42.5<br>(279)   | 18.0<br>(80)  |
| Total N   | (494)                | (541)         | (144)                  | (525)                    | (514)           | (651)              | (527)         | (612)           | (673)         | (656)           | (444)         |

IV-7

forgery, and bank robbery offenders have suffered that fate. The same sort of demarcation is obvious to a lesser extent for offenders who have been sentenced to previous incarcerations for less than one year; and the picture is only somewhat more uniform with respect to prior sentences of probation and juvenile delinquency commitments.

Examination of Table IV.3 also shows that drug offenders do not fall neatly into either category. Instead most drug violators have either never been convicted or have received prior sentences to probation.

NOTES

[1] We did not calculate factor scores for "random other" or postal embezzlement. The random other group was too diverse in terms of crimes committed for the analysis to appear meaningful, and there were too few postal embezzlers in our sample.

## V. BANK EMBEZZLEMENT

The picture of the white collar offender furtively involved in theft and concealment was clearly drawn in Cressey's examination of financial trust violators.[1] Cressey specified that three conditions are necessary before a trusted person will steal: a) a non-shareable financial problem; b) knowledge that the problem can be resolved by violating the position of trust; and c) the ability to rationalize behavior in order to avoid a criminal self-concept.

In his investigation of employee theft, Robin[2] partially substantiated one of Cressey's contentions: employees who engage in theft do not possess negative self-concepts. Indeed, some social scientists have speculated that the absence of a clear-cut victim makes embezzlement seem less serious to the offender than other property offenses, particularly violent ones.[3] Robin also observed that the employee thief generally has solid community ties, and a nonexistent or minor history of criminal involvement. In addition, Robin discovered that the employee who steals is less likely to be prosecuted than other property offenders. Interestingly, Robin noted several areas in which his empirical findings conflicted with Sutherland's theory of white collar crime.[4] Robin found that employee theft does not involve violations of laws designed to control industrial activity as Sutherland speculated. Further, Robin found that embezzlers are generally middle- rather than upper-class individuals. Finally, in contrast to Sutherland's

contention that white collar crime consists of misdemeanor violations, Robin found that most employee theft is felonious.

The investigations of embezzlement discussed above stimulate interest in developing descriptions of bank embezzlement offenders and offenses. To persons unfamiliar with prosecution in federal courts, bank embezzlement may seem to be a classic white collar crime, i.e., it is committed by persons occupying positions of trust and results in large financial gains. In reality, bank embezzlement and embezzlers do not fit this image. Most convicted embezzlers hold positions that are only nominally white collar and their crimes frequently result in small dollar gains.

To understand this offense, it is useful to differentiate embezzlers as employees and administrative personnel. Tellers, proof operators, bookkeepers, and computer operators make up the employee sector; the cashiers, vice-presidents, and president are the bank officers. The auditor, neither an employee nor an officer, oversees both groups and answers directly to the board of directors.

The job to which a person is assigned is important because an individual engages in a form of embezzlement that is closely related to his occupational role. For instance, the proof operator is responsible for verifying the teller's account of money flow; he encodes checks, sorts checks, and produces the cash letter. The proof operator involved in embezzlement is likely to engage in a variation of the following activities: misencoding checks so that those checks can be credited to his

own account; missorting checks so that his personal check is rerouted, thereby delaying payment; or falsifying the cash letter.

The nexus between occupational responsibility and embezzlement can also be observed in thefts made by bank executives. The vice-president in charge of loans, for example, might authorize a fictitious loan for his own use and perpetuate the deceit by falsifying progress reports pertaining to that loan.

Check-kiting is a form of embezzlement that is less job-specific than the offenses described above. In executing a kite, a bank worker will deposit in his first personal bank account an unfinanced check drawn on a second outside account. Before the check has cleared, and in order to cover that initial "bad" check, the embezzler will write another unfinanced check, utilizing his final account, and deposit the latter in his second outside account. During the kite, the bank worker uses his knowledge of banking systems to purchase both time and credit and may utilize his growing false credit to finance numerous ventures. Obviously, if the process of floating checks is perpetuated over a period of several months or years, the amount of credit that is manipulated can be phenomenal.

In addition, a small percentage (7 percent) of convicted bank embezzlers are not bank workers. These individuals are most likely to maintain business or social ties with a bank employee or executive, and they become involved in embezzlement through those ties.

In the next section, we provide considerable detail about the offenses that bank embezzlers commit. We are aware that these descriptions are limited to convicted offenders, and there are reasons to believe that convicted offenders differ from the general population of bank embezzlers. For one, it may be that some types of embezzlement are difficult to detect, or if detected, are hard to prove. For another, U.S. Attorneys are known to be selective about the embezzlement cases that they accept for prosecution.[5] Nevertheless, the offenders and offenses examined here are considered representative of those appearing before a sentencing judge.

#### A. THE OFFENSE

The mean dollar value of funds embezzled by convicted offenders was \$51,000; 18 percent of the thefts resulted in a loss of less than \$1,000, and 47 percent of the thefts resulted in a loss in excess of \$5,000. About 14 percent of the offenders managed to steal more than \$50,000. The amount of funds for which the offender was held accountable at conviction was much less than the total loss attributed to him by the description of the offense presented in the presentence investigation (PSI) report. About 30 percent of the offenders were convicted of stealing less than \$500, and 39 percent were convicted of stealing between \$500 and \$5,000. In total, 80 percent of the offenders were convicted of embezzling less than \$10,000, while the actual offense involved \$10,000 or less 66 percent of the time, according to the PSI account. This attrition reflects a combination of inability or unwillingness

to prosecute all counts of the offense and charge reductions explained by plea bargaining.

In 82 percent of the cases, embezzlements were executed by pilfering cash or misappropriating credit. In these instances, the average loss was \$29,000. Forms, such as loan and employee documents, were falsified in 18 percent of the embezzlements. This method netted larger losses--about \$160,000 per offense. The most typical means of concealing the offense was returning stolen money or continuing the initial offense (78 percent of total). In 20 percent of the embezzlement cases, the bank's general ledger was directly manipulated in order to facilitate concealment.

The mean length of involvement was ten months. Eighteen percent of the offenders were involved in embezzlement only once. Alternatively, 23 percent of the offenders were actively embezzling for more than one year.

#### B. THE OFFENDER

Bank embezzlers were expected to have strong family and community ties. According to descriptive statistics based on convicted offenders, this expectation is accurate. Ninety-one percent of the embezzlers came from homes in which parents had no difficulty providing the necessities of life; 95 percent had lived in homes in which they were not abused, neglected, or abandoned, and 93 percent were reported to have evidenced average or better than average school adjustment. Not surprisingly, most offenders graduated from high school and many attended college.

Bank embezzlers were also expected to have a record of little if any previous contact with the criminal justice system. Ninety-seven percent of the defendants had no family members who were involved in crime; and 94 percent had no close friends who participated in crime. Moreover, 81 percent of the offenders had never been arrested before the instant arrest for embezzlement, and 96 percent were not rearrested between the embezzlement arrest and completion of the PSI. Nearly all of the embezzlers (99 percent) were released on bail or personal recognizance before trial. Finally, 97 percent of the offenders had never used aliases. In general, these results lend substance to the assumption that embezzlers are not career criminals.

In keeping with Cressey's premise that most embezzlers are people with non-shareable problems, we expected that bank embezzlers would generally act alone. The data support this contention; 87 percent of the embezzlers committed embezzlements alone. Of the 74 offenders who were involved in conspiracies, 58 percent shared responsibility with their coconspirators and 42 percent were subordinate figures in the conspiracy.

We cannot readily compare the community stability of bank embezzlers with the stability of the general population, or even with the population of federal offenders. However, we were able to compare factor scores of bank embezzlers with those of offenders convicted of eight other high-volume offenses: bank robbery, forgery, narcotics, income tax violation, mail fraud, making false claims, bribery, and

homicide. According to this comparison, embezzlers had strong employment histories, second only to the work histories of income tax violators and bribers. Embezzlers were about average in terms of marital ties.

Three factors--family legitimate support, friends' legitimate support, and cohabitants' legitimate support--all reflect the normative support that the offender receives from "significant others." Bribers and embezzlers led the group in the degree to which they received legitimate support from their families. Embezzlers received support from friends that was comparable to the support received by those making false claims and somewhat less than the support that homicide offenders and bribers received from their peers. Embezzlers and homicide offenders were similar in terms of their degree of cohabitant support, but bribers were most successful on this measure.

With reference to the offenders' formative years, the PSIs indicated that embezzlers were raised in relatively supportive families, both financially and emotionally. And examination of the factor SOCIAL indicated that, like bribers and income tax violators, embezzlers had had little trouble adjusting in school.

The drug use factor indicated that embezzlers had drug histories comparable to income tax violators and persons committing mail fraud, which is to say that they used virtually no illegal drugs. The final factor--mental health--did a poor job of discriminating among offenders. We will not attempt to draw a conclusion about it.

The greatest distinction between embezzlers and other offenders can be seen in their criminal records. Embezzlers had trivial criminal records compared with offenders convicted of other federal offenses. Only 3 percent of the embezzlers had served any prison or jail time, while persons convicted of bribery--who had the next best records--had previous incarcerations in 5 percent of their cases and bank robbers--who had the worst records--were previously incarcerated in 62 percent of their cases.

Overall, these data confirmed our expectations. It is evident that bank embezzlers come from a fairly stable, homogenous group. They tend to be individuals from middle- or lower-class backgrounds who are moderately well-educated and possess strong community and family ties. These findings have important implications for the sentencing analysis. If judges take background variables into account when making sentencing decisions, it stands to reason that bank embezzlers, as a group, would be treated more or less harshly than other offenders examined in this study, depending on the judges' collective sentencing philosophy. But, since background variables vary little within the embezzlement group, the effect of social stability variables on sentencing might not be discernible in the statistical analysis.

#### C. VARIATION ACROSS DISTRICTS

The characteristics of bank embezzlers, and the offenses that they commit, may vary across districts. For instance, embezzlers from predominantly rural districts may evidence stronger community ties than embezzlers from urban districts.

District variation might, in turn, have an impact on the sentencing decisions observed across districts. If sentences are influenced by offender and offense characteristics, and there is sentence variation across districts, this fact is important in understanding geographic "disparity." Thus, selected variables were cross-tabulated using district as the independent measure. Although there were few significant interdistrict differences with regard to the analysis of offender characteristics, those that were discovered are noted below.

First, the Middle Florida, Northern Ohio, and Northern California districts had a much higher proportion of nonadministrative (including non-bank personnel) bank embezzlers than administrative employee embezzlers. In the five other districts, the proportions of administrative and nonadministrative personnel who were involved in embezzlement were roughly the same.

Second, examination of the sex of embezzlers across districts indicated that in Connecticut, Eastern New York, and New Jersey, male offenders predominated (63 percent, 74 percent, and 70 percent of the total embezzlers, respectively). Alternatively, 63 percent of the embezzlers from the Northern District of California were female.

In addition, a one-way analysis of variance was executed in order to examine whether the eight factor measures varied by district. Differences between districts were statistically significant with respect to defendants' employment histories; however, significant district differences for the several other

factors were not found. Mean scores for the factor "employment history" indicated that in the Eastern District of New York and in Northern Ohio unemployment histories were noticeably more prevalent than in each of the other districts. Interestingly, offenders' prior records, ages, and the criminal histories of their family members or cohabitants did not vary.

With respect to interdistrict offense differences, variation for several measures was statistically significant. First, examination of embezzlement methods across districts revealed that 30 percent of the embezzlements in New Jersey involved manipulation of bank forms, although the percentages of such manipulations in other districts were considerably smaller. Recall that such manipulations result in a substantially greater loss to the bank than do cash thefts. Considering these two bits of information, stiff sentences for many New Jersey embezzlers would be expected.

Second, there were significant district differences with respect to the length of offender involvement in embezzlement. In New Jersey, Middle Florida, Northern California, and Western Oklahoma between 23 percent and 30 percent of the embezzlers had committed embezzlement only once. There were considerably fewer one-time embezzlers in Northern Ohio, Connecticut, and New Mexico and somewhat fewer "one-timers" in Eastern New York. In fact, in New Mexico and Western Oklahoma, 44 percent and 31 percent of the embezzlers, respectively, were involved in embezzlement from six months to one year. However, between 10 percent and 13 percent of the embezzlers in each of the other districts were similarly involved. Twenty-eight

percent of the embezzlers in Eastern New York, were embezzling between one and three years compared with 20 percent or fewer of the offenders in each of the other districts.

Third, in Western Oklahoma, Middle Florida, and Northern Ohio, the mean amounts of money embezzled were between \$25,000 and \$36,000. In Connecticut, Eastern New York, and Northern California the mean amounts of stolen funds were between \$50,000 and \$59,000. Larger mean sums were stolen in New Mexico (\$73,000), where it should also be noted that the sample size was small, and in New Jersey (\$109,000). The large amounts pilfered in New Jersey would perhaps be expected in light of the information cited earlier that many New Jersey embezzlers engaged in lucrative embezzlement techniques.

In conclusion, although few district differences were discovered with respect to offense and offender characteristics, those that were revealed are likely to cause sentences to vary across districts. One would suspect, in particular, that different districts would necessarily reflect sentencing variation.

#### D. SENTENCING BANK EMBEZZLERS

Although ostensibly a white collar offense, bank embezzlement frequently results in a small dollar loss and often resembles petty theft. The offense is generally committed by persons who demonstrate stable community and social ties. It is not surprising, then, that sentences tend to be "light."

In our sample of 494 bank embezzlers, only one in four received any prison time, and even when prison or jail was

imposed, better than half the offenders received less than a one-year maximum term. On average, a convicted bank embezzler could expect to serve just more than two months (ten months for those persons sentenced to prison). As subsequent chapters demonstrate, these sentences are ~~lighter than the sentences~~ received by most other groups of offenders included in our study.

A number of factors account for whether an offender will be incarcerated, the length of time served if incarcerated, and the length of supervision if sentenced to probation. It is convenient to group these factors into four categories: offender characteristics, prior criminal record, offense characteristics, and processing variables. We discuss each category below.

Factor analysis was used to derive eight factors representing an offender's personal characteristics. The factor analysis is discussed in Appendix A; the eight factors are described here.

The offender's employment history was captured in the factor EMPLOY, which reflected his employment status at the time the PSI was written, his employment one month prior to conviction, his employment over the past two years, and whether he supported himself. MARITAL, the second factor, was correlated with the offender's marital ties and whether he provided emotional and financial support for dependents. The extent to which the offender has known criminal associates among friends, family, and cohabitants, is indicated by the variable CRI. CON.; the variable LEG. SUPPORT indicates

whether friends, family, and cohabitants are judged to support the offender in leading a legitimate life-style.

The variable UPBRING provides insight into whether the offender's family was known either to abuse him or, at least, to have had difficulty supporting him during his formative years. Likewise, SOCIAL ADJ. indicates whether the offender had difficulty adjusting, either socially or educationally, during his school years. COMMACT is correlated with community activity, and a final factor, MIXED, is correlated with several residual variables and has no specific nomenclature.

In addition to the variables derived from the factor analysis, three other background variables enter the statistical model: MALE indicates that the offender was a man; WHITE indicates that he was not a member of a minority group; and AGE is the offender's age in years.

In general, presentence investigation reports provide extensive information concerning past criminal histories. But bank embezzlers infrequently have prior convictions or arrests, and thus, the criminal record variables used in this study were limited. A past conviction resulting in probation or jail is indicated with the variable RECORD. Altogether, 70 embezzlers had prior convictions, and 53 of these were limited to previous terms of probation. Beyond prior convictions, DETAINER indicates that there were detainers pending against the offender at the time of conviction.

Several offense variables entered the analysis. The amount stolen was categorized as: less than \$1,000, between \$1,000 and \$10,000 (BETWEEN 1-10K), between \$10,000 and \$100,000

(BETWEEN 10-100K), and greater than \$100,000 (MORE THAN 100K).

The logarithm of the number of months involved in the embezzlement (TIME INVOLVED), the fact that the offender actually stole more than was indicated in the convicting offense (ACTUAL), and the offender's position in the bank (OFFICIAL or EMPLOYEE with non-bank employees being a residual group) were additional offense variables. If the offense involved a conspiracy, the offender's role was noted: ORG. CON. means that the offender organized the conspiracy, EQUAL PART. means that he shared an equal degree of participation with other conspirators, and SUBORDINATE indicates that he played a subordinate and minor role in the conspiracy.

Processing variables included whether the offender was convicted at trial (TRIAL), the logarithm of the number of counts in the convicting offense (COUNTS), and whether the offender supplied information leading to the arrest or prosecution of others (SUPPLIED INFO).

As we discussed in Chapter II, both the in/out model and the expected length of incarceration model were adopted to analyze the effect that the above variables have on the sentences received. In the in/out model, we first examined whether the offender was sentenced to prison. Then, selecting only offenders receiving some prison time, we examined those factors that determined how much time was served.

Once the in/out model was estimated, we turned to the expected length of incarceration model. Here the expected length of incarceration was determined from the entire complement of data, not just from offenders sentenced to jail

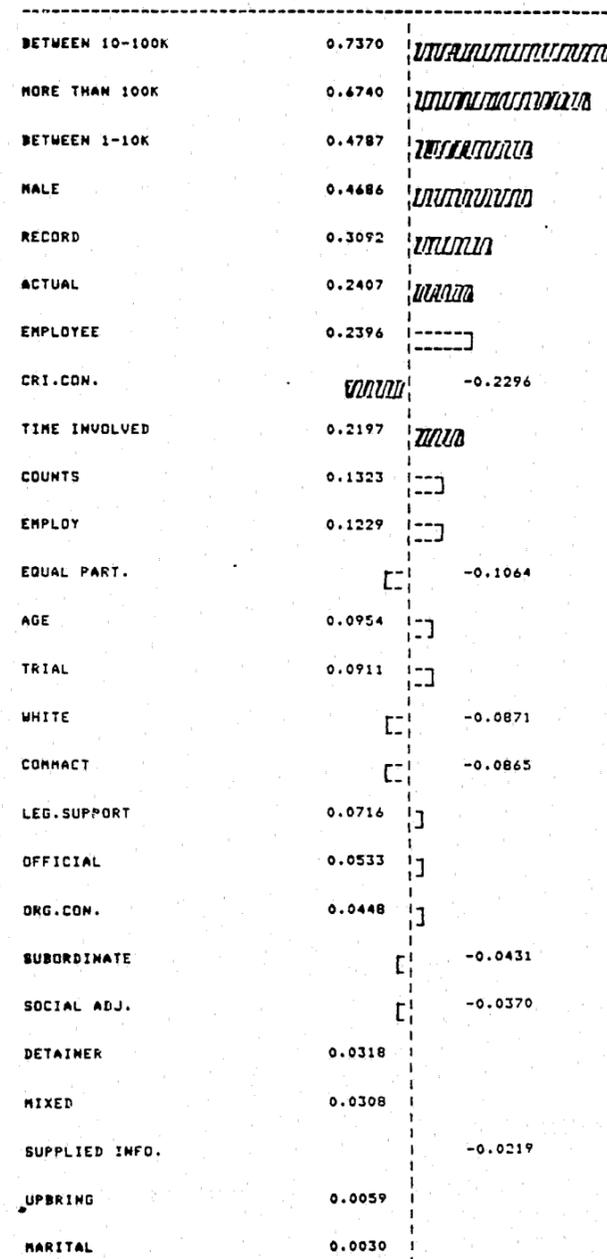
or prison. This section closes with an estimate of the length of probation served by offenders sentenced to probation. Complete regression results are reported in Appendix B.

With regard to the probability that a given offender will be sentenced to prison, the amount of money embezzled is an important factor (see Table V.1 for the compared importance of independent variables). Relative to offenders who stole less than \$1,000, offenders taking between \$1,000 and \$10,000 are .14 more likely of serving at least some prison time. The probability increases by about .43 for offenders stealing between \$10,000 and \$100,000, and by .74 for offenders stealing in excess of \$100,000. If the offender stole more than was indicated in the convicting offense, the probability of prison increased by about .08.

Other offense-related variables had little or no impact on the decision to imprison. Holding other variables constant, no relationship was uncovered between the offender's position in the bank and his chances of prison, although bank officials tended to steal more money and, thus, went to jail more frequently than did employees. Nor was the fact that a conspiracy occurred likely to make a jail term more likely, although the rareness of embezzlement conspiracies (13 percent) may account for this finding.

In addition to the magnitude of the offense, the fact that an offender had a criminal record played some role in the decision to sentence him to prison, increasing his probability by about .21. The only social background variables that mattered were the fact that the offender was male (which

Table V.1  
 THE RELATIVE IMPACT OF DEFENDANT AND OFFENSE  
 CHARACTERISTICS ON THE DECISION TO IMPRISON,  
 IN/OUT MODEL (BANK EMBEZZLEMENT)



NOTE: THE BARS REPRESENT THE RELATIVE SIZE OF THE BETA WEIGHTS AS DETERMINED FROM THE PROBIT MODEL. VARIABLES THAT WERE STATISTICALLY SIGNIFICANT AT .05 HAVE BEEN SHADED.

increased the probability of prison by almost .18) and the fact that the offender was known to have contacts with other persons with criminal records.

Processing variables seemed to have no influence on the probability of prison. Note that conviction by trial did not increase the probability of prison. Nor did the number of counts in the convicting offense. Nor did the fact that the offender supplied information leading to the arrest or prosecution of others.

Examining results from the second step in the in/out model (Table V.2), very few variables were discovered to influence the length of time served.

To summarize, time served is a bit longer for persons stealing in excess of \$100,000 and a bit longer when there are multiple counts in the convicting offense. And offenders with stable marital ties seem to serve somewhat less time. Bank employees spend somewhat less time in prison than do bank officials. Otherwise, this model sheds little light on the determinants of the length of time served. However, there were very few observations on persons sentenced to prison (n=101), which may explain the lack of correlation between dependent and independent variables. It is more interesting to investigate the variables that seem to matter in determining time served, using the expected length of incarceration model.

This model leads to conclusions that are only slightly different from the statistical analyses of the in/out decision (Table V.3). The magnitude of the offense is seen to have an important impact on the length of time served. To illustrate,

Table V.2  
 THE RELATIVE IMPACT OF DEFENDANT AND OFFENSE  
 CHARACTERISTICS ON THE LENGTH OF INCARCERATION,  
 IN/OUT MODEL (BANK EMBEZZLEMENT)

|                 |         |  |
|-----------------|---------|--|
| MORE THAN 100K  | 0.5870  |  |
| EMPLOYEE        | -0.3110 |  |
| BETWEEN 10-100K | 0.2520  |  |
| MARITAL         | -0.2150 |  |
| COUNTS          | 0.2050  |  |
| ACTUAL          | 0.2020  |  |
| MIXED           | 0.1960  |  |
| OFFICIAL        | -0.1820 |  |
| AGE             | -0.1720 |  |
| BETWEEN 1-10K   | 0.1690  |  |
| DETAINER        | 0.1680  |  |
| SUBORDINATE     | -0.1010 |  |
| SUPPLIED INFO.  | 0.0740  |  |
| EMPLOY          | 0.0710  |  |
| TIME INVOLVED   | -0.0710 |  |
| SOCIAL ADJ.     | -0.0700 |  |
| LEG.SUPPORT     | 0.0570  |  |
| EQUAL PART.     | 0.0470  |  |
| UPRRING         | -0.0460 |  |
| TRIAL           | -0.0400 |  |
| RECORD          | 0.0370  |  |
| MALE            | -0.0350 |  |
| ORG.COM.        | 0.0310  |  |
| CONTRACT        | 0.0290  |  |
| CRI.COM.        | -0.0240 |  |
| WHITE           | -0.0090 |  |

NOTE: THE BARS REPRESENT THE RELATIVE SIZE OF THE BETA WEIGHTS AS DETERMINED FROM THE OLS MODEL. VARIABLES THAT WERE STATISTICALLY SIGNIFICANT AT .05 HAVE BEEN SHADED.

Table V.3  
 THE RELATIVE IMPACT OF DEFENDANT AND OFFENSE  
 CHARACTERISTICS ON THE EXPECTED LENGTH OF TIME SERVED,  
 EXPECTED LENGTH OF INCARCERATION MODEL (BANK EMBEZZLEMENT)

|                 |         |  |
|-----------------|---------|--|
| MORE THAN 100K  | 7.2872  |  |
| BETWEEN 10-100K | 7.2297  |  |
| BETWEEN 1-10K   | 5.1974  |  |
| MALE            | 3.4271  |  |
| ACTUAL          | 2.8797  |  |
| RECORD          | 2.2292  |  |
| CRI.COM.        | -1.8327 |  |
| COUNTS          | 1.2022  |  |
| LEG.SUPPORT     | 1.1532  |  |
| TIME INVOLVED   | 1.0438  |  |
| EMPLOY          | 0.9980  |  |
| WHITE           | -0.8962 |  |
| MIXED           | 0.7920  |  |
| DETAINER        | 0.7766  |  |
| MARITAL         | -0.7233 |  |
| SOCIAL ADJ.     | -0.6265 |  |
| EMPLOYEE        | 0.6185  |  |
| SUBORDINATE     | -0.5905 |  |
| CONTRACT        | -0.5694 |  |
| EQUAL PART.     | -0.3587 |  |
| ORG.COM.        | 0.2680  |  |
| TRIAL           | 0.2513  |  |
| OFFICIAL        | -0.1980 |  |
| AGE             | 0.1049  |  |
| UPRRING         | 0.0743  |  |
| SUPPLIED INFO.  | 0.0610  |  |

NOTE: THE BARS REPRESENT THE RELATIVE SIZE OF THE BETA WEIGHTS AS DETERMINED FROM THE TOBIT MODEL. VARIABLES THAT WERE STATISTICALLY SIGNIFICANT AT .05 HAVE BEEN SHADED.

**CONTINUED**

**1 OF 4**

persons stealing between \$1,000 and \$10,000 can expect to serve--on average--11 months more than offenders stealing less than \$1,000. Compared with persons stealing less than \$1,000, those stealing between \$10,000 and \$100,000 received 19 months of additional time, and those stealing more than \$100,000 received an additional 33 months. Offenders who stole more than they were actually convicted of embezzling could anticipate an additional 6 months of time.[6]

Other offense variables played a less important role. The duration of the offense was not correlated with the length of time served. Neither did the offender's role in a conspiracy seem to matter, nor the offender's position with the bank.

The offender's prior criminal record was influential: offenders who had been previously convicted served an additional seven months. But other background variables did not seem to influence the length of prison time served, with only two exceptions. Males could expect to serve seven months more than females. And persons with known contacts among other known offenders tended to do more time.

Considering processing variables, the number of counts in the convicting offense was positively correlated with the length of a prison stay. In contrast, offenders convicted by trial served no longer sentences than offenders convicted by guilty plea, and offenders who supplied information leading to the arrest or conviction of others received no special leniency.

Turning from the length of a prison sentence to examine the length of probation for those offenders sentenced to probation, findings were consistent with those reported above. The

magnitude of the offense is most important in determining the length of probation. Relative to offenders embezzling less than \$1,000, embezzlers stealing between \$1,000 and \$10,000 serve an additional nine months. Offenders stealing in excess of \$10,000 serve an extra 18 months. Note also that offenders stealing more than the amount for which they were convicted receive a five-month increment of probation time. Other variables exerted little influence over the length of probation.[7]

To summarize these findings, it is evident that the magnitude of the offense is very important in determining whether an offender goes to prison, the length of time served if incarcerated, and the length of probation if not incarcerated. A criminal record also increases sentence severity.

Background variables had little or no impact on the severity of the sentence, and this finding deserves some comment, especially since these same background factors will be seen to be important in determining the sentences received by other federal offenders. This finding may be attributable to the fact that bank embezzlers are quite homogeneous. That is, they all are similar in that they are steadily employed and have overall stable social ties. Because of these similarities, it is impossible to draw an inference from these findings about how judges would sentence embezzlers if some embezzlers lacked this stability. Consequently, the findings may say little about the motivations of judges and parole

officials, but much about the limitations of this particular data sample.

Processing variables--notably the occurrence of a trial--had no evident influence on the severity of the sentence. Might we infer from this that a guilty plea receives no sentence concession in the federal system? In fact, analysis completed for other federal offenses indicates that a guilty plea is consistently rewarded with leniency, and these findings for embezzlement are anomalous. In attempting to explain this anomaly, we must point out that only 4 percent of federal embezzlers go to trial. Like trying to infer whether social backgrounds matter in the sentencing process when all offenders look alike, it is difficult to conclude whether conviction by trial leads to a more severe sentence when so few trials are observed. Thus, data limitation may explain the apparent absence of sentence concessions for embezzlers.

#### E. INTERDISTRICT SENTENCING COMPARISONS

From the previous section, it can be seen that considerable regularity exists in the sentencing of bank embezzlers. An interesting question arises regarding whether this regularity is preserved across district courts. That is, do the same offense and offender characteristics have the same impact across districts?

To investigate this possibility, it was necessary to specify a parsimonious model containing a subset of variables entering into the full analysis. This parsimonious model retained the important offense variables: BETWEEN 1-10K, BETWEEN 10-100K, MORE THAN 100K, ACTUAL, and TIME INV. The

defendant's criminal record (RECORD), his sex (MALE), and the number of counts in the convicting offense (COUNTS) were also retained.

The results from using this subset of variables to predict the in/out decision and the expected length of incarceration are reported in Appendix B. Of interest here is whether these factors seem to have different impacts across the districts. According to an F test on the probability of prison, imposition of a prison sentence does differ across the districts. As an illustration, in each of four study districts (there were insufficient observations in Eastern New York, New Mexico, Western Oklahoma and Connecticut to allow analysis) there was consensus that offenders stealing less than \$1,000 would rarely go to prison. This was also true of offenders stealing between \$1,000 and \$10,000, although the incidence of prison for these offenders was more frequent in each district. Here the consensus ended. In Middle Florida, most offenders stealing in excess of \$10,000 were sentenced to prison. In Northern California, a prison sentence became highly likely only if the amount stolen exceeded \$100,000. In the other two districts (New Jersey and Northern Ohio), a prison term was unlikely no matter what the amount of money stolen. These findings are consistent with the hypothesis that a prison term is imposed differentially across federal courts.

This interdistrict difference seems to carry over when examining the expected length of time served. Using a likelihood ratio test, chi-square was statistically significant at .01, indicating that the expected length of time served

differed across districts. To illustrate, in three districts there was agreement that offenders stealing over \$100,000 would serve about three years longer than offenders stealing less than \$1,000. In the fourth district, such a long sentence was not imposed, even for the most serious offenses. In three of the districts, there was agreement that offenders stealing between \$10,000 and \$100,000 would serve 11 to 22 months more than offenders stealing less than \$1,000. But in a fourth, this group could expect closer to three years. It is interesting that these differences persist despite a uniform parole policy used by the U.S. Parole Board, which implies that the sentence differences can be attributed to judicial decision making.

It can be concluded that there are differences in the patterns of sentencing bank embezzlers across U.S. District Courts. It is somewhat less clear that these differences are large; the significance of the differences is subject to judgment. Neither is it clear that they represent disparity in sentencing, as the appropriateness of sentencing differences is a normative, not an empirical, question. But the analysis does seem to point toward differences in the sentencing of bank embezzlers across federal districts.

#### NOTES

1. D. R. Cressey, "The Criminal Violation of Financial Trust," American Sociological Review 15 (1950): 738-743.
2. G. Robin, "White Collar Crime and Employee Theft," Crime and Delinquency 20, no. 3 (July 1974): 251-262.
3. This issue is discussed generally by Cressey, "The Criminal Violation of Financial Trust"; and Robin, "White Collar Crime and Employee Theft."
4. See Robin, note 2.
5. "U.S. Attorneys Do Not Prosecute Many Suspected Violators of Federal Laws," publication number GGD-77-86 (Washington, D.C.: General Accounting Office, 1978); "United States Attorneys Written Guidelines for the Declination of Alleged Violations of Federal Criminal Laws" (Washington, D.C.: U.S. Department of Justice, November 1979).
6. In interpreting these figures, it must be recalled from Chapter III that the comparisons ignore the fact that the variables influence the probability of prison as well as the length of a prison term. The comparisons made in the text ignore the fact that the probability of prison is affected.
7. This same regression was run using the maximum sentence imposed by the judge as the dependent variable and tobit as the estimating technique. The same list of independent variables was statistically significant in this second run. Therefore, it appears that the policy of the U.S. Parole Commission does not much alter the judicially imposed sanction.

## VI. INCOME TAX

According to the Internal Revenue Service, seventy-five to one hundred billion dollars of legal income was unreported in 1976, which resulted in a tax loss of thirteen to seventeen billion dollars. Between twenty-five and thirty-five billion dollars of illegal income was also unreported, causing an additional loss of between six and nine billion dollars.[1] These figures confirm that income tax violations are a major social problem.

Although tax violations are costly, serious empirical examination has been markedly absent. It is important to speculate about the reasons for this research hiatus, especially since these speculations may be relevant to explaining the way that judges view violators.

In part, the lack of research may stem from general public ambivalence about white collar crime. Since white collar offenses involve neither violence nor injury, they are likely to receive little publicity compared with the every day crimes reported in local newspapers. Additionally, there is no ready victim demanding retribution and no concerned public insisting on protection. On the contrary, the injury from the offense is diffuse, and the government is unlikely to appear as a mistreated victim.

Besides having a missing "victim," the crime is likely to be committed by an offender who may be somewhat insulated against public outcry by virtue of his social and economic status. Sutherland made the point that the white collar violator is typically a person of respectability, such as a

doctor or businessman, and is afforded public trust and perhaps tolerance because of his social position.[2] Although the empirical analysis presented later in this chapter indicates that Sutherland's description somewhat overstates the social standing of income tax violators convicted in federal court, it is nevertheless true that income tax violators appear more respectable than routine federal offenders.

Moreover, a person convicted of income tax evasion may be viewed as an average citizen who has somewhat overstepped the bounds of propriety. His offense may be one of degree rather than kind. In particular, since each person with an income must pay taxes, each person is afforded some appreciation of the tax evader's offense. The resulting public "empathy" is clearly missing for offenses like bank robbery and homicide. Also, there may be common public appreciation for individuals who successfully discover legitimate tax loopholes and, to a lesser extent, the same acclaim may be granted to persons who employ illegitimate means to escape taxation.

Finally, it should be pointed out that most tax violations are processed administratively or civilly. This may further restrict feelings about the magnitude of the offense.

The above is speculative, of course, but to the extent that it reflects the view of the general population, it may also be true of federal court judges. We are not saying that judges perceive income tax violations as trivial. On the contrary, nearly 40 percent of the offenders in our sample were incarcerated. We are, however, anticipating a lack of agreement among judges according to the ways in which income

tax violators should be sentenced--with some judges treating income tax violation as a serious offense, and others viewing it as less serious. The implication of this is twofold. First, if there is disagreement across judges concerning the magnitude of the offense and the deservedness of sanction, then it might be expected that statistical analysis will have less explanatory power than the analysis for other, less ambiguous offenses. Second, to the extent that judges are ambivalent about sentencing income tax violators, we would expect sentencing disparity.

In this chapter we will attempt to discern the factors that influence judges in sentencing income tax evaders. The chapter opens with a discussion of the offense and then turns to a discussion of the offender. Next, we examine the factors that "matter" in the sentencing decision. Following the pattern set in the previous chapter, we will examine two models: the bifurcated sentencing model and the single-step sentencing model. The chapter closes with a statistical test of interdistrict sentence disparity.

#### A. THE OFFENSE

In this section we provide a statistical description of income tax violations. The intent is to provide an overview of the extreme types of cases: those that judges typically consider as the least serious and deserving of probation and those that judges typically consider to be the most serious and deserving of incarceration. Thereby, we hope to provide a "feel" for the range of offenses observed under the generic category "income tax."

Offenses observed in the PSI data fell into two major categories: (1) failure to file or misreporting of personal or business income and (2) failure to file or misreporting of business regulatory taxes, especially social security and employee withholding.

When the violation was failure to report, or misreporting of personal or business income, the average offender was involved in internal revenue code violations over a four-year period (he was convicted of an offense extending, on average, over a two-year period). The mean cumulative income for this four-year period was over \$100,000, and the mean amount of taxes paid was only \$6,000; the average defendant's tax bill actually came to about \$33,000. Interestingly, the amount owed in the offense leading to conviction averaged almost \$30,000, not much less than the amount owed in the actual offense, which implies that charge reductions are minimal.

Comparing violations of business regulatory taxes, it was generally true that the offender failed to pay either employee or social security withholding (frequently both). The average length of involvement in this type of offense was 2.5 years (1.3 in the offense leading to conviction). The mean amount of tax money owed was about \$28,000, although the amount in the offense leading to conviction was much less--an average of about \$12,000.

Unlike persons who manipulated personal or business income tax returns, the majority of those who committed regulatory tax violations cited debt as their motivating force.

There is considerable range about the above averages. Some offenses seem almost trivial, and others appear much more serious. Looking at offenders who were least likely to go to prison, we found that they were involved in income tax violations for an average of two years. They were convicted of failing to pay less than \$10,000. According to the PSI, they generally made little or no sophisticated effort to conceal their offenses. They tended to be convicted by guilty plea. In contrast, the more serious offender, who was likely to be sentenced to prison, was involved in the offense for an average of four years and failed to pay more than \$50,000. About half of these offenses were failure to pay taxes on income derived from an illegal source. These offenders were likely to have been convicted by trial (79 percent) and more frequently employed sophisticated methods to hide their offenses.

#### B. THE OFFENDER

In this section, the social and economic backgrounds of income tax violators are described and compared with the backgrounds of other federal offenders. The comparisons are drawn from the factor analysis described in Chapter IV. Descriptive statistics are also reported for salient background factors.

Like bribers and bank embezzlers, income tax violators have stable socioeconomic backgrounds. Relative to offenders in eight other offense groups, income tax violators were about average in terms of stability of their childhood backgrounds. For most of them, their parents had little difficulty supplying the "necessities" of life. Most suffered no childhood abuse.

And income tax offenders ranked high on the factor that measured academic adjustment, evidenced by a mean of 11.5 years of school.

The difference in the social adjustment of embezzlers, tax violators, and bribers is negligible. Seventy-five percent were reported to be involved in community activity.

Almost four of every five tax offenders were married. They were more likely to be married and providing emotional and economic support to dependents than offenders from any other offense group except bribery. The comparison with other offenders also showed that income tax violators frequently have family members who, in the opinion of the probation officer, would likely promote a legitimate life style. Only embezzlers had a higher score in this regard. In addition, the probation officer was more likely to judge the income tax violator as receiving support from friends in retarding criminal activity.

None of the income tax violators had a reported drug addiction or alcohol dependency. It is not surprising that, relative to other offenders, income tax violators were free of heavy drug use.

The average income tax violator also had solid economic ties. Eighty-one percent were steadily employed when the PSI report was written. Eighty-six percent owned or were buying their own car; 72 percent owned or were buying a house. The average offender's assets were about equal to his debt. Thus, it is not surprising that the employment factor for income tax violators outshines the employment factor for other violators. Of course, this finding was expected, given the nature of the offense.

Finally, examination of prior records reveals that while almost one in five offenders earned their unreported income in criminal activities, and that many had arrest records, income tax violators were far from career criminals. Virtually none had charges pending at the time of arrest (6 percent), had used an alias (5 percent), or were arrested for any offense following the instant arrest for tax violations (6 percent). Still, almost half had an arrest record. Nevertheless, most of their previous convictions resulted in probation, and almost all income tax offenders were released prior to trial, indicating confidence on the part of the judge that these offenders were likely to appear for trial and were unlikely to pose a significant threat if released into the community.

Overall, then, tax violators had backgrounds that were similar to the backgrounds of other white collar offenders. They demonstrated active involvement in social and community affairs, relatively stable social and economic ties, and no drug involvement. They had frequently had some previous contact with the criminal justice system, although the majority of those contacts resulted in probation.

#### C. INTERDISTRICT COMPARISONS

When offender characteristics were compared across districts, significant differences emerged. First, recidivists were more concentrated in Connecticut, Middle Florida, Northern Ohio, and Northern California, where over 40 percent of the offenders had previous convictions. In the remaining districts, prior convictions existed for between 17 and 28

percent of the sample. In addition, 29 percent of those offenders from Northern California, and 21 percent from Northern Ohio, had served previous prison terms. These findings imply that the districts vary considerably in the criminogenic tendencies of persons convicted of tax violations.

Second, when the nine factor score measures were compared across districts, additional interdistrict differences emerged. Marital ties were strongest in New Jersey and Western Oklahoma, and lowest in Northern New Mexico and Northern California. Other family ties were strongest in New Jersey; they were weakest in New Mexico and Eastern New York. With respect to social adjustment, offenders were "best adjusted" in Northern Ohio and Northern California, and least well "adjusted" in Western Oklahoma and Eastern New York. Scores for mental health and other health factors varied similarly. Although no causal significance need be attached to these findings, they do indicate considerable variance in the backgrounds of income tax violators convicted across the federal criminal justice system.

Third, investigation of offense characteristics across districts also revealed significant differences. For example, while unreported income was generally derived from legitimate sources, two districts (Connecticut with 23 percent and Eastern New York with 28 percent) convicted a disproportionate number of offenders who derived income from illegal sources. Interestingly, a negligible percent (2 percent) of the total sample had organized crime ties, contrary to our expectations that the tax laws might be used to prosecute organized crime figures who otherwise might be immune from the criminal codes.

Still, it seems reasonable to conclude that prosecutors in Connecticut and Eastern New York used the tax codes to convict offenders who, frequently, were violating laws in addition to the internal revenue codes.

In addition to the source of income, the average length of time that an offender was involved with income tax violations varied across districts. Although the differences in time involved were not great, there were large differences in the amount of tax money owed. Northern California violators tended to owe the most; conversely, individuals from Northern New Mexico owed the least. For violators in Middle Florida, Connecticut, and Western Oklahoma, the amount owed averaged between \$16,000 and \$48,000. The mean amount owed in Eastern New York, New Jersey, and Northern Ohio was between \$48,000 and \$100,000. Thus, it would appear that income tax offenses resulting in convictions are not homogenous across districts, but rather, the seriousness of the offense (as indicated by the amount of tax money owed), how the income was obtained, and the defendant's culpability vary greatly across federal district courts.

In light of these findings, it is reasonable to conclude that the background of convicted federal tax code violators and the magnitude of the offenses leading to their conviction vary considerably across the federal district courts. Because of this variation, it is reasonable to anticipate that the sentences meted out to income tax violators might also vary across districts. But not all these variations could necessarily be attributed to interdistrict differences in offenses and offenders. Some variation may be attributable to

differing attitudes toward the appropriate sentence to administer to similar offenders convicted under similar circumstances. In the next section, we investigate the determinants of sentences received by federal tax violators. Following that, attention turns back to the question of interdistrict variation.

#### D. SENTENCING INCOME TAX VIOLATORS

In earlier sections, we demonstrated that income tax violators tend to come from fairly stable and well-off backgrounds, relative to offenders convicted of many other federal offenses. It was also shown that income tax violations frequently involve significant sums of money and that it is not usual for the offender to engage in tax evasion for a number of years. Additionally, it is evident that the characteristics of offenders and offenses vary across the districts examined.

In this section, the discussion concentrates on the sentences given to income tax violators. Estimates of sentences are provided using both the in/out model and the expected length of sentence model.

With respect to sentences, it is evident that federal judges do not treat tax evasion as a trivial offense. On the contrary, almost 40 percent of those persons convicted of tax evasion go to prison. On average, persons going to prison are sentenced to a maximum term of 10 months and actually serve an average of 6 months before being released by prison or parole officials.

Twenty-one variables were selected as possibly influencing sentences. One subset of these variables describes the

offense. It was possible to determine the number of years over which the offender had engaged in tax evasion (YACT), whether he failed to pay more than \$48,000 (HIGH AMOUNT) or between \$4,000 and \$48,000 (MID AMOUNT), whether he appeared to owe more in the actual offense than the offense for which he was convicted (OWED-ACTUAL), and whether his income was derived from an illegal source, such as illicit gambling (ILLEGAL INCOME). Together, these variables represent the magnitude of the offense.

A second subset of variables represents processing variables. The fact that the offender was convicted by trial (TRIAL) is indicated, as are the most severe maximum sentence that could be received given the counts included in the convicting offense (MOST SEVERE) and the number of counts for which the offender was convicted (COUNTS). These variables allow us to discern something about the effects of plea bargaining and also the formal requirement of the law.

The offender's personal characteristics are represented by a third set of variables. The variable MALE indicates that the offender is a man, AGE indicates his age, and WHITE indicates that he was not a member of a minority group. Several factor scores round out his background: EMPLOY reflects his employment history; LEG SUP indicates the extent to which he is expected to receive support toward leading a legal life-style; HEALTH reflects his mental stability; CHILDHOOD ADJ summarizes early school and social adjustments; FORMATIVE YRS provides information on the extent to which his pre-adult years were

difficult; SOCIAL indicates his social activities; and FAMILY summarizes the criminogenic background of his family.

The offender's criminal history is reflected in the variable PRIOR CONV, which simply indicates that he was previously convicted. The extent of these previous convictions did not seem to matter in distinguishing the severity of the sanction. Thus, this simple variable was used in the analysis.

Looking at the decision to imprison (see Table VI.1), it is interesting that in contrast to the sentences of embezzlers, which were largely unaffected by the type of disposition, income tax violators can expect harsher treatment if convicted by trial. According to the regression results reported in Appendix B, a trial increases the probability of prison by about .30. It is also worth noting that the sentence concessions awarded to offenders convicted by plea go beyond the charge and count reductions agreed to by the prosecutor. That is, even after the elements of the convicting offense have entered the model, the fact that a trial occurred seems to increase the sentence received. Other processing variables--the number of counts and the maximum sentence prescribed by law--had little or no impact on the decision to incarcerate.

The magnitude of the offense influences the probability of a prison sentence. Persons failing to pay tax for a prolonged period of time are more likely to go to prison, and those who have failed to pay more than \$48,000 can expect to go to jail more often. There was no strong relationship between the amount of tax avoided and the probability of prison when the

Table VI.1

THE RELATIVE IMPACT OF DEFENDANT AND OFFENSE CHARACTERISTICS ON THE DECISION TO IMPRISON, IN/OUT MODEL (INCOME TAX)

| Variable       | Beta Weight | Significance |
|----------------|-------------|--------------|
| MALE           | 0.4048      | Shaded       |
| TRIAL          | 0.3015      | Shaded       |
| YACT           | 0.2593      | Shaded       |
| HIGH AMOUNT    | 0.2012      | Shaded       |
| EMPLOY         | 0.1697      | Shaded       |
| LEG SUP        | 0.1566      | Shaded       |
| AGE            | -0.1417     | Shaded       |
| COUNTS         | 0.1093      | Not Shaded   |
| MID AMOUNT     | 0.0978      | Not Shaded   |
| MOST SEVERE    | 0.0921      | Not Shaded   |
| PRIOR CONV.    | 0.0913      | Not Shaded   |
| FAMILY         | 0.0891      | Not Shaded   |
| CHILD ADJ      | -0.0769     | Not Shaded   |
| SOCIAL         | 0.0650      | Not Shaded   |
| MARITAL        | 0.0650      | Not Shaded   |
| OWED ACTUAL    | 0.0621      | Not Shaded   |
| ILLEGAL INCOME | 0.0602      | Not Shaded   |
| FORM YRS       | 0.0599      | Not Shaded   |
| CONCEAL        | 0.0546      | Not Shaded   |
| HEALTH         | -0.0466     | Not Shaded   |
| RACE           | -0.0433     | Not Shaded   |
| MENTAL         | 0.0385      | Not Shaded   |

NOTE: THE BARS REPRESENT THE RELATIVE SIZE OF THE BETA WEIGHTS AS CALCULATED FROM THE PROBIT MODEL. VARIABLES THAT WERE STATISTICALLY SIGNIFICANT AT .05 HAVE BEEN SHADED.

amount involved was less than \$48,000. The extent to which the offender tried to conceal his offense mattered little in the decision to imprison. And unlike the findings regarding embezzlement, the difference between the actual amount of taxes avoided and the corresponding amount in the offense leading to conviction appeared to have no effect on the sentence. Perhaps this can be explained by the finding, reported earlier, that charge reductions are minimal for tax violations.

Persons with good employment histories were less likely to serve prison terms. Likewise, if the probation officer indicated that the offender was returning to an environment that was supportive of a legitimate life-style, the offender was less likely to go to jail. With the exception of age (the very old offenders were marginally less likely to be imprisoned), other background characteristics mattered little or not at all in the sentencing decision. Surprisingly, this conclusion also extends to the offender's criminal history.

Once the decision has been made to institutionalize, the in/out model requires that the length of incarceration be estimated. When this length was estimated, it was discovered that many variables that influenced the decision to incarcerate no longer seemed to affect the length of incarceration, and conversely, variables that were relevant to the length of incarceration seemed not to matter in the decision to incarcerate (see Table VI.2).

The processing variables were important with respect to the length of incarceration. Conviction by trial increased the length of time served by about two months, although the effect

Table VI.2

THE RELATIVE IMPACT OF DEFENDANT AND OFFENSE CHARACTERISTICS ON THE LENGTH OF INCARCERATION, IN/OUT MODEL (INCOME TAX)

| Characteristic | Weight  | Significance |
|----------------|---------|--------------|
| MOST SEVERE    | 0.2870  | Shaded       |
| COUNTS         | 0.2300  | Shaded       |
| HI AMT.        | 0.2230  | Shaded       |
| ILLEGAL        | 0.1870  | Shaded       |
| PRIOR CONV.    | 0.1730  | Shaded       |
| OWED           | 0.1650  | Shaded       |
| TRIAL          | 0.1530  | Shaded       |
| MENTAL         | 0.1230  | Not Shaded   |
| EMPLOY         | 0.1170  | Not Shaded   |
| AGE            | -0.1030 | Not Shaded   |
| HEALTH         | 0.0960  | Not Shaded   |
| CONCEAL        | 0.0750  | Not Shaded   |
| MID.AMT.       | 0.0740  | Not Shaded   |
| FORM YRS       | 0.0560  | Not Shaded   |
| YACT           | 0.0550  | Not Shaded   |
| LEG SUP        | -0.0490 | Not Shaded   |
| MALE           | 0.0370  | Not Shaded   |
| RACE           | 0.0230  | Not Shaded   |
| MARITAL        | -0.0190 | Not Shaded   |
| SOCIAL         | -0.0150 | Not Shaded   |
| CHILD ADJ      | 0.0110  | Not Shaded   |
| FAMILY         | 0.0020  | Not Shaded   |

NOTE: THE BARS REPRESENT THE RELATIVE SIZE OF THE BETA WEIGHTS AS DETERMINED FROM THE OLS MODEL. VARIABLES THAT WERE STATISTICALLY SIGNIFICANT AT .05 HAVE BEEN SHADED.

was not quite statistically significant. The length also increased with both the number of counts involved in the convicting offense and the most severe maximum penalty prescribed by law.

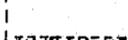
If the offender failed to pay taxes in excess of \$48,000, he could expect to serve an additional three to four months. If his income was derived from an illegal source, then he could count on another three months. We also found that offenders who owed more than the amount indicated officially at conviction could expect to serve somewhat more time.

Prior convictions mattered--adding almost two months to time served. However, no other background variable seemed to matter much toward determining how much time a convicted offender would serve.

The findings from the in/out model can be contrasted with findings from the expected length of sentence model.[3] Starting with the offense variables (see Table VI.3), there is a strong relationship between the severity of the sentence and the seriousness of the offense. Relative to offenders convicted of evading less than \$4,000, persons failing to pay more than \$48,000 could expect an additional six months in jail, and offenders failing to pay between \$4,000 and \$48,000 could expect an additional two months. Offenders who failed to pay for more than one year could expect a sentence that increased by almost three months per logarithm of the year in the offense. That is, an offender who engaged in the crime for five years could expect to serve about two more months than an offender who failed to pay only once. Finally, income derived

Table VI.3

THE RELATIVE IMPACT OF DEFENDANT AND OFFENSE CHARACTERISTICS ON THE EXPECTED LENGTH OF TIME SERVED, EXPECTED LENGTH OF INCARCERATION MODEL (INCOME TAX)

|             |         |   |
|-------------|---------|---|
| MALE        | 2.5916  |    |
| TRIAL       | 1.9132  |    |
| HI.AMT.     | 1.7616  |    |
| MOST SEVERE | 1.4536  |    |
| YACT        | 1.4291  |    |
| EMPLOY      | 1.2625  |    |
| COUNTS      | 1.1944  |    |
| AGE         | -1.1902 |    |
| PRIOR CONV. | 1.0799  |    |
| MID.AMT.    | 0.9772  |    |
| ILLEGAL     | 0.9097  |   |
| OWED ACT.   | 0.8778  |  |
| LEG SUP     | 0.6363  |  |
| CONCEAL     | 0.5088  |  |
| MENTAL      | 0.5060  |  |
| FAMILY      | 0.4625  |  |
| FORM YRS    | 0.3932  |  |
| CHILD ADJ   | -0.3503 |  |
| MARITAL     | 0.3444  |  |
| SOCIAL      | 0.3404  |  |
| RACE        | -0.1163 |  |
| HEALTH      | -0.0668 |  |

NOTE: THE BARS REPRESENT THE RELATIVE SIZE OF THE BETA WEIGHTS AS DETERMINED FROM THE TOBIT MODEL. VARIABLES THAT WERE STATISTICALLY SIGNIFICANT AT .05 HAVE BEEN SHADED.

from an illegal source resulted in almost three additional months in prison. It is evident that judges and parole officials cause longer sentences to be administered to offenders committing more serious crimes.[4]

Processing variables matter in the sentencing decision. Conviction by trial nets an additional six months. The sentence increases by about two months per (the logarithm of) the number of counts in the conviction. And the length of sentence increases with the severity of the legislatively prescribed sanction; each year called for as the maximum causes the actual term served to increase by almost one month.[5]

With respect to personal characteristics, once again it is seen that men do more time than women do (by about one year) and that a good employment history counts to the offender's advantage. The aged offender is less likely to serve a long sentence. And offenders with previous convictions served an additional two months compared with offenders with no previous convictions. Other personal characteristics variables seemed to matter little or not at all in the sentencing decision.[6]

In summary, the severity of the sanction increases with the seriousness of the offense, and the greatest regularity in this regard was found for the expected length of incarceration model. The examination revealed that processing variables--especially the fact that conviction resulted from trial--affected the severity of the sanction. At least for the length of incarceration model, offenders with criminal convictions received lengthier sentences. Finally, background characteristics mattered--particularly age, sex, and employment. These

findings reveal considerable "regularity" in the sentencing decision.

We were unable to uncover any regularity in the length of probation. The regression results are presented in Appendix B, but they reveal nothing other than the findings that offenders sentenced to probation receive, on the average, about two years of supervision.

#### E. INTERDISTRICT SENTENCING DIFFERENCES

The "regularity" revealed in the above analysis does not imply a lack of sentence disparity. On the contrary, many of the parameters estimated above (that is, the effects of the variables) had low t statistics, and hence, we are somewhat uncertain about their exact magnitude. Moreover, the statistical models had low explanatory power when compared with the statistical analysis of the embezzlement data. Much remains to be explained about the sentences administered to income tax violators.

In this section, it is demonstrated that--as in the case of embezzlement--there seems to be considerable disagreement across judicial districts on the sentences that income tax offenders should receive. Even a cursory inspection of three large districts reveals that .57 of the sampled offenders go to prison in Eastern New York, but .28 go to prison in Northern Ohio, and .15 go to prison in New Jersey. Of course, we have already shown that the seriousness of the offense and the background of the offender vary markedly across districts as well, so simple comparison of sentences is misleading, and a

more sophisticated statistical methodology must be employed to discern whether these differences in sentences are attributable to offender and offense differences, or to sentence disparity.

An appropriate test--analysis of covariance--was conducted for three districts where there was a sufficient number of observations to make statistical analysis meaningful: Eastern New York (N=87), New Jersey (N=66), and Northern Ohio (N=82). The nature of this test was simply to compare the weights given various factors in these three districts. Statistical results are summarized in Appendix B.

The model used to test for interdistrict differences consisted of the following variables: COUNTS, YACT; TRIAL, PRIOR CONV., MID. AMT., HI AMT., MALE, MOST SEVERE, AGE, and EMPLOY. Statistical results revealed that, according to analyses of covariance tests, districts differed in the imposition of prison sentences ( $p < .01$ ) and in the length of time served by convicted offenders ( $p < .01$ ).

District differences can be illustrated by inspecting the weights associated with four variables. In the three districts taken together, the logarithm of the number of years involved in the tax violation increased the probability of prison by .16 per logarithm of year. But the impact of years involved varied from .49 in Eastern New York to .02 in New Jersey. Similarly, failing to report more than \$48,000 of taxes increases the probability of prison by .33 in all three districts together, but the effect ranges from .50 in Northern Ohio to .11 in Eastern New York. These findings would seem to reflect considerable disparity in either the importance attached to the

seriousness of the offense or to the way that seriousness is measured.

Granting sentence concessions in exchange for guilty pleas seems to differ considerably across districts. Overall in the three districts, a trial increases the probability of prison by about .33. But in Northern Ohio, persons convicted by trial seem almost certain to go to prison, but persons convicted by trial in New Jersey appear to be at no significant disadvantage. And while judges in New Jersey and Northern Ohio appear to give somewhat stiffer sentences to offenders with records, judges in Eastern New York seem to pay less attention to a previous record for this offense.

Parallel findings emerged from analyzing sentence disparity in the length of time served. Years of involvement in the offense increase the length of time served by about seven months per logarithm of year in Eastern New York, but by almost none in the New Jersey. The fact that a large amount of taxes was unpaid caused time served to increase in Northern Ohio, but not in New Jersey. Conviction by trial resulted in more time served in Northern Ohio but not in the other two districts, and a prior record increased the time served by one month in Northern Ohio, three months in Eastern New York, and five months in New Jersey. These results regarding differences in the length of time served agree with findings regarding the probability of prison that considerable sentence differences appear to exist across districts in the federal judicial system.

NOTES

1. Estimates of Income Unreported on Individual Income Tax Returns (Washington, D.C.: Internal Revenue Service Publication no. 1104, September, 1979).
2. E. Sutherland, White Collar Crime (New York: Holt, Rinehart and Winston, 1961).
3. These comparisons ignore the fact that the probability of prison is also affected by these independent variables. See Chapter III for an explanation.
4. The same set of variables are statistically significant in the regression equations that use maximum sentence imposed by the sentencing judge as a dependent variable. However, as would be expected, the coefficients in the maximum sentence regressions exceed those in the time served regressions.
5. The judge himself awards an extra 13 months to offenders sentenced to prison following conviction by trial. The sentence increases by 7 months per logarithm of the number of counts and by almost 2 months per year called for in the legislatively imposed maximum.
6. Examining judicial decision making, men receive sentences almost two years in excess of those women receive; the sentence length decreases with age, decreases with employment, and increases by about four months if there was a prior conviction.

VII. FORGERY

Federal forgeries usually involve the falsification of signatures on stolen U.S. Treasury checks. Often these checks are removed from the mail or stolen from their owner's possession, signed by the thief or by a confederate, and cashed at a bank or store. In a few instances, federal forgeries involve the manufacture of counterfeit currency. The counterfeiter either prints bogus bills or tampers with legitimate notes. As a rule, counterfeiting appears to be unsophisticated and relies more on the victim's gullibility than the offender's criminal skills.

Historically, social science investigations of forgery have largely been limited to interviews with incarcerated local offenders. Key aspects of the forger's personality and social background have been probed, and with few exceptions, investigators have agreed about the social-psychological characteristics that distinguish "typical" forgers. The following discussion highlights these findings.

Research has been focused on two forgery types--occasional and habitual. Less attention has been devoted to occasional forgers than to those in the habitual offender group, but certain similarities between the two can be noted. Whether occasional or habitual, forgers often appear to be well educated and intelligent. Also some research indicates that, regardless of type, forgery offenders come from middle- or upper-middle class homes.[1] Finally, neither type of offender

is likely to have extensive contacts with criminal associates.[2]

Still, habitual and occasional offenders differ drastically in terms of the scopes of their criminal careers. Habitual offenders are recidivists who commit planned or "systematic" offenses.[3] They often appear to be manipulative individuals whose personalities make it difficult for them to maintain friendships and, in particular, marital ties.[4] However, where the occasional forger is concerned, researchers agree that he is not a recidivist and does not have a criminal self-image. In addition, his offenses are usually extemporaneous.[5]

In view of the planned nature of most federal forgeries, it seems most likely that convicted federal forgers resemble the habitual offenders who have been studied locally. In the next section, we describe federal offenders and note the similarities and differences between them and their local counterparts.

#### A. THE OFFENDER

As expected in light of the criminological research, the average forger had a history of weak social ties and an extensive arrest record. However, in contrast with some of the existing research, we found that the federal forger lacked certain aspects of stability that frequently characterize local offenders and also typically differed from white collar offenders.

Three-quarters of the federal forgers were males. The mean age in the sample was 31. Forty-eight percent of the offenders were white and 49 percent were black.

Most federal forgers were chronically unemployed--only 36 percent were steadily employed during the two year period preceding their forgery conviction. As a result, forgers had employment factor scores comparable to those of bank robbers and murderers. Forgers, also like robbers and murders, were unlikely to have marital ties. Sixty-eight percent of the forgers were unmarried at the time the PSI was written.

Forgers were more likely than white collar or mail fraud offenders to use drugs. However, they were somewhat less likely than street offenders to have a high factor score on drug use. Twenty-three percent used marijuana either occasionally or frequently; the same proportion used opiates. Ten percent were depicted as problem drinkers. Interestingly, about one-fifth of the forgery offenses were committed to support drug habits.

Like the typical bank robber, the average forger appeared to have problems with social adjustment. In childhood, 26 percent of the forgers demonstrated poor social adjustment and 38 percent displayed poor academic adjustment. The average forger completed less than nine years of school. Also like bank robbers, a significant proportion of forgery offenders had parents who had difficulty supplying the "necessities of life" (24 percent) or had parents who abused them during their formative years (18 percent).

The average forger had an extensive criminal history. The mean number of prior arrests was seven; only 17 percent of the offenders lacked arrest histories. Seventy percent of the forgers had prior property arrests, 59 percent had previously been arrested for nuisance offenses, 38 percent for crimes against persons, and 29 percent had drug arrest histories. Of those with arrest records, 35 percent had previously been sentenced to prison in excess of one year. Another 30 percent had received probation. Twenty-one percent had been sentenced to less than one year of prison and 11 percent were not convicted. Finally, 2 percent had been convicted as juveniles but had no adult convictions.

In addition, almost half of the forgers were known to have had significant interactions with at least one other known criminal. Although not surprising, given the extensive amount of conspiracy involved in this offense, the finding was unanticipated in view of Lemmert's contrary findings about the systematic check forger.[6] The average forger's family provided him with a setting that was judged to be about as supportive of a legitimate life style as did the typical bank robber's family, which is to say that the family provided very little support. In comparison with all other offenders, the forger seemed to receive average normative support from cohabitants and friends. However, the average forger did appear to receive somewhat more normative support from friends, relative to that received by robbers and drug offenders.

#### B. THE OFFENSE

On average, forgery involved a lower dollar loss than did either embezzlement or income tax violations, and forgers tended to be involved in their offenses for shorter periods of time than offenders who committed the former violations. The mean amount of money stolen through forgery was somewhat more than \$10,000; however, half of the forgeries involved a loss of under \$500. The duration of the average forgery scheme was three months and consisted of passing two forged items.

Eighty-seven percent of the offenses were forgeries of stolen U.S. Treasury checks; 12 percent involved counterfeiting. The data indicate that, in general, forgeries were executed by two or more individuals. Sixty percent of the examined offenses were conspiratorial in nature. Most of the offenders involved in such conspiracies appeared in the PSIs to be equally culpable, which indicates that forgery conspiracies were horizontally rather than vertically organized.

#### C. INTERDISTRICT COMPARISONS

In this section, offender and offense characteristics are examined to determine whether they vary across the district courts. Using analysis of variance techniques, combined with the factor analysis described in Chapter IV, we discovered significant variation in six of the 10 measures of offender characteristics: drug use, interaction with criminals, social adjustment, mental health, and interaction with criminal cohabitants.

With respect to the background variables, drug use varied significantly, as indicated by the average factor scores in each district ( $\bar{x}$  equals the mean score). The typical forger from Connecticut was more likely to use drugs ( $\bar{x}=.44$ ) than were forgers from all other districts. Northern California offenders were next ( $\bar{x}=.17$ ), and forgers from Northern New Mexico were least likely to be involved with the use of narcotics and other drugs ( $\bar{x}=-.16$ ).

In addition to drug usage, offenders differed in the extent to which they associated with other criminals. New Jersey offenders were most likely to associate frequently with known criminals ( $\bar{x}=.22$ ). In contrast, in Northern New Mexico, the average offender's factor score was  $-.25$  and in Western Oklahoma  $-.24$ . Forgers in Northern California most frequently cohabitated with persons with known records ( $\bar{x}=.21$ ). Forgers from Connecticut ( $\bar{x}=-.27$ ) and Eastern New York ( $\bar{x}=-.24$ ) were the least likely to cohabit with persons associated with crime.

Academic and social adjustment also varied across the districts; they were weakest for offenders in Western Oklahoma ( $\bar{x}=.36$ ) and strongest for those in Connecticut ( $\bar{x}=.25$ ). Offenders in Western Oklahoma were also least likely to have mental health problems ( $\bar{x}=-.25$ ); criminals from Northern California evidenced most mental health problems ( $\bar{x}=.36$ ).

In addition to the regional offender differences noted above, there were interdistrict differences in criminal records. Offenders from Northern California had the most extensive records of prior convictions--about 2.2 convictions

per offender. This compared with offenders from Northern New Mexico who had an average of .78 convictions per offender. Substantively, however, the interdistrict differences in prior record were slight.

We also observed differences with respect to offense variables: the number of forgeries committed prior to arrest and the amount of money stolen. A majority of offenders from Northern New Mexico, Western Oklahoma, Middle Florida, Northern Ohio, and Northern California committed only one forgery before arrest. In contrast, a majority of the offenders from Connecticut, Eastern New York, and New Jersey committed between 2 and 25 offenses. Moreover, a sizable proportion of forgers in Eastern New York (27 percent) and New Jersey (19 percent) committed over 50 forgeries before being apprehended.

Differences in the magnitude of the offenses leading to conviction are further emphasized by differences in the amount of money stolen through forgery. A small amount of money (less than \$500) was taken by the average offender in Northern New Mexico, Western Oklahoma, Connecticut, Middle Florida, and Northern Ohio (all areas with large proportions of one-time offenders). Surprisingly, despite the fact that a majority of forgers in Northern California were "one timers," almost one in three were involved in thefts of between \$1,000 and \$5,000. In light of their more extensive criminal involvement, forgers in Eastern New York and New Jersey stole more than offenders in the other six districts: 18 percent of the forgers in New York stole between \$10,000 and \$30,000, and in New Jersey, 13 percent of the offenders absconded with more than \$100,000.

In concluding this section, it is obvious that the characteristics of offenders, as well as the elements of their offenses, vary significantly across the eight districts included in this study. Hence, if judges consider such things as the seriousness of the offense, the social stability of the offender and the offender's criminal record when imposing sentences--as we will see that they do--then sentences should vary across district courts. In the next section we will see how these factors do influence sentencing; following that, we will investigate the extent to which sentence variation across districts cannot be explained by variation in the above factors.

#### D. SENTENCING FORGERS

In the two previous sections, we took care to compare the background of forgers with the backgrounds of other federal offenders. This comparison demonstrated that forgers' social characteristics indicated instability; they had extensive criminal histories; and they frequently used and were addicted to drugs.

This comparison takes on additional significance in the sentencing analysis. It will be recalled that these background variables appeared to have little or no influence on the sentences given to either tax violators or embezzlers. However, caution was expressed in drawing this conclusion. There was little variance in these background variables, so empirical analysis was unlikely to uncover a statistically significant relationship. In contrast, forgers differ among themselves. In light of this variation, the analysis of the

sentencing of forgers is more likely to reveal whether judges are influenced by employment history, support from social reference groups, and so on.

In the analysis of the sentencing of forgers, we controlled for a number of background variables, primarily by using factor analytic techniques. Ten factor scores were extracted and entered into the analysis.

The first factor score was EMPLOY, which characterized the offender's employment history over the past two years, the past month, and at the time that the PSI was written. The factor also indicated his method of subsistence. The second factor, MARITAL, summarized the extent of the offender's marital ties, and indicated whether he provided support to dependents. DRUGS was a factor that did not enter into the analysis of income tax violators and embezzlers since those offenders typically lacked drug histories. In contrast, forgers used a wide range of drugs, and the DRUGS factor measured the extent to which they abstained from use, used occasionally, or were addicted. FAMILY reflected the extent to which members of the offender's family were known to have engaged in crime, and in the opinion of the person preparing the PSI, the extent to which the offender's family helped the offender lead a conventional (legal) lifestyle. INTERACT and COHABS were comparable factors in which the support (or lack of support) comes from friends and cohabitants, respectively. SOCIAL ADJ measured the offender's social and academic adjustment during his developmental years; likewise, FORMATIVE recorded the amount of financial and emotional support the offender received from his

family during those early years. The last factor--MIXED--was a combination of residual elements describing the offender's background; these residual elements were not sufficiently similar to suggest a descriptive name. Appendix A gives more detail on the derivation of these factors.

Three additional "background" variables were used in the analysis. MALE indicated that the offender was a man. The offender's age and race were variables used in early specifications of the statistical model, but they were dropped in the analysis presented here since initial statistical results demonstrated that neither had a significant impact on the sentence received.

It was additionally possible to control for the offender's criminal history. PREVIOUS PROBATION indicated that the offender had previously been convicted and served a sentence of probation. In this regard, ANY REVOCATIONS indicated whether a previous term of probation or parole had ever been revoked. PREVIOUS SHORT showed that the offender had served an earlier term of incarceration that lasted less than one year; PREVIOUS LONG indicated that the offender had served a previous sentence of greater than one year. The variable SERVING SENT./WARR. recorded whether the forger was either serving a sentence at the time he was arrested for the instant offense or whether there was a warrant outstanding for his arrest. Together these five variables provided considerable detail about the forger's criminal record.

Several additional variables measured the seriousness of the offense. MIDDLE AMOUNT indicated that the offender was

convicted of forging between \$1,000 and \$10,000. HIGH AMOUNT denoted conviction for a theft in excess of \$10,000. If he actually forged checks or counterfeited currency in excess of the amounts for which he was convicted, this fact is indicated by DOLLAR ACT. The logarithm of the number of years that the offenders engaged in forgery appeared as DURATION.

We anticipated that the extent of criminal conspiracy involved in the offense would matter toward determining the sentence; nevertheless, preliminary analysis did not reveal that to be true. Thus, only two variables out of several originally used to capture the extent of the conspiracy were retained: PRINCIPAL indicated that the offender organized the conspiracy and NO. OF CODEFEND was the logarithm of the number of persons who were arrested in regard to this offense.

Several processing variables were included in the analysis. COUNTS was the logarithm of the number of counts included in the convicting offense. TRIAL indicated that conviction was by trial rather than by guilty plea. MOST SEVERE MAXIMUM was the maximum number of years of confinement legally allowed according to the count in the conviction with the highest maximum sentence. SUPPLIED INFORMATION indicated that the offender supplied the prosecutor with information used to arrest or prosecute others.

These variables were used to explain the sentences given to forgers by federal district court judges. As before, search for an explanation followed two steps. First, we used the in/out model to determine the probability of receiving a prison sentence, and if a prison sentence was observed, the length of

incarceration. Second, the expected length of incarceration model was used to determine how much time an offender with given characteristics could expect to serve. In both cases, the length of probation for offenders placed on probation was also estimated. Results are summarized in Tables VII.1 through VII.3 and discussed below. Complete regression results are presented in Appendix B.

Looking at the decision to imprison (Table VII.1), and concentrating initially on the offender's background, it is evident that offenders with stable employment histories are much less likely to be sentenced to jail or prison than are offenders with unstable employment patterns. In fact, EMPLOY appeared to be one of the most important variables explaining the probability of going to prison (as indicated by the size of the standardized regression coefficients). Persons whose PSIs indicated supportive family ties (FAMILY) were less likely to go to prison. Otherwise (with the exception of the factor MIXED), none of the other factors approached statistical significance. Interestingly, these nonsignificant factors included DRUGS, the factor that summarized the offender's drug involvement.

The only other background variable that was important in explaining the decision to incarcerate was MALE. For men, the probability of going to prison was .11 greater than for women. Otherwise, as mentioned earlier, race and age seemed to exert no independent effect on the probability of going to prison.

TABLE VII.1  
THE RELATIVE IMPACT OF DEFENDANT AND OFFENSE  
CHARACTERISTICS ON THE DECISION TO IMPRISON,  
IN/OUT MODEL (FORGERY)

|                    |        |                      |
|--------------------|--------|----------------------|
| PREVIOUS LONG      | 0.4491 | ████████████████████ |
| EMPLOY             | 0.3280 | ██████████████       |
| ANY REVOCATIONS    | 0.2479 | ██████████           |
| PREVIOUS PROBATION | 0.1975 | ██████               |
| TRIAL              | 0.1836 | ████                 |
| DOLLAR ACT.        | 0.1782 | ████                 |
| PREVIOUS SHORT     | 0.1769 | ████                 |
| SERVE SENT./MARR.  | 0.1709 | ████                 |
| MALE               | 0.1693 | ████                 |
| MIXED              |        | ████ -0.1646         |
| MOST SEVERE MAX.   | 0.1465 | ████                 |
| FAMILY             | 0.1448 | ████                 |
| MIDDLE AMOUNT      | 0.1420 | ████                 |
| HIGH AMOUNT        | 0.1408 | ████                 |
| SUPPLIED INFO.     |        | ████ -0.0933         |
| DRUGS              | 0.0853 | ████                 |
| MENTAL             |        | ████ -0.0782         |
| DURATION           | 0.0617 | ████                 |
| COUNTS             | 0.0532 | ████                 |
| FORMATIVE          | 0.0530 | ████                 |
| INTERACT           | 0.0440 | ████                 |
| COHABS             | 0.0270 | ████                 |
| CODEFEND           | 0.0224 | ████                 |
| SOCIAL ADJ.        |        | ████ -0.0190         |
| MARITAL            | 0.0169 | ████                 |
| PRINCIPAL          |        | ████ -0.0028         |

NOTE: THE BARS REPRESENT THE RELATIVE SIZE OF THE BETA WEIGHTS AS DETERMINED FROM THE PROBIT MODEL. VARIABLES THAT WERE STATISTICALLY SIGNIFICANT AT .05 WERE SHADED.

Forgers frequently had criminal records, and judges took records into account when imposing sentence. Offenders who had previously been sentenced to a term of probation were .13 more likely to receive a prison sentence than were offenders with no previous convictions. If the offender was previously sentenced to a year or less of prison, he had a probability that was about .14 higher, and if he had served a prison sentence in excess of one year, he could expect a probability of incarceration that was around .30 greater than that expected by an offender with no previous convictions. Additionally, if the offender had previously been on probation or parole and had that status revoked, the probability of prison jumped by about .16. Evidently judges were especially severe in sentencing offenders who had not made the most of a previous "break." Likewise, if the offender was in a correctional program (including probation) at the time he forged a check, or if he had an outstanding warrant at the time of his conviction for forgery, he stood a chance of going to prison that was nearly .10 greater than if he had not. These findings indicate considerable sensitivity to the offender's past record when imposing sentence.

The magnitude of the offense also mattered in the sentencing decision. Compared with an offender who forged less than \$1,000 worth of documents, an offender who stole between \$1,000 and \$10,000 increased his chances of going to prison by about .12. And an offender who forged more than \$10,000 was about .17 more likely to "go away." Note also that if the offender had forged documents worth more than the amount

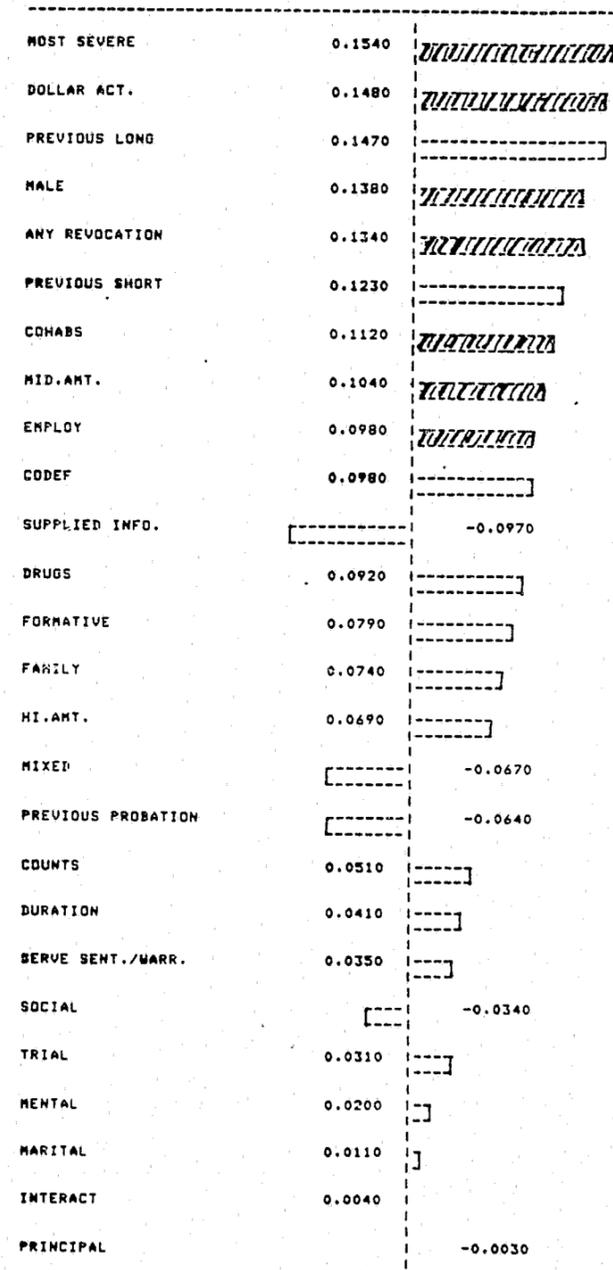
corresponding to the offense for which he was convicted, the sentencing judge was .12 more likely to sentence to prison. This is additional evidence that the judge looked to the actual offense as well as the offense of conviction when imposing sentence. We found no independent effect derived from the length of time that the offender had been involved in the offense, nor from variables indicating the extent of the criminal conspiracy.

Finally, with respect to the decision to imprison, processing variables mattered. Defendants who entered guilty pleas were rewarded with a probability of going to prison that was .21 lower than that observed for offenders convicted at trial. The probability of prison increased somewhat with the variable MOST SEVERE MAXIMUM; the probability was about .01 higher per logarithm of the maximum year called for by the federal statutes.

Turning to the second stage of the sentencing decision, the statistical model's ability to predict the length of time served by offenders who did go to prison was limited. (See Table VII.2.) To summarize, offense characteristics seemed important: offenders who stole between \$1,000 and \$10,000 served about three months more than offenders stealing less than \$1,000, and about the same length of time as offenders stealing more than \$10,000. Judges added another three to four months if the offender actually stole more than was indicated by his conviction. A previous parole revocation seemed to increase the time served by an additional two months. Males received three months in addition to the time served by

Table VII.2

THE RELATIVE IMPACT OF DEFENDANT AND OFFENSE CHARACTERISTICS ON THE LENGTH OF INCARCERATION, IN/OUT MODEL (FORGERY)



NOTE: THE BARS REPRESENT THE RELATIVE SIZE OF THE BETA WEIGHTS AS DETERMINED FROM THE OLS MODEL. VARIABLES THAT WERE STATISTICALLY SIGNIFICANT AT .05 HAVE BEEN SHADED.

females. Other than MOST SEVERE MAXIMUM (which increased time served) and COHABITANT support (which reduced it), no other variables played an important role in time served.

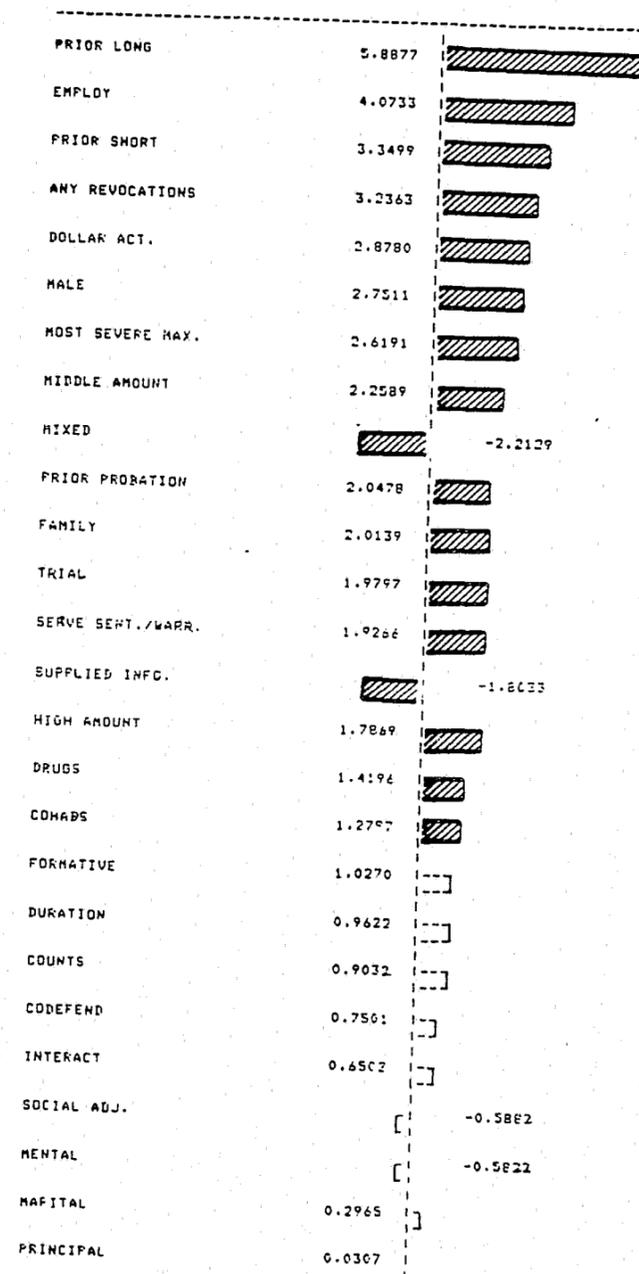
Using the expected length of incarceration model, we seemed to uncover more regularity in the sentencing decision (Table VII.3).[7] Starting with the impact of offender background characteristics, it was again evident that a good employment background led to a more lenient sentence. Offenders with the weakest employment ties served better than one year more than offenders with the strongest ties. But other background variables were seen to enter the sentencing decision as well. If the offender received support from his family toward leading a legitimate life-style, he could expect a lighter sentence. The same seemed to be true if the offender received support from cohabitants. If the offender used drugs, he could expect to do more time, especially if he was addicted. As before, males could expect to serve a longer period of time (about six months) than females. Clearly judges paid particular attention to the offender's social background when imposing sentence.

Offense-related variables also played an important role. Persons who stole between \$1,000 and \$10,000 could expect to serve about six months longer than offenders who stole less than \$1,000, but about two months less than offenders who stole more than \$10,000. Persons whose forgery netted more than the amount for which they were convicted could expect an additional seven months.[8]

Persons with criminal histories were dealt with more harshly than offenders with no records, especially if the

Table VII.3

THE RELATIVE IMPACT OF DEFENDANT AND OFFENSE CHARACTERISTICS ON THE EXPECTED LENGTH OF TIME SERVED, EXPECTED LENGTH OF INCARCERATION MODEL (FORGERY)



NOTE: THE BARS REPRESENT THE RELATIVE SIZE OF THE BETA WEIGHTS AS DETERMINED FROM THE TOBIT MODEL. VARIABLES THAT WERE STATISTICALLY SIGNIFICANT AT .05 HAVE BEEN SHADED.

recidivist unsuccessfully served a previous term of probation. Relative to forgers who had no previous convictions, forgers with a previous probation term could expect to serve an additional five months. Offenders who had done a previous prison term of less than one year could expect to serve an extra eight months. And if the offender had already served a prison term in excess of one year, he could count on an additional 13 months. Moreover, if there were any previous probation or parole revocations, about seven months would be added to the expected length of incarceration, and if the offender was serving a sentence at the time of his conviction (or if there was an outstanding warrant for his arrest) he could expect an additional four months. It is evident that previous record is one of the most important determinants of how the offender will be treated at sentencing.[9]

Processing variables also counted. Making accommodations with the "system" yielded a somewhat lighter sentence. Offenders who cooperated with the government by supplying information leading to the arrest/prosecution of others served about four months less than offenders who did not supply such information. Persons who were convicted at trial served approximately seven months more than persons convicted by a plea of guilty. The offender could also expect to serve almost one month for every year stipulated in the most severe maximum sentence allowed by the most serious count for which he was convicted.[10]

Compared with the length of the prison sentence, the term of probation given to offenders who received probation was

irregular. Offenders who had previously served long prison terms could expect a longer term of probation, although few were sentenced to probation. Offenders who stole more than \$1,000 could also expect a somewhat longer probation term compared with offenders stealing less than \$1,000.[11] As before, judges awarded a somewhat longer probation term to offenders who had stolen more than was indicated by their conviction. Other than these variables, a drug history somewhat increased the term of probation, as did the criminal contacts the offender maintained in the community.

To summarize, the above findings pertaining to sentencing correspond closely with a priori notions. As a rule, the severity of the sentence increases with the seriousness of the offense, increases with the extent of the offender's criminal record, decreases with the strength of his community ties and social stability, and is affected in anticipated ways by processing variables. It is interesting to compare these findings with the sentences received by embezzlers and tax violators. The most notable contrast is that social background is important in the sentences received by forgers, while it was not important in the sentencing of other offenders. The reader is reminded that this finding need not imply an inconsistency in the sentencing of forgers; more likely, with forgers, judges are faced with sentencing offenders with less stable backgrounds. Judges apparently respond by taking social instability into account during the sentencing process.

The same can be said of criminal record and its impact on the sentence administered. While embezzlers and tax code violators with criminal records were given stiffer sentences, the effect was not found to be very strong in any of our data, and it was sometimes somewhat inconsistent. At the time those findings were presented, we speculated that the lack of extensive records on the part of embezzlers and tax code evaders might explain why the relationship between sentence and record was not stronger. The strong relationship between these two variables for forgers lends strength to that speculation.

#### E. INTERDISTRICT SENTENCING COMPARISONS

In order to test for interdistrict sentencing differences, it was necessary to adopt a parsimonious model with only 11 variables. Since a larger number of variables were statistically significant in the tests reported in the previous section, we must caution that this parsimonious model may not be adequate to represent the complexity of sentencing forgers. To the extent that our model is misspecified because of omitted variables, this misspecification may make it more likely that we will attribute spurious interpretations to differences uncovered across districts.

The variables included in the model are the following. In order to capture the magnitude of the offense, we have retained the variables MIDDLE AMOUNT, HIGH AMOUNT, and DOLLAR ACT. In order to control for the offender's criminal record, we used the variables PRIOR LONG, PRIOR SHORT, ANY REVOCATIONS, and SERVE SENT./WARR. Two processing variables--TRIAL and MOST

SEVERE MAX--were used. Only one personal characteristic variable was retained, the offender's sex (MALE).

Tests for interdistrict differences were run across five districts. Those districts, and the number of observations in each, were Eastern New York (95), New Jersey (93), Northern California (83), Northern Ohio (109), and Middle Florida (111).

We first tested for interdistrict differences in the imposition of a prison term. In order to conduct this test, we used an F test, basing the regressions on ordinary least squares. The test did not reveal a statistically significant difference across districts using a critical value of .01.

Findings were similar for a test conducted on the expected length of time served. Using the tobit model, the chi-square test was based on maximum likelihood ratios. The tests did not reveal statistically significant differences across districts, using a .01 critical value.

At least for the sentences administered to forgers, district court judges seem to agree about the factors that should be taken into account when imposing sentence, as well as about the weight given to each factor.

NOTES

1. R. McCaldon, "Lady Paperhangers," The Canadian Journal of Corrections (July 1967); J. McDonald, "A Psychiatric Study of Cheques Offenders," American Journal of Psychiatry 114 (November 1959): 438-42; E. Lemmert, "The Behavior of the Systematic Check Forger," Social Problems (Summer 1958), Spring 1959): 141049; N. Hayner, "Characteristics of Five Offender Types," American Sociological Review 26 (1971): 96-102; I. Berg, "A Comparative Study of Forgery," Journal of Applied Psychiatry 28 (June 1944): 232-38; M. Gautier, "The Psychology of the Compulsive Forger," The Canadian Journal of corrections (July 1959): 63-9.
2. Lemmert, "Behavior of the Systematic Check Forger."
3. Ibid.
4. McCaldon, "Lady Paperhangers"; E. Sutherland, ed., "The Professional Thief (Chicago University of Chicago Press, 1937); Hayner, "Characteristics of Five Offender Types"; A. Leunes and L. Christiansen, "A Comparison of Forgers with Other Criminals," Journal of Community Psychology 3 (1978): 288.
5. H. Clinnard and R. Quinney, "Occasional Property Offenders," in Criminal Behavior Systems (New York: Holt, Rinehart and Winston, 1973): 57-77; E. Lemmert, "An Isolation of Closure Theory of Naive Check Forgery," Journal of Criminal Law, Criminology, and Police Science 44 (September-October 1953): 296-307; Hayner, "Characteristics of Five Offender Types."
6. Lemmert, "Behavior of the Systematic Check Forger."
7. The magnitude of the impact of the independent variables discussed in this section is overstated. See Chapter IV for an explanation.
8. According to regression results on maximum sentence, the sentence itself is about 18 months greater for offenders who steal in excess of \$1,000. Evidently, the parole authorities exert a strong moderating effect on these sentencing differences.
9. The variables accounting for time served are the same as those accounting for the maximum sentence.
10. The effect of processing variables is also reflected in the differences in maximum sentence, although the "accommodations" are greater for sentence than for time served.

11. Offenders stealing more than \$10,000 did not receive significantly greater probation terms, although this finding is likely influenced by the small number of offenders who stole this much but did not go to prison.

#### VIII. DRUGS

At the federal level, convicted drug offenders are most often involved in importing, manufacturing, and/or distributing controlled substances; less than two percent of the violators exclusively used drugs. Unfortunately, little social science research has been conducted on drug-supply networks and distributors, although much has been documented about drug users and abusers. Moreover, the scope of the information that is available about drug trafficking is narrow, due either to the specific nature of the drugs examined or the regional constraints imposed by the geographic area from which the sample is drawn. For example, Moore[1] studied heroin distribution in New York City, and his conclusions are useful but limited in their generalizability. He described seven levels in the distribution scheme, ranging from importations, at the top, to users, at the bottom. The distinction between the bottom three levels and the top four was that activities at the base involved both use and sale. In addition, Moore noted that two other economic activities transpired at each of the seven levels: dilution of the heroin and packaging of the drug into lesser amounts.

A more generalizable typology is used by the Drug Enforcement Agency (DEA). The DEA's hierarchy of drug offenders transcends the problems of drug specificity (by including a wide range of drugs) and regional bias (by being applied across the country). In addition, the scheme incorporates both quantitative information about drug weights and qualitative data about the offender.

From this typology, four "classes" of offenders emerge. Class I violators, the most serious offenders, deal in large quantities of pure drugs and are considered responsible for introducing drugs into the illegal market. These individuals are likely to head criminal organizations or to administer large-scale drug importation or manufacturing operations. Class II offenders deal in considerably smaller quantities of pure drugs than do Class I offenders and are likely to head distribution rings, but they are not responsible for the drug's emergence into the illegal marketplace. Unlike those in the first two categories, Class III violators are judged only in terms of the amounts of drugs in which they deal. Hence, if an offender cannot be identified as a head of a drug operation, but nonetheless deals in relatively large quantities of drugs, he is considered a Class III offender.[2] Finally, Class IV offenders are all those who deal in quantities of drugs less than the minimums specified for Class III offenders.

Because the DEA system affords a reasonable classification of drug offenders across a wide behavioral range, we identified offenders in the PSI sample according to this scheme. Results of those efforts will be discussed in a subsequent section.

One additional source of information is noteworthy. In a 1972 publication, Blum[3] surveyed dealers involved in marketing a wide range of drugs in San Francisco. Although the study is area-specific, it stands out as one of few works that describe drug vendors. Hence, several of the findings can provide a base for useful comparisons with PSI data.

Blum's sample of dealers ranged in age from 12 to 70; the median age fell between 19 and 23. Over half of the sample had some college education and 10 percent had college degrees. Blum also noted that a sizable proportion of his dealers were financially stable. At the time of interview, half the sample had full-time jobs, which were equally mixed between "white" and "blue" collar positions. Most of the dealers were white (8 percent were black).

With respect to family background, 55 percent of the dealers came from middle- to upper-middle-class households. Twenty-three percent claimed that one or both parents had a record of at least one felony arrest.

Blum also noted that in terms of social interaction, 90 percent of the dealers preferred solitary over group activities. Ninety-one percent claimed good relationships with parents; however, one-third reported having trouble relating to school officials.

Finally, Blum observed that one-quarter to one-third of the dealers had used alcohol, tranquilizers, sedatives, amphetamines, marijuana, hallucinogens, or opiates during their teen years. The proportions of dealers using each of these drugs (except hallucinogens) increased directly with age. The numbers using cocaine increased from 15 percent in the teen years to 26 percent among those over 25.

#### A. THE OFFENDERS

Comparing convicted federal drug offenders with Blum's San Francisco sample highlights some important similarities and

differences.[4] Looking first at similarities, we observed the following. Seventy-five percent of the federal drug offenders were white, which was fewer than Blum noted, but which nevertheless indicates the predominance of whites in drug trafficking. Second, as Blum discovered with respect to local violators, federal drug offenders appeared moderately stable financially. Fifty-five percent of the drug offenders were recorded as steadily employed in the month preceding their drug arrests. Sixty-six percent of the federal offenders owned or were purchasing cars. And 81 percent claimed that their parents had not had difficulty providing life's necessities. Third, like Blum's dealers, a considerable number of federal drug merchants were also drug users. However, fewer federal offenders than in Blum's study were engaged in using controlled substances, and the variety of drugs used was considerably narrower. Forty percent of the federal drug offenders used marijuana and 26 percent used stimulants. In both cases, the proportion of users was much lower than that claimed by Blum. A small percentage (14 percent) of the federal drug violators used opiates; but of those who did, 78 percent were heavy users. Finally, only 3 percent of the federal offenders had alcohol problems (markedly higher among Blum's sample) and 5 percent used sedatives.

On the other hand, federal offenders differed in several key respects from Blum's local dealers. For one, the federal dealers on average were considerably older (mean age for PSI offender was 46 years). However, this age difference can be attributed largely to prosecutor policy, as offenders who are

arrested by federal authorities do not differ from offenders arrested by local authorities.[5] Second, although drug offenders were relatively well educated (10.5 mean years of school), less than one-third had some college or more advanced training compared with 50 percent in Blum's sample. Third, although Blum noted that more than one-quarter of his dealers had family members with criminal records, only 14 percent of the federal offenders had at least one family member with a felony arrest record. Nevertheless, 54 percent of the federal offenders had significant contact with criminals residing outside of the home. And these people were most often depicted as individuals likely to promote the defendant's criminal activities.

With reference to the criminal histories of the federal drug offenders themselves, we observed that 72 percent had arrest records. Of those with such histories, the mean number of arrests was five. These prior offenses were most likely to be labeled nuisance or drug offenses and were very unlikely to involve organized, white-collar, or sex crimes. Between these extremes, about 38 percent of the offenders had been arrested for property crimes and 25 percent had been arrested for crimes against persons.

Conviction information pertaining to those offenders with prior records showed that most offenders had either avoided previous convictions (18 percent) or had received probation (44 percent). About 13 percent of the drug offenders had previously been sentenced to serve terms of one year or less,

and 23 percent had been sentenced to confinement in excess of one year.

Offenders were also coded according to the DEA scheme described above. Ten percent of the drug offenders were labeled Class I violators, 13 percent were Class II offenders, 28 percent were Class III offenders, and the remaining 49 percent were Class IV violators (including 15 percent who were minor figures in conspiracies, and 2 percent who were exclusively users). One in five offenders was a member of an organized criminal group; most organized criminals fell into Classes III and IV.[6] The fact that more Class I violators were not judged to be organized criminals may indicate the difficulty of convicting high-level organized crime figures or it may reflect processing selectivity where such criminals are concerned.[7]

Comparisons of the typical drug offender with offenders convicted of the other offenses included in this study also revealed similarities and differences. In many ways, drug offenders resembled bank robbers, forgers, mail fraud violators, and homicide offenders. In other respects, drug offenders were like those who make false claims, embezzle bank funds, or bribe public officials. And on one final dimension, drug offenders were singularly notorious.

Looking at the similarities first, we found that drug offenders, like bank robbers, homicide offenders, and forgers, were apt to have experienced financial and emotional difficulties in childhood. Drug offenders, forgers, and mail fraud violators were the offenders most likely to have

cohabitants who were involved in crime. Examination of the factor DRUGS showed that drug use among drug offenders was comparable to drug consumption among forgers; however, neither type of offender used drugs as extensively as the average bank robber. Last, drug and homicide offenders matched with respect to the factor SOCIAL. Both types of offenders displayed moderately poor average scores on the factor "school adjustment" ( $\bar{x}$ 's for both =  $-.02$ ), although they ranked better on this factor than forgers ( $\bar{x} = -.2$ ) or bank robbers ( $\bar{x} = -.4$ ).

Turning next to areas in which drug offenders most resemble white collar offenders, we first saw that the drug offender's tendency toward regular employment ( $\bar{x} = -.1$ ) was like the employment pattern of false claims ( $\bar{x} = -.2$ ) and mail fraud offenders ( $\bar{x} = -.1$ ). Drug offenders were about as likely as bank embezzlers to be married and providing support for dependents. Bribers, bank embezzlers, and drug offenders all displayed few mental health problems. And drug offenders received family support for legitimate institutions to the same degree that income tax violators received such support.

Yet, with reference to the one remaining factor, INTERACT, the typical drug offender was far more likely ( $\bar{x} = .76$ ) than the average violator in any other offense group to have significant contact with criminal peers, a finding that perhaps reflects the necessarily conspiratorial nature of drug offenses.

#### B. THE OFFENSE

Federal drug offenses primarily involved the supply and distribution of controlled substances. These activities

assumed several forms, required a variety of offender skills, and involved a range of drugs. Also, these kinds of activities typically fell into the domain of drug dealers and hence did not account for much of the drug involvements of users or peripheral drug figures.

With reference to the flow of drugs, the data showed that 51 percent of the drug dealers were involved in selling drugs that were primarily to be resold. Nineteen percent of the offenses were aimed at selling drugs that were partially intended for resale and partially for consumption. Another 15 percent of the cases involved the sale of drugs to final users.

Fifty-two percent of illicit drug trafficking involved the marketing of controlled substances that were either imported or were manufactured by an illicit domestic source. Another 21 percent of the activity involved drug importation only; 8 percent constituted drug manufacture; 3 percent involved the illegal distribution of drugs by registrants (persons licensed to dispense drugs); and 2 percent involved the distribution of drugs stolen from registrants.

Of the drugs marketed, 39 percent were schedule I controlled substances, 42 percent were schedule II substances, 1 percent were schedule IV drugs, and 12 percent were some combination of schedules I through IV.[8] No schedule V drugs were recorded. The specific drugs most often mentioned in the PSIs were heroin, cocaine, marijuana, PCP, methamphetamines, and LSD. Thirty-eight percent of the cases involved some quantity of heroin, and 43 percent of the cases involved cocaine deals.

Certain age and racial groups were more prominent in some drug activities than in others. For example, more individuals between the ages of 26 and 35 and between 47 and 50 were described as drug importers than were drug offenders younger than 26 or older than 50. More of those in the 36-46 age group were depicted as drug manufacturers than were other drug violators. And fewer in the 26 to 35 age bracket were described as distributors than those in other age groups. In fact, those 51 and older were recorded as drug distributors 71 percent of the time.

In addition, there were certain differences in the racial distribution of dealing activities. Over half of the members of the "other" race category (Asian, American Indian) were described as participants in importation, while only 28 percent of the blacks and 22 percent of the whites were similarly depicted. Two-thirds of the blacks and the whites were described as distributors of illegal domestic goods, but only 41 percent of the "other" group were depicted in that fashion.

Drug dealing was lucrative. The mean gross profits from drug sales, on the basis of available data (25 percent missing), was \$87,000. This figure is skewed upward somewhat by 28 percent of the offenders who made over \$200,000 during drug activities. Then again, the full extent of the offenders' involvement in sales was seldom mentioned, so the mean amount probably understates the profitability of the crime.

#### C. DISTRICT DIFFERENCES

The distribution of offenders and offense types was fairly even across districts. This statement is borne out most

strikingly by the fact that analysis of variance techniques revealed significant district differences for only 3 of the 10 drug factor scores. Nevertheless, cross-tabulations of some key descriptive variables by district revealed some interesting patterns.

First, comparison of mean scores for three factor measures--INTERACT, COHABIT, and DRUGS--indicated significant interdistrict variation. Drug offenders in Western Oklahoma and Northern New Mexico were less likely to interact closely with criminal peers than violators in Middle Florida and New Jersey, which probably reflects the less extensive conspiracies in the first two districts. Next, the mean score for the factor COHABIT was appreciably higher (.32) for offenders in Northern Ohio than for violators in the seven other districts. This finding indicates that offenders in Northern Ohio were most likely to have cohabitants who encouraged criminal behavior. Finally, drug use, represented by the factor DRUGS, was least prevalent among New Jersey drug dealers ( $\bar{x} = -.3$ ) and most pervasive among offenders in Western Oklahoma (.4), Connecticut (.3), and New Mexico (.2). Of course, this finding may indicate that these small districts were more likely to prosecute users and small-time dealers.

Second, looking at district variations in specific offender measures, we saw that serious offenders appeared more often in certain districts than in others. Nearly 20 percent of the drug dealers in Northern California, New Jersey, and Eastern New York were coded as Class I violators; however, the proportions of Class I offenders in Connecticut (11 percent),

Northern New Mexico (6 percent), Middle Florida (6 percent), and Western Oklahoma (0 percent) were considerably smaller. Offenders in Northern California, New Jersey, and Eastern New York were also coded as Class II offenders more often than offenders in other districts. In fact, over 40 percent of the offenders in Northern New Mexico, Western Oklahoma, Connecticut, and Northern Ohio were considered Class II violators. Next, 80 percent of the defendants in Eastern New York were convicted of offenses for which the possible maximum sentence for the top convicting count was 15 years in prison. Yet, 63 percent or fewer of the defendants in the seven other districts faced similarly stiff penalties. In this same vein, appreciably fewer defendants in Eastern New York were released before trial than in other districts. In addition, about one-quarter of the offenders in Eastern New York, New Jersey, Northern Ohio, and Northern California were involved in organized crime. But organized crimes constituted only 14 percent of New Mexico's drug crimes and 13 percent of Middle Florida's; the proportions in Western Oklahoma and Connecticut were less than 9 percent.

Third, there were some district differences with respect to offense characteristics. For one, two-thirds of the drug offenses in Eastern New York involved importation, compared with 30 percent or less of the activities in the other districts. In addition, 20 percent of New Jersey's drug crimes involved drug manufacture, but very little of the drug activity in the other districts included manufacturing. Also, the types of drugs handled by offenders varied across districts. Over

half of the drug activity in Eastern New York and over 40 percent of the crimes in New Mexico, Northern California, and Western Oklahoma involved schedule I substances. The amount of schedule I trafficking in other districts was less than 30 percent. Over half of the drug traffic in Connecticut and New Jersey and nearly half in Middle Florida involved schedule II controlled substances.

Given the information about defendants in Eastern New York, in particular, one might assume that offenders there had also had extensive contact with the criminal justice system. Instead, what we found was that Northern Ohio, Middle Florida, and New Jersey had the largest proportions of habitual offenders (those with histories of four or more arrests) and that Eastern New York, with its 34 percent habitual offenders, fell toward the lower end of the distribution. Moreover, well over half of the violators in Western Oklahoma and Eastern New York did not have histories of prior convictions. Perhaps what we observed in Eastern New York was a larger proportion of professional dealers who managed to escape detections over long time periods.

#### D. SENTENCING DRUG OFFENDERS

Most drug offenders in federal court are convicted of selling, rather than using, controlled substances. For this reason, drug offenses are seen as especially serious, and 70 percent of the offenders are sentenced to prison. Once sentenced to prison, the average offender served just over two years; the average maximum sentence was six years.

An examination was conducted to determine which factors "mattered" in the sentencing decision. Four groups of factors were used: background factors, criminal records, offense-related variables, and processing variables. Each of these groups is described below.

Factor analysis was conducted on 29 background variables, and a total of 11 factors were extracted as a result. The complete analysis is reported in Appendix A; the factors are summarized here.

EMPLOY was a factor score made up of the offender's employment history (as measured by his employment over the past two years, the past month, and at the time that the PSI was prepared) and the method by which the offender subsisted. MARITAL, the second factor, was highly correlated with the offender's marital ties, and the degree of support provided dependents.

Three factors measured the extent to which the offender was expected to receive support from others toward leading a crime-free life-style. FAMILY, INTERACT, and COHABS measured the amount of support received by the offender from his family, friends, and cohabitants, respectively. Offenders with drug histories had high scores on DRUGS; likewise, offenders who abused alcohol and who had other known health problems had high scores on DRINK. SOCIAL ADJ indicated whether the offender had trouble adjusting to school and social activities; FORMATIVE indicated whether his parents had difficulty supplying him with the necessities of life, or abused him, during his formative years.

Two other factors--labeled MIXED 1 and MIXED 2--were associated with a cluster of dissimilar variables. Thus, they were given no specific names.

In addition to the background variables, the analysis controlled for the offender's past criminal record. The most extensive criminal histories were recorded as PRIOR LONG, which indicated that the offender previously served a prison term in excess of one year. A previous term less than one year was noted by PRIOR SHORT, and a prior probation term was reflected in PRIOR PROBATION. The variable SERVE SENT./WARR. recorded the fact that the offender was serving a penal sentence or had a warrant outstanding for his arrest at the time that he was arrested on the current drug offense. ANY REVOCATIONS indicated that he previously had had probation revoked.

Several variables were used to capture the magnitude of the offense. The offender's position in the drug's distribution chain was indicated using five variables. ORGANIZED indicated that the offender organized or managed the manufacture, distribution, or dispensing of the controlled substance. Three other variables showed that he occupied a lesser position in the distribution chain. If he provided the drug to others who primarily intended to resell rather than consume the drug, his position was noted as DISTRIB 1. If he provided the drug to a mixed group of buyers--some of whom resold and some of whom consumed the purchase--his position was characterized as DISTRIB 2. Offenders who provided the drug primarily to final users were characterized as occupying a lower position on the distribution chain--DISTRIB 3. Note that the following roles

placed the offender in a residual group, judged to be of lower order in terms of crime seriousness:

- (1) The offender played a minor supporting role and did not deal directly with the sale of the controlled substance (i.e., the defendant had no contact with the drug).
- (2) The offender played a minor role, acting primarily as a conduit for the controlled substance sold by others (i.e., the defendant simply transported the drug).
- (3) The offender used the drug only.

We also attempted to distinguish "organized crime" from other types of crime. Although this distinction had to be somewhat arbitrary with respect to drug offenses, in general an offender was judged to be a member of organized crime if two conditions were met:

- (1) There was evidence that the offender was a member of an organized criminal group, that is, a group with a permanent hierarchy that coordinated ongoing criminal activity.
- (2) The offense was committed to benefit such a group.

Additionally, we distinguished offenders who sold heroin (HEROIN) and offenders who sold cocaine (COKE) from offenders selling other types of drugs.

Several processing variables entered the statistical models. TRIAL indicated that the offender was convicted by trial rather than by guilty plea. MOST SEVERE MAX. was the maximum sentence, in months, that the offender could have received for the top charge on which he was convicted. COUNTS was the logarithm of the number of counts with which the offender was convicted. SUPPLIED INFO. indicated that the offender provided information used to arrest or prosecute others.

Using the above variables, we were not able to distinguish persons sentenced to probation and prison as accurately as we predicted prison for other offenses. There may be several explanations for this, including the fact that it is difficult to predict the imposition of probation when most offenders are sentenced to prison. In addition, it should be noted that for drug offenders it was very difficult to code information consistently from the presentence investigation reports. Nevertheless, the analysis did uncover regularity in the decision making pertaining to incarceration.

The seriousness of the offense appeared to make an important difference in determining who went to prison. The larger the maximum sentence that was legislatively prescribed for the top charge in the conviction, the greater was the probability that the offender served prison time. In general, the probability of prison increases by about .001 per every month called for in the maximum sentence. Beyond this, persons who had organized or managed the manufacturing, distributing, or dispensing of a controlled substance were .14 more likely to go to prison. And offenders who appeared to be associated with organized crime also went to prison more frequently than offenders who appeared to have no ties to organized crime, by about .09. Given the overall probability of prison, these findings would seem to indicate that offenders who organize drug networks, or who were convicted of the most serious drug offenses, or who were members of organized crime were virtually guaranteed a prison term.

The offender's criminal record also played a role in the decision regarding his imprisonment (See Table VIII.1). Offenders who had previously served prison terms in excess of one year were .18 more likely to go to prison than were offenders who had never been incarcerated. While the effect was less definite statistically, a prior prison term of less than one year seems to increase the likelihood of prison by about .13. Otherwise, the variables indicating a past criminal record did not have a significant impact on imprisonment.

Regarding personal characteristics, a stable employment history decreased the probability of going to prison. And as before, males were more likely than females to serve time; the probability was almost .30 higher. Other personal characteristics in the data did not appear to influence the sentence.

With respect to the remaining processing variables, the importance of the maximum legal sentence associated with the top convicting charge has already been noted. Additionally, the probability of prison seemed to increase with the number of counts in the convicting offense.

Using the in/out model to examine the length of time served, it was evident that the seriousness of the offense was an important determinant of the length of time that the offender served (Table VIII.2). The statutory maximum for the top charge at conviction increased the time served by an average of almost one month per year. Looking at the distribution hierarchy, we noted that the higher the offender's position in the drug distribution network, the more time he

Table VIII.1  
 THE RELATIVE IMPACT OF DEFENDANT AND OFFENSE  
 CHARACTERISTICS ON THE DECISION TO IMPRISON,  
 IN/OUT MODEL (DRUGS)

|                   |         |                      |
|-------------------|---------|----------------------|
| PRIOR LONG        | 0.3642  | ████████████████████ |
| MALE              | 0.3237  | ████████████████████ |
| MOST SEVERE MAX.  | 0.2756  | ████████████████████ |
| ORGAN 1           | 0.2303  | ████████████████████ |
| ORGANIZED         | 0.1798  | ████████████████████ |
| EMPLOY            | 0.1433  | ████████████████████ |
| COUNTS            | 0.1433  | ████████████████████ |
| SOCIAL ADJ.       | 0.1395  | ████████████████████ |
| UNITE             | 0.1329  | ████████████████████ |
| SERVE SENT./MARR. | 0.1294  | ████████████████████ |
| TRIAL             | 0.1229  | ████████████████████ |
| PRIOR SHORT       | 0.1125  | ████████████████████ |
| HEROIN            | 0.1116  | ████████████████████ |
| SUPPLIED INFO.    | -0.0987 | ████████████████████ |
| MIXED 1           | 0.0974  | ████████████████████ |
| FAMILY            | 0.0927  | ████████████████████ |
| AGE               | 0.0895  | ████████████████████ |
| DRINK             | 0.0789  | ████████████████████ |
| DISTRIB 3         | 0.0774  | ████████████████████ |
| ANY REVOCATIONS   | -0.0553 | ████████████████████ |
| DISTRIB 2         | 0.0522  | ████████████████████ |
| PRIOR PROBATION   | 0.0505  | ████████████████████ |
| COKE              | -0.0501 | ████████████████████ |
| DISTRIB 1         | 0.0471  | ████████████████████ |
| COHABS            | 0.0446  | ████████████████████ |
| FORMATIVE         | 0.0419  | ████████████████████ |
| DRUGS             | -0.0406 | ████████████████████ |
| MIXED 2           | -0.0396 | ████████████████████ |
| INTERACT          | 0.0379  | ████████████████████ |
| MARITAL           | -0.0110 | ████████████████████ |

NOTE: THE BARS REPRESENT THE RELATIVE SIZE OF THE BETA WEIGHTS AS DETERMINED BY THE OLS MODEL. VARIABLES THAT WERE STATISTICALLY SIGNIFICANT AT .05 HAVE BEEN SHADED.

Table VIII.2  
 THE RELATIVE IMPACT OF DEFENDANT AND OFFENSE  
 CHARACTERISTICS ON THE LENGTH OF INCARCERATION,  
 IN/OUT MODEL (DRUGS)

|                   |         |                      |
|-------------------|---------|----------------------|
| ORGAN 1           | 0.3180  | ████████████████████ |
| DISTRIB 1         | 0.3020  | ████████████████████ |
| MOST SEVERE MAX.  | 0.2990  | ████████████████████ |
| DISTRIB 2         | 0.1940  | ████████████████████ |
| EMPLOY            | 0.1690  | ████████████████████ |
| TRIAL             | 0.1620  | ████████████████████ |
| PRIOR LONG        | 0.1420  | ████████████████████ |
| MALE              | 0.1380  | ████████████████████ |
| PRIOR SHORT       | 0.1310  | ████████████████████ |
| HEROIN            | 0.1230  | ████████████████████ |
| DISTRIB 3         | 0.0970  | ████████████████████ |
| SUPPLIED INFO.    | -0.0910 | ████████████████████ |
| ANY REVOCATIONS   | 0.0710  | ████████████████████ |
| COUNTS            | 0.0680  | ████████████████████ |
| DRINK             | 0.0590  | ████████████████████ |
| COKE              | 0.0530  | ████████████████████ |
| PRIOR PROBATION   | 0.0510  | ████████████████████ |
| DRUGS             | 0.0500  | ████████████████████ |
| SERVE SENT./MARR. | 0.0470  | ████████████████████ |
| INTERACT          | 0.0460  | ████████████████████ |
| AGE               | -0.0450 | ████████████████████ |
| MIXED 2           | 0.0370  | ████████████████████ |
| COHABS            | 0.0270  | ████████████████████ |
| SOCIAL ADJ.       | 0.0260  | ████████████████████ |
| WHITE             | 0.0150  | ████████████████████ |
| FORMATIVE         | -0.0110 | ████████████████████ |
| FAMILY            | 0.0110  | ████████████████████ |
| MARITAL           | 0.0090  | ████████████████████ |
| ORGANIZED         | 0.0080  | ████████████████████ |
| MIXED 1           | 0.0010  | ████████████████████ |

NOTE: THE BARS REPRESENT THE RELATIVE SIZE OF THE BETA WEIGHTS AS DETERMINED BY THE OLS MODEL. VARIABLES THAT WERE STATISTICALLY SIGNIFICANT AT .05 HAVE BEEN SHADED.

served. Compared with offenders who simply used but did not sell drugs, or who played only peripheral roles, offenders who played progressively higher roles in the distribution network received progressively longer sentences: 6 months more for Class III, 9 months more for Class II, 11 months more for Class I, and 12 months for organizers and directors of distribution networks. Persons distributing heroin served about 4 months more than persons distributing other types of drugs.

A criminal history increased the length of time that the offender served. Offenders who had served a previous term of prison had their present sentence increased by 6 to 7 months, compared with offenders who had never previously been convicted or who had, at most, served a previous term of probation. And although the effect was statistically of marginal significance ( $t = 1.64$ ), persons who had previously had probation revoked served an additional 3 months.

Processing variables seemed to have had an important effect on time served. Defendants who entered guilty pleas served about 6 months less time than offenders convicted at trial. Those offenders who supplied information leading to the arrest or prosecution of others could expect as a reward to do about 4 months less time.

The only other statistically significant variable in the in/out model was employment history, and as expected, those offenders who had demonstrated fairly stable employment patterns served less time.

Examining the length of time served using the expected length of incarceration model, the results were qualitatively

similar, but quantitatively different. In general, the in/out model understated the sentences received by offenders who had committed the most serious offenses and who had the most extensive criminal backgrounds. The in/out model also overstated the sentences for offenders who committed the least serious offenses and who had the least extensive criminal records.

From the expected length of incarceration model (see Table VIII.3), we again saw that the magnitude of the offense had great importance in determining the length of time that the offender would serve. The length of time served increased by nearly one month per year of maximum sentence allowed by law according to the top charge at conviction. There was a steady progression of enhancements in sentences for offenders who were progressively higher in the drug distribution networks. Compared with persons who only used drugs or who played peripheral roles in the drug's distribution, offenders at the next level (Class III: sold primarily to users) served an additional 6 months. Offenders in Class II (sold to a mix of users and sellers) served an additional 8 months; offenders in Class I (sold to others who would resell the drug) served an additional 10 months on average. Offenders who organized or managed the distribution network served an additional 14 months. And offenders selling heroin, specifically, had an additional 6 months added to their time, compared with offenders selling other contraband.

Criminal records were important in determining the length of time that an offender served (See Table VIII.3). A prior

Table VIII.3

THE RELATIVE IMPACT OF DEFENDANT AND OFFENSE CHARACTERISTICS ON THE EXPECTED LENGTH OF TIME SERVED, EXPECTED LENGTH OF INCARCERATION MODEL (DRUGS)

|                   |         |                      |
|-------------------|---------|----------------------|
| MOST SEVERE MAX.  | 6.6682  | ████████████████████ |
| ORGAN 1           | 5.9349  | ██████████████████   |
| MALE              | 2.5079  | ██████████████       |
| DISTRIB 1         | 4.7835  | ██████████████       |
| PRIOR LONG        | 4.0140  | ██████████           |
| EMPLOY            | 3.9990  | ██████████           |
| PRIOR SHORT       | 3.0513  | ██████               |
| DISTRIB 2         | 2.9339  | ██████               |
| TRIAL             | 2.7306  | ██████               |
| MERDM             | 2.6869  | ██████               |
| SUPPLIED INFO.    | -2.4903 | ██████               |
| COUNTS            | 2.1005  | ██████               |
| DISTRIB 3         | 1.8273  | ██████               |
| BRIM.             | 1.5446  | ██████               |
| PRIOR PROBATION   | 1.3451  | ██████               |
| SERVE SENT./WARR. | 1.2857  | ██████               |
| ORGANIZE1         | 1.1724  | ██████               |
| WHITE             | 1.1252  | ██████               |
| INTERACT          | 1.0648  | ██████               |
| ANY REVOCATIONS   | 0.7665  | ██████               |
| MIXED 1           | 0.7301  | ██████               |
| COKE              | 0.6696  | ██████               |
| SOCIAL ADJ.       | -0.6531 | ██████               |
| FAMILY            | 0.5551  | ██████               |
| COMAPS            | 0.3974  | ██████               |
| FORNATIVE         | 0.3094  | ██████               |
| MARITAL           | -0.3091 | ██████               |
| DRUGS             | 0.2018  | ██████               |
| AGE               | -0.1212 | ██████               |

NOTE: THE BARS REPRESENT THE RELATIVE SIZE OF THE BETA WEIGHTS AS DETERMINED FROM THE TOBIT MODEL. VARIABLES THAT WERE STATISTICALLY SIGNIFICANT AT .05 HAVE BEEN SHADED.

prison term increased the length of a prison stay by an average of 11 months for offenders who previously served terms in excess of 1 year and by 10 months for offenders who served previous prison sentences of less than 1 year. Those effects were relative to offenders who had never been convicted or who had, at worst, served a previous term of probation.

Looking at processing variables, we see that conviction by trial increased time served by an average of 7 months. But if the offender's testimony led to the prosecution of others, he served 6 months less time. Otherwise, prison time increased by 5 months per logarithm of the number of counts in the convicting offense.

Regarding personal characteristics, males served 17 more months than did females. Employed offenders served considerably less time than the unemployed. The difference was about 16 months between offenders who had the best and offenders who had the worst employment histories.

In our total sample of 651 offenders, only 191 received probation. Because of missing data, which would further decrease this limited sample size, we concluded that regression analysis of the length of a probation term would not be worthwhile. We do note, however, that judges sentenced drug offenders to an average of 36 months of supervision, including probation and special parole terms. The law allows the judge to append a special parole term to the sentences of imprisoned drug offenders. Probation terms (excluding special parole terms), which are imposed on persons not sentenced to prison, averaged about 42 months.

E. INTERDISTRICT SENTENCING COMPARISONS

We examined the differences in sentencing patterns across five districts where a sufficient number of observations made such comparisons possible. The districts and the numbers of observations were Eastern New York (110), New Jersey (101), Middle Florida (94), Northern Ohio (95), and Northern California (94).

A parsimonious model was used to draw these comparisons. This model included 14 explanatory variables: COUNTS, SUPPLIED INFO., HEROIN, ORGAN 1, DISTRIB 1, DISTRIB 2, DISTRIB 3, ORGANIZED, TRIAL, PRIOR LONG, PRIOR SHORT, PRIOR PROBATION, MALE, MOST SEVERE MAX. and EMPLOY. Results from fitting this model across the five districts are presented in Appendix B.

We did not uncover a statistically significant difference across those five districts in the probability that offenders would be sentenced to prison. Nor did we find a significant difference in the length of time that offenders would serve if sentenced to prison. We conclude that, with respect to persons convicted of drug offenses, there is not a wide difference across the districts in the sentences that they will serve.

In contrasting these findings with some of the earlier findings, there may be two reasons why interdistrict sentencing differences do not emerge for drug offenses. First, there may be little question that drug offenders deserve at least some prison time, and thus, there is little discrepancy in the rates at which sellers are sentenced to prison. Second, there may be disagreement about the length of prison. But, given the fact that the U.S. Parole Board has control over a majority of drug

sellers due to the long sentences meted out for this offense, and that the Parole Board uses uniform rules for releasing offenders, sentence disparity tends to be reduced by administrative policy.

## NOTES

1. Mark Moore, "Economics of Heroin Distribution," Policy Concerning Drug Abuse in New York State, Vol. III. (Croton-on-Hudson, New York: Hudson Institute, 1970).
2. The quantities that are considered large enough for Class III classification vary with the type of drug. The amounts tend to increase as the dangerousness of the drug decreases. For instance, if a person deals 125 grams or more of heroin a month, he may potentially be considered a Class III violator. Where marijuana is concerned, however, the minimum is much larger: 500 kilos per month.
3. Richard H. Blum and Associates, The Dream Sellers (San Francisco: Jossey-Bass, 1972).
4. In a personal communication, Jack Hausner--who is presently engaged in a study of dual jurisdiction prosecutions--informs us that there is great attrition in the number of cases reported by federal authorities that are prosecuted by U.S. Attorneys. Hausner's findings cast doubt on any assertion that convicted federal drug offenders resemble typical local drug offenders.
5. Barbara Boland, "Incapacitation as Applied to Federal Offenders" (INSLAW, 1980).
6. It is also noteworthy that blacks were significantly overrepresented in organized crime. Thirty-two percent of the black offenders were involved in organized crime, 26 percent of those in the "other" racial group had organized crime connections, and only 15 percent of the whites were involved in organized crime.
7. Top-level organized criminals may not be pursued by police and prosecutors because of the organized power structure that insulates those offenders, first, from detection and, second, from conviction if they are detected.
8. For a breakdown of drugs included in each schedule, see Public Law 91-513, 91st Congress, H.R. 18583, October 27, 1970; also known as the Comprehensive Drug Abuse Prevention and Control Act of 1970.

## IX. MAIL FRAUD

In executing a mail fraud, the offender uses the mail service as a silent, criminal partner. By misrepresenting himself, the offender may obtain goods or services through the mail without adequately compensating merchants. Alternatively, he may use the mail to aid in receiving payments for goods or services that he does not intend to provide.

There are numerous mail fraud schemes. One common mail fraud involves mailing falsified credit card or loan applications. Other types are engineered to appeal to the psychological needs of the victim. The offender may promise the victim a perfect mate, a "perfect" figure, or eternal youth; the victim is, in turn, duped into paying for a product that is either never delivered or worthless. Mail fraud can also be an aspect of an offender's legitimate business dealings. For instance, a doctor may report inflated fees to a patient's insurance company and pocket the surplus payment. In many instances, entire businesses can be devoted to using the mail to defraud victims.

### A. THE OFFENDER

Mail fraud offenders found in this study were typically white (19 percent were black; 3 percent were "other"), and male (13 percent were female; 2 percent were corporations). The mean age was 39 years.

As children, most mail fraud offenders were well adjusted and academically proficient. In fact, nearly two-thirds of those convicted of mail fraud had completed high school or some

higher level of education, although the mean education level was 11 years. Only 11 percent of the offenders had parents who had difficulty providing life's necessities and 11 percent were abused by their parents.

Fifty-eight percent of the offenders were married, and 63 percent were fairly regularly employed prior to their mail fraud arrests. Of those with dependents, over two-thirds provided those charges with both emotional and economic support. Further evidence of the relative stability of this group is the fact that mail fraud offenders were infrequently drug or alcohol abusers.

Few mail fraud offenders had contact with criminal family members or cohabitants. About 22 percent of the offenders were known to associate with criminal peers. Although contact with other offenders was infrequent, 64 percent of the violators had previously been arrested. The largest proportion (44 percent) of offenders had been arrested for property offenses, followed in smaller proportions by arrests for nuisance (39 percent) and white collar (33 percent) violations, as well as crimes against persons (21 percent). Less than 8 percent had arrest histories that included organized crime, sex, or drug offenses.

Forty-one percent of those with records had previously received sentences to probation. Another 13 percent were never convicted and 2 percent were convicted as juveniles. The remaining were sentenced to incarceration--14 percent for a period less than one year; 28 percent for terms in excess of one year.

With respect to the factors MARITAL, SOCIAL, DRUGS, and EMPLOY, comparisons of mean factor scores across offense groups indicated that persons convicted of mail fraud were most similar to the white collar offenders appearing in our study. In contrast, with reference to the factors COHABIT, FORMATIVE, FAMILY, MENTAL, and INTERACT, mail fraud offenders had most in common with those committing drug offenses, forgeries, or homicides.

Looking at the first set of comparisons, we see that like false claims offenders, mail fraud violators were fairly likely to be married and to have been well-adjusted children. Mail fraud offenders were as unlikely as false claims and income tax offenders to abuse drugs--which is to say that they rarely used drugs. Finally, false claims, drug, and mail fraud offenders demonstrated comparably steady employment histories.

Examination of the second set of comparisons revealed that mail fraud and drug offenders had comparable levels of interaction with criminal cohabitants. Also, both mail fraud and drug offenders had stable early family experiences. Neither fraud nor homicide offenders were likely to have extensive contact with criminal family members or to have mental health problems. Finally, forgers and mail fraud offenders were likely to interact with criminal peers, although neither were so likely as bank robbers or drug offenders to have such contact.

#### B. THE OFFENSE

Mail fraud was generally a group crime; in fact, many of the offenses seemed to have a business-like orientation. The typical offense had a fairly long duration, but the dollar loss from the offense was not so great as the dollar loss from many other federal offenses.

A majority of the offenders convicted of mail fraud were engaged in offenses that resulted either as sidelines of the offenders' legitimate business activities (20 percent) or as principal products of mail fraud businesses (45 percent). Only 35 percent of the mail fraud convictions were derived from schemes that were unrelated to the offender's occupation.

Fifty-three percent of the PSIs indicated that the cases were conducted by two or more offenders. Because of the large numbers of business-related mail frauds, this group participation is not surprising, although because of double counting of PSIs the percent of offenses with multiple offenders is not this high. The average fraud lasted for 11 months, during which time a mean amount of \$42,000 was stolen.

In two of every three cases, the victims of mail fraud were corporations, such as banks, stores, and insurance firms. In an overwhelming number of cases (76 percent), these frauds were conducted for the offender's personal or business advantage.

#### C. INTERDISTRICT DIFFERENCES

With few exceptions, offender characteristics were essentially uniform across districts. Analysis of variance

revealed significant interdistrict differences with respect to only 2 of the 10 offender measures. First, mail fraud offenders in Western Oklahoma were most likely to have adjusted well in school and other early social settings (SOCIAL) ( $\bar{x}=.46$ ). Mean scores for this measure were also comparatively high for offenders from New Mexico ( $\bar{x}=.29$ ) and New Jersey ( $\bar{x}=.20$ ). However, violators in Connecticut scored least well on the social adjustment measure, as evidenced by their mean score of  $-.60$ . Second, there were significant interdistrict differences in the ways in which defendants were reared by their parents (FORMATIVE). As children, offenders from Northern California were considerably more likely than offenders from other districts to have been abused, and their parents were more likely to have had difficulty supplying the necessities of life ( $\bar{x}=.46$ ). This disparity was particularly noticeable when compared with the mean factor score for offenders in New Jersey ( $\bar{x}=-.30$ ). Differences in the mean scores for this factor were negligible for the other six districts.

The data also indicated one interdistrict offense difference. Larger mean amounts of money (between \$50,000 and \$60,000) were stolen by offenders in New Mexico and New Jersey than in any of the other districts. In four districts--Connecticut, Middle Florida, Northern Ohio, and Northern California--the average amounts stolen were less than \$30,000. Nevertheless, these disparities seemed slight quantitatively.

#### D. SENTENCING MAIL FRAUD OFFENDERS

Federal court judges viewed mail fraud as an offense of sufficient seriousness to warrant prison sentences for almost half of the offenders sentenced. Of the offenders serving time, better than half served at least one year, and almost one-third served two or more years. As is shown in this section, the sentence administered varied considerably with the offender's background, aspects of his offense, and processing variables.

As was true for forgers, persons using the mail to defraud victims came from diverse social backgrounds, thus allowing judges to take social background into account when sentencing. In this analysis, it was possible to control for a number of those background elements. Several factor scores were derived (see Appendix A for elaboration).

The first factor score was EMPLOY, which measures the extent to which the offender was employed at the time the PSI was written, over the past month, and over the last two years, as well as his present means of subsistence. The second factor, MARITAL, was an indicator of whether the offender lived with a spouse and whether he provided emotional and economic support for dependents. DRUGS reflected the offender's known history of drug usage. The factor reflected both the extent of drugs used, as well as the existence of offender addiction. The next three factors--FAMILY, INTERACT, and COHABS--measured our estimates of the degree to which the offender received support in leading a crime-free life from, respectively, family

members, friends, and cohabitants. These three factors were also highly related to the known criminal histories of members of these respective groups. SOCIAL ADJ and FORMATIVE provided indications of "difficulties" the offender had as a child. The former indicated whether he adjusted well socially, especially in school. The latter indicated whether his family had difficulty supplying him with the "necessities of life" and perhaps even mistreated him. The final factor, MIXED, had no strong relationship to a homogeneous set of variables; it had the strongest correlations with the offender's health, education, church attendance, and social activities.

Three other background variables entered the analysis. AGE was the offender's age in years. MALE indicated the offender's sex. WHITE specified that the offender was not a member of a minority group.

Criminal records were important to the sentencing decision. PROB OR LYR recorded the fact that the offender previously served a sentence of either probation or incarceration for less than one year.[1] PRISON LYR indicated that the offender served a previous sentence that exceeded one year. Those two variables made it possible to differentiate persons with no earlier convictions (the residual group) from others.

Numerous variables were used to control for aspects of the offense. Many of the mail frauds involved conspiracies, and several variables were used to measure the extent of those conspiracies. CODEFEND is the logarithm of the number of

persons who were arrested in connection with the offense. In order to know the offender's involvement with the conspiracy, we included three additional variables. PRIMARY indicated that the offender organized and ran the criminal enterprise. If the offender appeared to be equally culpable with compatriots in committing the fraud, SHARED indicated this assessment. If the offender was only marginally involved with the crime, the variable PERIPHERAL indicated this limited responsibility. And if the offender supplied information that led to the arrest or conviction of others, SUPPLIED INFO indicated that to be the case.

Other offense variables provide measures of the magnitude of the offense. MORE THAN 30K denoted an offense that resulted in the loss of over \$30,000. Offenses in which the dollar loss was between \$1,000 and \$30,000 were indicated by BETWEEN 1-30K. A residual category, of course, remained for offenses of less than \$1,000. DURATION was the logarithm of the number of months during which the offender used the mail illegally.

The final group of variables consisted of processing information. Persons convicted by trial rather than guilty plea were denoted by the variable TRIAL. COUNTS was the logarithm of the number of counts in the conviction. Almost all offenders were convicted of offenses with a five-year maximum sentence, so we did not attempt to control for this statutory maximum.

When these variables were used to predict the probability of going to prison, the resulting statistics were similar to those derived for forgery (Table IX.1). Certain background

Table IX.1

THE RELATIVE IMPACT OF DEFENDANT AND OFFENSE CHARACTERISTICS ON THE DECISION TO IMPRISON, IN/OUT MODEL (MAIL FRAUD)

| CHARACTERISTIC    | BETA WEIGHT | RELATIVE SIZE (%)    |
|-------------------|-------------|----------------------|
| CODEFEND          | -0.3252     | ████████████████████ |
| TRIAL             | 0.2998      | ████████████████████ |
| AGE               | 0.2890      | ████████████████████ |
| EMPLOY            | 0.2887      | ████████████████████ |
| MALE              | 0.2798      | ████████████████████ |
| PRISON 1YR        | 0.2780      | ████████████████████ |
| SERVE SENT./MARR. | 0.2169      | ████████████████████ |
| MORE THAN 30K     | 0.1825      | ████████████████████ |
| MARITAL           | 0.1602      | ████████████████████ |
| DRUGS             | 0.1505      | ████████████████████ |
| SOCIAL ADJ.       | -0.1413     | ████████████████████ |
| COHARS            | 0.1396      | ████████████████████ |
| BETWEEN 1-30K     | 0.1379      | ████████████████████ |
| SUPPLIED INFO.    | 0.1375      | ████████████████████ |
| COUNTS            | 0.1362      | ████████████████████ |
| DURATION          | 0.1322      | ████████████████████ |
| PERIPHERAL        | -0.1266     | ████████████████████ |
| FAMILY SUPP.      | 0.1245      | ████████████████████ |
| INTERACT          | 0.1134      | ████████████████████ |
| FORMATIVE         | 0.1055      | ████████████████████ |
| PRIMARY           | 0.0894      | ████████████████████ |
| PROP DR 1YR       | 0.0810      | ████████████████████ |
| DOLLAR ACT.       | 0.0637      | ████████████████████ |
| MIXED             | 0.0544      | ████████████████████ |
| WHITE             | 0.0388      | ████████████████████ |
| ANY REVOCATIONS   | 0.0041      | ████████████████████ |
| SHARED            | 0.0019      | ████████████████████ |
| MENTAL            | 0.0010      | ████████████████████ |

NOTE: THE BARS REPRESENT THE RELATIVE SIZE OF THE BETA WEIGHTS AS DETERMINED FROM THE PROBIT MODEL. VARIABLES THAT WERE STATISTICALLY SIGNIFICANT AT .05 HAVE BEEN SHADED.

variables seemed to be considered by the judge when he decided on a prison sentence. Offenders who demonstrated stable employment records were less likely to go to prison. The same was true of offenders who showed family ties--living with a spouse and providing emotional and economic support for dependents. Although the effect was not quite statistically significant, offenders who were known to be users of drugs, and especially those who were addicted, could expect to go to prison more frequently than offenders who were drug free.

In addition to the influence of the offender's social background, his criminal history contributed toward his incarceration. Offenders who previously served terms in excess of one year could expect to go to jail with a probability that was about .24 greater than offenders with "clean" records. Offenders who had served a previous term of less than one year, or who had previously been on probation, were somewhat (.06) more likely to go to prison, although the findings were not statistically significant. As was true of forgers, persons committing mail fraud were more likely to go to prison (by about .14) if they were either awaiting trial on a prior arrest or serving a sentence for a past offense at the time of the mail fraud. Unlike the analysis of forgery, however, we found no independent effect from a previous parole revocation on the decision to imprison a person convicted of mail fraud.

The effect of the magnitude of the offense on the sentencing decision was more difficult to interpret. Compared

with offenders stealing less than \$1,000, those who stole over \$30,000 had the probability of prison increased by about .12, and those who stole between \$1,000 and \$30,000 had the probability increased by about .07. However, neither effect was statistically significant. The duration of the offense appeared to have a marginal impact on the probability of prison, increasing the likelihood by .04 per logarithm of years involved in the offense.

Otherwise, the extent of the conspiracy had little effect on the decision to incarcerate. Identifying the role played in the conspiracy (ORGANIZED CONSPIRACY, SHARED RESPONSIBILITY, PERIPHERAL FIGURE) provided no insight into the sentencing decision. And surprisingly, the number of persons involved in the crime was negatively correlated with the individual offender's chance of going to prison.[2]

When the length of time served was examined for persons going to prison, a familiar pattern reappeared (Table IX.2). Variables that were important to the decision to imprison were not always important in determining the length of time served. Likewise, variables important to the former were not necessarily important to the latter.

Prior record was important to determining the length of time served. Compared with offenders who had never previously been convicted, offenders who previously served a term in excess of one year could expect to serve an additional 11 months for the mail fraud conviction. The magnitude of the offense also mattered. Offenders responsible for over \$30,000



Table IX.3

THE RELATIVE IMPACT OF DEFENDANT AND OFFENSE CHARACTERISTICS ON THE EXPECTED LENGTH OF TIME SERVED, EXPECTED LENGTH OF INCARCERATION MODEL (POSTAL EMBEZZLEMENT)

|                   |         |                      |
|-------------------|---------|----------------------|
| PRISON 1YR        | 5.0212  | ████████████████████ |
| MORE THAN 30K     | 3.6674  | ██████████████       |
| MALE              | 3.1623  | ██████████           |
| TRIAL             | 3.1603  | ██████████           |
| EMPLOY            | 2.8192  | ██████████           |
| AGE               | 2.7084  | ██████████           |
| PERIPHERAL        | -2.6215 | ██████████           |
| CODEFEND          | -2.3159 | ██████████           |
| SERVE SENT./WARR. | 2.1360  | ██████████           |
| INTER             | 1.8399  | ██████████           |
| FORNATIVE         | 1.8291  | ██████████           |
| BETWEEN 1-30K     | 1.6927  | ██████████           |
| DRUGS             | 1.6394  | ██████████           |
| COHAPS            | 1.6325  | ██████████           |
| PROF OR 1YR       | 1.6155  | ██████████           |
| SOCIAL ADJ.       | -1.5606 | ██████████           |
| DURATION          | 1.4617  | ██████████           |
| FAMILY SUP.       | 1.4227  | ██████████           |
| MARITAL           | 1.3920  | ██████████           |
| DOLLAR ACT.       | 1.2367  | ██████████           |
| COUNTS            | 1.1397  | ██████████           |
| MIXED             | 0.9586  | ██████████           |
| SUPPLIED INFO.    | 0.7438  | ██████████           |
| PRIMARY           | 0.6864  | ██████████           |
| WHITE             | 0.6568  | ██████████           |
| SHARED            | -0.6150 | ██████████           |
| ANY REVOCATION    | 0.5712  | ██████████           |
| MENTAL            | 0.1799  | ██████████           |

NOTE: THE BARS REPRESENT THE RELATIVE SIZE OF THE BETA WEIGHTS AS DETERMINED FROM THE TOBIT MODEL. VARIABLES THAT WERE STATISTICALLY SIGNIFICANT AT .05 HAVE BEEN SHADED.

about one year less than persons with the worst employment histories. Additionally, persons who appeared to receive support in living a crime-free life from cohabitants, friends, and (marginally significant) family served less time. Drug users--especially addicts--tended to serve more time than persons who were free of drug histories. Males served sentences that were about nine months longer than females. Also, as age increased, so did the sentence (by about .25 months per logarithm of age). These findings point to the importance of social background in determining the length of time that an offender will serve.

The magnitude of the offense also appeared to be important. Persons who stole in excess of \$30,000 served an average of about five months longer than offenders who stole between \$1,000 and \$30,000. The latter offenders served around three months more, on average, than persons who stole less than \$1,000. Note also that peripheral figures received a "break"; they tended to serve about nine months less than all other convicted mail frauders. Also note that the variable CODEFEND--which previously had an unexpected sign associated with it--was not statistically significant in the regression results.

Finally, the importance of processing variables should be pointed out. Defendants convicted by trial served longer sentences, on the average. Persons convicted by guilty plea received an average sentence concession of approximately 10 months. [5]

In summarizing this section, we note once again that there was considerable regularity in the sentences administered by federal district court judges. Social background variables exerted an important effect on the severity of the sentence served. In general, offenders who demonstrated relatively stable social ties went to prison less frequently, and served less time when they did so, than offenders who had weak social ties. The same can be said of offenders who lacked criminal histories. They received more lenient treatment than that received by persons who had previously been convicted and incarcerated. The magnitude of the offense played at least a marginal role in sentencing, with offenders who committed more serious offenses receiving more severe sentences. Surprisingly, the extent of the conspiracy mattered little, or not at all, when it came to sentencing. And once again it was shown that conviction by trial is a virtual guarantee of receiving a severe sentence.

#### E. INTERDISTRICT SENTENCING DIFFERENCES

As we did for the previous offense groups, we examined whether the sentencing of mail fraud violators differed across district courts. The number of observations was sufficient to enable us to compare three districts: Eastern New York (85 observations), New Jersey (86 observations), and Middle Florida (82 observations). A parsimonious model was chosen to conduct the tests. This model used the following variables: SERVE

SENT. WARR., PERIPHERAL, BETWEEN 1-30K, MORE THAN 30K, PROB OR LY, PRISON LY, TRIAL, MALE, AGE, EMPLOY, MARITAL, DRUGS, INTERACT, FORMATIVE, and COHABS. This model was suggested by the findings reported in the previous section.

We conducted the initial test using ordinary least squares regressions on the probability of a prison sentence. The F test failed to reveal differences in sentencing across these three districts. Thus, it was concluded that no additional tests were likely to be profitable, and we could not reject the hypothesis that sentences were fairly uniform across these three districts.

It must be pointed out that there were very few observations used in these tests relative to the number of parameters that needed to be estimated. Unlike sentencing patterns observed for other offenses, sentencing in mail fraud cases could not be estimated with a small set of variables. This small sample size may explain the lack of significant findings.

**CONTINUED**

**2 OF 4**

#### NOTES

1. Initial analysis indicated that judges did not differentiate between a previous term of probation and a previous sentence of less than one year. As a result, we have combined these two categories in this analysis.
2. A possible explanation for this negative correlation, as well as the statistically insignificant impact of the dollar loss in the crime, is that the coders were instructed to provide the dollar loss for the entire criminal enterprise when coding the PSIs. Thus, if ten conspirators were involved in a credit card scheme, and each stole \$100, then the total dollar loss was \$1,000. If judges looked at each individual's involvement in the offense, the \$1,000 estimate clearly overstates the magnitude of the offense. The resulting measurement error would bias the parameters for MORE THAN 30K and BETWEEN 1-30K toward zero. And since the dollar amount would be overestimated for conspiracies, the resulting specification error would cause CODEFEND to be biased in the negative direction.
3. These estimates from the tobit model do not take into account the impact that the independent variables have on the probability of incarceration. See the discussion in Chapter III.
4. It is interesting to note that the maximum sentence increases by 27 months for offenders who served previous prison terms and by 9 months for offenders who served prior probation terms. In general, the variables that were statistically significant in determining time served were also significant in determining maximum sentence.
5. Judges actually impose 14 extra months maximum sentence on offenders convicted at trial.

#### X. BANK ROBBERY

Like street robbery, bank robbery involves both the theft of property and at least the threat of violence, yet the two offenses differ significantly in terms of dollar loss and amount of harm to victims. First, the average "take" in bank robbery far exceeds the average street robbery profit.[1] Second, despite the fact that robbery always involves confrontation between the robber and the victim, the use of force varies between the two offenses. Conklin reported that offenders shoved, beat, or stabbed victims in 46 percent of street robberies.[2] Nagin and Cook reported comparable figures ranging between 42 and 56 percent, depending on the number of offenders involved in each incident.[3] Yet, based on information about victim injury, less than 5 percent of the federal bank robberies examined in this study involved comparably serious uses of force.

Many social scientists agree that an important factor that distinguishes bank robbers from street robbers is the level of expertise demonstrated by the offenders. The assumption is that since banks are less vulnerable victims than most of the targets in street robberies, amateurs, rather than professional robbers, are most likely to accept the challenge of bank hold-ups. Professional robbers seem to prefer to plan their offenses, thereby guaranteeing that the victim will be surprised and allowing the robber to dominate the confrontation.[4] According to Einstadter, professionals prefer to victimize liquor, drug, and grocery stores, despite

the bank's appeal as a "big score." [5] On the other hand, because amateurs are not as aware of the need for planning and victim control, they are likely to tackle banks. As a consequence, bank robberies often involve slipshod thieving and frequently result in apprehension of the offenders.

The picture that emerges from this cursory comparison of two offense types is that street robbery is likely to be more violent and less lucrative than bank robbery. Also, unlike bank robbery, street robbery is more likely to be engaged in by professionals. It is somewhat surprising, then, that bank robbers convicted in federal courts receive sentences that are harsher than the sentences of local street robbers. [6]

Although it is impossible in this report to compare the reasons for these differences adequately, we will provide greater insight into the bank robbery offenders, offenses, and sentences in the following sections.

#### A. THE OFFENDER

The typical bank robber was an unemployed, poorly educated, male recidivist in his late twenties. He was slightly more likely to be black than white and was unlikely to be a professional robber, as this term was used above. [7] Only 24 percent of the robbers were consistently employed during the two years preceding the bank robbery offense. [8] Seventy-one percent of the robbers were unmarried at the time the PSI was written. Only 47 percent of those with dependents provided their wards with economic support, and only 58 percent provided emotional support to dependents.

Other measures indicated that robbers lacked social stability. Bank robbers received weak normative support from cohabitants (although they did somewhat better than forgers or drug offenders in this respect) and from friends (they did better than drug offenders). Overall, they had very weak ties with non-criminal reference groups. Additionally, drug use was high among bank robbers. One in three convicted bank robbers used opiates. Additionally, 11 percent of the offenders were problem drinkers. Not surprisingly then, 7 percent of the offenses were related to alcohol use, and 25 percent were drug-related, according to the accounts provided by probation officers.

The families of bank robbers (like the families of forgers) were judged to provide weak support for legitimate institutions. Also, robbers (again like forgers) were most likely to have had unstable childhood backgrounds. As children, 22 percent were abused and 24 percent lived in homes where the parents had difficulty providing the necessities of life. In addition, bank robbers evidenced poor adjustment in school. Forty-six percent did work that was below average or poor; bank robbers achieved a mean of just nine years of education.

With respect to their criminal records, most robbers had had extensive contacts with the criminal justice system. The median number of prior arrests was six, highest among the offenders we observed. Seventy percent of the offenders had been arrested at least once for commission of a property offense; 68 percent had histories of arrests for nuisance

offenses; and 62 percent had been arrested previously for crimes against persons. Drug-related arrests were recorded for 32 percent of the bank robbers. Less than 10 percent of the robbers had histories of arrests for sex crimes, and no robber was previously arrested for organized crime offenses. Looking at past convictions, we discovered that over 60 percent of the offenders had served some time in prison, and better than 40 percent had served previous terms in excess of one year. More than four in five were previously convicted. Fifty-four percent of the offenders had detainers pending at the time of their instant offense; 75 percent were detained in jail prior to trial. Yet most of the bank robbers were not repeat bank robbers. In fact, in 90 percent of the PSIs examined, the criminal committed only one episode of bank robbery.

#### B. THE OFFENSE

In 68 percent of the cases, bank robberies were committed by two or more offenders. Although it was typical for one or more of the conspirators to possess a weapon, the incidence of injury was rare; victims were injured or killed in only 4 percent of the cases. Even fewer offenses (3 percent) resulted in the kidnapping of hostages. Of course, these figures are not meant to minimize the psychic cost to victims, which may be great compared to the physical loss. In keeping with our expectation that bank robbery is a monetarily appealing offense, our data indicated that the average bank robbery resulted in a \$19,000 loss to the bank.

Yet despite monetary gain and non-violent outcomes, bank robberies were not well planned. Offenders used disguises in only 24 percent of the cases; they were known to have examined the bank's internal environment prior to the offense in only 14 percent of the offenses; and they developed a long-range plan to dispose of the proceeds in only 5 percent of the cases. Having a getaway car available was the only consistent element of planning; this occurred in two of every three offenses. Overall, this absence of planning tended to confirm that, from the standpoint of criminal acumen at least, bank robberies are executed by non-professionals.

#### C. DISTRICT DIFFERENCES

Seven of the factored offender characteristics differed significantly across federal districts, although the differences were quantitatively slight, which indicates that bank robbers had similar characteristics in all districts examined. Analysis of variance revealed the following: (1) According to mean factor scores, offenders in Western Oklahoma and Middle Florida were most likely to be employed ( $\bar{x}=-.5$  and  $-.4$ , respectively) and offenders in Eastern New York were least likely to be regularly employed ( $\bar{x}=.2$ ). (2) Mean scores corresponding to the factor MARITAL were highest in Western Oklahoma ( $\bar{x}=-.5$ ) and lowest in Northern California and Eastern New York ( $\bar{x}=.1$ ). (3) Bank robbers in New Mexico and Western Oklahoma were most often described as socially and academically well adjusted ( $\bar{x}=.5$  for each) in contrast with offenders in Eastern New York ( $\bar{x}=-.4$ ), who were least well adjusted in these

measures. (4) With respect to drug use, bank robbers in Northern Ohio used drugs least often ( $\bar{x}=-.3$ ) and offenders in Northern California most often. (5) Mean scores for the factor INTERACT indicate that robbers in Middle Florida, New Mexico, and Western Oklahoma had the least contact with other criminals ( $\bar{x}=-.2$ ), especially when compared with offenders in Eastern New York, ( $\bar{x}=.5$ ). (6) In New Jersey, offenders were the least likely to suffer medical illness ( $\bar{x}=-.3$ ), especially relative to robbers in New Mexico and Northern California ( $\bar{x}$  greater than .3). Finally, comparison of the factor FORMATIVE indicated that robbers in Northern California ( $\bar{x}=-.2$ ) and New Jersey ( $\bar{x}=-.1$ ) were the least likely to have had parents who either abused them as children or found it difficult to provide the necessities of life. In contrast, offenders in Connecticut were most likely to have had difficult childhood experiences ( $\bar{x}=.3$ ). Taken together, these findings would seem to indicate a typical offender with somewhat weaker social ties in Eastern New York and the larger districts, relative to Western Oklahoma and the smaller, more rural districts. Quantitatively, these differences are not great, however. Moreover, prior records did not seem to differ greatly across the jurisdictions.

Larger interdistrict differences were discovered when comparing offense characteristics, which leads us to the belief that either (a) the nature of robbery differs across federal jurisdictions or (b) prosecutory filing and case processing standards vary across the country. For one, despite the fact that most bank robbers averaged one robbery before apprehension, in Eastern New York the average was 3.5, and in

New Jersey and Northern California the norm was 2. In view of this finding, it is not surprising that the amounts of money stolen also varied across districts. The average "take" in Eastern New York and New Jersey was between \$20,000 and \$40,000, which was considerably greater than the average for all other districts. In addition, the use of weapons and the infliction of injury varied. In Eastern New York, 78 percent of the offenses involved weapons or injury, as did 74 percent of the offenses in Northern Ohio and New Jersey. Yet in Northern California and Middle Florida, almost half of the offenses were clearly nonviolent. These findings may indicate that judges in the eight districts examined are called upon to sentence offenders who have committed widely different offenses, although all have been convicted of some form of bank robbery.

In conclusion, since there were many interdistrict offender and offense differences, some interdistrict differences in sentencing are to be expected. Perhaps most persuasive in building this expectation is the finding that offenses within certain districts appear to be considerably more serious than offenses in others. In the following section, we begin examining these sentencing patterns.

#### D. SENTENCING BANK ROBBERS

It is evident that bank robbery is a very serious offense. The law provides for at least a 20-year maximum for most counts of bank robbery, and judges respond with maximum sentences in excess of 10 years for 60 percent of the offenders.

Altogether, 9 of every 10 bank robbers receive some prison time, and on the average, a convicted bank robber serves about five years.

It is also evident that judges do not impose prison sentences indiscriminately. Rather, they look both to the offender's background and to the crime that was committed. In this regard, neither all robbers nor all robberies are alike.

In order to investigate the factors that seem to matter in determining the sentences served by bank robbers, we identified salient aspects of the offender's offense and background. With respect to offender background, factor analysis was used to identify 11 background factors.

Many of these factors are similar to those used in earlier analyses. EMPLOY, for example, again provides a measure of the offender's employment history. Likewise, MARITAL indicates the extent to which the offender has marital ties and provides economic and emotional support to dependents. The extent to which the offender would likely receive support from significant others in leading a life-style free of crime is reflected in FAMILY SUPPORT (support from his family), COHAB SUPPORT (support from cohabitants), and INTERACT SUPPORT (support from friends and associates). The factor SOCIAL tends to provide insight into community participation. DRUGS measures the extent to which the offender uses or is addicted to drugs. Of the remaining factors, MENTAL HEALTH and HEALTH, respectively, measure the offender's mental and physical health. FORMATIVE YEARS indicates the "difficulties" that the offender had during his formative years. Finally, MIXED is a

residual factor with no specific nomenclature. Derivation of these factors is discussed in Appendix A.

Three additional background variables entered the analysis. Male indicates the offender's sex. WHITE indicates his race, and AGE is his age in years.

The four-part categorization of criminal record that was used previously was also retained. Offenders who served a previous term of probation, but never a prison term, are identified by PREVIOUS PROBATION. A previous prison sentence was also noted by PREVIOUS SHORT for offenders who previously served a term of less than one year (or commitment under a juvenile delinquency petition), and by PREVIOUS LONG for offenders who served a previous term of one year or more. A residual category represents offenders with no known prior convictions.

Note that several other criminal record variables were included in the analysis. DETAINER indicates that there was a detainer pending against the offender at the time he was sentenced, implying that he may have committed additional offenses in other jurisdictions. ANY REVOCATIONS indicates that the offender was previously placed on probation or parole and had that probation or parole revoked. SERVE SENT./WARR. indicates that the offender was either serving a sentence at the time of his offense or had an arrest warrant outstanding.

We were also able to control for several aspects of the offense. Many bank robberies are committed by groups of offenders. If this was the case, and if the offender played more than a minor role in the offense, variable GROUP indicates

that the offender was engaged in an organized group offense. If he played only a minor role in an otherwise organized offense, the variable PERIPHERAL makes note of this lesser role. Offenders who commit their robberies alone constitute a residual group. Some bank robberies yield only a small amount of cash, and should be distinguished from larger "hauls." If the official account of the crime corresponding to the convicting offense indicated between \$500 and \$1,000, BETWEEN 500-1K records that fact, and MORE THAN 1K indicates that the amount stolen officially exceeded \$1,000. Of course, a residual category indicates that the amount taken was officially less than \$500. The logarithm of the number of banks robbed is provided in NO.ROBB.A. While very few bank robberies result in physical harm to victims, a small percentage do. If the robbery resulted either in harm causing hospitalization or death, or if the robbers took hostages, then an indication of this is provided by the variable EXTENUATING.[9]

The remaining variables are processing variables. The logarithm of the number of counts is recorded in COUNTS. Conviction by trial rather than by guilty plea is indicated by TRIAL. And SUPPLIED INFO. indicates that the offender supplied information leading to the arrest or prosecution of others. MAXIMUM SENTENCE was the maximum sentence in years that could have been imposed on the offender given the most serious offense for which he was convicted.

When examining how the above factors influence the probability of a prison sentence, we must be aware that few

offenders avoid prison altogether, which makes estimation of the decision to imprison especially subject to error. That said, four conditions seemed necessary for the offender to avoid a prison term. First, the offender must have had a relatively clear past criminal record, limited at most to a previous term of probation, and he must have had no additional charges pending at the time of his conviction for bank robbery. Second, his offense must have involved a small amount of money--less than \$500. Third, he must have been able to demonstrate stable employment ties. And fourth, he must have been convicted of an offense calling for at most a limited term of imprisonment. Otherwise, he can expect to serve at least some time in a federal prison or local correctional facility. These conclusions were drawn from the regression results on the in/out model, as reported in Table X.1.

Once sentenced to prison, according to the second stage of the in/out model, a number of additional factors enter into the decision pertaining to the amount of time that he will serve. Processing variables dominate this decision, especially the maximum sentence that can be imposed given the most serious charge at conviction.[10] As this variable increases by 1 year, the sentence increases by a little more than 1.5 months. Thus, offenders convicted of a "top charge" calling for a 25-year maximum can expect to serve approximately 8 months more than an offender convicted of a "top charge" calling for a 20-year maximum (47 percent of the offenders were convicted of offenses with a 20-year maximum and 35 percent were convicted of top charges with 25-year maximums; approximately 12 percent

Table X.1.

THE RELATIVE IMPACT OF DEFENDANT AND OFFENSE CHARACTERISTICS ON THE DECISION TO IMPRISON, IN/OUT MODEL (BANK ROBBERY)

|                 |         |  |
|-----------------|---------|--|
| PUBLIC OFFICIAL | 0.3565  |  |
| EQUAL TRIAL     | 0.2959  |  |
| MALE            | 0.2020  |  |
| ORGANIZED       | 0.1716  |  |
| IMMIG           | 0.1431  |  |
| MOST SEVERE     | 0.1327  |  |
| GOV. CONTRACT   | 0.0696  |  |
| TAXES           | -0.0614 |  |
| WHITE           | 0.0501  |  |
| PRIOR RECORD    | 0.0446  |  |
| MORE THAN 1 MO. | -0.0294 |  |
| MORE THAN 1 YR. | 0.0275  |  |
| SUPINF          | -0.0266 |  |
| COUNTS          | -0.0266 |  |

NOTE: THE BARS REPRESENT THE RELATIVE SIZE OF THE BETA WEIGHTS AS CALCULATED FROM THE PROBIT MODEL. VARIABLES THAT WERE STATISTICALLY SIGNIFICANT AT .05 HAVE BEEN SHADED.

were convicted of offenses with 10-year maximums). In addition, the number of counts in the conviction tended to increase the length of time served by about 3 months per the logarithm of the number of counts, although the effect was not quite statistically significant. The fact that the offender was convicted by trial rather than by guilty plea did not appear to affect the length of time served, perhaps because the U.S. Parole Commission ignores the method of conviction when making parole release decisions.[11]

While processing variables seem to dominate the time served decision, other variables play a role in determining the length of confinement. It appears that judges and parole officials look beyond the convicting offense to examine the offender's actual offense. In this regard, offenders who steal in excess of \$1,000 receive six months more time, on average, than offenders stealing less than \$500. The enhanced amount seems to be somewhat less for persons stealing between \$500 and \$1,000.[12] The number of robberies committed increases the length of time served by almost 5 months per logarithm of the number of robberies. This finding is not surprising since the parole guidelines take the number of robberies into account when determining the release date of an incarcerated bank robber. And offenders who committed their crimes in groups could expect to do considerably more time--almost 8 months--than offenders acting alone. Also, if victims were hospitalized or hostages were taken an average of almost 8 months was added to the time served.

In addition to the seriousness of the offense, the offender's criminal record was instrumental in determining the amount of time he would serve. If he had previously served a prison term less than one year, he could expect to serve an additional year for the current offense, relative to offenders who had not previously been to prison. And relative to offenders who had never before done prison time, an average of 18 months was added to the time served by convicted bank robbers who had in the past served at least 1 year in prison. While a previous term of probation did not appear to increase the time served for the current offense, a previous probation or parole revocation netted about 7 months of extra time, on average. Moreover, if the offender had detainers pending at the time of his conviction, he could anticipate an additional 6 months to be added to his present sentence. Clearly, an offender's criminal history is taken into account when determining the length of time that he will serve.

One other variable seems to affect the length of time served. Offenders with stable employment records can expect to serve somewhat shorter sentences.[13]

When offenses other than robbery were analyzed, significant differences sometimes emerged between the results on time served as derived in the in/out model and the amount of time served as determined by the expected length of incarceration model. To the extent that these differences arose because of the truncated data set used in the in/out model, they should be less apparent for the analysis of bank robbery, since better than 9 of every 10 robbers goes to prison. The results from

fitting the expected length of incarceration model are presented next, and it will be seen that these results differ little from those of the second stage of the in/out model (compare tables X.2 and X.3).

The most severe maximum sentence that could be imposed for the top charge again dominates the regression, causing almost two months of additional prison time per year called for in the federal statutes. Thus, offenders convicted of violating statute 18:2113(a), which calls for a 20-year maximum, could expect to do 10 months less time than offenders convicted of violating 18:2113(d), which stipulates a 25-year maximum. Note that this difference is somewhat greater in the expected length of incarceration model, as would be expected given the theoretical discussion presented in Chapter II. Other processing variables--notably the number of counts in the conviction and the fact that conviction was by trial--exerted no statistically significant effect in the expected length of incarceration regressions.[14]

The influence of offense-related variables is much clearer in the expected length of incarceration model. Note that offenders who stole between \$500 and \$1,000 could expect to serve about 13 months more than offenders stealing less than \$500. Offenders stealing in excess of \$1,000 could anticipate an additional month beyond that sentence served by those stealing between \$500 and \$1,000. Offenders who committed their offenses in groups received an average of just about 8 months beyond the sentence served by offenders who played either peripheral roles in a larger crime or who robbed banks

Table X.2

THE RELATIVE IMPACT OF DEFENDANT AND OFFENSE CHARACTERISTICS ON THE LENGTH OF INCARCERATION, IN/OUT MODEL (BANK ROBBERY)

|                    |              |              |
|--------------------|--------------|--------------|
| TAXES              | <i>     </i> | -0.3200      |
| PRIOR RECORD       | 0.2600       | <i>     </i> |
| GREATER THAN 1 YR. | <i>     </i> | -0.2030      |
| COUNTS             | 0.1600       | <i>     </i> |
| PUBLIC OFFICIAL    | 0.1390       | ]            |
| TRIAL              | 0.1250       | ]            |
| MALE               | ]            | -0.1080      |
| GOVT. CONTRACT     | ]            | -0.0890      |
| IMMIG.             | ]            | -0.0850      |
| GREATER THAN 1 MO. | 0.0730       | ]            |
| ORGANIZED          | 0.0560       | ]            |
| MOST SEVERE MAX.   | 0.0540       | ]            |
| EQUAL              | ]            | -0.0330      |
| SUPPLIED INFO.     | 0.0260       | ]            |
| WHITE              | 0.0200       | ]            |

NOTE: THE BARS REPRESENT THE RELATIVE SIZE OF THE BETA WEIGHTS AS DETERMINED FROM THE OLS MODEL. VARIABLES THAT WERE STATISTICALLY SIGNIFICANT AT .05 HAVE BEEN SHADED.

Table X.3

THE RELATIVE IMPACT OF DEFENDANT AND OFFENSE CHARACTERISTICS ON THE EXPECTED LENGTH OF TIME SERVED, EXPECTED LENGTH OF INCARCERATION MODEL (BANK ROBBERY)

|                 |        |              |
|-----------------|--------|--------------|
| MALE            | 3.9788 | ]            |
| PRIOR RECORD    | 3.2708 | <i>     </i> |
| MOST SEVERE     | 1.0676 | ]            |
| PUB. OFF.       | 0.8145 | <i>     </i> |
| EQUAL           | 0.8064 | <i>     </i> |
| TRIAL           | 0.6775 | <i>     </i> |
| ORGANIZED       | 0.4131 | <i>     </i> |
| COUNTS          |        | -0.1713      |
| MORE THAN 1 MO. |        | -0.1706      |
| WHITE           |        | -0.1542      |
| MORE THAN 1 YR. | 0.1099 |              |
| GOV. CONTRACTS  | 0.0833 |              |
| SUP INF.        |        | -0.0600      |
| IMMIG           | 0.0327 |              |
| TAXES           |        | -0.0275      |

NOTE: THE BARS REPRESENT THE RELATIVE SIZE OF THE BETA WEIGHTS AS DETERMINED FROM THE TOBIT MODEL. VARIABLES THAT WERE STATISTICALLY SIGNIFICANT AT .05 HAVE BEEN SHADED.

on their own. In addition, note that if hostages were taken, or if persons were hospitalized or killed as a result of the robbery, the offender could expect to serve an additional 10 months of prison time. And incarceration time increased by almost 5 months per logarithm of the number of banks robbed.

As was true of the role of offense variables, the role of the offender's criminal record is clearer in the expected length of incarceration model. Outstanding detainers and charges pending result in a more severe sentence--adding an average of almost 8 months to the time served. Additionally, a record of convictions seems to matter. Offenders who previously served terms in excess of 1 year faced an average of nearly two additional years for the current robbery. Offenders who previously served prison terms of less than 1 year could expect their present sentence to increase by slightly over one year. A previous probation term did not seem to matter unless the offender had an earlier probation term revoked, in which case he could anticipate an additional 7 months of incarceration. It is also interesting that the effect of SERVE SENT./WARR. is in the anticipated direction; the lack of statistical significance may be attributable to the strong correlation between ANY REVOCATION and SERVE SENT./WARR.

Finally, the employment factor seems to be quite important in determining time served. Roughly, the time served increases by about 6 months per standard deviation of EMPLOY, indicating that offenders with the best employment histories serve around 18 months less time than offenders with the worst employment records. Other background factors seemed to play little or no

role in determining the amount of time served. Thus, the effects of 10 additional factor score variables were excluded from the regression run reported in Table X.3.

Turning from the decision to imprison to the length of probation, it should be noted that almost all offenders sentenced to probation receive a term of 5 years. No multivariate analysis has been conducted on the probation term because of the infrequency of probation and because of the lack of variance in probation terms.

In summarizing this section, it is obvious that processing variables play the most important role in determining whether an offender is sent to prison and the amount of time he will serve once he arrives there. But judges and parole authorities look beyond the formal constraints of statutory maximums and pay close attention to elements of the offense. The more serious the offense, the higher the probability of a prison term, and the longer its duration if imposed. Offender characteristics also influenced the sentence received by convicted bank robbers; both a serious criminal history and a spotty employment record seemed to increase the severity of the sentence.

A question arises as to whether the effects identified in the above regressions differ across the district courts examined. We turn to this subject next.

#### E. SENTENCING DIFFERENCES ACROSS DISTRICTS

A parsimonious model, with only 11 variables, was fit to the PSI data in order to test for interdistrict differences in

sentencing. These nine variables constitute that set of explanatory variables that appeared to be the most important to determining the amount of time a convicted offender served, and included DETAINER, ANY REVOCATIONS, GROUP, EXTEN, PREVIOUS SHORT, PREVIOUS LONG, BETWEEN 500-1K, NO.ROBB.A., MOST SEVERE MAX., AND EMPLOY.

Tobit was used as the estimating technique, since the investigation was limited to the length of time that the offender served. No attempt was made to explain differences in incarceration rates across districts because of the low frequency of probation terms.

Five districts were examined: Northern California (n=105), Northern Ohio (n=106), Middle Florida (n=96), New Jersey (n=103), and Eastern New York (n=109). The likelihood ratio test revealed that there was sentencing disparity across these five districts, although the quantitative aspects of this difference appear to be slight.

It is useful to compare the relative impact of the regression weights across these five districts, starting first with the variable that dominates the statistical model, MOST SEVERE MAX. In each of the five districts examined, the effect of this variable was significant at better than .01, indicating that judges take into account the maximum sentence specified by law. Moreover, there was general agreement about how much weight to attribute to this factor. Overall, each additional year called for in the maximum sentence resulted in about 2 additional months of prison time. In two of the districts the effect seemed to be somewhat less (1.2 in one and 1.8 in the

other), and in two other districts the effect seemed to be somewhat greater (3.5 in the first and 3.0 in the second). However, given the small sample sizes within each district, these differences should not be considered great.

A second variable, whether the offense was committed in a group, also had a fairly consistent impact across the five courts. Overall, offenders who committed their offenses in groups could expect an additional 7 months of imprisonment. In one court, the effect was somewhat greater, equal to about 10 months. But in the four other districts the effect ranged between 5.8 and 7.0 months. These effects are so similar as to suggest considerable agreement across district courts with regard to how much an offender's sentence should be enhanced because of group affiliation.

Perhaps this consistency should have been anticipated for federal bank robbers. Almost all of these offenders receive long sentences that make the convict subject to parole guidelines. Since these guidelines are operative across the five courts, it is not surprising that sentencing seems relatively uniform.

Nevertheless, this is not the entire answer. First, not all offenders are sentenced to prison, and of those who are, at least some receive sentences that preclude the application of parole guidelines. In addition, some variables do appear to have a different impact across the districts, past criminal record being an illustration.

Overall, offenders who have served a previous prison term in excess of one year can expect to serve 22 months more than

offenders who have never previously served long prison terms. But the effect seems to vary across jurisdictions. In three districts the effect seems to be much larger, ranging between 27 and 30 months. In two others the effect is somewhat less, between 16 and 18 months of additional time.

It would seem, then, that the parole guidelines cannot entirely eliminate sentence differences even for bank robbery, an offense for which the parole guidelines would be expected to have their strongest impact due to their greater applicability. But for the most part, the combination of parole guidelines and judicial agreement with regard to the sentencing of bank robbers produces a sentencing structure that shows considerable geographic consistency.

NOTES

1. J. E. Conklin, Robbery and the Criminal Justice System (New York: J. B. Lippincott Company, 1972): 79-87. Conklin reported that the average robbery in 1968 netted a median of \$46 which was \$11 over the average in 1964. He argued that to some extent, these figures reflect the fact that the typical robber does not often rob large commercial establishments, which offer the potential for large profits. The mean "take" for bank robbery that is reported here is \$19,000.
2. Conklin, ibid.
3. Philip J. Cook and Daniel Nagin, Does the Weapon Matter? An Evaluation of a Weapons-emphasis Policy in the Prosecution of Violent Offenders, PROMIS Research Publication no. 8 (INSLAW, 1979).
4. W. J. Einstadter, "The Social Organization of Armed Robbery," Social Problems, Vol. 17 (Summer 1969): 64-83.
5. Einstadter.
6. William M. Rhodes, Plea Bargaining: Who Gains? Who Loses? PROMIS Research Publication no. 14 (Washington, D.C.: INSLAW, 1978): 42. Rhodes noted that 58 percent of the street robbers in D.C. received incarcerative sentences. However, 90 percent of the bank robbers examined here were sentenced to prison terms.
7. For somewhat different descriptions of robbery offenders see Kristen Williams and Judith Lucianovic, Robbery and Burglary, PROMIS Research Publication no. 6 (INSLAW, 1978): 19-29; Camp, Nothing to Lose: Bank Robbery in America, p.77-88. Williams and Lucianovic discovered that the average age among robbers and burglars was 22, six years younger than the average age of bank robbers in our sample. In Camp's study only 15 percent of the bank robbers were non-white, a finding which differs dramatically with the present data. In most other respects, these two studies presented descriptions of robbers that parallel the descriptions provided here.
8. Unemployment was the most pronounced for blacks.
9. Other variables were used to measure the seriousness of the offense. We initially controlled for the presence of a weapon, but found this to be unimportant to the sentencing decision. A note of caution is necessary here, however. Reasons exist to cause us to doubt the accuracy of the weapons variable, which might explain this finding. Additionally, the maximum sentence that may be imposed may be enhanced by use of a weapon, and maximum sentence was very important to the sentencing decision. The number (cont'd)

note 9 cont'd

of victims injured and the hospitalized, as well as the offender's direct role in the violence, entered early specifications but, again, seemed to make little difference in the sentencing decision. Caution should be exercised in drawing this conclusion since injury is a rare event in bank robbery. The degree of planning--whether the bank was "cased" prior to the offense and whether specific plans were made to "launder" the proceeds--was used in the regressions. Neither seemed to matter at the time of sentencing. Because of the complexity of the regression equation, these variables were not retained in the final specification.

10. The t score for MOST SEVERE was 9.3 and the standardized regression coefficient was .32.
11. Credence is lent to this explanation by findings from a nonreported regression on the maximum sentence imposed in which judges awarded guilty pleas with a "concession" that was close to two years. Obviously this sentence concession does not get translated into a shorter time served. Otherwise, variables that are strongly correlated with maximum sentence are also strongly correlated with time served.
12. The fact that the dollar amount stolen in the actual offense differs from the dollar amount associated with the convicting offense did not have a statistically significant effect in earlier regression specifications, which led us to drop this factor from subsequent analysis.
13. Other background factors are not listed in the regression results. When included in the model none had a consistently significant regression coefficient.
14. Nevertheless, the direction of the coefficient was the same as in the in/out model, and trials resulting in a somewhat longer prison stay and the length of time served increasing with the number of counts. In this regard, see note 11.

## XI. POSTAL EMBEZZLEMENT

Postal embezzlement includes two distinct types of activities. One is theft of post office money or valuables. The other, the one that predominates, entails theft from the mail of valuables of post office customers. The latter activity is perhaps more typically regarded as "mail theft," whereas the former more closely resembles the behavior described earlier with reference to bank embezzlement.

### A. THE OFFENDER

In our sample, more postal employees than supervisors engaged in postal embezzlement. Eighty-eight percent of the convicted offenders occupied nonsupervisory positions, 10 percent were officers (2 percent postmasters), and 3 percent were not postal employees. In general, these thieves worked within two post office divisions, Customer Operations and Mail Sorting, which have jurisdiction over customer contact and mail handling, respectively.

Postal embezzlers were typically middle-aged (median age was 45), male (90 percent), and white (68 percent). The postal embezzlers were likely to be fairly well educated; on average, offenders completed 11 years of school. Eighty-one percent demonstrated average or above average academic skills, and 92 percent were socially well adjusted in school. Most postal embezzlers experienced positive early family situations. Few (12 percent) had parents whose economic status made it difficult to provide life's necessities, and even fewer (8 percent) were abused as children.

As adults, mail thieves maintained their social stability. Sixty-five percent were married and over 80 percent of those with dependents provided their wards with economic and emotional support. The PSIs indicated that most of the offenders (90 percent) were regularly employed during the two years preceding their arrests for postal embezzlement.

Arrest and conviction records of postal embezzlers showed that most had avoided previous contact with criminal justice officials. Of the 35 percent who did have arrest records, most had been arrested for minor offenses: 21 percent had been arrested for nuisance offenses, 17 percent for property offenses, and 8 percent for crimes against persons. Fewer than 8 percent of the offenders had ever been arrested for drug or white collar crimes, and none had a record relating to sex offenses or organized crime. Twenty-three percent had previous convictions. Few had previously been sentenced to periods of incarceration--8 percent were sentenced to confinement for less than one year and 4 percent for periods of incarceration in excess of one year.

In addition, few postal embezzlers had criminal family members, cohabitants, or friends. Such criminal ties were reported for only 15 percent of the offenders, and in 45 percent of the cases, data coders believed that the significant individuals in the offender's life would not promote criminal behavior.

Overall most postal embezzlers avoided drug problems, although 8 percent of the offenders were alcoholics, and another 8 percent engaged in the heavy use of opiates. In

light of this information, it is not surprising that only 8 percent of the offenses were judged to have been committed to support drug habits and 4 percent of the embezzlements were related to alcohol use.

#### B. THE OFFENSE

Most postal embezzlements were committed by lone offenders; 17 percent were committed conspiratorially. Over half of those participating in conspiracies shared responsibility for planning the embezzlement and stealing the valuables.

Seventy-eight percent of the offenses involved removal of valuables from post office customers' mail. The remaining offenses were instances of theft from the post office itself, with embezzlement of money and stamps taking precedence.

The average offense occurred during a six-month period. The mean value of property stolen during the offense for which the offender was charged was approximately \$6,500, although almost half of the thefts involved property valued at \$500 or less. It should be noted, here, that calculation of the amount stolen was hindered by the fact that value estimates could not be made in 33 percent of the cases. Also, the estimate of amount stolen included offenses in which valuables were "planted" by federal agents and were subsequently stolen by offenders. In most of these cases, the value of the "plants" was the only information that was available about the dollar magnitudes of the offenses.

### C. SENTENCING PERSONS CONVICTED OF MAIL THEFT

Our original intention was to analyze bank and postal embezzlement as one generic offense. However after reading several presentence investigation reports, we discovered that the two offenses were really quite different. Postal embezzlement resembles simple theft, and bank embezzlement is more like a white collar crime. Consequently, we separately analyzed the sentences given to postal embezzlers.

Because of the post hoc decision to analyze postal embezzlers separately, the sample size was small--144 observations. Because of this small sample size, we had to choose a parsimonious model and, thereby, ran the risk of misspecifying the statistical equations. Estimation was further complicated by the leniency of sentences routinely given to postal embezzlers. Only 25 percent are sentenced to prison, and those offenders sentenced to prison served an average term of a little less than seven months. Obviously, when sentences are so much alike, there is little sentence variance for the statistical analysis to "explain." The reader should bear in mind these limitations when interpreting our findings.

Altogether, 11 independent variables entered into the statistical models. Social background included AGE (the offender's age in years), MALE (an indicator that the offender was a male), and WHITE (an indicator that the offender was not a member of a minority). No factor scores were used. Nevertheless, we did use the variable PAST 2, which measured the offender's employment stability over the past two years

prior to conviction, as measured on an ordinal scale. This variable was selected because of earlier results from other offense groups that showed that an offender's employment record was important to the sentence that he received.

MOST SEVERE was the maximum sentence in years that the judge could have imposed for the most serious convicting offense. This variable reflected the seriousness of the offense. In addition, we used an ordinal variable TIME INVOLVED (the log of the time served variable taken from the code sheet), which recorded how long the offender was engaged in his crime. DOLLAR ACT, indicated that the offender actually stole more property than was indicated by the top charge at conviction. GROUP indicated that the offender acted with others to commit the crime.

PRIOR RECORD indicated that the offender had a prior criminal conviction. SUPPLIED INFO. indicated that he provided information leading to the arrest or prosecution of others. COUNTS was the number of counts in the convicting offense (usually equal to one).

Using the probit model to estimate the probability of a prison sentence, only the variable TIME INVOLVED was statistically significant (see Table XI.1). Two other variables--MOST SEVERE and AGE--just missed being statistically significant of .05. Thus, the probability of prison seemed to increase with the length of time that an offender was involved in his crime. It also seemed to increase with the most severe sentence that a judge could impose given the convicting offense. And the probability seemed to decrease with the

Table XI.1

THE RELATIVE IMPACT OF DEFENDANT AND OFFENSE CHARACTERISTICS ON THE DECISION TO IMPRISON, IN/OUT MODEL (POSTAL EMBEZZLEMENT)

| Characteristic    | Beta Weight | Significance |
|-------------------|-------------|--------------|
| SERVE SENT./WARR. | 0.2483      | Shaded       |
| WHITE             | -0.2243     | Shaded       |
| PERIPH            | -0.2146     | Shaded       |
| TRIAL             | 0.2020      | Shaded       |
| GREATER 100K      | 0.1870      | Shaded       |
| EQUAL             | -0.1716     | Shaded       |
| LESS THAN 1K      | -0.1703     | Shaded       |
| FREQUENCY A       | 0.1688      | Shaded       |
| BETWEEN 25-100K   | 0.1493      | Not Shaded   |
| ANY REVOCATION    | 0.1388      | Not Shaded   |
| COUNTS            | 0.1147      | Not Shaded   |
| SEX               | 0.0979      | Not Shaded   |
| PRIOR PRISON      | 0.0871      | Not Shaded   |
| BETWEEN 1-25K     | -0.0725     | Not Shaded   |
| ORGAN             | 0.0307      | Not Shaded   |
| DETAINER          | 0.0245      | Not Shaded   |
| PRIOR PROBATION   | 0.0070      | Not Shaded   |

NOTE: THE BARS REPRESENT THE RELATIVE SIZE OF THE BETA WEIGHTS AS CALCULATED FROM THE PROBIT MODEL. VARIABLES THAT WERE STATISTICALLY SIGNIFICANT AT .05 HAVE BEEN SHADED.

offender's age. Because of the small sample size, we must be very guarded about drawing firm conclusions from these findings.

Too few offenders in this sample were sentenced to prison to allow us to fit the second stage of the sentencing model. We were able to fit the tobit model, with results that can be found in Table XI.2.

The amount of time served by postal embezzlers increased by about 20 months for each year called for by the maximum sentence allowed for the top charge at conviction. Beyond this, offenders who committed their offenses over long periods of time served correspondingly longer sentences. This finding was not surprising since the U.S. Parole Commission takes amount stolen into account in its parole guidelines. Also, offenders who actually stole more property than was associated with the convicting offense served more time. Otherwise, time served seemed to decrease with the offender's age, although this effect was not quite statistically significant.

We did not attempt to estimate the length of probation time given to those persons who received probation. The average probation term was between two and one-half and three years.

Since our postal embezzlement sample consisted of only 144 offenders, it was not possible to conduct a meaningful analysis of district-by-district variation.

Table XI.2

THE RELATIVE IMPACT OF DEFENDANT AND OFFENSE CHARACTERISTICS ON THE EXPECTED LENGTH OF TIME SERVED, TOBIT MODEL (POSTAL EMBEZZLEMENT)

|                  |         |  |
|------------------|---------|--|
| MOST SEVERE MAX. | 3.3659  |  |
| DOLLAR ACT.      | 3.0679  |  |
| TIME INVOLVED    | 2.8516  |  |
| AGE              | -2.1731 |  |
| WHITE            | -1.9232 |  |
| PAST 2           | 1.7724  |  |
| GROUP            | 1.7206  |  |
| SUPPLIED INFO.   | 0.6569  |  |
| COUNTS           | 0.5563  |  |
| MALE             | 0.3147  |  |
| PRIOR RECORD     | -0.0915 |  |

NOTE: THE BARS REPRESENT THE RELATIVE SIZE OF THE BETA WEIGHTS AS DETERMINED FROM THE TOBIT MODEL. VARIABLES THAT WERE STATISTICALLY SIGNIFICANT AT .05 HAVE BEEN SHADED.

## XII. HOMICIDE

The range of behavior included in federal homicide statutes is narrow; it consists of murders of on-duty federal agents and murders occurring on government reservations, in territory in the District of Columbia, and in regions under military jurisdiction. As a result, the offenders included in our study consist primarily of American Indians and military personnel, persons who differ from the local offender typically examined by social scientists. Nevertheless, we anticipate that federal offenses are similar to local offenses, and thus, that it would be useful to examine the literature pertaining to both local and federal offenders and offenses.

Research has indicated that homicides typically occur on weekends, between 6 p.m. and 2 a.m., when most victims and offenders are engaged in leisure activities.[1] Approximately half of the homicides occur at home, about 15 percent at bars, 15 percent in the immediate neighborhood of the victim or offender, 12 percent on the highway, and the remainder in other public places.[2]

Consistent with the fact that homicides most frequently occur around an offender's or victim's neighborhood, a significant proportion (50-60 percent) of all homicides result from altercations between family members or close friends.[3] Even during non-familial offenses, the victim or offender, or both, is usually accompanied by family members or close friends.[4]

Overall, more men than women die from homicides. Women are most often victims of familial homicides; the largest proportion of men die in non-familial homicides.[5]. Some researchers have argued that lower class culture fosters a milieu of violence and encourages outward displays of aggression[6]; this finding may account for the disproportionate number of low income minority group members among convicted homicide offenders.[7]

Investigations of homicides that involve American Indians suggest that there are both similarities and differences between the local offenses discussed above and federal homicides. Like local homicide, homicide that involves Indians is most often familial and intragroup.[8] Also, both Indian offenders and local offenders have limited formal education and few or no vocational skills. Yet, examination of Indian homicides also highlights certain respects in which federal offenders are unique. For instance, compared with the proportion of Indians in the general population, the number of Indians incarcerated for homicide is significantly high. Also, Indian offenses are more likely to involve alcohol than are homicides involving non-Indians. Moreover, kinship deaths among Indians, unlike familial homicides among local populations, involve more female than male victims. It is only when Indian offenders kill whites that the victim is likely to be male and a stranger.

In the next two sections, the federal homicide offender and his offense are further discussed. The emphasis in both

sections is on the parallels and distinctions between our findings and earlier research.

#### A. THE OFFENDER

The average federal murderer was unmarried and had a mean educational level of only eight years. He had difficulty remaining employed and was unlikely to have longstanding community ties. Possibly as a result of this overall instability, only one-third of the offenders with dependents provided their wards with emotional or economic support.

Although extensive drug use (i.e., marijuana, opiates, and sedatives) was not typical, alcoholism was a problem for nearly one-third of the homicide offenders.[9]

Eighty-five percent of the federal offenders had criminal arrest records; the median number of prior arrests was four. Nuisance (public order), personal, and property offenses made up the bulk of these arrests; histories of sex, drug, or white collar offenses were rare. The largest proportion of those with prior arrests (29 percent) had previously received sentences of incarceration in excess of one year. Another 26 percent had been sentenced to probation, and 17 percent had previously been sentenced to confinement for less than one year. Twenty-four percent of those with arrest histories had never been convicted.

As was true of local offenders, most convicted federal murderers were members of minority groups (16 percent were white; 46 percent, black; 36 percent, American Indian). The predominance of minority members among convicted homicide offenders is consistent with findings from other research.

Comparing homicide offenders with persons convicted of other federal crimes revealed some interesting links. First, examination of mean factor scores for the factors MARITAL, EMPLOYMENT, and FORMATIVE indicated that homicide offenders were most like bank robbers and forgers. Each was unlikely to have marital ties or attachments to dependents, was apt to have serious unemployment problems, and in childhood, was likely to have had difficulty obtaining life's necessities or to have suffered parental abuse.

With respect to the factor SOCIAL, homicide offenders were most like drug offenders. As children, neither excelled in school adjustment. Nevertheless, both were better adjusted than young bank robbers or forgers.

In contrast, looking at mean scores for the factors DRUGS, FAMILY, COHABIT, INTERACT, and MENTAL, the average murderer was similar to the typical white collar offender (fraud, income tax, embezzlement, or bribery offender). Like white collar offenders, the person committing homicide was unlikely to have a drug problem, did not have close contact with family members, cohabitants, or friends who were criminals, and was unlikely to have psychiatric problems.

#### B. THE OFFENSE

The largest proportion (41 percent) of federal homicide offenders were convicted on charges of voluntary manslaughter. In addition, 16 percent of the homicides resulted in first-degree murder convictions; 21 percent of the cases ended in

convictions for second degree murder; and 19 percent in convictions for involuntary manslaughter.

The convicting offense varied across demographic groups. Considerably more women (64 percent) than men (40 percent) were convicted of voluntary manslaughter, and appreciably fewer women (18 percent) than men (37 percent) were convicted of first- and second-degree murder (combined). Proportionally more white offenders (34 percent) than black (17 percent) or Indian (5 percent) offenders were convicted of first-degree murder. Nearly equal proportions of whites (24 percent) and blacks (25 percent) were convicted of second-degree murder, and only 13 percent of American Indian offenders were similarly convicted. Over half of the black offenders (53 percent), more than one-third of the Indian offenders (37 percent), and about one-quarter of the whites were convicted of voluntary manslaughter. Forty-five percent of the Indian offenders were convicted of involuntary manslaughter versus 12 percent of the murderers who were white and 2 percent of the black offenders.

According to the probation officer's accounts of the crimes, over half of the federal homicides could be considered "crimes of passion," that is, the direct result of an unplanned, interpersonal altercation. An additional 10 percent of the homicides could be termed planned or calculated to further a particular goal. One in 10 killings occurred during the course of some other planned felony and was accidental or spontaneous with respect to that initial offense. Better than 2 in 10 homicides resulted from reckless or negligent behavior in which the offender did not intend the death of the victim.

As expected by statutory definition, a majority (63 percent) of the crimes of passion resulted in convictions for voluntary manslaughter. Surprisingly, however, 27 percent of those cases concluded in first- or second-degree murder convictions. Sixty-five percent of the planned homicides resulted in first-degree convictions, 19 percent in convictions for second-degree murder, and 10 percent in voluntary manslaughter convictions.

The federal homicide victim was frequently either an acquaintance of the offender (38 percent of the cases) or was a member of the immediate family, a relative other than an immediate family member, or a friend (38 percent cumulative). Another 24 percent of all federal homicides involved the deaths of strangers. Like Lundsgaarde's observations in Houston, we noted an inverse correlation between victim-offender relationship and the seriousness of the convicting offense. Murders of strangers or acquaintances more often resulted in first- or second-degree murder convictions than did murders of members of the other victim groups. Conversely, more murders involving family and friends ended in voluntary manslaughter convictions than did stranger and acquaintance homicides. This inverse correlation remained when sex and race were held constant. Generally, homicide resulted in the death of a single victim; but in about 6 percent of the cases, multiple deaths occurred. Also, victims verbally or physically provoked offenders in 27 percent of the homicides.

The victims, the offenders, or both, were using alcohol at the time of the offense in 41 percent of the homicide

offenses. Alcohol was least often a part of offenses that resulted in first- and second-degree murder convictions (21 percent of the non-alcohol-related offenses were in the first-degree groups vs. 8 percent of the alcohol-related offenses; 26 percent of the non-alcohol offenses vs. 13 percent of the alcohol-related in the second-degree group). Conversely, alcohol was most often present in cases of voluntary and involuntary manslaughter. Controlling for race, the pattern remained for whites and blacks.

The offender's prior record was also related to the seriousness of the convicting offense. Offenders with histories of personal or property crimes were more often convicted of first- or second-degree murder than were offenders without such records. By the same token, persons who committed homicide in conjunction with a property or personal offense were more likely to be convicted of first- or second-degree murder than individuals whose homicide offenses were not coincident with other crimes.

Three other items of offense information are noteworthy. A deadly weapon (such as a gun, knife, or club) was used in two-thirds of the homicides. In 12 percent of the offenses, the offender attempted to conceal his involvement in the crime by destroying evidence. Incredibly, most offenders did not take any special precautions to conceal their offenses. In fact, 20 percent of the offenders confessed their guilt to the authorities in advance of arrest.

### C. SENTENCING HOMICIDE OFFENDERS

Judging by the severity of the sentences received by convicted murderers, homicide is one of the most serious of federal offenses. In our sample, first-degree murder always resulted in a prison sentence, and second-degree murder resulted in a prison term for better than 9 of every 10 offenders. Less serious offenses--voluntary manslaughter (77 percent), involuntary manslaughter (54 percent), and negligent homicide (40 percent)--often resulted in some prison time. Overall, half the offenders were sentenced to a maximum term in excess of 10 years, and on average, offenders served 4.5 years.

Several offense and offender variables appeared to influence judges when they sentenced offenders, and parole officials when they decided on an offender's release. We attempted to identify these factors in order to determine (1) the probability that an offender would be sentenced to prison, (2) the length of time that he would serve if incarcerated, and (3) the length of probation served if sentenced to probation.

Ten of these variables described the offender's background, as derived from the factor analysis reported in Appendix A. EMPLOY reflected the offender's employment history at the time the PSI was written, his employment history one month prior to the instant arrest, and his employment record over the previous two years. It also indicated whether he supported himself financially. DRUGS was a second factor that figured prominently in the analysis. It was strongly related to the abuse of marijuana, sedatives, and stimulants, and was somewhat less strongly related to the abuse of opiates.

Besides these two, eight other background variables were used in the statistical analysis, but they are not reported in the analysis discussed in this chapter, because none appeared to have a significant role in determining the severity of the sentence received by murderers. MARITAL indicated the offender's marital ties and whether he supported dependents. INTERACT, FAMILY, and COHABS indicated the extent to which an offender received normative support from, respectively, persons with whom he regularly interacted, members of his family, and his cohabitants. SOCIAL ADJ and FORMATIVE were similar factors, the first measured the difficulty that the offender had adjusting to school and school friends, and the second measured the extent to which his parents provided emotional and financial support during his formative years. MENTAL reflected the offender's mental health. The final factor--MIXED--was created with several diverse variables and had no specific nomenclature.

Numerous variables describing aspects of the offense were analyzed statistically. As will be seen, the degree of the homicide dominated other offense variables and had the most explanatory power in the sentencing equations. First-degree murder was distinguished from second-degree murder (2ND DEGREE), voluntary manslaughter (VOL. MANSLAUGHTER), and involuntary manslaughter/negligent homicide (INVOL./NEGLIG). Several other offense variables had some influence on the sentence. VERBAL indicated that the victim verbally provoked either the offender or an associate; PHYSICAL indicated that the provocation was physical. WEAPON recorded that the

offender used either a gun or other deadly weapon. If other persons were involved in the murder, OTHER PERSON recorded that fact. NO. KILLED represented the number of persons killed. CONCEAL indicated that the offender attempted to conceal his offense; and CONFESS indicated that he confessed his offense prior to being arrested.

Other offense variables did not seem to matter and were, therefore, excluded from the analysis. We attempted to control for the offender's motive, registering whether he planned his offense, whether it was committed accidentally during a felony offense, whether it was the immediate and spontaneous result of an interpersonal conflict, and whether the death resulted from reckless or negligent behavior. These factors did not seem to influence the sentence except, of course, to the extent that they determined the degree of the murder. Moreover, the fact that the offender did not directly cause the death, but participated in an activity that lead to the death, had little or no bearing on the sentence.

The offender's criminal record was also used in the analysis. Offenders with no previous convictions were compared with offenders who had previously been sentenced to probation (PRIOR PROBATION), offenders who had served a previous term of less than one year (PRIOR SHORT), and offenders who had served prior terms in excess of one year (PRIOR LONG). Several additional prior record variables initially entered the analysis. We identified whether the offender had any detainers pending, whether he had ever had probation revoked, and whether he was serving a sentence or had a warrant outstanding for his

arrest at the time of the homicide. Perhaps because these later variables were so closely related to the prior sentence variables, it was impossible to discern the independent influence of these corollary prior record variables.[10] Consequently, they were dropped from the analysis.

Males (MALES) were distinguished from females. Likewise, American Indians (INDIAN) were distinguished from blacks (BLACK) and other racial groups, including whites. However, blacks did not seem to receive sentences that differed from those received by whites, so only the variable INDIAN was retained in the model. Data problems did not allow a control on age.

These variables were first used to predict the imposition of a prison sentence. Since first-degree murderers were always sentenced to prison, the analysis was limited to offenders convicted of lower grade offenses. Thus, in the regressions summarized in Table XII.1, 2ND DEGREE has been dropped from the model, and second-degree murderers now constitute a residual group.

Results revealed that the magnitude of the offense was most important in determining whether an offender went to jail or prison. Three out of every four second-degree murderers went to prison. Other things constant, persons convicted of voluntary manslaughter had a probability of going to prison that was .08 lower than second-degree murderers, but .25 greater than persons convicted of involuntary manslaughter. The "other things held constant" included the number of persons killed (which increased the probability by about .14 per

Table XII.1

THE RELATIVE IMPACT OF DEFENDANT AND OFFENSE CHARACTERISTICS ON THE DECISION TO IMPRISON, IN/OUT MODEL (HOMICIDE)

|                   |         |            |
|-------------------|---------|------------|
| INVOL./NEGLIG.    | 0.5391  | XXXXXXXXXX |
| MALE              | 0.3236  | XXXXXX     |
| OTHER PERSONS     | 0.2640  | XXXXX      |
| NO. KILLED        | 0.2517  | XXXXX      |
| VOL. MANSLAUGHTER | -0.2230 | XXXX       |
| CONCEAL           | 0.1797  | XXXX       |
| EMPLOY            | 0.1782  | XXXX       |
| PRIOR LONG        | 0.1299  | ----       |
| DRUGS             | 0.1166  | ----       |
| WEAPON            | 0.1104  | ----       |
| PRIOR PROBATION   | 0.1044  | ----       |
| CONFESS           | -0.0829 | ----       |
| INDIAN            | 0.0617  | --         |
| PRIOR SHORT       | 0.0539  | -          |
| PHYSICAL          | 0.0496  | -          |
| VERBAL            | 0.0349  | -          |
| TRIAL             | 0.0304  | -          |

NOTE: THE BARS REPRESENT THE RELATIVE SIZE OF THE BETA WEIGHTS AS DETERMINED FROM THE PROBIT MODEL. VARIABLES THAT WERE STATISTICALLY SIGNIFICANT AT .05 HAVE BEEN SHADED.

additional person) and whether the offender attempted to hide his offense (which increased the probability by .10). Otherwise, an independent effect could not be attributed to whether the offender was assaulted, whether he used a weapon and whether he confessed prior to being arrested.

Certain offender characteristics seemed to influence the probability of incarceration. Males went to prison much more frequently than did females (the probability was about .30 greater), and persons with stable employment histories were sent to prison less frequently. In contrast, a number of personal factors did not seem to matter. The offender's criminal record was apparently treated as irrelevant by the judge when deciding on prison, as was the offender's drug history. In view of previously mentioned findings that numerous other background variables were not correlated with sentence severity, it appears that, for homicide offenders, the decision to imprison is largely independent of offender background characteristics.

Once the offender was sentenced to prison, a number of additional variables seemed to affect the length of time served. Table XII.2 summarizes the findings from regressions run on all offenders, including those convicted of first-degree murder. The offense variables dominated the regressions: offenders convicted of second-degree murder served an average of 18 months less than offenders who were convicted of first-degree murder; offenders convicted of voluntary manslaughter served an average of about two years less than offenders sentenced for second-degree murder; and offenders convicted of

Table XII.2  
 THE RELATIVE IMPACT OF DEFENDANT AND OFFENSE  
 CHARACTERISTICS ON THE LENGTH OF INCARCERATION,  
 IN/OUT MODEL (HOMICIDE)

| Characteristic    | Beta Weight | Significance |
|-------------------|-------------|--------------|
| INVOL./NEGLIG.    | -0.6140     | Shaded       |
| VOL. MANSLAUGHTER | -0.5870     | Shaded       |
| 2nd DEGREE        | -0.2070     | Shaded       |
| PRIOR LONG        | 0.1480      | Shaded       |
| INDIAN            | -0.1440     | Shaded       |
| WEAPON            | 0.1000      | Shaded       |
| DRUGS             | 0.0910      | Shaded       |
| OTHER PERSONS     | 0.0890      | Shaded       |
| PHYSICAL          | -0.0820     | Shaded       |
| EMPLOY            | 0.0720      | Shaded       |
| PRIOR SHORT       | 0.0750      | Shaded       |
| MALE              | 0.0630      | Shaded       |
| TRIAL             | 0.0500      | Not Shaded   |
| NO. KILLED        | 0.0360      | Not Shaded   |
| PRIOR PROBATION   | 0.0360      | Not Shaded   |
| CONFESS           | -0.0160     | Not Shaded   |
| CONCEAL           | 0.0130      | Not Shaded   |
| VERBAL            | 0.0110      | Not Shaded   |

NOTE: THE BARS REPRESENT THE RELATIVE SIZE OF THE BETA WEIGHTS AS DETERMINED FROM THE OLS MODEL. VARIABLES THAT WERE STATISTICALLY SIGNIFICANT AT .05 HAVE BEEN SHADED.

involuntary manslaughter served almost two years less, on average, than offenders convicted of voluntary manslaughter.

Beyond the degree of the homicide, other offense variables were taken into account. If the victim had physically assaulted the defendant, a member of his family, or one of his close friends, the sentence was shortened by an average of nine months. If the offender used a weapon, the length of time served was typically increased by about eight months. No other offense variables were statistically significant.

Offender background and criminal history had some influence on time served, largely because the parole authorities take these factors into account when deciding release. Offenders who served long prison terms for convictions had their current sentences increased by over one year, on average, relative to offenders with no previous convictions. The comparable effect for persons who had previously served less than one year was an increased sentence of about seven months. A previous probation term did not cause an increase in time served.[11]

Employed offenders served shorter terms, as did offenders who had "clean" drug histories. Indians were typically treated more leniently; they served about one year less than non-Indians convicted of comparable crimes. Males served about nine months more than females, on average. The occurrence of a trial did not increase the probability of prison, nor did it increase the length of time served.

Findings pertaining to the length of time served by murderers, as determined using the second stage of the in/out

model, can be compared with findings using the expected length of incarceration model (see Table XII.3). Because most offenders received at least some prison time, the results were not expected to differ greatly, but some differences were noted.

The length of time served was largely determined by the degree of the homicide. Compared with the average sentence served by persons convicted of first-degree homicide, persons convicted of second-degree homicide served 21 months less, persons convicted of voluntary manslaughter served 52 months less, and persons convicted of involuntary manslaughter served 82 months less. As anticipated, the expected length of incarceration model distinguished the different lengths of time served by persons convicted of different degrees of murder more sharply than did the in/out model in which comparable average differences in sentences were 18 months, 44 months, and 65 months, respectively.[12]

The use of a weapon tended to increase time served by about nine months. If other persons were involved in the offense, an average of an additional year was added to the length of time served, and an additional eight months were added per person killed. Offenders who confessed prior to arrest received about six months less time.

Prior convictions seemed to be interpreted as extenuating circumstances that led to lengthier sentences. Thus, offenders who had committed previous crimes leading to prison terms in excess of one year served, on average, 14 months more than offenders who had no prior convictions. Murderers who had served previous terms that were shorter than one year served an

Table XII.3

THE RELATIVE IMPACT OF DEFENDANT AND OFFENSE CHARACTERISTICS ON THE EXPECTED LENGTH OF TIME SERVED, EXPECTED LENGTH OF INCARCERATION MODEL (HOMICIDE)

|                   |        |          |
|-------------------|--------|----------|
| INVOL./NEGLIG.    | 9.2663 | -35.7818 |
| VOL. MANSLAUGHTER | 9.2663 | -26.0060 |
| MALE              | 9.2663 |          |
| 2nd DEGREE        | 9.2663 | -8.5150  |
| EMPLOY            | 5.7422 |          |
| PRIOR LONG        | 5.3590 |          |
| OTHER PERSONS     | 5.1456 |          |
| WEAPON            | 3.9635 |          |
| PRIOR SHORT       | 3.8174 |          |
| INDIAN            | 3.7302 | -3.7302  |
| DRUGS             | 3.2637 |          |
| PRIOR PROBATION   | 3.0199 |          |
| CONFESS           | 2.7389 | -2.7389  |
| NO. KILLED        | 2.6441 |          |
| PHYSICAL          | 2.2264 | -2.2264  |
| CONCEAL           | 1.6895 |          |
| TRIAL             | 1.5095 |          |
| VERBAL            | 0.5312 |          |

NOTE: THE BARS REPRESENT THE RELATIVE SIZE OF THE BETA WEIGHTS AS DETERMINED FROM THE TORIT MODEL. VARIABLES THAT WERE STATISTICALLY SIGNIFICANT AT .05 HAVE BEEN SHADED.

extra nine months, and offenders who served earlier probation terms served an extra seven months, on average. Comparable numbers from the in/out model were 12, 7, and 3 months, respectively. Once again, the additional time served by offenders with records can be attributed to policies of the parole board, as judges were not observed to sentence recidivists more harshly than non-recidivists.

On average, Indians served eight months less time than did non-Indians; men served almost two years more time than did women; and time served decreased with the offender's employment stability and increased with his drug usage.

Having estimated the probability of going to prison and the length of time served, it was impossible to determine the factors that entered into the decision regarding the length of probation. One of every four murderers received probation, too few to form the basis of an empirical analysis. We note, nevertheless, that offenders who were sentenced to probation received an average term of 40 months. Almost all (92 percent) of those offenders were convicted either of involuntary manslaughter or negligent homicide.

In summarizing this analysis of the sentences received by persons convicted of homicide, it is striking that the sentence largely depended on the offense that the offender committed, and this offense can in turn be largely described by the degree of the homicide. Some other offense-related variables mattered, but their impacts were marginal.

For homicide, offender characteristics seemed to matter less than they did for those offenses analyzed in previous

chapters. Criminal records had some impact, but only because parole board policy takes criminal record into account when setting release dates. Employment and drug records were apparently taken into account, as was the fact that the offender was an Indian or a male. But for the most part, offense variables most accurately predicted the sentence received.

Perhaps this finding could have been anticipated. After all, homicide is an extremely serious offense, and as such "justice" may hinge primarily on the magnitude of the crime committed. The seriousness of homicide may be unique in relation to the seriousness of many other federal offenses. Homicide may provide the judge with few occasions to temper a severe sentence because of "deservedness" on the part of the offender.

NOTES

1. David F. Luckenbill, "Criminal Homicide as a Situational Transaction," Social Problems 25, no. 1 (December 1977): 178; Marvin E. Wolfgang, Patterns in Criminal Homicide (Philadelphia: Oxford University Press, 1958): 96-119.
2. Ibid.: 178.
3. Ibid.; Wolfgang, Patterns in Criminal Homicide; Henry P. Lundsgaarde, Murder in Space City: A Cultural Analysis of Houston Homicide Patterns (New York: Oxford University Press, 1977): 45, 105-106.
4. Luckenbill, "Criminal Homicide": 179.
5. Lundsgaarde, Space City: 63; Wolfgang, Patterns in Criminal Homicide: 207.
6. Marvin E. Wolfgang and Frances Ferracuti, The Subculture of Violence (London: Associated Book Publishers, 1967).
7. Wolfgang, Patterns in Criminal Homicide: 223; Lundsgaarde, Space City.
8. Wolfgang Dilek and Chuilal Roy, "Homicide Committed by Canadian Indians and Non-Indians," International Journal of Offender Therapy and Comparative Criminology; see also, Jerold Levy, Stephen Kunitz, and Michael Everett, "Navajo Criminal Homicide," S. W. Journal of Anthropology 25 (1969): 124-52.
9. This finding is colored by the fact that 62 percent of the Indian offenders in the sample are problem drinkers.
10. This problem is known as multicollinearity in the technical literature. When all prior record variables were in the model, the statistical significance of each was negligible.
11. These effects must be attributed to parole authorities because regressions on the maximum sentence revealed that judges did not increase the sentence imposed as the offender's record increased in seriousness.
12. These estimates do not take into account the impact that the degree of the homicide has on the probability of imprisonment. See chapter III for an explanation.

XIII. BRIBERY OF PUBLIC OFFICIALS

The potential for bribery exists in any situation in which illicit deals can benefit two or more individuals. The benefit need not be financial; certain intangible rewards, such as honor, freedom, or power, are also exchanged as bribes.

Bribery is mainly focused on one of two issues: falsifying government documents or obtaining exclusive rights to government funds. Instances of the former activity include falsifying immigration papers, misgrading food, and altering criminal records. An example of the latter is price-fixing of government contract bids. Bribery most frequently involves immigration regulations, government contracts, grant or aid stipulations, food regulations, and tax laws. To a lesser extent, bribes are offered to witnesses, drug agents and housing inspectors.

Although it is most typical for private citizens to approach public officials with a bribery scheme, the reverse does occur. In addition, it is possible that a network of individuals, both citizens and public officials, become involved in a bribery incident. For instance, the owner of a grain processing plant may bribe a public inspector to falsify information about grain weights. In turn, the owner may offer bribes to members of his work force in order to facilitate the illicit grain scheme.

In the following sections, we briefly describe the individuals in our sample who were involved in bribery and examine the activities in which they engaged.

#### A. THE OFFENDERS

Convicted bribers were prototypes of the white collar criminal described by Sutherland.[1] They were typically married, well educated (with a mean of 12 years of school), steadily employed, young (mean age 25), non-habitual offenders. Bribers were generally white, male, and financially solvent. Few had arrest histories, and those who did tended to have committed nuisance offenses, such as public intoxication or disorderly conduct. Bribers' families, cohabitants, and friends were unlikely to have been involved in crime and were generally described in the PSI as persons who would promote conventional life styles. As children, bribers were not abused and most were easily provided with life's necessities. Their early social and academic adjustment was average or above average.

Sixty-eight percent of the bribers described in the PSI sample were private citizens, 25 percent were public officials, 5 percent were corporations or persons affiliated with corporations, and 2 percent were members of one large government subcontracting firm.

Comparisons of mean factor scores across offense groups indicated that non-corporation bribers had most in common with bank embezzlers and income tax violators; in some respects, they were also similar to homicide offenders and false claims violators. Bribers had little in common with offenders in the other offense groups examined.

With respect to the factors EMPLOYMENT and SOCIAL, bribers were like income tax offenders and bank embezzlers. Violators

in each of these groups were apt to be employed regularly and to have displayed positive social adjustment as children.

Bribers also resembled bank embezzlers with respect to the factors FAMILY and MENTAL. Neither type of offender was likely to have been exposed to criminal family members or to have mental health problems.

Of all the offender groups examined, bribers were least likely to have criminal cohabitants. And they were unlikely to have close contacts with criminal peers.

Finally, bribers, like homicide offenders and bank embezzlers, were unlikely to have drug problems (DRUG).

#### B. THE OFFENSE

In 88 percent of the cases in which a private citizen was convicted of bribery, public officials were offered bribes; in another 12 percent of those cases, private citizens accepted bribes from public officials. Seventy-one percent of the cases in which a government official was convicted involved acceptance of bribes from private citizens, and in a majority of the remaining instances, public officials proposed bribes to citizens. Where corporations were concerned, public officials were most often offered bribes; in a few instances, public officials promoted the bribery scheme.

Nearly 70 percent of the schemes entailed manipulation of government records and the remaining cases involved direct negotiations for government funds. Thirty-one percent of the bribery cases involved the Internal Revenue Service, 33 percent were related to government contracts (including grants and

aid), 19 percent involved food regulations, 6 percent were immigration cases, and the remaining 10 percent entailed a miscellany of drug, housing, and witness-related offenses.

The majority of food offenses involved upgrading food that was fit for consumption but not of the quality claimed by the inspector. About 12 percent of the food cases entailed mislabeling adulterated products and 8 percent were cases of misweighting. However, in addition to the fact that food was at issue in relatively few cases, information about the specifics of food offenses was missing 20 percent of the time.

About 27 percent of the bribers were involved in bribery one month or less before apprehension; another 26 percent were involved in excess of one month but less than one year, and 36 percent were involved for more than one year. Information about the duration of bribery was missing in 10 percent of the cases.

Twenty-nine percent of the briberies involved three or more participants. Most bribers (79 percent) were judged to have shared responsibility for their schemes, but about 8 percent were organizers and another 4 percent played minor roles in the conspiracies.

When bribe money changed hands, the mean amount of the bribe was approximately \$14,000; but interpretation of this finding must again be tempered by the fact that there was a large proportion (21 percent) of missing data.

It was often difficult to translate the non-financial loss from bribery into dollar equivalents. In some instances, loss to the victim was nonpecuniary, involving instead the kinds of

intangibles mentioned earlier with reference to gains or losses of pride, national honor, and safety. These kinds of losses occurred most often in food and immigration cases. In other instances, especially when government contracts were involved, it was possible to estimate the value of the contract, but it was not feasible to calculate loss on the basis of that information alone. Finally, a proportion of the PSIs had no information about dollar loss because of missing data. Because information about dollar loss was unavailable for close to 67 percent of the cases, it would be misleading to draw inferences about the seriousness of the offense using the "loss" variable alone.

#### C. SENTENCING OFFENDERS CONVICTED OF BRIBERY

Since bribery is an offense committed almost exclusively by offenders who have stable social backgrounds relative to other federal offenders described in this report, and in view of other evidence that white collar offenders are generally treated more leniently than other offenders,[2] our expectation was that bribery offenders would infrequently go to prison, and when they did go, that they would serve short sentences. Indeed, bribers were sentenced to probation in nearly 60 percent of the cases examined. And when a briber was sentenced to prison, he served an average of six months.

What determined the severity of the sentence received by federal bribery offenders? We address that question here. Since federal bribery offenders came from homogeneous backgrounds, however, we did not factor analyze social

background variables. Thus, with the exception of sex and race, social background factors were excluded from the analysis.[3] Three other groups of variables were retained in the statistical model: offense variables, prior records, and processing variables.

According to our data base, bribery encompassed four major issues: taxes, immigration, government contracts (including grants and aid), and food. The following analysis controls for those issues using the variables IMMIG, TAXES, and GOV CONTRACT. Violations relating to food inspection are a residual category. As noted earlier, two types of offenders were involved in these offenses; thus the variable PUBLIC indicated that a public official rather than a private citizen was being sentenced. We considered that an offender could play one of three roles in the offense. First, he could have initiated or organized a bribery scheme that involved a criminal conspiracy (ORGANIZED). Second, he could have participated in a criminal conspiracy by sharing responsibility equally with a majority of the coconspirators (EQUAL), rather than by organizing the scheme. Third, he could have acted on his own. Finally with regard to offense variables, we controlled for the length of time during which the offender was involved in the bribery scheme. If he was involved for a period in excess of one month but less than one year, this was noted as MORE THAN 1 MONTH. If his participation lasted longer than one year, this was indicated by MORE THAN 1 YEAR. The residual category denoted offenses that lasted less than one month. It would have been desirable to supplement the

offense variables described above with the amount of loss that resulted from the bribery scheme, or would have resulted had the scheme been successful. But this was not possible for the reasons noted in Section B.

Since federal bribers had limited criminal records, it was not possible to provide the usual detail about criminal history. Instead, the variable PRIOR RECORD denoted that the offender had previously been convicted in criminal court and received at least a previous sentence of probation.

For processing variables, we recorded whether the offender was convicted by trial (TRIAL) rather than by guilty plea. We also determined the number of counts in the convicting offense, denoted by COUNTS (the logarithm of counts). The most severe sentence in years that could have been imposed given the top charge at conviction was indicated by MOST SEVERE. And SUPINF indicated whether the offender supplied information that led to the arrest or prosecution of other offenders.

As we said above, variables denoting personal characteristics were limited to MALE and WHITE. Otherwise, personal characteristics were not examined in the statistical model.

Analysis of the in/out decision failed to reveal any difference in rates of incarceration among offenders committing offenses involving taxes, immigration, government contracts, or food violation. Nor did the analysis uncover any evidence that the duration of the offense influenced whether the judge sentenced the offender to prison. We did find that the offender's role in a conspiracy had an important impact on

whether he went to prison. Persons who organized a group engaged in bribing public officials (or accepting bribes from public officials) were .22 more likely to go to jail than were persons who did not participate in a conspiracy. Offenders who participated in a criminal conspiracy that they did not organize were .02 less likely to serve a prison term than were organizers, but they were .20 more likely to go to prison than were offenders who acted alone. We also noted that government officials were .28 more likely to be imprisoned than were citizens (see Table XIII.1).

While factors associated with the offense itself appeared to influence the sentence, there was no evidence to indicate that an offender's criminal record mattered when sentencing him to prison. This finding may simply indicate that there were too few serious records among bribers to allow any such relationship to be revealed. We did find that males went to prison more frequently (by .33) than females. But we did not uncover any relationship between sentence and race.

Looking at processing variables, persons who were convicted by trial were much more likely to serve at least some prison time. The difference in probabilities was .23. We did not find that judges were concerned with the number of counts in the convicting offense or with the magnitude of the offense as reflected in MOST SEVERE. However, this latter variable just missed being statistically significant at .05.

When we examined the length of time served, still using the in/out model, we discovered a different pattern. First, the offense variables entered the model in a somewhat different

Table XIII.1

THE RELATIVE IMPACT OF DEFENDANT AND OFFENSE CHARACTERISTICS ON THE DECISION TO IMPRISON, IN/OUT MODEL (BRIBERY OF PUBLIC OFFICIALS)

|                 |        |               |
|-----------------|--------|---------------|
| PUBLIC OFFICIAL | 0.3565 |               |
| EQUAL           | 0.2959 |               |
| TRIAL           | 0.2581 |               |
| MALE            | 0.2020 |               |
| ORGANIZED       | 0.1716 |               |
| IMMIG           | 0.1431 | -----         |
| MOST SEVERE     | 0.1327 | -----         |
| GOV.CONTRACT    | 0.0696 | ---           |
| TAXES           |        | ----- -0.0614 |
| WHITE           | 0.0501 | ---           |
| PRIOR RECORD    | 0.0446 | ---           |
| MORE THAN 1 MO. |        | - - -0.0294   |
| MORE THAN 1 YR. | 0.0275 | - -           |
| SUPINF          |        | - - -0.0266   |
| COUNTS          |        | - - -0.0266   |

NOTE: THE BARS REPRESENT THE RELATIVE SIZE OF THE BETA WEIGHTS AS CALCULATED FROM THE PROBIT MODEL. VARIABLES THAT WERE STATISTICALLY SIGNIFICANT AT .05 HAVE BEEN SHADED.

fashion. Persons who were involved in income tax violations appeared to serve about four months less time than did offenders in the other three major offense groups. Inexplicably, offenders who had engaged in the offense longer than one year seemed to serve less time than offenders who had been involved for less than one year. No pattern was detected for the offender's participation in a conspiracy; nor did it appear that the most serious top charge influenced the length of time served (see Table XIII.2).

Neither the defendant's sex nor race was a determinant of the length of time served, according to the second stage of the in/out model. Public officials were marginally more likely than private citizens to serve additional time (about two months). And persons with previous convictions served about four months more than individuals without conviction histories.

Of the processing variables, only the number of counts in the conviction increased the length of imprisonment. Whether the offender supplied information leading to the prosecution of others, or whether he entered a guilty plea instead of going to trial, had no demonstrable effect on the length of time served.

The length of time served, as determined by applying the expected length of imprisonment model, showed that the type of bribery scheme (TAXES, IMMIG, or CONTRACTS) did not seem to matter in determining the length of time that an offender served in prison. The same can be said of the duration of the offense. This latter finding makes more sense than the previous finding from the in/out model that offenders who had been engaged in bribery for longer periods of time served

Table XIII.2

THE RELATIVE IMPACT OF DEFENDANT AND OFFENSE CHARACTERISTICS ON THE LENGTH OF INCARCERATION, IN/OUT MODEL (BRIBERY OF PUBLIC OFFICIALS)

|                    |        |         |
|--------------------|--------|---------|
| TAXES              | 0.3200 | -0.3200 |
| PRIOR RECORD       | 0.2600 | 0.2600  |
| GREATER THAN 1 YR. | 0.2030 | -0.2030 |
| COUNTS             | 0.1600 | 0.1600  |
| PUBLIC OFFICIAL    | 0.1390 | 0.1390  |
| TRIAL              | 0.1250 | 0.1250  |
| MALE               | 0.1080 | -0.1080 |
| GOVT.CONTRACT      | 0.0890 | -0.0890 |
| IMMIG.             | 0.0850 | -0.0850 |
| GREATER THAN 1 MO. | 0.0730 | 0.0730  |
| ORGANIZED          | 0.0560 | 0.0560  |
| MOST SEVERE MAX.   | 0.0540 | 0.0540  |
| EQUAL              | 0.0330 | -0.0330 |
| SUPPLIED INFO.     | 0.0260 | 0.0260  |
| WHITE              | 0.0200 | 0.0200  |

NOTE: THE BARS REPRESENT THE RELATIVE SIZE OF THE BETA WEIGHTS AS DETERMINED FROM THE OLS MODEL. VARIABLES THAT WERE STATISTICALLY SIGNIFICANT AT .05 HAVE BEEN SHADED.

shorter sentences. In contrast, participation in a conspiracy increased the duration of incarceration by an average of about 16 months, no matter what the offenders' role in the conspiracy. This finding also differs from the discovery in the second stage of the in/out model that a conspiracy did not influence length of incarceration. Additionally, public officials served approximately two months more on average than incarcerated private citizens (see Table XIII.3).

Prior record did make a difference in the length of time served: offenders with prior records typically served an additional nine months. We did not detect any difference in the treatment of males or minority group members.

Unlike the findings from the second stage of the in/out model, evidence pertaining to length of time served indicated that a guilty plea reduced the time that an offender served, on average, by 1.5 years. No other processing variables were statistically significant.

Many federal bribers served terms of probation, and we examined the regularity of probation lengths. Offenders who bribed public officials (or who accepted bribes) when the matter at issue was federal inspection of food, seemed to receive somewhat longer probation sentences. Relative to persons convicted of offenses involving food inspection, offenders who committed crimes pertaining to income taxes, immigration, or government contracts served about one year less probation time. The probation term also increased with the maximum term of prison allowed by conviction to the top charge. Offenders with previous convictions could expect to

Table XIII.3

THE RELATIVE IMPACT OF DEFENDANT AND OFFENSE CHARACTERISTICS ON THE EXPECTED LENGTH OF TIME SERVED, EXPECTED LENGTH OF INCARCERATION MODEL (BRIBERY OF PUBLIC OFFICIALS)

|                 |        |            |
|-----------------|--------|------------|
| MALE            | 3.9788 |            |
| PRIOR RECORD    | 3.2708 | ██████████ |
| MOST SEVERE     | 1.0676 |            |
| PUB. OFF.       | 0.8145 | ███        |
| EQUAL           | 0.8064 | ███        |
| TRIAL           | 0.6775 | ██         |
| ORGANIZED       | 0.4131 | ██         |
| COUNTS          |        | -0.1713    |
| MORE THAN 1 MO. |        | -0.1706    |
| WHITE           |        | -0.1542    |
| MORE THAN 1 YR. | 0.1099 |            |
| GOV. CONTRACTS  | 0.0833 |            |
| SUP INF.        |        | -0.0600    |
| IMMIG           | 0.0327 |            |
| TAXES           |        | -0.0275    |

NOTE: THE BARS REPRESENT THE RELATIVE SIZE OF THE BETA WEIGHTS AS DETERMINED FROM THE TOBIT MODEL. VARIABLES THAT WERE STATISTICALLY SIGNIFICANT AT .05 HAVE BEEN SHADED.

serve an additional eight months of probation time, on average, but other variables did not seem to influence the length of probation time.

---

NOTES

1. E. Sutherland, White Collar Crime (New York: Holt, Rinehart and Winston, 1961).
2. Hearings on White Collar Crime, 95th Congress; White Collar Crime Symposium, American Criminal Law Review 17 (Winter, 1980): 271-300.
3. When there is so little variance in the background factors, a regression model is unable to detect a relationship between sentences and social background. Consequently, social background variables were eliminated from the model. Additionally, age was frequently missing from the data base. Given the lack of statistical significance between age and sentence for the offenses analyzed to this point, it seemed preferable to maximize the size of the data base by eliminating age as an explanatory variable.

#### XIV. FALSE CLAIMS AND STATEMENTS

A false claims offense is one of a broad range of activities that involve making false statements to the government. Generally, the false claims offender is motivated by the promise of monetary gain, but his crime may also be induced by nonpecuniary rewards. Perhaps the most obvious example of the latter is the false statement made by an alien who wishes to remain illegally in the country.

False claims made against the government take one of two forms. The offender may either make a claim that is completely bogus or he may inflate a legitimate claim. In the first instance, a person may falsify W-2 forms and submit tax records for work that was never performed. In the latter case, the offender may aggrandize his tax refund by claiming illegal exemptions.

Both of the examples cited above involve false statements made to the Internal Revenue Service. However, the list of government agencies that may be victimized is long. Prime targets are welfare and social security agencies, contracting and granting agencies, veterans' institutions, organizations providing government loans, and immigration agencies. Also, some false claims are made by government employees who manipulate payroll forms to obtain extra income.

##### A. THE OFFENDER

Overall, false claims offenders appear to be socially stable individuals when compared with other federal offenders. As young people, 79 percent were at least average students and

88 percent were well adjusted in school. Two-thirds of the offenders were high school graduates. Most were not abused as children and their parents typically and his parents did not have difficulty providing life's necessities.

Two-thirds of the offenders were steadily employed during the two years preceding the false claims offense. Nevertheless, better than one in five offenders were unemployed more than half the time over this two year period. Consistent with the fact that many false claims are welfare related, most of this latter group subsisted on welfare payments.

With respect to their involvement in crime, approximately half of the false claims offenders had records of previous arrests. The mean number of arrests for those individuals who had previous arrests was four. The types of offenses that prevailed among those prior arrests were nuisance, property, and white collar crimes, as well as offenses against persons. Sex and drug arrests were rare and no one in our sample had previously been linked to organized crime. Nineteen percent of those previously arrested were not convicted of their prior offenses. Of those convicted, 54 percent were sentenced to probation, 19 percent were sentenced to incarceration for less than one year, and 26 percent were sentenced to prison in excess of one year.

False claims offenders rarely used drugs. Few (5 percent) were reported to have used alcohol excessively. Thus, false claims offenses were typically unrelated to the use of drugs or alcohol. With reference to age, sex, and race, we found that the mean age among those convicted of making false claims was

39 years, 74 percent of the offenders were male, over half (58 percent) were white, and 40 percent were black.

Comparisons of mean factor scores across the nine offense types indicate that persons who make false claims share several characteristics with those individuals who commit mail fraud and income tax violations. As indicated by the factor MARITAL, mail fraud and false claims offenders were equally likely to be married and were likely to experience stability in their married lives. Mail fraud, false claims, and income tax violators were comparably unlikely to use drugs (DRUGS) or to experience drug problems. The early years of both false claims and income tax offenders, as measured by the factor FORMATIVE, were similarly stable. And false claims and income tax violators were equally unlikely to have family members with prior records.

False claims offenders also shared certain characteristics with members of other criminal groups. Mean score comparison for the factor EMPLOY shows that the pattern of fairly regular employment among false claims violators was comparable to the employment habits of drug dealers. Like homicide offenders and bank embezzlers, false claims violators were unlikely to have close contacts with criminal peers (INTERACT). The level of cohabitant crime for false claims offenders (-.008) is comparable to the degree of crime among bank robbers' cohabitants and is about average across the nine offense types. Finally, false claims, forgery, and bank embezzlement offenders were unlikely to have mental health problems, as measured by the factor MENTAL. These three offender types fall

midway between homicide offenders, who are most likely to have mental health concerns, and drug offenders, who are least likely to have such problems.

#### B. THE OFFENSE

False claims offenses were nonviolent and unaffiliated with organized crime. Nearly half of the offenses involved conspiracies of two or more people, and about 14 percent of the time false claims were made on behalf of fictitious individuals.

Although it is difficult to draw inferences about pecuniary losses because of problems with missing data (15 percent missing), it appears that when the claim involved a monetary reward (89 percent of the non-missing cases), the average amount of the claim was \$52,000. It should be noted that this figure included cases in which multiple claims were filed; the mean number of filings involving false claims was 10. This large average figure is somewhat deceptive. The modal category of amount of money stolen was "between \$1,000 and \$5,000," and three of every four offenders stole less than the \$50,000 average. Obviously, a few offenders stole significantly more.

We must point out the difficulty of determining the dollar loss. When assessing the dollar value of a piece of stolen property, the property's street value is a good indicator of the cost to its owner of its loss. Analogously, the dollar loss from overpayment of welfare checks can be readily determined. But the dollar loss resulting from a contract won on the basis of a false statement is more difficult to assess. Certainly, if the contractor received some services for his

payment, he cannot claim that the entire cost of the contract was a loss. Unfortunately, a presentence investigation does not indicate how much of the contract's cost should be assessed as a loss, and consequently, the numbers reported in this study (which are based on dollars contracted) often overstate the dollar loss.

About one-third of the claims were for welfare or social security benefits. Sixteen percent of the claims involved tax statements, 12 percent entailed contract negotiations, 8 percent loans, and about 7 percent (for each) involved V.A. benefits, payroll claims, or immigration regulations. Men predominated in cases involving government contracts. And proportionally more women than men were involved in welfare and social security claims.

#### C. SENTENCING PERSONS MAKING FALSE CLAIMS

Persons convicted of false claims offenses tended to have fairly high scores on the variables used to measure social stability and criminal history. Given this fact alone, we might expect that such offenders would receive lenient treatment at the hands of the criminal courts. But a number of false claims offenses appeared to result in sizable dollar losses to victims. On balance, the fact that "stable" offenders commit "serious" offenses resulted in a prison term for about 40 percent of those persons sentenced. Of those persons who went to prison, the average maximum sentence was 22 months, and offenders who went to prison actually served an average of one year. In this section, we investigate the

factors that seemed to influence whether an offender was sentenced to prison, and if he was, the factors that determined the length of prison time and the length of probation.

It was anticipated that several variables that describe the offense would be useful in explaining the sentence. The dollar loss was categorized as being less than \$1,000 (LESS THAN 1K), between one \$1,000 and \$25,000 (BETWEEN 1-25K), between \$25,000 and \$100,000 (BETWEEN 25-100K) and greater than \$100,000 (GREATER 100K). A residual category indicated that the loss from the offense was nonfinancial. An additional variable-- FREQUENCY A--indicated the number of times the offender made a false claim. This was an ordinal variable coded one (one time), two (two to five times), three (six to ten times), four (eleven to twenty times) or five (more than twenty times).

Variables were introduced to control for the offender's role in a conspiracy, if any. ORGANIZED indicated that the offender organized and controlled the conspiracy. If he participated in a conspiracy, but was judged to have shared equal responsibility with coconspirators, this was indicated with a variable EQUAL. Offenders who played a peripheral role in a conspiracy were differentiated with the variable PERIPHERAL. Otherwise a residual category included offenders who were uninvolved in conspiracies.

Processing variables also entered into the analysis. COUNTS was the logarithm of the number of counts included in the conviction. TRIAL indicated that the offender was convicted by trial rather than by plea. In initial analysis, we controlled for the most severe sentence that could be

imposed given the top convicting charge. However, no correlation was discovered between this variable and the sentence imposed, probably because most of the convictions were to offenses that provided a five-year maximum sentence (91 percent). Because this variable was often missing and yet exerted little or no impact when available, it was excluded from the analysis.

In addition to processing variables, numerous background variables entered in the analysis. A factor analysis was conducted on 21 such variables, excluding variables relating to drug use, which was trivial for these offenders. Eight factors were extracted from this analysis (reported in Appendix A). When these factors were entered into the statistical analysis, none seemed to predict the sentence received, probably because false claims offenders are quite similar to each other. Because background information was often missing, these factor scores were excluded from the analysis reported below. No relationship was uncovered between age and sentence, and because age, too, was frequently unknown, it was also eliminated from the analysis. Two background variables were retained: MALE and WHITE.

Several indicators of the offender's past criminal conduct were used. PRIOR PROBATION recorded that the offender had a previous conviction for which he served a sentence of probation. Likewise, PRIOR PRISON recorded that he had previously served a term in prison. DETAINER told us that the offender had a detainer at the time of his conviction. ANY REVOCATION indicated that he had previously had probation



by roughly .03 per logarithm of the number of instances of the offense.

Examining processing variables, we found that the probability of a prison sentence was marginally correlated with the number of counts in the conviction (not quite statistically significant). Persons convicted by trial were more likely to go to prison, by about .18.

As was mentioned above, we originally examined numerous offender background characteristics, including age, without finding a relationship between sentence and an offender's background. Nor did we discover sex to be a determinant of the sentence. However, race appeared to have an independent effect on the probability of going to prison. Minority group members--mostly blacks--experienced a probability of serving some time that was .17 greater than whites. Given previous findings that minority group members were not especially disadvantaged in federal courts, it might be that the significance of the race variable in this instance signifies that race-specific offense variables have not been held constant, or that geographic variation in the treatment of different races is perverse for false claims offenders.

Surprisingly, an offender's previous criminal record seemed to exert little or no influence over his probability of going to prison. None of the following variables appeared to be significant at this stage of the analysis: PRIOR PRISON, PRIOR PROBATION, DETAINERS and ANY REVOCATION. Offenders who were either serving a sentence at the time of the instant offense,

or who had a warrant outstanding for their arrest (SERVE SENT./WARR.), were .27 more likely than other offenders to go to prison.

The second stage of the in/out model required an examination of the time served by offenders who were sentenced to prison or jail. For false claims, it was necessary to be guarded about drawing conclusions from the results of this analysis, because only 141 cases appeared in the data base.

Nevertheless, the analysis appeared to reveal some patterns (Table XIV.2). Of the offense variables, offenders who stole over \$100,000 seemed to serve more time than offenders who stole less, but other offense variables exerted no demonstrable effect. Considering processing variables, the amount of time served seemed to increase with the number of counts in the convicting offense, but not necessarily with the fact that conviction was by trial. Although the fact that an offender had previously had probation revoked may have had a marginal effect on the length of time served, no other variables had a statistically significant effect on the length of time served.

At this point in this report, it is probably apparent that we are more confident of the results derived from the expected length of time served model (See Table XIV.3). From this latter perspective, the results qualitatively resemble those derived from the estimates of the probability of prison.

With respect to offense variables, the dollar loss from the false claims offense was important in determining the length of time that an offender would serve. Compared with offenders who stole less than \$1,000, served more time on average: 7



additional months for those who stole between \$1,000 and \$25,000; 20 additional months for those who stole between \$25,000 and \$100,000; and 33 months for offenders who stole in excess of \$100,000. Offenders whose crime resulted in no dollar loss seemed to serve prison time comparable to those who stole between \$1,000 and \$100,000. The length of time served increased with the number of times the offender committed the crime, or roughly equal to 2.4 months per logarithm of the number of instances, on average.

Organizers of conspiracies served more time than did persons characterized as having participated equally in the offense (by an average of 13 months) and also by more than peripheral figures (by an average of 28 months). Organizers also tended to serve somewhat more time than persons who acted on their own (by around five months), although this difference was not statistically significant. Based on these findings, it can be concluded that the magnitude of the offense was an important determinant of the length of time that an offender could expect to serve if convicted of making a false claim.

Blacks appeared to serve more time--by about 10 months on average--than did whites. It also appears that men typically served somewhat more time than did women, although the effect was not quite statistically significant. We still failed to find that either PRIOR PROBATION or PRIOR PRISON increased the amount of time served. But offenders who previously had probation revoked served an additional 14 months, and offenders who were serving a sentence or had a warrant outstanding for

their arrest at the time of the instant offense, served an additional 20 months, on average.

A number of offenders (223 in this data base) were sentenced to probation. Even though sufficient observations existed to estimate the determinants of the length of a probation term, we found that this probation term was difficult to predict. The average probation term was 35 months. Persons who had previously served a prison term were sentenced to nine months more prison time on average than were offenders who had no previous convictions. Persons who had previously served a term of probation received sentences that were an average of seven months longer than offenders with "clean" past conviction records. Otherwise, no variable that entered the statistical model was statistically significant at the conventional .05 level of confidence.

Finally, we note that almost 30 percent of the offenders convicted of false claims were fined in addition to the imposition of any other sentence. When a fine was imposed, the average amount was \$4,300.

## XV. RANDOM OTHER

The offense category "random other" consists of offenses that do not fall within any of the other 10 offense groups discussed in this report. As the name "random other" implies, this offense category consists of a random sample of PSIs drawn from a population of cases from which the 10 specific offenses were excluded. The sample frame was the eight districts selected for this study, and the sample was weighted so that approximately 120 cases were drawn from each of the large districts, and 40 from each of the smaller districts. Because of the random selection, some of the offenses in this sample involve physical injury to the victim, some include weapon use, some involve monetary loss, and some were committed conspiratorially. While interpretation of the results of this analysis is limited by the heterogeneous nature of the cases examined, some useful interpretations are nevertheless possible. This category does, in any event, round out our analysis of federal offenders.

### A. THE OFFENDERS

Offenders in the "random" sample are not well educated; the mean was nine years of schooling. Nonetheless, 71 percent of the group were average or above average students, and 83 percent were well adjusted while in school. Other information about the offenders' formative years shows that few (10 percent) were abused by their parents and most (83 percent) had parents who could easily provide life's necessities. In addition, offenders were rarely exposed to crime or criminal

situations while they lived in early family settings. In fact, the offenders' exposure to crime generally came later as a result of interaction with criminal peers. Even so, only 27 percent of the offenders had friends who were involved in crime. To a lesser extent, offenders were exposed to crime in adulthood through their contacts with cohabitants and family members. But in all, only 37 percent of the offenders had significant contact with criminal friends, cohabitants, or family.

Most of the offenders themselves (76 percent) had been previously arrested at least once. The mean number of arrests for those with a record was six. Nuisance and property offenses predominated; over half of the "random" offenders had been arrested for each of these types of offenses. Thirty-one percent of the offenders had been arrested for crimes against persons, 20 percent for drug offenses, and 13 percent for white collar crimes. Less than 5 percent of the offenders had previously been linked to organized crime or had been arrested for sex offenses.

Conviction information about those offenders with prior arrests indicates that 12 percent were not previously convicted, and 40 percent were previously convicted and sentenced to probation. Another 2 percent of those prior arrests resulted in incarceration under juvenile statutes. The remaining offenders were split into two groups: 18 percent received prior sentences of incarceration for less than one year and 30 percent had been previously sentenced to serve prison terms in excess of one year.

With respect to their personal lives, 47 percent of the offenders were married, and 55 percent were fairly regularly employed during the two years preceding their arrest for a federal offense. Of those with dependents, 62 percent provided those wards with both economic and emotional support.

Eighty-eight percent of the group were male and 68 percent were white. The mean age was 44 years.

#### B. THE OFFENSES

Most of the "random other" offenses did not involve violence. Less than 10 percent involved the use or threat of the use of force. Weapons were involved in 20 percent of the cases, but in 68 percent of those instances, the weapons were simply in the offender's possession and were not used to facilitate the offense. In instances in which physical injury occurred (6 percent of the cases), two-thirds of the victims survived, although half of these were injured seriously enough to require hospitalization. Only 8 percent of the offenses were related to organized crime, and 6 percent or fewer involved drug or alcohol use.

The average offense was planned, as opposed to spontaneous, and occurred only once before the defendant's apprehension. When money was taken (73 percent of the cases in which data were available), the mean amount involved was \$36,000. Generally, either the government or a corporation was victimized; less than 25 percent of the cases entailed victimization of individuals.

### C. SENTENCING OTHER TYPES OF OFFENDERS

Determining the sentences imposed on offenders whose crimes were not included in the specific offenses analyzed in this study posed special problems. It was evident to the research team during project planning that providing reliable measures of offense severity necessitated a data-collection instrument that was crime specific. But in regard to a random selection of "other" offenders, it was not possible to develop an offense-specific form. Instead, we relied on a general data-collection sheet that attempted to measure the dollar loss from the offense, the extent of harm to persons, the degree to which the offense was a group offense, and if it was a group offense, the offender's role in the conspiracy. The reader must be warned that interpreting the effect on sentence of a variable such as "dollar loss from the offense" without knowing the specific context of the dollar loss (gun violations, stock manipulation, and so on) may be misleading.

Another problem arose. We have seen from the previous analysis that the statutory maximum for the offense at conviction was an important variable in explaining the sentence received. In order to determine those maximums, we examined the convictions and determined from the United States Codes what the statutory maximum would be for each offense. However, due to the wide range of offenses encompassed in the "random other" category, this effort could not be made. As a consequence, the maximum sentence that the courts could legally impose is a variable that is excluded from the analysis.

Additionally, we were unable to determine an offender's parole eligibility date. The parole guidelines are not explicit about handling those federal offenses that appear less frequently in district courts. Without this guidance, we were unable to determine the length of time that an offender would serve, given the sentence that the judge imposed. Instead, the analysis concentrated on whether the offender was sentenced to prison, as well as the maximum term of imprisonment imposed by the sentencing judge, as the variables of interest.

Even though these problems arose, it was anticipated that sentencing would continue to show regularity in that the more serious offenses would result in more severe sentences. To look for this effect, the analysis captured several offense severity variables. Dollar loss was categorized as less than \$1,000 (LESS THAN 1K), between \$1,000 and \$50,000 (BETWEEN 1-50K), and greater than \$50,000 (MORE THAN 50K). A residual category appeared for offenses that resulted in no dollar loss.

Harm to persons was measured using several variables. HARM is an ordinal variable coded zero for no harm, one for persons injured but not requiring hospitalization, two for persons hospitalized as a result of the offense, or three if persons were killed.[1] THREAT indicates that the offense involved actual or threatened assault. If a weapon was used at the time of the offense, that is indicated by WEAPON.

If a conspiracy was involved, the offender's role was denoted. Offenders who organized the conspiracy are indicated by ORGANIZE, while other offenders are differentiated by EQUAL for those sharing an equal degree of participation, or

PERIPHERAL for those playing only a peripheral role in the conspiracy. We also thought that it might be important to know whether the offense was committed during the course of legitimate employment. If this was the case, then AUTHORITY indicates that the offender was in a position of authority or management in the business or government agency and OTHER EMP denotes that he was either a subordinate or menial.

Rounding out the offense descriptors are two additional variables: DURATION and ORGAN. The former is the logarithm of the number of months during which the offender was committing his crime [2]. The latter indicates whether the offender was a member of an organized crime group.

To control for the offender's background, a factor analysis was conducted to identify important factors describing the offender's socioeconomic status. Altogether, 10 factors were extracted (see Appendix A), but preliminary analysis revealed only 3 to be even marginally significant to the analysis. EMPLOY measures the offender's employment stability, including his employment status at the time the PSI was prepared, his employment over the prior month, his employment over the prior two years, and his method of subsistence. MARITAL provides an indication of the offender's marital ties and whether he supports dependents--either financially or emotionally. DRUGS records the offender's involvement with drugs. Because of the number of variables included in the regression models derived in this analysis, and the preliminary findings that other background factors did not seem to enter into judicial decision

making, all other factor scores are omitted from the analysis discussed in this section.

Sex indicates that the offender's is a male. WHITE indicates that he was not a member of a minority group. Preliminary analysis revealed that age had little or no impact on the sentencing decision. Because age was frequently missing, the offender's age was not included in the analysis.

We also retained the full spectrum of indicators of the offender's criminal record. Offenders who previously served a prison term in excess of one year are noted by PRIOR LONG. Offenders who previously served a prison term of less than one year can be distinguished by PRIOR SHORT. Other offenders who served previous terms limited to probation are denoted by PRIOR PROBATION. ANY REVOCATIONS indicates that the offender previously had probation revoked. SERVE SENT./WARR. denotes that the offender was serving a sentence, or had an outstanding warrant for his arrest, at the time he committed the instant offense. DETAINER indicates that there were detainers pending at the time of his sentencing.

Regarding processing variables, conviction by trial rather than by guilty plea can be determined by the variable TRIAL. COUNTS records the logarithm of the number of counts in the convicting offense. If the offender supplied information that led to the arrest or prosecution of others, that is indicated by SUPPLIED INFO.

As we have done throughout this analysis, we attempted to predict whether an offender received a prison sentence, given the elements of his offense, his own personal characteristics and background, and processing variables. Predictable

patterns were uncovered using this random sample of offenders (see Table XV.1).

It is evident from this analysis that the magnitude of the offense is important to determining whether to sentence an offender to prison. Relative to offenders whose crimes caused losses of less than \$1,000 (including crimes with no monetary loss), offenders causing a loss between \$1,000 and \$50,000 have a probability of prison that is .14 greater, and those causing a loss in excess of \$50,000 have a probability that is .30 greater. The probability of prison did not increase with the duration of the offense.

The harm to persons variable was not statistically significant, although it did have the anticipated positive sign. But caution should be exercised in concluding that "harm to persons" does not affect the probability of a prison sentence. As noted earlier, very few of the offenses examined in the sample resulted in any physical harm to persons. Additionally, very few offenses involved the use of a weapon. In this regard, it is interesting to note the fact that if the offender threatened harm, the probability of prison increased by .20. With regard to other variables reflecting the magnitude of the offense, no evidence was uncovered that the offender's role in a conspiracy played an important part in the sentencing decision, nor did the fact that he committed the crime in the course of his business.

Offender background variables do matter at this stage of the sentencing decision. Persons with stable employment histories go to prison less frequently than do those with

Table XV.1

THE RELATIVE IMPACT OF DEFENDANT AND OFFENSE CHARACTERISTICS ON THE DECISION TO IMPRISON, IN/OUT MODEL (RANDOM OTHER)

|                    |        |                      |
|--------------------|--------|----------------------|
| PRIOR LONG         | 0.4737 | ████████████████████ |
| MORE THAN 50K      | 0.3919 | ████████████████     |
| THREAT             | 0.3369 | ██████████████       |
| BETWEEN 1-50K      | 0.2740 | ████████████         |
| COUNTS             | 0.2613 | ██████████           |
| EMPLOY             | 0.1861 | ██████               |
| RACE               | ██████ | -0.1683              |
| SEX                | 0.1675 | ██████               |
| DETAINED           | 0.1631 | ██████               |
| PRIOR SHORT        | 0.1616 | ██████               |
| DRUGS              | 0.1506 | ██████               |
| WEAPON             | 0.1482 | ██████               |
| TRIAL              | 0.1457 | ██████               |
| PRIOR PROBATION    | 0.1452 | ██████               |
| ANY REVOCATIONS    | 0.1404 | ██████               |
| SERVE SENT. /WARR. | 0.1192 | ██████               |
| AUTHORITY          | 0.1050 | ██████               |
| ORGAN              | 0.0972 | ██████               |
| MARITAL            | 0.0881 | ██████               |
| HARM               | 0.0857 | ██████               |
| ORGANIZE           | 0.0855 | ██████               |
| OTHER EMP          | ██████ | -0.0834              |
| SUPPLIED INFO.     | ██████ | -0.0715              |
| EQUAL              | ██████ | -0.0423              |
| DURATION           | ██████ | -0.0342              |
| PERIPHERAL         | ██████ | -0.0195              |
| LESS THAN 1K       | ██████ | -0.0169              |

NOTE: THE BARS REPRESENT THE RELATIVE SIZE OF THE BETA WEIGHTS AS CALCULATED FROM THE PROBIT MODEL. VARIABLES THAT WERE STATISTICALLY SIGNIFICANT AT .05 HAVE BEEN SHADED.

unstable employment histories. Persons with histories of drug usage go to prison more frequently than persons without drug histories. Note also that men have a probability of prison that is .13 greater than women. Also note that, in this analysis, blacks and other racial minority groups appear to go to prison more frequently than do whites.

Prior convictions had their anticipated effect on the probability of prison. Relative to the probability of prison facing offenders with no prior convictions, offenders who previously served terms of probation went to prison .08 more often. Offenders who previously served a prison term of less than one year went to prison .14 more frequently. And offenders who previously served in excess of one year went to prison .32 more frequently

Regarding processing variables, the probability of a prison term increases by .12 per logarithm of the number of counts in the conviction. It also increases by about .10 for offenders convicted by trial.

Turning to the second stage of the in/out decision--the decision regarding the length of the prison sentence--findings did not always correspond with our intuition. Since we attribute these anomalous findings, at least in part, to the misspecification that is endemic to the in/out model, we will summarize the findings quickly, and then take a closer look at the results from the expected length of incarceration model.

What seems to influence the amount of time that an offender will receive? The dollar loss from the offense appears to matter, but only if it is in excess of \$50,000. It appears

that the amount of harm done to a victim increases the length of time sentenced, as does the fact that a weapon was used. The length of the sentence increases with the number of counts; it also increases with the fact that conviction was by trial. Many variables, such as those reflecting the offender's criminal record, appeared to exert no influence on the sentence imposed. (See Table XV.2.)

Next, we take a more in-depth look at the sentence length as determined by using the expected length of incarceration model (Table XV.3). Relative to offenders causing losses of less than \$1,000, the sentence length increases by an average of 22 months for offenders stealing between \$1,000 and \$50,000, and by an average of 61 months for offenders stealing in excess of \$50,000.

The amount of harm done to a victim is also relevant to the length of the prison sentence, by about 30 months per unit of harm. That is, offenders who cause victims to be hospitalized received sentences that were about 30 months longer than those sentences received by offenders who caused harm to persons that did not result in hospitalization. If the offender used a weapon during the course of the offense, he had 49 months added to his sentence. If he threatened harm to a victim during the course of his offense, his sentence increased by an average of about 27 months. Thus, the amount of harm threatened or actually done to victims makes a significant difference in the length of sentence that the offender receives.

Looking at the offender's personal characteristics, it appears that offenders who had stable employment patterns were treated more leniently than offenders who were frequently

**CONTINUED**

**3 OF 4**

Table XV.2

THE RELATIVE IMPACT OF DEFENDANT AND OFFENSE CHARACTERISTICS ON THE LENGTH OF INCARCERATION, IN/OUT MODEL (RANDOM OTHER)

| Characteristic    | Beta Weight | Significance |
|-------------------|-------------|--------------|
| MORE THAN 50K     | 0.2800      | Shaded       |
| HARM              | 0.2360      | Shaded       |
| WEAPON            | 0.2310      | Shaded       |
| TRIAL             | 0.2230      | Shaded       |
| COUNTS            | 0.1730      | Shaded       |
| EQUAL             | 0.1230      | Shaded       |
| THREAT            | 0.1200      | Shaded       |
| ANY REVOCATIONS   | 0.1110      | Shaded       |
| AUTHORITY         | -0.0990     | Shaded       |
| BETWEEN 1-50K     | 0.0980      | Shaded       |
| ORGAN             | -0.0960     | Shaded       |
| MALE              | 0.0860      | Shaded       |
| DETAINER          | 0.0860      | Shaded       |
| LESS THAN 1K      | 0.0720      | Shaded       |
| DURATION          | -0.0710     | Shaded       |
| PRIOR PROBATION   | -0.0640     | Shaded       |
| ORGANIZED         | 0.0570      | Shaded       |
| DRUGS             | -0.0480     | Shaded       |
| EMPLOY            | 0.0480      | Shaded       |
| PRIOR LONG        | 0.0480      | Shaded       |
| MARITAL           | 0.0430      | Shaded       |
| SUPPLIED INFO.    | -0.0390     | Shaded       |
| PRIOR SHORT       | -0.0290     | Shaded       |
| WHITE             | 0.0210      | Not Shaded   |
| SERVE SENT./WARR. | 0.0190      | Not Shaded   |
| PERIPHERAL        | 0.0080      | Not Shaded   |
| OTHER EMP         | 0.0050      | Not Shaded   |

NOTE: THE BARS REPRESENT THE RELATIVE SIZE OF THE BETA WEIGHTS AS DETERMINED FROM THE OLS MODEL. VARIABLES THAT WERE STATISTICALLY SIGNIFICANT AT .05 HAVE BEEN SHADED.

Table XV.3

THE RELATIVE IMPACT OF DEFENDANT AND OFFENSE CHARACTERISTICS ON THE EXPECTED LENGTH OF TIME SERVED, EXPECTED LENGTH OF INCARCERATION IN MODEL (RANDOM OTHER)

| Characteristic    | Beta Weight | Significance |
|-------------------|-------------|--------------|
| MORE THAN 50K     | 20.5305     | Shaded       |
| HARM              | 14.0407     | Shaded       |
| PRIOR LONG        | 13.8343     | Shaded       |
| TRIAL             | 13.5851     | Shaded       |
| WEAPON            | 12.3470     | Shaded       |
| COUNTS            | 11.7282     | Shaded       |
| SEX               | 10.2903     | Shaded       |
| BETWEEN 1-50K     | 9.6261      | Shaded       |
| THREAT            | 8.8973      | Shaded       |
| ANY REVOCATION    | 7.8773      | Shaded       |
| DETAINER          | 6.9871      | Shaded       |
| EMPLOY            | 6.7465      | Shaded       |
| SERVE SENT. WARR. | 4.3129      | Not Shaded   |
| MARITAL           | 4.2402      | Not Shaded   |
| SUPPLIED INFO.    | -4.0300     | Not Shaded   |
| EQUAL             | 3.8466      | Not Shaded   |
| PRIOR SHORT       | 3.6130      | Not Shaded   |
| LESS THAN 1K      | 3.0949      | Not Shaded   |
| RACE              | -3.0554     | Not Shaded   |
| ORGAN             | -2.9656     | Not Shaded   |
| DURATION          | -2.9566     | Not Shaded   |
| ORGANIZE          | 2.7952      | Not Shaded   |
| OTHER EMP         | -2.6662     | Not Shaded   |
| PRIOR PROBATION   | 1.5242      | Not Shaded   |
| PERIPHERAL        | -0.4330     | Not Shaded   |
| DRUGS             | -0.1711     | Not Shaded   |
| AUTHORITY         | 0.0809      | Not Shaded   |

NOTE: THE BARS REPRESENT THE RELATIVE SIZE OF THE BETA WEIGHTS AS DETERMINED FROM THE TORBIT MODEL. VARIABLES THAT WERE STATISTICALLY SIGNIFICANT AT .05 HAVE BEEN SHADED.

unemployed. Males served longer sentences (by 30 months, on average) than females. Race, however, was not statistically significant.

Offenders who previously served prison terms in excess of one year were sentenced to terms that were an average of 33 months longer than the terms imposed on persons with no previous criminal convictions. This effect was statistically significant. Offenders who previously served short prison term and offenders who were previously sentenced to probation seemed to receive sentences that were somewhat longer than the sentences received by offenders with no previous convictions, but the effects are not statistically significant. A previous revocation of probation or parole added an average of 1.5 years to a sentence; the fact that a detainer existed at the time of sentencing added a little over one year to the prison time, on average.

In regard to processing variables, the length of the sentence increases with the number of counts in the conviction. It also increases--by about 3 years--for offenders who are convicted by trial.

Finally, we examined the length of probation received by offenders placed on probation--approximately 50 percent of the offenders included in this data base. Offense variables do not seem to matter much in this determination, except that offenders who used a weapon in their offenses were sentenced to somewhat more probation time, as were offenders whose offenses were conducted over a lengthy period of time. The term of

probation also increased with the offender's criminal record, adding 7 months to the term for previous probationers, 11 months for offenders serving earlier prison sentences less than 1 year, and 20 months for persons who had previously served prison terms in excess of 1 year. Otherwise, there are some results that are nonintuitive: organizers of conspiracies and peripheral figures seemed to serve shorter terms than both persons acting alone and persons who shared responsibility in a conspiracy. Persons in position of authority seemed to serve shorter terms than persons who were either employed or who did not commit the offense in the course of business. Perhaps these counterintuitive findings emerge because the offense variables do not adequately control for all aspects of offense seriousness.

The last two findings aside, these analyses have revealed considerable regularity in the sentences received by offenders convicted of "other" offenses. However, we must again warn the reader that by examining these sentences outside the context of the real offense that occurred, we would seem to run a considerable risk that many of the above findings are somewhat spurious. For example, the findings revealed that the length of the sentence increases by 2 years per logarithm of the number of counts in the conviction. This would appear to be somewhat excessive, and may be an artifact of the high mix of offenses included in this data set.

NOTES

1. The offense category "homicide" includes only persons convicted of homicide. Thus, some offenses resulting in death appear in the "other" category.
2. DURATION is actually the logarithm of an ordinal variable. See the coding manual for a description of the coding of the duration of the offense.

XVI. CONVERTING STATISTICAL ANALYSES INTO SENTENCING GUIDELINES

For offenders with given backgrounds and who are convicted of specific crimes under particular circumstances, the statistical results from the previous chapters provide formulas that can be used to calculate the following: (1) the proportion of those offenders who in the past were sentenced to prison; (2) the historical sentence served by offenders sentenced to prison; and (3) the historical average term of probation for those offenders sentenced to probation. While these formulas are descriptive of past federal sentencing practices, the formulas are not themselves guidelines. In this closing chapter, we indicate how a sentencing commission might translate the statistical findings into guidelines. This exposition is brief; the subject is treated in more detail in two companion project reports.[1]

The sentencing commission would have to perform at least two primary tasks to convert these statistics into guidelines. First, the weights derived through statistical analysis would have to be adjusted to reflect the purposes of sentencing. Second, the formulas would have to be converted into a form that is useful for sentencing deliberations.

The weights derived from statistical analysis require modification for several reasons. For one, our analysis sometimes uncovered what appeared to be sentencing inequities. As an illustration, race was discovered to be a salient factor for at least two offenses: American Indians were treated more leniently for homicide convictions, and blacks were treated

more severely for false claims violations. As these past sentencing practices are preserved in sentencing guidelines, so would the potential inequities that they represent. Thus, a first task of the sentencing commission might be to assign a zero weight to those factors that are deemed as inappropriate for consideration during sentencing.

Similarly, some factors may, in the judgment of the sentencing commission, be receiving an inappropriate amount of weight--either too much or too little--given prevailing views of the purposes of sentencing and new legal requirements codified in the revision of the federal criminal codes. This need to revise the magnitude of the weights may arise either because the collective actions of judges, as captured by the statistical analysis, did not give sufficient weight to various factors, or because the statistical analysis did not accurately reflect judicial and other administrative decision making. Or it may be true that the attitudes and views that motivated historical sentencing patterns have changed, and accompanying this change is a corresponding desire on the part of the sentencing commission to modify the sentencing practices. And then it may be that the recodification of the federal criminal codes requires that past practices be altered, thereby forcing the commission to change sentencing practices regardless of their views of appropriate or inappropriate sentences. Whenever any of the above needs arise, the sentencing commission will be required to modify the weights that were derived statistically.

We trust, however, that there will not be wholesale revision of the weights. In this regard, we agree with the views of those scholars who have warned that wholesale departure from historical patterns invites future problems. As Zalman has warned:

There is a dangerous tendency ... to see the commission as a generator of sentencing norms. On the contrary, the wisest social policy is to continue to regard the trial judge as the real generator of sentencing norms. The alternative would be a sterile or narrow formula written by a few who are far from the actual decisions. The commission should seek to examine the work of judges, avoid idiosyncratic sentences, and recommend cautious changes in sentencing norms.[2]

On the other hand, we recognize the limits to statistical analysis and believe that the empirical findings from this study should inform but not strictly limit the workings of the sentencing commission.

Once the adjustments to the weights have been accomplished, the sentencing commission faces its second major task, that of converting the weights into guidelines. This is unlikely to be easy. The task first requires the commission to attach substantive meaning to the sentencing formulas. For example, the formulas might indicate that a given offender had a historical probability equal to .40 of being sentenced to prison. It is the responsibility of the sentencing commission to translate this probability into a sentencing recommendation. The statistical analysis provides little guidance in this regard.

Making the sentencing formulas policy relevant also requires that the formulas be converted into a form that is useful to the sentencing judge. One well-known approach to structuring the guidelines is the matrix approach pioneered by Wilkins and Gottfredson.[3] This matrix consists of two or three dimensions. The first dimension measures the seriousness of the offense. The second measures the background of the offender. And the third, if provided, measures the case's disposition. The findings from the statistical analysis--the formulas from above--are then converted into scores on those three dimensions using a scheme called Burgess weights. The cells of the converted matrix, which are determined by the scores on the three dimensions, provide recommendations about whether a prison sentence should be imposed, the prison sentence range if incarceration is called for, and a probation sentence range if probation is called for. The judge need only match the offender with a cell and impose the recommended sentence.

We have developed a second approach as part of this sentencing project. This second approach has the advantage that variables need not be aggregated into one of three dimensions. It has the disadvantage that the calculations required to derive the sentencing recommendations are complicated. In fact, this second technique requires computer assistance.[4] At the present time, we are using a computer to make the calculations, as we will demonstrate. However the calculations could as easily be performed on a hand-held preprogrammed calculator, at very little cost.

In order to demonstrate this technique, we have appended to this chapter the output from a computer run in which two hypothetical offenders have been sentenced. The first offender, named "Good Guy," was assumed to have committed a forgery of modest seriousness; he himself has a fairly stable social background. The second offender, named "Bad Guy," was assumed to have committed a fairly serious forgery offense, and he himself has a "spotty" background in terms of social stability.

The computer program is designed to ask a series of questions pertaining to the variables that entered the statistical analysis. The person using the computer is allowed to make one of a series of responses. For example, in response to the question "Item 1: Level of Education," we have supplied a "2--high school graduate or equivalent." When a piece of information is unknown, the computer user is allowed to tell the computer that it is unknown, and the computer will make an appropriate adjustment.[5] If the computer user considers the question to be irrelevant to the sentencing decision or an inappropriate question to ask, then the user can respond with a "-1," in which case the computer will again make the appropriate adjustments in the calculations.

In preparing the program, we had to simulate the activity of a sentencing commission. That is we had to determine what weights would enter into the computer program. We chose the weights derived through the statistical analysis, although a sentencing commission would not be bound by those weights. We

also had to convert the calculations into sentence recommendations. These recommendations appear in the statement at the end of the computer output advising what proportion of similar offenders who committed similar crimes in the past had been sentenced to prison. We also provided a range of sentences for those sentenced to prison and those sentenced to probation.

We believe that a sentencing commission would find this type of program convenient during their deliberations. Using the program, it is simple to see what impact modifications to the sentencing weights would actually have on the sentences received by convicted offenders. In addition, we believe that a judge would find the program instrumental in his sentencing deliberations. Thus can the complexity of the sentencing formulas derived in this study, as modified by a sentencing commission, be converted into policy-related sentencing guidelines.

#### NOTES

1. W. Rhodes, "Alternative Logics for the Structuring of Federal Sentence Guidelines," and J. Bassler, "Review and Revision of a Sentencing Guidelines System."
2. M. Zalman, "Making Sentencing Guidelines Work: A Response to Professor Coffee," The Georgetown Law Journal 67.
3. Leslie T. Wilkins, et al., Sentencing Guidelines: Structuring Judicial Discretion (Washington, D.C.: Government Printing Office, 1978).
4. The program described in this section was written by Richard Hildenbrand.
5. The "appropriate adjustment" is to substitute the mean value of unknown variables into the regression equations. The adjustment was equivalent for missing values and inappropriate variables.

1 OUTPUT FROM \*GUIDELINES PROGRAM\* -- 16-JUL-80

RUN IDENTIFIER: BAD GUY

CATEGORY ENTERED IS 5-FORGERY

ITEM 1: LEVEL OF EDUCATION

THE CATEGORIES ARE:

- 1 - LESS THAN HS GRAD
- 2 - HS GRAD OR EQUIV
- 3 - SOME COLLEGE
- 4 - BA DEGREE OR HIGHER
- 5 - GRADUATE DEGREE
- 9 - UNKNOWN

VALUE OR CODE ENTERED: 1

ITEM 2: MARITAL STATUS

THE CATEGORIES ARE:

- 1 - SINGLE
- 2 - MARRIED
- 3 - WIDOW(ER)
- 4 - DIVORCED
- 5 - SEPARATED
- 6 - COMMON LAW
- 9 - UNKNOWN

VALUE OR CODE ENTERED: 4

ITEM 3: DETAINERS OR CHARGES PENDING

THE CATEGORIES ARE:

- 0 - NO/UNKNOWN
- 1 - YES

VALUE OR CODE ENTERED: 0

ITEM 4: NO. OF COUNTS IN CONVICT. OFFENSE

THE CATEGORIES ARE:

- ENTER #(99 IF UNKWN)

VALUE OR CODE ENTERED: 5

ITEM 5: HAS THE DEFENDANT USED AN ALIAS

THE CATEGORIES ARE:

- 0 - NO/UNKNOWN
- 1 - YES

VALUE OR CODE ENTERED: 1

ITEM 6: EVER HAD PROBATION OR PAROLE REVOKED

THE CATEGORIES ARE:

- 0 - NO/UNKNOWN
- 1 - YES

VALUE OR CODE ENTERED: 1

ITEM 7: AWAIT TRIAL OR WARR. FOR ARR. DUR. OFF.

THE CATEGORIES ARE:

- 0 - NO/UNKNOWN
- 1 - YES

VALUE OR CODE ENTERED: 0

ITEM 8: SERV. SENT. AT TIME OF OFFENSE

THE CATEGORIES ARE:

- 0 - NO/UNKNOWN
- 1 - YES

VALUE OR CODE ENTERED: 0

ITEM 9: SUPPLIED INFO. USED TO ARR./PROS OTHERS

THE CATEGORIES ARE:

- 0 - NO/UNKNOWN
- 1 - YES

VALUE OR CODE ENTERED: 0

ITEM 10: PARENTS/GUARD. DIFF. SUPP. NEC. OF LIFE

THE CATEGORIES ARE:

- 0 - NO
- 1 - YES
- 9 - UNKNOWN

VALUE OR CODE ENTERED: -1

ITEM 11: ABUSED, NEGLECTED, ABANDONED CHILD

THE CATEGORIES ARE:

- 0 - NO
- 1 - YES
- 9 - UNKNOWN

VALUE OR CODE ENTERED: -1

ITEM 12: OVERALL ACADEMIC PERFORMANCE

THE CATEGORIES ARE:

- 0 - POOR
- 1 - BELOW AVERAGE
- 2 - AVERAGE
- 3 - BETTER THAN AVERAGE
- 8 - NOT APPLICABLE
- 9 - UNKNOWN

VALUE OR CODE ENTERED: 1

ITEM 13: SOCIAL ADJUSTMENT IN SCHOOL

THE CATEGORIES ARE:

- 0 - POOR
- 1 - BELOW AVERAGE
- 2 - AVERAGE
- 3 - BETTER THAN AVERAGE
- 8 - NOT APPLICABLE
- 9 - UNKNOWN

VALUE OR CODE ENTERED: 2

ITEM 14: RAISED IN FAMILY ENVIRONMENT

THE CATEGORIES ARE:

- 0 - NO
- 1 - YES

VALUE OR CODE ENTERED: -1

ITEM 15: CRIM. RECORD OF ABOVE FAMILY MEMBERS

THE CATEGORIES ARE:

- 0 - NO MENTION OF ANY
- 1 - MENTION OF ONE
- 2 - MENTION OF MOR THN 1

VALUE OR CODE ENTERED: -1

ITEM 16: PRESENT LIVING ARRANGEMENTS

THE CATEGORIES ARE:

- 1 - W/PARENT, GUARD, REL
- 2 - W/SPOUSE, CHILDREN
- 3 - W/PARAMOUR, CHILDREN
- 4 - W/OTHERS
- 5 - ALONE-FIXED ABODE
- 6 - ALONE-NO FIXED ABODE
- 7 - CORRECTIONAL INST
- 8 - IN MILITARY
- 9 - UNKNOWN

VALUE OR CODE ENTERED: 5

ITEM 17: CRIM. RECORD OF COHABITANTS

THE CATEGORIES ARE:

- 0 - NONE OR NO MENTION
- 1 - ONE HAS CRIM RECORD
- 2 - MR TN 1 HAS CRIM REC

VALUE OR CODE ENTERED: -1

ITEM 18: COHAB. EFFECTS ON DEF. CRIM. BEHAVIOR

THE CATEGORIES ARE:

- 1 - FEEL STRONGLY WILL  
- DISCOURAGE CRIM
- 2 - FEEL LIKELY WILL  
- DISCOURAGE CRIM
- 3 - COULD GO EITHER WAY
- 4 - FEEL LIKELY WILL  
- PROMOTE CRIM BEHAV
- 5 - FEEL STRONGLY WILL  
- PROMOTE CRIM BEHAV

VALUE OR CODE ENTERED: -1

ITEM 19: CONTACT WITH FAM. MEM.(OTHER THAN COHAB)

THE CATEGORIES ARE:

- 1 - FREQUENT
- 2 - OCCASIONAL
- 3 - NEVER/ALMOST NEVER
- 8 - NOT APPLICABLE
- 9 - UNKNOWN

VALUE OR CODE ENTERED: 3

ITEM 20: CRIM. RECORD OF ABOVE FAMILY MEMBERS

THE CATEGORIES ARE:

- 0 - NONE OR NO MENTION
- 1 - ONE HAS CRIM RECORD
- 2 - MR TN 1 HAS CRIM REC

VALUE OR CODE ENTERED: -1

ITEM 21: FAMILY EFFECT ON DEF. CRIMINAL BEHAVIOR

THE CATEGORIES ARE:

- 1 - FEEL STRONGLY WILL  
- DISCOURAGE CRIM
- 2 - FEEL LIKELY WILL  
- DISCOURAGE CRIM
- 3 - COULD GO EITHER WAY
- 4 - FEEL LIKELY WILL  
- PROMOTE CRIM BEHAV
- 5 - FEEL STRONGLY WILL  
- PROMOTE CRIM BEHAV

VALUE OR CODE ENTERED: -1

ITEM 22: INTERPERSONAL CONTACT, NON FAMILY MEM.

THE CATEGORIES ARE:

- 1 - FREQUENT
- 2 - OCCASIONAL
- 3 - NEVER/ALMOST NEVER
- 9 - UNKNOWN

VALUE OR CODE ENTERED: 1

ITEM 23: CRIMINAL RECORD OF ABOVE CONTACTS

THE CATEGORIES ARE:

- 0 - NONE OR NO MENTION
- 1 - ONE HAS CRIM RECORD
- 2 - MR TN 1 HAS CRIM REC

VALUE OR CODE ENTERED: 2

ITEM 24: CONTACT EFFECT ON EF. CRIM. BEHAVIOR

THE CATEGORIES ARE:

- 1 - FEEL STRONGLY WILL  
- DISCOURAGE CRIM
- 2 - FEEL LIKELY WILL  
- DISCOURAGE CRIM
- 3 - COULD GO EITHER WAY
- 4 - FEEL LIKELY WILL  
- PROMOTE CRIM BEHAV
- 5 - FEEL STRONGLY WILL  
- PROMOTE CRIM BEHAV

VALUE OR CODE ENTERED: 5

ITEM 25: CHURCH ATTENDANCE

THE CATEGORIES ARE:

- 0 - NONE/ALMOST NONE
- 1 - ATTENDS IRREGULARLY
- 2 - ATTENDS REGULARLY
- 9 - UNKNOWN

VALUE OR CODE ENTERED: 0

ITEM 26: ACTIVE INVOLVE. IN CHURCH ACTIVITIES

THE CATEGORIES ARE:

- 0 - NO/UNKNOWN
- 1 - YES

VALUE OR CODE ENTERED: 0

ITEM 27: INVOLV. IN SOCIAL/COMMUNITY GROUPS

THE CATEGORIES ARE:

- 0 - NO/UNKNOWN
- 1 - YES

VALUE OR CODE ENTERED: 0

ITEM 28: SOURCE OF ECONOMIC SUPPORT FOR DEPENDENT

THE CATEGORIES ARE:

- 1 - YES-SIG SUPP FOR 1+
- 2 - YES-SOME SUPP FOR 1+
- 3 - NO-NO MENTION
- 4 - NO SUPPORT THO POTEN  
- DEP MENTIONED

VALUE OR CODE ENTERED: 3

ITEM 29: SOURCE OF EMOTIONAL SUPPORT FOR DEPEND.

THE CATEGORIES ARE:

- 1 - YES-SIG SUPP FOR 1+
- 2 - YES-SOME SUPP FOR 1+
- 3 - NO-NO MENTION
- 4 - NO SUPPORT THO POTEN  
- DEP MENTIONED

VALUE OR CODE ENTERED: 3

ITEM 30: EVER UNDERGONE PSYCHIATRIC TREATMENT

THE CATEGORIES ARE:

- 0 - NO/UNKNOWN
- 1 - YES, IN-PATIENT
- 2 - YES, OUT-PATIENT

VALUE OR CODE ENTERED: 0

ITEM 31: MENTAL DEFECT LEAD TO CRIME

THE CATEGORIES ARE:

- 0 - NO/UNKNOWN
- 1 - YES

VALUE OR CODE ENTERED: 0

ITEM 32: PROBLEM DRINKER

THE CATEGORIES ARE:

- 0 - NO/UNKNOWN
- 1 - YES

VALUE OR CODE ENTERED: 0

ITEM 33: USE OF MARIJUANA OR HASHISH

THE CATEGORIES ARE:

- 0 - NONE OR UNKNOWN
- 1 - OCCASIONAL
- 2 - HEAVY USER/ADDICT

VALUE OR CODE ENTERED: 2

ITEM 34: USE OF STIMULANTS OR HALLUCINOGENS

THE CATEGORIES ARE:

- 0 - NONE OR UNKNOWN
- 1 - OCCASIONAL
- 2 - HEAVY USER/ADDICT

VALUE OR CODE ENTERED: 0

ITEM 35: USE OF SEDATIVES

THE CATEGORIES ARE:

- 0 - NONE OR UNKNOWN
- 1 - OCCASIONAL
- 2 - HEAVY USER/ADDICT

VALUE OR CODE ENTERED: 0

ITEM 36: USE OF OPIATES OR SYNTHETIC SUBSTITUTES

THE CATEGORIES ARE:

- 0 - NONE OR UNKNOWN
- 1 - OCCASIONAL
- 2 - HEAVY USER/ADDICT

VALUE OR CODE ENTERED: 1

ITEM 37: OVERALL PHYSICAL HEALTH

THE CATEGORIES ARE:

- 1 - POOR
- 2 - SATIS, GOOD, EXCELL
- 9 - UNKNOWN

VALUE OR CODE ENTERED: 2

ITEM 38: EMPLOYMENT HISTORY OVER PAST TWO YEARS

THE CATEGORIES ARE:

- 1 - STEADY EMPLOY/STUDENT
- 2 - REG EMPLOY/STUDENT W/  
- SOME UNEMPLOYMENT
- 3 - WORK HALF/UNEMPL HLF
- 4 - REG UNEMPL W/SOME  
- EMPLOYMENT OR SCHOOL
- 5 - STEADY UNEMPLOYMENT
- 9 - UNKNOWN

VALUE OR CODE ENTERED: 3

ITEM 39: EMPLOYMENT HISTORY OVER PAST MONTH

THE CATEGORIES ARE:

- 1 - STEADY EMPLOY/STUDENT
- 2 - REG EMPLOY/STUDENT W/  
- SOME UNEMPLOYMENT
- 3 - WORK HALF/UNEMPL HLF
- 4 - REG UNEMPL W/SOME  
- EMPLOYMENT OR SCHOOL
- 5 - STEADY UNEMPLOYMENT
- 9 - UNKNOWN

VALUE OR CODE ENTERED: 3

ITEM 40: EMPLOYMENT HISTORY AT TIME OF SENTENCING

THE CATEGORIES ARE:

- 1 - EMPLOY/SCHOOL F/T
- 2 - EMPLOY/SCHOOL P/T
- 3 - UNEMPL/MENTION OF  
- JOB IF RELEASED
- 4 - UNEMPL/NO MENTION  
- OF JOB IF RELEASED
- 9 - UNKNOWN

VALUE OR CODE ENTERED: 4

ITEM 41: PRIMARY MEANS OF SUBSISTENCE

THE CATEGORIES ARE:

- 1 - NO VIS. MEANS SUP.
- 2 - UNEMPLOY. COMP./WELFA
- 3 - RELATIVES/FRIENDS
- 4 - OWN EARNINGS

VALUE OR CODE ENTERED: 1

ITEM 42: SEX

THE CATEGORIES ARE:

- 1 - MALE
- 2 - FEMALE
- 3 - CORPORATION

VALUE OR CODE ENTERED: 1

ITEM 43: RACE

THE CATEGORIES ARE:

- 1 - WHITE
- 2 - BLACK
- 3 - AMERICAN INDIAN
- 4 - CHINESE
- 5 - JAPANESE
- 6 - OTHER
- 7 - CORPORATION OR FIRM
- 9 - UNKNOWN

VALUE OR CODE ENTERED: 1

ITEM 44: AGE

THE CATEGORIES ARE:

- ENTER #(99 IF UNKWN)

VALUE OR CODE ENTERED: 35

ITEM 45: MAX. POSSIBLE PRISON SENT. (TO TOP CHG.)

THE CATEGORIES ARE:

- ENTER #(99 IF UNKWN)

VALUE OR CODE ENTERED: 15

ITEM 46: PRIOR RECORD

THE CATEGORIES ARE:

- 0 - NO KNOWN PRIOR CONV.
- 1 - PRIOR CONV. RESULTING
  - IN PRBN ONLY OR
  - SUSP. SENT W/O PRBN
- 2 - PRIOR CONV. RESULTING
  - IN SENT OF 1 YR OR
  - LESS
- 3 - COMMITMENT UNDER
  - JUV DEL PROCEDURE
- 4 - PRIOR CONV RESULTING
  - IN CONFINEMENT OF
  - MORE THAN 1 YEAR
- 9 - UNKNOWN/UNREPORTED

VALUE OR CODE ENTERED: 2

ITEM 47: ROLE IN CONSPIRACY (IF ANY)

THE CATEGORIES ARE:

- 0 - NO CONSPIRACY
- 1 - PRIM. FIGURE-OTHS. SUB
- 2 - EQUAL DEGREE PART.
- 3 - SUBORDINATE POSITION

VALUE OR CODE ENTERED: 0

ITEM 48: CONVICTION BY TRIAL RATHER THAN PLEA

THE CATEGORIES ARE:

- 0 - NO
- 1 - YES

VALUE OR CODE ENTERED: 0

ITEM 49: AMOUNT STOLEN IN ACTUAL OFFENSE

THE CATEGORIES ARE:

- 0 - NO LOSS
- 1 - \$0 - \$500
- 2 - \$501 - \$1,000
- 3 - \$1,001 - \$5,000
- 4 - \$5,001 - \$10,000
- 5 - \$10,001 - \$30,000
- 6 - \$30,001 - \$50,000
- 7 - \$50,001 - \$100,000
- 8 - MORE THAN \$100,000
- 9 - UNKNOWN

VALUE OR CODE ENTERED: 5

ITEM 50: AMOUNT STOLEN IN CONVICTING OFFENSE

THE CATEGORIES ARE:

- 0 - NO LOSS
- 1 - \$0 - \$500
- 2 - \$501 - \$1,000
- 3 - \$1,001 - \$5,000
- 4 - \$5,001 - \$10,000
- 5 - \$10,001 - \$30,000
- 6 - \$30,001 - \$50,000
- 7 - \$50,001 - \$100,000
- 8 - MORE THAN \$100,000
- 9 - UNKNOWN

VALUE OR CODE ENTERED: 3

ITEM 51: DURATION OF THE OFFENSE

THE CATEGORIES ARE:

- 1 - LESS THAN WEEK
- 2 - GT.WK.-LE.MO.
- 3 - GT.MO.-LE.6 MO.
- 4 - GT.6 MO.-LE. YR.
- 5 - GT. ONE YEAR
- 6 - UNKNOWN

VALUE OR CODE ENTERED: 4

ITEM 52: NUMBER OF CODEFENDANTS

THE CATEGORIES ARE:

- ENTER #(99 IF UNKWN)

VALUE OR CODE ENTERED: 0

COMPUTED VALUES:

PROBABILITY OF INCARCERATION: 0.90

PREDICTED LENGTH OF TERM(UNIT): 21.99

PREDICTED LENGTH OF PROBATION(UNIT): 58.60

JUDGES HAVE HISTORICALLY IMPRISONED APPROXIMATELY 90 OF EVERY ONE HUNDRED OFFENDERS WHO HAVE COMMITTED SIMILAR CRIMES UNDER SIMILAR CIRCUMSTANCES.

THE AMOUNT OF TIME HISTORICALLY SERVED BY THESE OFFENDERS SUGGESTS A PRISON TERM BETWEEN 24 AND 20 MONTHS IN THIS INSTANCE.

IF PROBATION SEEMS WARRANTED, PAST PRACTICES SUGGEST A PROBATION TERM OF ABOUT 59 MONTHS.

1 OUTPUT FROM \*GUIDELINES PROGRAM\* -- 16-JUL-80

RUN IDENTIFIER: GOOD GUY

CATEGORY ENTERED IS 5-FORGERY

ITEM 1: LEVEL OF EDUCATION

THE CATEGORIES ARE:

- 1 - LESS THAN HS GRAD
- 2 - HS GRAD OR EQUIV
- 3 - SOME COLLEGE
- 4 - BA DEGREE OR HIGHER
- 5 - GRADUATE DEGREE
- 9 - UNKNOWN

VALUE OR CODE ENTERED: 2

ITEM 2: MARITAL STATUS

THE CATEGORIES ARE:

- 1 - SINGLE
- 2 - MARRIED
- 3 - WIDOW(ER)
- 4 - DIVORCED
- 5 - SEPARATED
- 6 - COMMON LAW
- 9 - UNKNOWN

VALUE OR CODE ENTERED: 2

ITEM 3: DETAINERS OR CHARGES PENDING

THE CATEGORIES ARE:

- 0 - NO/UNKNOWN
- 1 - YES

VALUE OR CODE ENTERED: 0

ITEM 4: NO. OF COUNTS IN CONVICT. OFFENSE

THE CATEGORIES ARE:

- ENTER #(99 IF UNKWN)

VALUE OR CODE ENTERED: 3

ITEM 5: HAS THE DEFENDANT USED AN ALIAS

THE CATEGORIES ARE:

- 0 - NO/UNKNOWN
- 1 - YES

VALUE OR CODE ENTERED: 0

ITEM 6: EVER HAD PROBATION OR PAROLE REVOKED

THE CATEGORIES ARE:

- 0 - NO/UNKNOWN
- 1 - YES

VALUE OR CODE ENTERED: 0

ITEM 7: AWAIT TRIAL OR WARR. FOR ARR. DUR. OFF.

THE CATEGORIES ARE:

- 0 - NO/UNKNOWN
- 1 - YES

VALUE OR CODE ENTERED: 0

ITEM 8: SERV. SENT. AT TIME OF OFFENSE

THE CATEGORIES ARE:

- 0 - NO/UNKNOWN
- 1 - YES

VALUE OR CODE ENTERED: 0

ITEM 9: SUPPLIED INFO. USED TO ARR./PROS OTHERS

THE CATEGORIES ARE:

- 0 - NO/UNKNOWN
- 1 - YES

VALUE OR CODE ENTERED: 0

ITEM 10: PARENTS/GUARD. DIFF. SUPP. NEC. OF LIFE

THE CATEGORIES ARE:

- 0 - NO
- 1 - YES
- 9 - UNKNOWN

VALUE OR CODE ENTERED: -1

ITEM 11: ABUSED, NEGLECTED, ABANDONED CHILD

THE CATEGORIES ARE:

- 0 - NO
- 1 - YES
- 9 - UNKNOWN

VALUE OR CODE ENTERED: -1

ITEM 12: OVERALL ACADEMIC PERFORMANCE

THE CATEGORIES ARE:

- 0 - POOR
- 1 - BELOW AVERAGE
- 2 - AVERAGE
- 3 - BETTER THAN AVERAGE
- 8 - NOT APPLICABLE
- 9 - UNKNOWN

VALUE OR CODE ENTERED: 2

ITEM 13: SOCIAL ADJUSTMENT IN SCHOOL

THE CATEGORIES ARE:

- 0 - POOR
- 1 - BELOW AVERAGE
- 2 - AVERAGE
- 3 - BETTER THAN AVERAGE
- 8 - NOT APPLICABLE
- 9 - UNKNOWN

VALUE OR CODE ENTERED: 2

ITEM 14: RAISED IN FAMILY ENVIRONMENT

THE CATEGORIES ARE:

- 0 - NO
- 1 - YES

VALUE OR CODE ENTERED: -1

ITEM 15: CRIM. RECORD OF ABOVE FAMILY MEMBERS

THE CATEGORIES ARE:

- 0 - NO MENTION OF ANY
- 1 - MENTION OF ONE
- 2 - MENTION OF MORE THAN 1

VALUE OR CODE ENTERED: -1

ITEM 16: PRESENT LIVING ARRANGEMENTS

THE CATEGORIES ARE:

- 1 - W/PARENT, GUARD, REL
- 2 - W/SPOUSE, CHILDREN
- 3 - W/PARAMOUR, CHILDREN
- 4 - W/OTHERS
- 5 - ALONE-FIXED ABODE
- 6 - ALONE-NO FIXED ABODE
- 7 - CORRECTIONAL INST
- 8 - IN MILITARY
- 9 - UNKNOWN

VALUE OR CODE ENTERED: 2

ITEM 17: CRIM. RECORD OF COHABITANTS

THE CATEGORIES ARE:

- 0 - NONE OR NO MENTION
- 1 - ONE HAS CRIM RECORD
- 2 - MORE THAN 1 HAS CRIM REC

VALUE OR CODE ENTERED: 0

ITEM 18: COHAB. EFFECTS ON DEF. CRIM. BEHAVIOR

THE CATEGORIES ARE:

- 1 - FEEL STRONGLY WILL  
- DISCOURAGE CRIM
- 2 - FEEL LIKELY WILL  
- DISCOURAGE CRIM
- 3 - COULD GO EITHER WAY
- 4 - FEEL LIKELY WILL  
- PROMOTE CRIM BEHAV
- 5 - FEEL STRONGLY WILL  
- PROMOTE CRIM BEHAV

VALUE OR CODE ENTERED: 2

ITEM 19: CONTACT WITH FAM. MEM.(OTHER THAN COHAB)

THE CATEGORIES ARE:

- 1 - FREQUENT
- 2 - OCCASIONAL
- 3 - NEVER/ALMOST NEVER
- 8 - NOT APPLICABLE
- 9 - UNKNOWN

VALUE OR CODE ENTERED: 2

ITEM 20: CRIM. RECORD OF ABOVE FAMILY MEMBERS

THE CATEGORIES ARE:

- 0 - NONE OR NO MENTION
- 1 - ONE HAS CRIM RECORD
- 2 - MR TN 1 HAS CRIM REC

VALUE OR CODE ENTERED: 0

ITEM 21: FAMILY EFFECT ON DEF. CRIMINAL BEHAVIOR

THE CATEGORIES ARE:

- 1 - FEEL STRONGLY WILL  
- DISCOURAGE CRIM
- 2 - FEEL LIKELY WILL  
- DISCOURAGE CRIM
- 3 - COULD GO EITHER WAY
- 4 - FEEL LIKELY WILL  
- PROMOTE CRIM BEHAV
- 5 - FEEL STRONGLY WILL  
- PROMOTE CRIM BEHAV

VALUE OR CODE ENTERED: 2

ITEM 22: INTERPERSONAL CONTACT, NON FAMILY MEM.

THE CATEGORIES ARE:

- 1 - FREQUENT
- 2 - OCCASIONAL
- 3 - NEVER/ALMOST NEVER
- 9 - UNKNOWN

VALUE OR CODE ENTERED: 1

ITEM 23: CRIMINAL RECORD OF ABOVE CONTACTS

THE CATEGORIES ARE:

- 0 - NONE OR NO MENTION
- 1 - ONE HAS CRIM RECORD
- 2 - MR TN 1 HAS CRIM REC

VALUE OR CODE ENTERED: 1

ITEM 24: CONTACT EFFECT ON EF. CRIM. BEHAVIOR

THE CATEGORIES ARE:

- 1 - FEEL STRONGLY WILL  
- DISCOURAGE CRIM
- 2 - FEEL LIKELY WILL  
- DISCOURAGE CRIM
- 3 - COULD GO EITHER WAY
- 4 - FEEL LIKELY WILL  
- PROMOTE CRIM BEHAV
- 5 - FEEL STRONGLY WILL  
- PROMOTE CRIM BEHAV

VALUE OR CODE ENTERED: 4

ITEM 25: CHURCH ATTENDANCE

THE CATEGORIES ARE:

- 0 - NONE/ALMOST NONE
- 1 - ATTENDS IRREGULARLY
- 2 - ATTENDS REGULARLY
- 9 - UNKNOWN

VALUE OR CODE ENTERED: 0

ITEM 26: ACTIVE INVOLVE. IN CHURCH ACTIVITIES

THE CATEGORIES ARE:

- 0 - NO/UNKNOWN
- 1 - YES

VALUE OR CODE ENTERED: 0

ITEM 27: INVOLV. IN SOCIAL/COMMUNITY GROUPS

THE CATEGORIES ARE:

- 0 - NO/UNKNOWN
- 1 - YES

VALUE OR CODE ENTERED: 0

ITEM 28: SOURCE OF ECONOMIC SUPPORT FOR DEPENDENT

THE CATEGORIES ARE:

- 1 - YES-SIG SUPP FOR 1+
- 2 - YES-SOME SUPP FOR 1+
- 3 - NO-NO MENTION
- 4 - NO SUPPORT THO POTEN  
- DEP MENTIONED

VALUE OR CODE ENTERED: 1

ITEM 29: SOURCE OF EMOTIONAL SUPPORT FOR DEPEND.

THE CATEGORIES ARE:

- 1 - YES-SIG SUPP FOR 1+
- 2 - YES-SOME SUPP FOR 1+
- 3 - NO-NO MENTION
- 4 - NO SUPPORT THO POTEN  
- DEP MENTIONED

VALUE OR CODE ENTERED: 1

ITEM 30: EVER UNDERGONE PSYCHIATRIC TREATMENT

THE CATEGORIES ARE:

- 0 - NO/UNKNOWN
- 1 - YES, IN-PATIENT
- 2 - YES, OUT-PATIENT

VALUE OR CODE ENTERED: 0

ITEM 31: MENTAL DEFECT LEAD TO CRIME

THE CATEGORIES ARE:

- 0 - NO/UNKNOWN
- 1 - YES

VALUE OR CODE ENTERED: 0

ITEM 32: PROBLEM DRINKER

THE CATEGORIES ARE:

- 0 - NO/UNKNOWN
- 1 - YES

VALUE OR CODE ENTERED: 0

ITEM 33: USE OF MARIJUANA OR HASHISH

THE CATEGORIES ARE:

- 0 - NONE OR UNKNOWN
- 1 - OCCASIONAL
- 2 - HEAVY USER/ADDICT

VALUE OR CODE ENTERED: 1

ITEM 34: USE OF STIMULANTS OR HALLUCINOGENS

THE CATEGORIES ARE:

- 0 - NONE OR UNKNOWN
- 1 - OCCASIONAL
- 2 - HEAVY USER/ADDICT

VALUE OR CODE ENTERED: 0

ITEM 35: USE OF SEDATIVES

THE CATEGORIES ARE:

- 0 - NONE OR UNKNOWN
- 1 - OCCASIONAL
- 2 - HEAVY USER/ADDICT

VALUE OR CODE ENTERED: 0

ITEM 36: USE OF OPIATES OR SYNTHETIC SUBSTITUTES

THE CATEGORIES ARE:

- 0 - NONE OR UNKNOWN
- 1 - OCCASIONAL
- 2 - HEAVY USER/ADDICT

VALUE OR CODE ENTERED: 0

ITEM 37: OVERALL PHYSICAL HEALTH

THE CATEGORIES ARE:

- 1 - POOR
- 2 - SATIS, GOOD, EXCELL
- 9 - UNKNOWN

VALUE OR CODE ENTERED: 2

ITEM 38: EMPLOYMENT HISTORY OVER PAST TWO YEARS

THE CATEGORIES ARE:

- 1 - STEADY EMPLOY/STUDENT
- 2 - REG EMPLOY/STUDENT W/  
- SOME UNEMPLOYMENT
- 3 - WORK HALF/UNEMPL HLF
- 4 - REG UNEMPL W/SOME  
- EMPLOYMENT OR SCHOOL
- 5 - STEADY UNEMPLOYMENT
- 9 - UNKNOWN

VALUE OR CODE ENTERED: 2

ITEM 39: EMPLOYMENT HISTORY OVER PAST MONTH

THE CATEGORIES ARE:

- 1 - STEADY EMPLOY/STUDENT
- 2 - REG EMPLOY/STUDENT W/  
- SOME UNEMPLOYMENT
- 3 - WORK HALF/UNEMPL HLF
- 4 - REG UNEMPL W/SOME  
- EMPLOYMENT OR SCHOOL
- 5 - STEADY UNEMPLOYMENT
- 9 - UNKNOWN

VALUE OR CODE ENTERED: 2

ITEM 40: EMPLOYMENT HISTORY AT TIME OF SENTENCING

THE CATEGORIES ARE:

- 1 - EMPLOY/SCHOOL F/T
- 2 - EMPLOY/SCHOOL P/T
- 3 - UNEMPL/MENTION OF  
- JOB IF RELEASED
- 4 - UNEMPL/NO MENTION  
- OF JOB IF RELEASED
- 9 - UNKNOWN

VALUE OR CODE ENTERED: 3

ITEM 41: PRIMARY MEANS OF SUBSISTENCE.

THE CATEGORIES ARE:

- 1 - NO VIS. MEANS SUP.
- 2 - UNEMPLOY. COMP./WELFA
- 3 - RELATIVES/FRIENDS
- 4 - OWN EARNINGS

VALUE OR CODE ENTERED: 4

ITEM 42: SEX

THE CATEGORIES ARE:

- 1 - MALE
- 2 - FEMALE
- 3 - CORPORATION

VALUE OR CODE ENTERED: 1

ITEM 43: RACE

THE CATEGORIES ARE:

- 1 - WHITE
- 2 - BLACK
- 3 - AMERICAN INDIAN
- 4 - CHINESE
- 5 - JAPANESE
- 6 - OTHER
- 7 - CORPORATION OR FIRM
- 9 - UNKNOWN

VALUE OR CODE ENTERED: 2

ITEM 44: AGE

THE CATEGORIES ARE:

- ENTER #(99 IF UNKWN)

VALUE OR CODE ENTERED: 33

ITEM 45: MAX. POSSIBLE PRISON SENT. (TO TOP CHG.)

THE CATEGORIES ARE:

- ENTER #(99 IF UNKWN)

VALUE OR CODE ENTERED: 5

ITEM 46: PRIOR RECORD

THE CATEGORIES ARE:

- 0 - NO KNOWN PRIOR CONV.
- 1 - PRIOR CONV. RESULTING
  - IN PRBN ONLY OR
  - SUSP. SENT W/O PRBN
- 2 - PRIOR CONV. RESULTING
  - IN SENT OF 1 YR OR
  - LESS
- 3 - COMMITMENT UNDER
  - JUV DEL PROCEDURE

- 4 - PRIOR CONV RESULTING
  - IN CONFINEMENT OF
  - MORE THAN 1 YEAR
- 9 - UNKNOWN/UNREPORTED

VALUE OR CODE ENTERED: 1

ITEM 47: ROLE IN CONSPIRACY (IF ANY)

THE CATEGORIES ARE:

- 0 - NO CONSPIRACY
- 1 - PRIM. FIGURE-OTHERS. SUB
- 2 - EQUAL DEGREE PART.
- 3 - SUBORDINATE POSITION

VALUE OR CODE ENTERED: 0

ITEM 48: CONVICTION BY TRIAL RATHER THAN PLEA

THE CATEGORIES ARE:

- 0 - NO
- 1 - YES

VALUE OR CODE ENTERED: 0

ITEM 49: AMOUNT STOLEN IN ACTUAL OFFENSE

THE CATEGORIES ARE:

- 0 - NO LOSS
- 1 - \$0 - \$500
- 2 - \$501 - \$1,000
- 3 - \$1,001 - \$5,000
- 4 - \$5,001 - \$10,000
- 5 - \$10,001 - \$30,000
- 6 - \$30,001 - \$50,000
- 7 - \$50,001 - \$100,000
- 8 - MORE THAN \$100,000
- 9 - UNKNOWN

VALUE OR CODE ENTERED: 3

ITEM 50: AMOUNT STOLEN IN CONVICTING OFFENSE

THE CATEGORIES ARE:

- 0 - NO LOSS
- 1 - \$0 - \$500
- 2 - \$501 - \$1,000
- 3 - \$1,001 - \$5,000
- 4 - \$5,001 - \$10,000
- 5 - \$10,001 - \$30,000
- 6 - \$30,001 - \$50,000
- 7 - \$50,001 - \$100,000
- 8 - MORE THAN \$100,000
- 9 - UNKNOWN

VALUE OR CODE ENTERED: 2

ITEM 51: DURATION OF THE OFFENSE

THE CATEGORIES ARE:

- 1 - LESS THAN WEEK
- 2 - GT.WK.-LE.MO.
- 3 - GT.MO.-LE.6 MO.
- 4 - GT.6 MO.-LE. YR.
- 5 - GT. ONE YEAR
- 6 - UNKNOWN

VALUE OR CODE ENTERED: 3

ITEM 52: NUMBER OF CODEFENDANTS

THE CATEGORIES ARE:

- ENTER #(99 IF UNKWN)

VALUE OR CODE ENTERED: 0

COMPUTED VALUES:

PROBABILITY OF INCARCERATION: 0.36

PREDICTED LENGTH OF TERM(UNIT): 3.56

PREDICTED LENGTH OF PROBATION(UNIT): 40.53

JUDGES HAVE HISTORICALLY IMPRISONED APPROXIMATELY 36  
OF EVERY ONE HUNDRED OFFENDERS WHO HAVE COMMITTED  
SIMILAR CRIMES UNDER SIMILAR CIRCUMSTANCES.

THE AMOUNT OF TIME HISTORICALLY SERVED BY THESE OFFENDERS  
SUGGESTS A PRISON TERM BETWEEN 4 AND 3 MONTHS  
IN THIS INSTANCE.

IF PROBATION SEEMS WARRANTED, PAST PRACTICES SUGGEST A PROBATION TERM OF ABOUT  
41 MONTHS.

Appendix A

FACTOR ANALYSES OF DEFENDANT CHARACTERISTICS

FACTOR ANALYSES OF DEFENDANT CHARACTERISTICS

The variables entering the factor analysis are provided, by offense category, in the tables that follow. The variables used in the factor analysis are described in Chapter III. Factor labels are indicated on the tables.

Note that a factor analysis was not conducted for two offense categories: postal embezzlement and bribery of public officials.

Table A.1  
SORTED ROTATED FACTOR LOADINGS (PATTERN)  
(BANK EMBEZZLEMENT)

|         |    | EMPLOY | MARITAL | CRI.<br>CON. | LEG.<br>SUPPORT | UPBRING | SOCIAL<br>ADJ. | COMMACT | MIXED  |
|---------|----|--------|---------|--------------|-----------------|---------|----------------|---------|--------|
| LASTMO  | 56 | 0.904  | 0.000   | 0.000        | 0.000           | 0.000   | 0.000          | 0.000   | 0.000  |
| TIMEOF  | 57 | 0.902  | 0.000   | 0.000        | 0.000           | 0.000   | 0.000          | 0.000   | 0.000  |
| PAST 2  | 55 | 0.621  | 0.000   | 0.000        | 0.000           | 0.000   | 0.000          | 0.000   | 0.000  |
| SUBSIST | 59 | 0.618  | 0.000   | 0.000        | 0.000           | 0.000   | 0.000          | 0.000   | 0.000  |
| EMSUP   | 43 | 0.000  | 0.946   | 0.000        | 0.000           | 0.000   | 0.000          | 0.000   | 0.000  |
| ECSUP   | 42 | 0.000  | 0.935   | 0.000        | 0.000           | 0.000   | 0.000          | 0.000   | 0.000  |
| MARITAL | 7  | 0.000  | -0.754  | 0.000        | 0.000           | 0.000   | 0.000          | 0.000   | 0.000  |
| FAMCRI  | 30 | 0.000  | 0.000   | 0.893        | 0.000           | 0.000   | 0.000          | 0.000   | 0.000  |
| FAMC    | 33 | 0.000  | 0.000   | 0.731        | 0.000           | 0.283   | 0.000          | 0.000   | 0.000  |
| FAMS    | 34 | 0.000  | 0.000   | 0.000        | 0.758           | 0.000   | 0.000          | 0.000   | 0.000  |
| COHABS  | 32 | 0.000  | 0.000   | 0.000        | 0.670           | -0.310  | 0.000          | 0.000   | 0.000  |
| INTERS  | 36 | 0.000  | 0.000   | 0.000        | 0.547           | 0.000   | 0.000          | 0.000   | 0.516  |
| NECES   | 26 | 0.000  | 0.000   | 0.000        | 0.000           | 0.751   | 0.000          | 0.000   | 0.000  |
| ABUSED  | 27 | 0.000  | 0.000   | 0.000        | 0.000           | 0.738   | 0.000          | 0.000   | 0.000  |
| SOCADJ  | 29 | 0.000  | 0.000   | 0.000        | 0.000           | 0.000   | 0.799          | 0.000   | 0.000  |
| ACAD    | 28 | 0.000  | 0.000   | 0.000        | 0.000           | 0.000   | 0.784          | 0.000   | 0.000  |
| SOCACT  | 41 | 0.000  | 0.000   | 0.000        | 0.000           | 0.000   | 0.000          | 0.795   | 0.000  |
| CHURCH  | 40 | 0.000  | 0.000   | 0.000        | 0.000           | 0.000   | 0.000          | 0.637   | 0.000  |
| INTERC  | 35 | 0.000  | 0.000   | 0.000        | 0.000           | 0.000   | 0.000          | 0.000   | 0.788  |
| COHABC  | 31 | 0.000  | 0.000   | 0.435        | -0.251          | -0.364  | 0.000          | 0.000   | 0.466  |
| EDUCATE | 6  | 0.000  | 0.000   | 0.000        | 0.000           | 0.000   | 0.383          | 0.380   | -0.319 |
| VP      |    | 2.504  | 2.419   | 1.601        | 1.588           | 1.584   | 1.543          | 1.342   | 1.297  |

The above factor loading matrix has been rearranged so that the columns appear in decreasing order of variance explained by factors. The rows have been rearranged so that for each successive factor, loadings greater than 0.5000 appear first. Loadings less than 0.2500 have been replaced by zero.

Table A.2  
SORTED ROTATED FACTOR LOADINGS (PATTERN)  
(INCOME TAX)

|         |    | EMPLOY | MARITAL | LEG.<br>SUPPORT | FAMILY | CHILD<br>ADJ. | FORM-<br>ATIVE | SOCIAL<br>ADJ. | MENTAL | HEALTH |
|---------|----|--------|---------|-----------------|--------|---------------|----------------|----------------|--------|--------|
| TIMEOF  | 57 | 0.940  | 0.000   | 0.000           | 0.000  | 0.000         | 0.000          | 0.000          | 0.000  | 0.000  |
| LASTMO  | 56 | 0.939  | 0.000   | 0.000           | 0.000  | 0.000         | 0.000          | 0.000          | 0.000  | 0.000  |
| PAST 2  | 55 | 0.856  | 0.000   | 0.000           | 0.000  | 0.000         | 0.000          | 0.000          | 0.000  | 0.000  |
| SUBSIST | 59 | -0.598 | 0.000   | 0.000           | 0.000  | 0.000         | 0.000          | 0.000          | 0.000  | 0.000  |
| EMSUP   | 43 | 0.000  | 0.915   | 0.000           | 0.000  | 0.000         | 0.000          | 0.000          | 0.000  | 0.000  |
| ECSUP   | 42 | 0.000  | 0.883   | 0.000           | 0.000  | 0.000         | 0.000          | 0.000          | 0.000  | 0.000  |
| MARITAL | 7  | 0.000  | -0.773  | 0.000           | 0.000  | 0.000         | 0.000          | 0.000          | 0.000  | 0.000  |
| INTERS  | 36 | 0.000  | 0.000   | 0.796           | 0.000  | 0.000         | 0.000          | 0.000          | 0.000  | 0.000  |
| INTERC  | 35 | 0.000  | 0.000   | 0.638           | 0.000  | 0.000         | 0.000          | 0.000          | 0.000  | 0.000  |
| FAMS    | 34 | 0.000  | 0.000   | 0.616           | 0.366  | 0.000         | 0.000          | 0.000          | 0.000  | 0.000  |
| COHABS  | 32 | 0.000  | 0.402   | 0.562           | 0.000  | 0.000         | 0.000          | 0.000          | 0.000  | 0.000  |
| FAMCRI  | 30 | 0.000  | 0.000   | 0.000           | 0.872  | 0.000         | 0.000          | 0.000          | 0.000  | 0.000  |
| FAMC    | 33 | 0.000  | 0.000   | 0.000           | 0.816  | 0.000         | 0.000          | 0.000          | 0.000  | 0.000  |
| ACAD    | 28 | 0.000  | 0.000   | 0.000           | 0.000  | 0.825         | 0.000          | 0.000          | 0.000  | 0.000  |
| SOCADJ  | 29 | 0.000  | 0.000   | 0.000           | 0.000  | 0.738         | -0.282         | 0.000          | 0.000  | 0.000  |
| NECES   | 26 | 0.000  | 0.000   | 0.000           | 0.000  | 0.000         | 0.786          | 0.000          | 0.000  | 0.000  |
| ABUSED  | 27 | 0.000  | 0.000   | 0.000           | 0.000  | 0.000         | 0.779          | 0.000          | 0.000  | 0.000  |
| COHABC  | 31 | 0.000  | 0.000   | 0.000           | 0.000  | 0.000         | 0.000          | -0.585         | 0.000  | 0.000  |
| SOCACT  | 41 | 0.000  | 0.000   | 0.000           | 0.000  | 0.000         | 0.000          | 0.551          | 0.000  | -0.269 |
| EDUCATE | 6  | 0.000  | 0.000   | 0.000           | 0.000  | 0.417         | 0.000          | 0.534          | 0.000  | 0.000  |
| DRINKER | 46 | 0.000  | 0.000   | 0.000           | 0.000  | 0.000         | 0.000          | 0.000          | 0.757  | 0.000  |
| PSYCHT  | 44 | 0.000  | 0.000   | 0.000           | 0.000  | 0.000         | 0.000          | 0.260          | 0.704  | 0.000  |
| HEALTH  | 53 | 0.000  | 0.000   | 0.000           | 0.000  | 0.000         | 0.000          | 0.000          | 0.000  | 0.721  |
| CHURCH  | 40 | 0.000  | 0.000   | 0.000           | 0.000  | 0.000         | 0.000          | 0.336          | 0.000  | -0.567 |
| VP      |    | 3.032  | 2.482   | 1.983           | 1.646  | 1.567         | 1.435          | 1.401          | 1.240  | 1.104  |

The above factor loading matrix has been rearranged so that the columns appear in decreasing order of variance explained by factors. The rows have been rearranged so that for each successive factor, loadings greater than 0.5000 appear first. Loadings less than 0.2500 have been replaced by zero.

Table A.3  
SORTED ROTATED FACTOR LOADINGS (PATTERN)  
(FORGERY)

|          | EMPLOY | MARITAL | DRUGS  | FAMILY | INTER-<br>ACT | SOCIAL<br>ADJ. | FORM-<br>ATIVE | MENTAL | COHABS | MIXED  |
|----------|--------|---------|--------|--------|---------------|----------------|----------------|--------|--------|--------|
| LASTMO   | 56     | 0.929   | 0.000  | 0.000  | 0.000         | 0.000          | 0.000          | 0.000  | 0.000  | 0.000  |
| TIMEOF   | 57     | 0.925   | 0.000  | 0.000  | 0.000         | 0.000          | 0.000          | 0.000  | 0.000  | 0.000  |
| PAST 2   | 55     | 0.785   | 0.000  | 0.000  | 0.000         | 0.000          | 0.000          | 0.000  | 0.000  | 0.000  |
| SUBSIST  | 59     | -0.747  | 0.000  | 0.000  | 0.000         | 0.000          | 0.000          | 0.000  | 0.000  | 0.000  |
| EMSUP    | 43     | 0.000   | 0.927  | 0.000  | 0.000         | 0.000          | 0.000          | 0.000  | 0.000  | 0.000  |
| ECSUP    | 42     | 0.000   | 0.912  | 0.000  | 0.000         | 0.000          | 0.000          | 0.000  | 0.000  | 0.000  |
| MARITAL  | 7      | 0.000   | -0.647 | 0.000  | 0.000         | 0.000          | 0.000          | 0.000  | 0.000  | 0.000  |
| STIMUL   | 49     | 0.000   | 0.000  | 0.741  | 0.000         | 0.000          | 0.000          | 0.000  | 0.000  | 0.000  |
| MARIJ    | 48     | 0.000   | 0.000  | 0.699  | 0.000         | 0.000          | 0.000          | 0.000  | 0.000  | 0.000  |
| SEDATIVE | 50     | 0.000   | 0.000  | 0.696  | 0.000         | 0.000          | 0.000          | 0.000  | 0.000  | 0.000  |
| OPIATES  | 51     | 0.000   | 0.000  | 0.567  | 0.000         | 0.000          | 0.000          | 0.000  | 0.000  | 0.000  |
| FAMC     | 33     | 0.000   | 0.000  | 0.000  | 0.854         | 0.000          | 0.000          | 0.000  | 0.000  | 0.000  |
| FAMCRI   | 30     | 0.000   | 0.000  | 0.000  | 0.790         | 0.000          | 0.000          | 0.000  | 0.000  | 0.000  |
| FAMS     | 34     | 0.000   | 0.000  | 0.000  | 0.569         | 0.000          | 0.271          | 0.000  | 0.000  | 0.000  |
| INTERC   | 35     | 0.000   | 0.000  | 0.000  | 0.000         | 0.873          | 0.000          | 0.000  | 0.000  | 0.000  |
| INTERS   | 36     | 0.000   | 0.000  | 0.000  | 0.000         | 0.867          | 0.000          | 0.000  | 0.000  | 0.000  |
| ACAD     | 28     | 0.000   | 0.000  | 0.000  | 0.000         | 0.000          | 0.821          | 0.000  | 0.000  | 0.000  |
| SOCADJ   | 29     | 0.000   | 0.000  | 0.000  | 0.000         | 0.000          | 0.798          | 0.000  | 0.000  | 0.000  |
| NECES    | 26     | 0.000   | 0.000  | 0.000  | 0.000         | 0.000          | 0.000          | 0.792  | 0.000  | 0.000  |
| ABUSED   | 27     | 0.000   | 0.000  | 0.000  | 0.000         | 0.000          | 0.000          | 0.775  | 0.000  | 0.000  |
| MENTAL   | 45     | 0.000   | 0.000  | 0.000  | 0.000         | 0.000          | 0.000          | 0.000  | 0.749  | 0.000  |
| PSYCHT   | 44     | 0.000   | 0.000  | 0.000  | 0.000         | 0.000          | 0.000          | 0.000  | 0.744  | 0.000  |
| COHABC   | 31     | 0.000   | 0.000  | 0.000  | 0.000         | 0.000          | 0.000          | 0.000  | 0.000  | 0.729  |
| COHABS   | 32     | 0.000   | 0.000  | 0.000  | 0.000         | 0.000          | 0.000          | 0.000  | 0.000  | 0.664  |
| DRINKER  | 46     | 0.000   | 0.000  | 0.000  | 0.000         | 0.000          | 0.000          | 0.000  | 0.000  | -0.661 |
| SOCACT   | 41     | 0.000   | 0.000  | 0.000  | 0.000         | 0.000          | 0.000          | 0.000  | -0.277 | 0.542  |
| EDUCATE  | 6      | 0.000   | 0.000  | 0.000  | 0.000         | 0.000          | 0.352          | 0.000  | 0.000  | 0.521  |
| CHURCH   | 40     | 0.000   | 0.000  | 0.000  | 0.000         | 0.000          | 0.000          | 0.000  | -0.358 | 0.000  |
| HEALTH   | 53     | 0.000   | 0.000  | 0.000  | 0.000         | 0.000          | 0.000          | 0.000  | 0.289  | 0.000  |
| VP       | 3.144  | 2.243   | 1.999  | 1.890  | 1.645         | 1.597          | 1.439          | 1.427  | 1.421  | 1.254  |

The above factor loading matrix has been rearranged so that the columns appear in decreasing order of variance explained by factors. The rows have been rearranged so that for each successive factor, loadings greater than 0.5000 appear first. Loadings less than 0.2500 have been replaced by zero.

Table A.4  
SORTED ROTATED FACTOR LOADINGS (PATTERN)  
(DRUGS)

|          | EMPLOY | MARITAL | FAMILY | SOCIAL<br>ADJ. | DRUGS | INTER-<br>ACT | FORM-<br>ATIVE | COHABS | MIXED 1 | DRINK | MIXED 2 |
|----------|--------|---------|--------|----------------|-------|---------------|----------------|--------|---------|-------|---------|
| LASTMO   | 56     | 0.919   | 0.000  | 0.000          | 0.000 | 0.000         | 0.000          | 0.000  | 0.000   | 0.000 | 0.000   |
| TIMEOF   | 57     | 0.899   | 0.000  | 0.000          | 0.000 | 0.000         | 0.000          | 0.000  | 0.000   | 0.000 | 0.000   |
| PAST 2   | 55     | 0.816   | 0.000  | 0.000          | 0.000 | 0.000         | 0.000          | 0.000  | 0.000   | 0.000 | 0.000   |
| SUBSIST  | 59     | -0.798  | 0.000  | 0.000          | 0.000 | 0.000         | 0.000          | 0.000  | 0.000   | 0.000 | 0.000   |
| EMSUP    | 43     | 0.000   | 0.936  | 0.000          | 0.000 | 0.000         | 0.000          | 0.000  | 0.000   | 0.000 | 0.000   |
| ECSUP    | 42     | 0.000   | 0.926  | 0.000          | 0.000 | 0.000         | 0.000          | 0.000  | 0.000   | 0.000 | 0.000   |
| MARITAL  | 7      | 0.000   | -0.784 | 0.000          | 0.000 | 0.000         | 0.000          | 0.000  | 0.000   | 0.000 | 0.000   |
| FAMC     | 33     | 0.000   | 0.000  | 0.838          | 0.000 | 0.000         | 0.000          | 0.000  | 0.000   | 0.000 | 0.000   |
| FAMCRI   | 30     | 0.000   | 0.000  | 0.794          | 0.000 | 0.000         | 0.000          | 0.000  | 0.000   | 0.000 | 0.000   |
| FAMS     | 34     | 0.000   | 0.000  | 0.557          | 0.000 | 0.000         | 0.000          | 0.000  | 0.000   | 0.288 | 0.000   |
| ACAD     | 28     | 0.000   | 0.000  | 0.000          | 0.806 | 0.000         | 0.000          | 0.000  | 0.000   | 0.000 | 0.000   |
| SOCADJ   | 29     | 0.000   | 0.000  | 0.000          | 0.772 | 0.000         | 0.000          | 0.000  | 0.000   | 0.000 | 0.000   |
| STIMUL   | 49     | 0.000   | 0.000  | 0.000          | 0.000 | 0.693         | 0.000          | 0.000  | 0.000   | 0.000 | 0.000   |
| MARIJ    | 48     | 0.000   | 0.000  | 0.000          | 0.000 | 0.674         | 0.000          | 0.000  | 0.000   | 0.000 | 0.000   |
| SEDATIVE | 50     | 0.000   | 0.000  | 0.000          | 0.000 | 0.522         | 0.000          | 0.000  | 0.000   | 0.000 | 0.000   |
| INTERC   | 35     | 0.000   | 0.000  | 0.000          | 0.000 | 0.000         | 0.861          | 0.000  | 0.000   | 0.000 | 0.000   |
| INTERS   | 36     | 0.000   | 0.000  | 0.000          | 0.000 | 0.000         | 0.825          | 0.000  | 0.000   | 0.000 | 0.000   |
| NECES    | 26     | 0.000   | 0.000  | 0.000          | 0.000 | 0.000         | 0.000          | 0.760  | 0.000   | 0.000 | 0.000   |
| ABUSED   | 27     | 0.000   | 0.000  | 0.000          | 0.000 | 0.000         | 0.000          | 0.750  | 0.000   | 0.000 | 0.000   |
| COHABC   | 31     | 0.000   | 0.000  | 0.000          | 0.000 | 0.000         | 0.000          | 0.000  | 0.837   | 0.000 | 0.000   |
| COHABS   | 32     | 0.000   | 0.000  | 0.000          | 0.000 | 0.000         | 0.000          | 0.000  | 0.725   | 0.000 | 0.000   |
| CHURCH   | 40     | 0.000   | 0.000  | 0.000          | 0.000 | 0.000         | 0.000          | 0.000  | 0.000   | 0.720 | 0.000   |
| SOCACT   | 41     | 0.000   | 0.000  | 0.000          | 0.000 | 0.000         | 0.000          | 0.000  | 0.000   | 0.551 | 0.000   |
| DRINKER  | 46     | 0.000   | 0.000  | 0.000          | 0.000 | 0.000         | 0.000          | 0.000  | 0.000   | 0.000 | 0.722   |
| HEALTH   | 53     | 0.000   | 0.000  | 0.000          | 0.000 | 0.000         | 0.000          | 0.000  | 0.000   | 0.000 | -0.574  |
| PSYCHT   | 44     | 0.000   | 0.000  | 0.000          | 0.000 | 0.000         | 0.000          | 0.000  | 0.000   | 0.000 | -0.345  |
| EDUCATE  | 6      | -0.298  | 0.000  | 0.000          | 0.454 | 0.000         | 0.000          | 0.000  | 0.000   | 0.000 | 0.762   |
| OPIATES  | 51     | 0.000   | 0.000  | 0.000          | 0.000 | 0.377         | 0.000          | 0.260  | 0.000   | 0.381 | 0.000   |
| MENTAL   | 45     | 0.000   | 0.000  | 0.000          | 0.000 | 0.000         | 0.000          | 0.000  | 0.000   | 0.367 | -0.265  |
| VP       | 3.248  | 2.531   | 1.831  | 1.609          | 1.582 | 1.566         | 1.425          | 1.419  | 1.207   | 1.190 | 1.167   |

The above factor loading matrix has been rearranged so that the columns appear in decreasing order of variance explained by factors. The rows have been rearranged so that for each successive factor, loadings greater than 0.5000 appear first. Loadings less than 0.2500 have been replaced by zero.

Table A.5  
SORTED ROTATED FACTOR LOADINGS (PATTERN)  
(MAIL FRAUD)

|          | EMPLOY | MARITAL | DRUGS  | FAMILY SUPPORT | SOCIAL ADJ. | INTER-ACT | MENTAL | COHABS | MIXED  | FORM-ATIVE |
|----------|--------|---------|--------|----------------|-------------|-----------|--------|--------|--------|------------|
| TIMEOF   | 57     | 0.911   | 0.000  | 0.000          | 0.000       | 0.000     | 0.000  | 0.000  | 0.000  | 0.000      |
| LASTMO   | 56     | 0.908   | 0.000  | 0.000          | 0.000       | 0.000     | 0.000  | 0.000  | 0.000  | 0.000      |
| PAST 2   | 55     | 0.775   | 0.000  | 0.000          | 0.000       | 0.000     | 0.000  | 0.000  | 0.000  | 0.000      |
| SUBSIST  | 59     | -0.681  | 0.000  | 0.000          | 0.000       | 0.000     | 0.000  | 0.000  | 0.000  | 0.000      |
| EMSUP    | 43     | 0.000   | 0.906  | 0.000          | 0.000       | 0.000     | 0.000  | 0.000  | 0.000  | 0.000      |
| ECSUP    | 42     | 0.000   | 0.889  | 0.000          | 0.000       | 0.000     | 0.000  | 0.000  | 0.000  | 0.000      |
| MARITAL  | 7      | 0.000   | -0.775 | 0.000          | 0.000       | 0.000     | 0.000  | 0.000  | 0.000  | 0.000      |
| STIMUL   | 49     | 0.000   | 0.000  | 0.850          | 0.000       | 0.000     | 0.000  | 0.000  | 0.000  | 0.000      |
| MARIJ    | 48     | 0.000   | 0.000  | 0.761          | 0.000       | 0.000     | 0.000  | 0.000  | 0.000  | 0.000      |
| SEDATIVE | 50     | 0.000   | 0.000  | 0.697          | 0.000       | 0.000     | 0.000  | 0.000  | 0.000  | 0.000      |
| OPIATES  | 51     | 0.000   | 0.000  | 0.588          | 0.000       | 0.000     | 0.000  | 0.000  | 0.000  | 0.000      |
| FAMC     | 33     | 0.000   | 0.000  | 0.000          | 0.849       | 0.000     | 0.000  | 0.000  | 0.000  | 0.000      |
| FAMCRI   | 30     | 0.000   | 0.000  | 0.000          | 0.788       | 0.000     | 0.000  | 0.000  | 0.000  | 0.000      |
| FAMS     | 34     | 0.000   | 0.000  | 0.000          | 0.647       | 0.000     | 0.000  | 0.000  | 0.000  | 0.000      |
| SOCADJ   | 29     | 0.000   | 0.000  | 0.000          | 0.809       | 0.000     | 0.000  | 0.000  | 0.000  | 0.000      |
| ACAD     | 28     | 0.000   | 0.000  | 0.000          | 0.782       | 0.000     | 0.000  | 0.000  | 0.000  | 0.000      |
| INTERC   | 35     | 0.000   | 0.000  | 0.000          | 0.000       | 0.878     | 0.000  | 0.000  | 0.000  | 0.000      |
| INTERS   | 36     | 0.000   | 0.000  | 0.000          | 0.000       | 0.852     | 0.000  | 0.000  | 0.000  | 0.000      |
| PSYCHT   | 44     | 0.000   | 0.000  | 0.000          | 0.000       | 0.000     | 0.738  | 0.000  | 0.000  | 0.000      |
| MENTAL   | 45     | 0.000   | 0.000  | 0.000          | 0.000       | -0.266    | 0.709  | 0.000  | 0.000  | 0.000      |
| COHABC   | 31     | 0.000   | 0.000  | 0.000          | 0.000       | 0.000     | 0.000  | 0.798  | 0.000  | 0.000      |
| COHABS   | 32     | 0.000   | 0.257  | 0.000          | 0.000       | 0.000     | 0.000  | 0.664  | -0.275 | 0.000      |
| SOCACT   | 41     | 0.000   | 0.000  | 0.000          | 0.000       | 0.000     | 0.000  | 0.000  | 0.724  | 0.000      |
| NECES    | 26     | 0.000   | 0.000  | 0.000          | 0.000       | 0.000     | 0.000  | 0.000  | 0.000  | 0.798      |
| ABUSED   | 27     | 0.000   | 0.000  | 0.000          | 0.000       | 0.000     | 0.000  | 0.000  | 0.000  | 0.672      |
| CHURCH   | 40     | 0.000   | 0.000  | 0.000          | 0.000       | 0.000     | 0.000  | 0.000  | 0.493  | 0.000      |
| DRINKER  | 46     | 0.000   | 0.000  | 0.000          | 0.000       | 0.000     | 0.000  | 0.439  | 0.000  | 0.000      |
| EDUCATE  | 6      | 0.000   | 0.000  | 0.000          | 0.000       | 0.441     | 0.000  | 0.000  | 0.451  | 0.000      |
| HEALTH   | 53     | 0.000   | 0.000  | 0.000          | 0.000       | 0.000     | -0.414 | 0.000  | 0.423  | 0.000      |
| VP       | 3.036  | 2.537   | 2.306  | 1.937          | 1.743       | 1.575     | 1.539  | 1.472  | 1.410  | 1.309      |

The above factor loading matrix has been rearranged so that the columns appear in decreasing order of variance explained by factors. The rows have been rearranged so that for each successive factor, loadings greater than 0.5000 appear first. Loadings less than 0.2500 have been replaced by zero.

Table A.6  
SORTED ROTATED FACTOR LOADINGS (PATTERN)  
(BANK ROBBERY)

|          | EMPLOY | MARITAL | FAMILY | SOCIAL ADJ. | DRUGS | INTER-ACT | MENTAL | FORM-ATIVE | COHABS | HEALTH |
|----------|--------|---------|--------|-------------|-------|-----------|--------|------------|--------|--------|
| LASTMO   | 56     | 0.909   | 0.000  | 0.000       | 0.000 | 0.000     | 0.000  | 0.000      | 0.000  | 0.315  |
| TIMEOF   | 57     | 0.889   | 0.000  | 0.000       | 0.000 | 0.000     | 0.000  | 0.000      | 0.000  | 0.075  |
| PAST2    | 55     | 0.767   | 0.000  | 0.000       | 0.000 | 0.000     | 0.000  | 0.000      | 0.000  | -0.038 |
| SUBSIST  | 59     | -0.723  | 0.000  | 0.000       | 0.000 | 0.000     | 0.000  | 0.000      | 0.000  | -0.007 |
| EMSUP    | 43     | 0.000   | 0.873  | 0.000       | 0.000 | 0.000     | 0.000  | 0.000      | 0.000  | 0.100  |
| ECSUP    | 42     | 0.000   | 0.816  | 0.000       | 0.000 | 0.000     | 0.000  | 0.000      | 0.000  | -0.154 |
| MARITAL  | 7      | 0.000   | -0.699 | 0.000       | 0.000 | 0.000     | 0.000  | 0.000      | 0.000  | 0.075  |
| FAMC     | 33     | 0.000   | 0.000  | 0.856       | 0.000 | 0.000     | 0.000  | 0.000      | 0.000  | 0.140  |
| FAMCRI   | 30     | 0.000   | 0.000  | 0.800       | 0.000 | 0.000     | 0.000  | 0.000      | 0.000  | -0.239 |
| FAMS     | 34     | 0.000   | 0.000  | 0.535       | 0.000 | 0.000     | 0.000  | 0.000      | 0.000  | -0.004 |
| ACAD     | 28     | 0.000   | 0.000  | 0.000       | 0.790 | 0.000     | 0.000  | 0.000      | 0.000  | -0.269 |
| SCCADJ   | 29     | 0.000   | 0.000  | 0.000       | 0.785 | 0.000     | 0.000  | 0.000      | 0.000  | -0.031 |
| EDUCATE  | 6      | 0.000   | 0.000  | 0.000       | 0.555 | 0.000     | 0.000  | 0.000      | 0.000  | -0.059 |
| STIMUL   | 49     | 0.000   | 0.000  | 0.000       | 0.000 | 0.751     | 0.000  | 0.000      | 0.000  | 0.189  |
| MARIJ    | 48     | 0.000   | 0.000  | 0.000       | 0.000 | 0.651     | 0.000  | 0.000      | 0.000  | 0.688  |
| SEDATIVE | 50     | 0.000   | 0.000  | 0.000       | 0.000 | 0.633     | 0.000  | 0.000      | 0.000  | -0.032 |
| INTERS   | 36     | 0.000   | 0.000  | 0.000       | 0.000 | 0.000     | 0.872  | 0.000      | 0.000  | -0.031 |
| INTERC   | 35     | 0.000   | 0.000  | 0.000       | 0.000 | 0.000     | 0.860  | 0.000      | 0.000  | 0.114  |
| MENTAL   | 45     | 0.000   | 0.000  | 0.000       | 0.000 | 0.000     | 0.000  | 0.735      | 0.000  | 0.039  |
| PSYCHT   | 44     | 0.000   | 0.000  | 0.000       | 0.000 | 0.000     | 0.000  | 0.677      | 0.000  | -0.397 |
| ABUSED   | 27     | 0.000   | 0.000  | 0.000       | 0.000 | 0.000     | 0.000  | 0.000      | 0.794  | -0.162 |
| NECES    | 26     | 0.000   | 0.000  | 0.000       | 0.000 | 0.000     | 0.000  | 0.000      | 0.762  | 0.118  |
| COHABC   | 31     | 0.000   | 0.000  | 0.000       | 0.000 | 0.000     | 0.000  | 0.000      | 0.824  | -0.168 |
| COHABS   | 32     | 0.000   | 0.000  | 0.000       | 0.000 | 0.000     | 0.000  | 0.000      | 0.696  | 0.249  |
| HEALTH   | 53     | 0.000   | 0.000  | 0.000       | 0.000 | 0.000     | 0.000  | 0.000      | 0.000  | 0.750  |
| CHURCH   | 40     | 0.000   | 0.000  | 0.000       | 0.000 | 0.000     | 0.000  | 0.000      | 0.000  | -0.670 |
| SOCACT   | 41     | 0.000   | 0.000  | 0.000       | 0.000 | 0.000     | 0.000  | 0.000      | 0.000  | -0.020 |
| OPIATES  | 51     | 0.315   | 0.000  | 0.000       | 0.000 | 0.412     | 0.000  | 0.000      | 0.000  | -0.024 |
| DRINKER  | 46     | 0.000   | 0.000  | 0.000       | 0.000 | 0.000     | 0.000  | 0.440      | 0.000  | -0.021 |
| VP       | 3.042  | 2.188   | 1.796  | 1.731       | 1.671 | 1.665     | 1.430  | 1.382      | 1.372  | 1.191  |

The above factor loading matrix has been rearranged so that the columns appear in decreasing order of variance explained by factors. The rows have been rearranged so that for each successive factor, loadings greater than 0.5000 appear first. Loadings less than 0.2500 have been replaced by zero.

Table A.7  
SORTED ROTATED FACTOR LOADINGS (PATTERN)  
(HOMICIDE)

|          |    | EMPLOY | MARITAL | INTERACT | DRUGS | FAMILY | SOCIAL<br>ADJ. | CHILD<br>ADJ. | COHABS | MENTAL | MIXED 1 | MIXED 2 |
|----------|----|--------|---------|----------|-------|--------|----------------|---------------|--------|--------|---------|---------|
| LASTMO   | 56 | 0.896  | 0.000   | 0.000    | 0.000 | 0.000  | 0.000          | 0.000         | 0.000  | 0.000  | 0.000   | 0.000   |
| TIMEOF   | 57 | 0.871  | 0.000   | 0.000    | 0.000 | 0.000  | 0.000          | 0.000         | 0.000  | 0.000  | 0.000   | 0.000   |
| PAST2    | 55 | 0.800  | 0.000   | 0.000    | 0.000 | 0.000  | 0.000          | 0.000         | 0.000  | 0.000  | 0.000   | 0.000   |
| SUBSIST  | 59 | -0.697 | 0.000   | -0.296   | 0.000 | 0.000  | 0.000          | 0.000         | -0.254 | 0.000  | 0.000   | 0.000   |
| EMSUP    | 43 | 0.000  | 0.931   | 0.000    | 0.000 | 0.000  | 0.000          | 0.000         | 0.000  | 0.000  | 0.000   | 0.000   |
| ECSUP    | 42 | 0.000  | 0.930   | 0.000    | 0.000 | 0.000  | 0.000          | 0.000         | 0.000  | 0.000  | 0.000   | 0.000   |
| MARITAL  | 7  | 0.000  | -0.804  | 0.000    | 0.000 | 0.000  | 0.000          | 0.000         | 0.000  | 0.000  | 0.000   | 0.000   |
| INTERC   | 35 | 0.000  | 0.000   | 0.827    | 0.000 | 0.000  | 0.000          | 0.000         | 0.000  | 0.000  | 0.000   | 0.000   |
| INTERS   | 36 | 0.000  | 0.000   | 0.783    | 0.000 | 0.000  | 0.000          | 0.000         | 0.000  | 0.000  | 0.000   | 0.000   |
| STIMUL   | 49 | 0.000  | 0.000   | 0.000    | 0.802 | 0.000  | 0.000          | 0.000         | 0.000  | 0.000  | 0.000   | 0.000   |
| MARIJ    | 48 | 0.000  | 0.000   | 0.000    | 0.764 | 0.000  | 0.000          | 0.000         | 0.000  | 0.000  | 0.000   | 0.000   |
| SEDATIVE | 50 | 0.000  | 0.000   | 0.000    | 0.658 | 0.000  | 0.000          | 0.000         | 0.000  | 0.000  | 0.000   | 0.000   |
| FAMC     | 33 | 0.000  | 0.000   | 0.000    | 0.000 | 0.827  | 0.000          | 0.000         | 0.000  | 0.000  | 0.000   | 0.000   |
| FAMCRI   | 30 | 0.000  | 0.000   | 0.000    | 0.000 | 0.771  | 0.000          | 0.000         | 0.260  | 0.000  | 0.000   | 0.000   |
| ACAD     | 28 | 0.000  | 0.000   | 0.000    | 0.000 | 0.000  | 0.860          | 0.000         | 0.000  | 0.000  | 0.000   | 0.000   |
| SOCADJ   | 29 | 0.000  | 0.000   | 0.000    | 0.000 | 0.000  | 0.806          | 0.000         | 0.000  | 0.000  | 0.000   | 0.000   |
| NECES    | 26 | 0.000  | 0.000   | 0.000    | 0.000 | 0.000  | 0.000          | 0.770         | 0.000  | 0.000  | 0.000   | 0.000   |
| ABUSED   | 27 | 0.000  | 0.000   | 0.000    | 0.000 | 0.000  | 0.000          | 0.740         | 0.000  | 0.000  | 0.000   | 0.000   |
| COHABC   | 31 | 0.000  | 0.000   | 0.000    | 0.000 | 0.361  | 0.000          | 0.000         | 0.728  | 0.000  | 0.000   | 0.000   |
| OPIATES  | 51 | 0.000  | 0.000   | 0.000    | 0.295 | 0.000  | 0.000          | 0.000         | 0.654  | 0.000  | 0.000   | 0.000   |
| MENTAL   | 45 | 0.000  | 0.000   | 0.000    | 0.000 | 0.000  | 0.000          | 0.000         | 0.000  | 0.764  | 0.000   | 0.000   |
| PSYCHT   | 44 | 0.000  | 0.000   | 0.274    | 0.000 | 0.000  | 0.000          | 0.000         | 0.000  | 0.682  | 0.000   | 0.000   |
| SOCACT   | 41 | 0.000  | 0.000   | 0.000    | 0.000 | 0.000  | 0.000          | 0.000         | 0.000  | 0.000  | -0.643  | 0.000   |
| COHABS   | 32 | 0.000  | 0.000   | 0.000    | 0.000 | 0.000  | 0.000          | 0.000         | 0.415  | 0.000  | 0.589   | 0.000   |
| CHURCH   | 40 | 0.000  | 0.000   | 0.000    | 0.000 | 0.000  | 0.000          | 0.000         | 0.000  | 0.597  | 0.000   | 0.726   |
| HEALTH   | 53 | 0.000  | 0.000   | 0.000    | 0.000 | 0.000  | 0.000          | -0.360        | 0.263  | 0.000  | -0.269  | -0.544  |
| EDUCATE  | 6  | 0.000  | 0.000   | 0.000    | 0.000 | 0.000  | 0.292          | 0.000         | 0.000  | 0.000  | 0.000   | 0.482   |
| FAMS     | 34 | 0.000  | 0.000   | 0.000    | 0.000 | 0.000  | 0.000          | 0.345         | 0.000  | 0.000  | 0.456   | 0.000   |
| DRINKER  | 46 | 0.000  | 0.000   | -0.425   | 0.000 | 0.000  | 0.000          | 0.000         | -0.338 | 0.413  | 0.000   | 0.000   |
| VP       |    | 2.984  | 2.519   | 1.888    | 1.872 | 1.582  | 1.573          | 1.534         | 1.506  | 1.383  | 1.341   | 1.188   |

The above factor loading matrix has been rearranged so that the columns appear in decreasing order of variance explained by factors. The rows have been rearranged so that for each successive factor, loadings greater than 0.5000 appear first. Loadings less than 0.2500 have been replaced by zero.

Table A.8  
SORTED ROTATED FACTOR LOADINGS (PATTERN)  
(FALSE CLAIMS)

|         |    | EMPLOY | MARITAL | SUPPORT | SOCIAL<br>ADJ. | FAMILY | FORMA-<br>TIVE | INTER. | MIXED |
|---------|----|--------|---------|---------|----------------|--------|----------------|--------|-------|
| LASTMO  | 56 | 0.940  | 0.000   | 0.000   | 0.000          | 0.000  | 0.000          | 0.000  | 0.000 |
| TIMEOF  | 57 | 0.928  | 0.000   | 0.000   | 0.000          | 0.000  | 0.000          | 0.000  | 0.000 |
| PAST2   | 55 | 0.843  | 0.000   | 0.000   | 0.000          | 0.000  | 0.000          | 0.000  | 0.000 |
| SUBSIST | 59 | -0.745 | 0.000   | 0.000   | 0.000          | 0.000  | 0.000          | 0.000  | 0.000 |
| EMSUP   | 43 | 0.000  | 0.934   | 0.000   | 0.000          | 0.000  | 0.000          | 0.000  | 0.000 |
| ECSUP   | 42 | 0.000  | 0.919   | 0.000   | 0.000          | 0.000  | 0.000          | 0.000  | 0.000 |
| MARITAL | 7  | 0.000  | -0.718  | 0.000   | 0.000          | 0.000  | 0.000          | 0.000  | 0.000 |
| FAMS    | 34 | 0.000  | 0.000   | 0.747   | 0.000          | 0.000  | 0.004          | 0.000  | 0.000 |
| COHABS  | 32 | 0.000  | 0.000   | 0.740   | 0.000          | 0.000  | 0.000          | 0.000  | 0.000 |
| INTERS  | 36 | 0.000  | 0.000   | 0.616   | 0.000          | 0.000  | 0.000          | 0.578  | 0.000 |
| ACAD    | 28 | 0.000  | 0.000   | 0.000   | 0.822          | 0.000  | 0.000          | 0.000  | 0.000 |
| SOCADJ  | 29 | 0.000  | 0.000   | 0.000   | 0.816          | 0.000  | 0.000          | 0.000  | 0.000 |
| FAMCRI  | 30 | 0.000  | 0.000   | 0.000   | 0.000          | 0.835  | 0.000          | 0.000  | 0.000 |
| FAMC    | 33 | 0.000  | 0.000   | 0.000   | 0.000          | 0.827  | 0.000          | 0.000  | 0.000 |
| NECES   | 26 | 0.000  | 0.000   | 0.000   | 0.000          | 0.000  | 0.772          | 0.000  | 0.000 |
| ABUSED  | 27 | 0.000  | 0.000   | 0.000   | 0.000          | 0.000  | 0.671          | 0.000  | 0.000 |
| INTERC  | 35 | 0.000  | 0.000   | 0.000   | 0.000          | 0.000  | 0.000          | 0.819  | 0.000 |
| COHABC  | 31 | 0.000  | 0.000   | 0.292   | 0.000          | 0.000  | 0.000          | 0.000  | 0.709 |
| CHURCH  | 40 | 0.000  | 0.000   | 0.000   | 0.000          | 0.000  | 0.000          | 0.000  | 0.588 |
| EDUCATE | 6  | -0.280 | 0.000   | 0.000   | 0.489          | 0.000  | -0.375         | 0.000  | 0.000 |
| SOCACT  | 41 | 0.000  | 0.000   | -0.372  | 0.000          | 0.000  | 0.000          | 0.368  | 0.355 |
| VP      |    | 3.190  | 2.386   | 1.847   | 1.756          | 1.464  | 1.372          | 1.274  | 1.090 |

The above factor loading matrix has been rearranged so that the columns appear in decreasing order of variance explained by factors. The rows have been rearranged so that for each successive factor, loadings greater than 0.5000 appear first. Loadings less than 0.2500 have been replaced by zero.

Table A.8  
 SORTED ROTATED FACTOR LOADINGS (PATTERN)  
 (RANDOM OTHER)

|          | EMPLOY | MARITAL | DRUGS  | INTER-<br>ACT | SOCIAL<br>ADJ. | FAMILY | MENTAL | FORMA-<br>TIVE | MIXED | COHABS |
|----------|--------|---------|--------|---------------|----------------|--------|--------|----------------|-------|--------|
| LASTMO   | 56     | 0.908   | 0.000  | 0.000         | 0.000          | 0.000  | 0.000  | 0.000          | 0.000 | 0.000  |
| TIMEOF   | 57     | 0.898   | 0.000  | 0.000         | 0.000          | 0.000  | 0.000  | 0.000          | 0.000 | 0.000  |
| PAST2    | 55     | 0.798   | 0.000  | 0.000         | 0.000          | 0.000  | 0.000  | 0.000          | 0.000 | 0.000  |
| SUBSIST  | 59     | -0.732  | 0.000  | 0.000         | 0.000          | 0.000  | 0.000  | 0.000          | 0.000 | 0.000  |
| EMSUP    | 43     | 0.000   | 0.909  | 0.000         | 0.000          | 0.000  | 0.000  | 0.000          | 0.000 | 0.000  |
| ECSUP    | 42     | 0.000   | 0.885  | 0.000         | 0.000          | 0.000  | 0.000  | 0.000          | 0.000 | 0.000  |
| MARITAL  | 7      | 0.000   | -0.774 | 0.000         | 0.000          | 0.000  | 0.000  | 0.000          | 0.000 | 0.000  |
| STIMUL   | 49     | 0.000   | 0.000  | 0.828         | 0.000          | 0.000  | 0.000  | 0.000          | 0.000 | 0.000  |
| MARIJ    | 48     | 0.000   | 0.000  | 0.751         | 0.000          | 0.000  | 0.000  | 0.000          | 0.000 | 0.000  |
| INTERC   | 35     | 0.000   | 0.000  | 0.000         | 0.883          | 0.000  | 0.000  | 0.000          | 0.000 | 0.000  |
| INTERS   | 36     | 0.000   | 0.000  | 0.000         | 0.878          | 0.000  | 0.000  | 0.000          | 0.000 | 0.000  |
| ACAD     | 28     | 0.000   | 0.000  | 0.000         | 0.000          | 0.861  | 0.000  | 0.000          | 0.000 | 0.000  |
| SOCADJ   | 29     | 0.000   | 0.000  | 0.000         | 0.000          | 0.838  | 0.000  | 0.000          | 0.000 | 0.000  |
| FAMC     | 33     | 0.000   | 0.000  | 0.000         | 0.000          | 0.000  | 0.860  | 0.000          | 0.000 | 0.000  |
| FAMCRI   | 30     | 0.000   | 0.000  | 0.000         | 0.000          | 0.000  | 0.830  | 0.000          | 0.000 | 0.000  |
| MENTAL   | 45     | 0.000   | 0.000  | 0.000         | 0.000          | 0.000  | 0.000  | 0.716          | 0.000 | 0.000  |
| PSYCHT   | 44     | 0.000   | 0.000  | 0.000         | 0.000          | 0.000  | 0.000  | 0.715          | 0.000 | 0.000  |
| ABUSED   | 27     | 0.000   | 0.000  | 0.000         | 0.000          | 0.000  | 0.000  | 0.000          | 0.751 | 0.000  |
| NECES    | 26     | 0.000   | 0.000  | 0.000         | 0.000          | 0.000  | 0.000  | 0.000          | 0.647 | 0.000  |
| SOCACT   | 41     | 0.000   | 0.000  | 0.000         | 0.000          | 0.000  | 0.000  | 0.000          | 0.000 | 0.705  |
| CHURCH   | 40     | 0.000   | 0.000  | 0.000         | 0.000          | 0.000  | 0.000  | 0.000          | 0.000 | 0.597  |
| COHABC   | 31     | 0.000   | 0.000  | 0.000         | 0.000          | 0.000  | 0.000  | 0.000          | 0.000 | 0.052  |
| COHABS   | 32     | 0.000   | 0.000  | 0.000         | 0.000          | 0.000  | 0.000  | 0.000          | 0.000 | 0.666  |
| OPIATES  | 51     | 0.379   | 0.000  | 0.455         | 0.000          | 0.000  | 0.000  | 0.000          | 0.000 | 0.000  |
| HEALTH   | 53     | 0.000   | 0.000  | 0.000         | 0.000          | 0.000  | 0.000  | 0.000          | 0.000 | 0.000  |
| FAMS     | 34     | 0.000   | 0.000  | 0.000         | 0.000          | 0.000  | 0.374  | 0.000          | 0.263 | 0.000  |
| EDUCATE  | 6      | 0.000   | 0.000  | 0.000         | 0.000          | 0.277  | 0.000  | 0.000          | 0.356 | 0.000  |
| DRINKER  | 46     | 0.000   | 0.000  | 0.000         | 0.000          | 0.000  | 0.000  | 0.422          | 0.353 | 0.487  |
| SEDATIVE | 50     | 0.000   | 0.000  | 0.486         | 0.000          | 0.000  | 0.000  | 0.422          | 0.000 | -0.321 |
| VP       | 3.228  | 2.549   | 1.812  | 1.669         | 1.660          | 1.639  | 1.512  | 1.440          | 1.398 | 1.989  |

Appendix B  
 REGRESSION RESULTS

The above factor loading matrix has been rearranged so that the columns appear in decreasing order of variance explained by factors. The rows have been rearranged so that for each successive factor, loadings greater than 0.5000 appear first. Loadings less than 0.2500 have been replaced by zero.

## REGRESSION RESULTS

The conclusions drawn in Chapters V through XV are based on regression results on the following: (1) the probability of a prison sentence; (2) the length of incarceration if sentenced to prison; (3) the expected length of incarceration; and (4) the length of probation for offenders sentenced to probation. The first two regressions correspond to the in/out model. The third regression corresponds to the expected length of incarceration model. The fourth regression, on the length of probation, corresponds to both models.

In the series "a" tables that follow, we provide (by offense category) a list of the variables used in the regression equations. (The variables entering the factor analysis for each offense category were identified in Appendix A.) Other variables not appearing in the series "a" tables, as well as other structural models, were also fitted, and the results suggested that this group of variables was appropriate for our purposes.

The general form of the structural models used in the regression analysis was described in Chapter II. In the series "b" tables that follow, we provide the regression results (by offense category). The first column lists the variables entering the regressions. The second and third columns provide the regression results from estimating the probability of a prison sentence; column two pertains to the OLS fit and column three to the probit fit. Columns four and five summarize the

regression results on the length of time served. Column four pertains to the OLS fit used in model one. Column five similarly corresponds to the tobit fit used in model two. The final column reports the regression results on the length of probation for persons sentenced to probation.

We were able test for sentencing disparity across districts for five offenses: bank embezzlement, income tax forgery, drugs, and bank robbery. To do so, we used a parsimonious specification that retained the variables found to be most important in the sentencing decision.

For bank embezzlement, three districts had sufficient observations to allow a Chow test of differences in the structural models across the districts. Using the OLS model, the F statistic was significant at .01. Using the tobit model, chi-square was statistically significant at .01.

For income tax and bank robbery, three districts had sufficient observations to allow a Chow test of differences in the structural models across the districts. Using the OLS model, the F statistic was significant at .01. Using the probit model and tobit model, the chi-square was statistically significant at .01.

For drugs, five districts had sufficient observations to allow an F test of differences in the structural models across the districts. Using the OLS model, the F statistic was not significant at .01. And using the tobit model, the chi-square was not statistically significant at .01.

Finally, for forgery, we must caution that the parsimonious model used may not be adequate to represent the complexity of sentencing forgers. To the extent that our model is misspecified because of omitted variables, this misspecification may make it more likely that we will attribute spurious interpretations to differences uncovered across districts.

The variables included in the model are the following. In order to capture the magnitude of the offense, we have retained the variables MIDDLE AMOUNT, HIGH AMOUNT, and DOLLAR ACT. In order to control for the offender's criminal record, we used the variables PRIOR LONG, PRIOR SHORT, ANY REVOCATIONS, and SERVE SENT./WARR. Two processing variables--TRIAL and MOST SEVERE MAX--were used. Only one personal characteristic variable was retained, the offender's sex.

Tests for interdistrict differences were run across five districts. Those districts, and the number of observations in each, were: New York (95), New Jersey (93), California (83), Ohio (109), and Florida (111).

We first tested for interdistrict differences in the imposition of a prison term. In order to conduct this test, we used a F-test, basing the regressions on ordinary least squares. The test did not reveal a statistically significant difference across districts using a critical value of .01.

Findings were similar for a test conducted on the expected length of time served. Using the tobit model, the chi-square test was based on maximum likelihood ratios. The tests did not reveal statistically significant differences across districts, using an .01 critical value.

At least for the sentences administered to forgers, district court judges seem to agree about the factors that should be taken into account when imposing sentence, as well as about the weight given to each factor.

Five districts had sufficient observations to allow a Chow test of differences in the structural models across the districts. Using the OLS model, the F statistic was not significant at .01. Using the tobit model, the chi-square was not statistically significant at .01.

Table B.1.a. VARIABLES ENTERING THE SENTENCING EQUATION,  
BANK EMBEZZLEMENT

| Variables       | Descriptions  |
|-----------------|---|
| DETAINER        | Indicates that offender had detainers pending at the time of his conviction.  |
| COUNTS          | Logarithm of the number of counts in the convicting offense.  |
| SUPPLIED INFO.  | Indicates that offender supplied information leading to the arrest and prosecution of others.                               |
| OFFICIAL        | Indicates that offender was a bank official.  |
| EMPLOYEE        | Indicates that offender was a bank employee.  |
| PRINCIPAL       | Indicates that offender organized the conspiracy.   |
| SHARED          | Indicates that offender was equally culpable with compatriots in committing the embezzlement.                               |
| PERIPHERAL      | Indicates that offender played a peripheral role in the embezzlement conspiracy.  |
| DURATION        | The logarithm of the number of months that the offender was involved in the conspiracy.                                     |
| BETWEEN 1-10K   | Indicates that offender stole between \$1,000 and \$10,000.   |
| BETWEEN 10-100K | Indicates that offender stole between \$10,000 and \$100,000.   |
| MORE THAN 100K  | Indicates that offender stole more than \$100,000.  |
| TRIAL           | Indicates that offender was convicted by trial.   |
| RECORD          | Indicates that offender had previously been convicted.  |
| MALE            | Indicates that offender was male.   |
| ACTUAL          | Indicates that offender stole more than the dollar loss associated with the convicting offense.                             |
| WHITE           | Indicates that offender was white.  |
| AGE             | Offender's age in years.  |
| EMPLOY          | A factor score reflecting offender's employment history.  |
| MARITAL         | A factor score reflecting offender's marital ties.  |
| CRI. CON.       | A factor score reflecting the extent to which offender is known to associate with other criminals.                          |
| LEG. SUPPORT    | A factor score reflecting the extent to which offender receives support from others toward leading a legitimate life-style. |
| UPBRING         | A factor score reflecting the extent to which offender's family abused him or had difficulties supplying the necessities.   |
| SOCIAL ADJ.     | A factor score reflecting the extent to which offender had difficulties adjusting during his school years.                  |
| COMMACT         | A factor score reflecting offender's social activities.   |
| MIXED           | A factor score of no specific nomenclature.   |

Table B.1.b. REGRESSION RESULTS ON SENTENCES, BANK EMBEZZLEMENT

| Variables<br>Used in the<br>Regression | Probability of Prison |                | Prison Length   |                  | Probation<br>Length |
|--|-----------------------|----------------|-----------------|------------------|---------------------|
|  | OLS                   | PROBIT         | OLS             | TOBIT            | OLS                 |
| CONSTANT                               | .201                  | -3.35<br>(.67) | 11.247          | -26.09<br>(5.31) | 26.18               |
| DETAINER                               | .033<br>(.077)        | .14<br>(.38)   | 5.25<br>(2.81)  | 3.47<br>(2.79)   | 4.24<br>(4.08)      |
| COUNTS                                 | .053<br>(.036)        | .25<br>(.19)   | 2.28<br>(1.08)  | 2.29<br>(1.20)   | 4.19<br>(2.20)      |
| SUPPLIED INFO.                         | -.039<br>(.072)       | -.07<br>(.36)  | 2.41<br>(3.20)  | .21<br>(2.87)    | -3.96<br>(3.44)     |
| OFFICIAL                               | .015<br>(.075)        | .12<br>(.42)   | -3.43<br>(3.16) | -.44<br>(2.94)   | -4.45<br>(3.67)     |
| EMPLOYEE                               | .104<br>(.075)        | .49<br>(.43)   | -5.90<br>(3.59) | 1.27<br>(3.20)   | -2.72<br>(3.46)     |
| PRINCIPAL                              | .048<br>(.075)        | .18<br>(.40)   | .83<br>(2.76)   | 1.07<br>(2.69)   | 4.05<br>(3.96)      |
| SHARED                                 | -.053<br>(.067)       | -.35<br>(.34)  | 1.21<br>(3.03)  | -1.18<br>(2.66)  | 3.65<br>(3.24)      |
| PERIPHERAL                             | -.017<br>(.088)       | -.18<br>(.48)  | -3.98<br>(4.57) | -2.44<br>(3.85)  | -.50<br>(3.89)      |
| DURATION                               | .015<br>(.009)        | .10<br>(.05)   | -.32<br>(.48)   | .46<br>(.41)     | .55<br>(.41)        |
| BETWEEN 1-10K                          | .136<br>(.044)        | .98<br>(.28)   | 3.36<br>(3.14)  | 10.61<br>(2.40)  | 9.27<br>(1.93)      |
| BETWEEN<br>10-100K                     | .431<br>(.062)        | 1.96<br>(.34)  | 4.86<br>(3.53)  | 19.22<br>(2.88)  | 17.77<br>(3.14)     |
| MORE THAN 100K                         | .737<br>(.100)        | 3.01<br>(.54)  | 13.51<br>(4.44) | 32.53<br>(4.05)  | 17.35<br>(10.50)    |
| TRIAL                                  | .081<br>(.091)        | .46<br>(.45)   | -1.15<br>(2.71) | 1.26<br>(3.04)   | 10.32<br>(5.73)     |
| RECORD                                 | .209<br>(.055)        | .94<br>(.27)   | .80<br>(2.09)   | 6.76<br>(2.03)   | -.83<br>(2.88)      |
| MALE                                   | .178<br>(.043)        | .94<br>(.22)   | -.82<br>(2.16)  | 6.87<br>(1.84)   | .30<br>(2.00)       |
| ACTUAL                                 | .081<br>(.045)        | .51<br>(.25)   | 4.17<br>(2.41)  | 6.11<br>(2.11)   | 5.22<br>(1.98)      |
| WHITE                                  | -.042<br>(.042)       | -.20<br>(.23)  | -.21<br>(2.23)  | -2.08<br>(1.91)  | .14<br>(1.86)       |
| AGE                                    | .002<br>(.002)        | .01<br>(.01)   | -.16<br>(.10)   | .01<br>(.09)     | .03<br>(.11)        |
| EMPLOY                                 | .029<br>(.017)        | .12<br>(.09)   | .65<br>(.80)    | .99<br>(.72)     | .72<br>(.80)        |
| MARITAL                                | .003<br>(.019)        | .00<br>(.10)   | -2.08<br>(.90)  | -.72<br>(.83)    | -.53<br>(.87)       |
| CRI. CON.                              | -.034<br>(.017)       | -.22<br>(.12)  | -.31<br>(1.12)  | -1.78<br>(.96)   | -.21<br>(.72)       |
| LEG. SUPPORT                           | .013<br>(.018)        | .07<br>(.09)   | .48<br>(.81)    | 1.14<br>(.74)    | -.29<br>(.82)       |

Table B.1.b. REGRESSION RESULTS, BANK EMBEZZLEMENT (continued)

| Variables<br>Used in the<br>Regression | Probability of Prison |               | Prison Length |               | Probation<br>Length |
|--|-----------------------|---------------|---------------|---------------|---------------------|
|  | OLS                   | PROBIT        | OLS           | TOBIT         | OLS                 |
| UPBRING                                | .002                  | .01           | -.46          | .07           | 1.15                |
| SOCIAL ADJ.                            | .005<br>(.017)        | .04<br>(.09)  | -.59<br>(.78) | .61<br>(.72)  | .55<br>(.78)        |
| COMMACT                                | -.018<br>(.018)       | -.09<br>(.09) | .26<br>(.78)  | -.57<br>(.72) | -.64<br>(.84)       |
| MIXED                                  | .005<br>(.012)        | .03<br>(.11)  | 2.11<br>(.96) | .85<br>(.83)  | .63<br>(.97)        |
| NO. OF<br>OBSERVATIONS                 | 433                   | 433           | 101           | 433           | 357                 |
| R SQUARE                               | .39                   | .60           | .59           |               | .25                 |
| CHI-SQUARE                             |                       | 185           |               | 902           |                     |
| SIGMA                                  |                       |               |               | 9.53          |                     |

Note: Standard errors are reported in parentheses below the regression coefficients to which they pertain.

B.2.a. VARIABLES ENTERING THE SENTENCING EQUATION,  
INCOME TAX

| Variables    | Descriptions  |
|--------------|---|
| COUNTS       | Logarithm of the number of counts in the convicting offense.  |
| YACT         | Logarithm of the number of years that the offender was involved in the actual offense.  |
| OWED ACT.    | Indicates that the offender owed more taxes than were reflected in the convicting offense.                                      |
| ILLEGAL      | Indicates that the offender received a majority of his income through illicit activities.                                       |
| CONCEAL      | Indicates that the offender took special precautions to conceal his offense.  |
| TRIAL        | Indicates that the offender was convicted by trial.   |
| PRIOR CONV.  | Indicates that the offender was convicted of a prior offense that resulted in either a term of probation or a prison term.      |
| MID. AMT.    | Indicates that the offender failed to report between \$4,000 and \$48,000 in taxes.   |
| HI. AMT.     | Indicates that the offender failed to report in excess of \$48,000 in taxes.  |
| MALE         | Indicates that the offender is a male.  |
| MOST SEVERE  | The maximum number of years that could be sentenced for the most serious charge included among the convicting offenses.         |
| WHITE        | Indicates that the offender was not a member of a minority.   |
| AGE          | A transformation of the offender's age in years equal to years squared divided by 100.  |
| EMPLOY       | A factor score reflecting the offender's employment stability.  |
| MARITAL      | A factor score reflecting the offender's marital ties.  |
| LEG. SUPPORT | A factor score reflecting the extent to which the offender was judged to receive support in leading a life-style free of crime. |
| FAMILY       | A factor score indicating the extent to which other members of the offender's family engaged in crime.                          |
| CHILD ADJ.   | A factor score reflecting the offender's social and academic adjustment during his earlier years.                               |
| FORM. YEARS  | A factor score reflecting whether the offender was abused during his formative years.   |
| SOCIAL       | A factor score reflecting certain social activities.  |
| MENTAL       | A factor score indicating psychic health and alcoholism.  |
| HEALTH       | A factor score reflecting the offender's overall health.  |

Table B.2.b. REGRESSION RESULTS ON SENTENCES, INCOME TAX

| Variables Used in the Regression | Probability of Prison |                   | Prison Length     |                 | Probation Length |
|----------------------------------|-----------------------|-------------------|-------------------|-----------------|------------------|
|                                  | OLS                   | PROBIT            | OLS               | TOBIT           | OLS              |
| CONSTANT                         | -0.140                | 2.49<br>(0.59)    | -3.500            | -19.09<br>3.63  | .16              |
| COUNTS                           | 0.040<br>(0.046)      | 0.186<br>(0.150)  | 1.971<br>(0.841)  | 2.02<br>(0.88)  | -3.53<br>(2.46)  |
| YACT                             | 0.135<br>(0.041)      | 0.464<br>(0.136)  | 0.621<br>(0.839)  | 2.55<br>(0.83)  | 4.24<br>(2.06)   |
| OWED ACT.                        | 0.015<br>(0.026)      | 0.063<br>(0.081)  | 0.998<br>(0.522)  | 0.88<br>(0.51)  | 0.32<br>(1.26)   |
| ILLEGAL                          | 0.056<br>(0.075)      | 0.183<br>(0.227)  | 2.846<br>(1.197)  | 2.77<br>(1.32)  | -0.84<br>(4.56)  |
| CONCEAL                          | 0.055<br>(0.054)      | 0.123<br>(0.172)  | 0.954<br>(0.986)  | 1.15<br>(1.03)  | -1.95<br>(2.87)  |
| TRIAL                            | 0.301<br>(0.078)      | 0.911<br>(0.244)  | 2.191<br>(1.312)  | 5.78<br>(1.40)  | 3.17<br>(5.08)   |
| PRIOR CONV.                      | 0.053<br>(0.051)      | 0.193<br>(0.156)  | 2.124<br>(0.919)  | 2.28<br>(0.95)  | 3.31<br>(2.80)   |
| MID. AMT.                        | 0.080<br>(0.056)      | 0.202<br>(0.179)  | 0.922<br>(1.206)  | 2.02<br>(1.15)  | 2.86<br>(2.63)   |
| HI. AMT.                         | 0.216<br>(0.094)      | 0.645<br>(0.296)  | 3.474<br>(1.687)  | 5.64<br>(1.77)  | 3.46<br>(5.42)   |
| MALE                             | 0.348<br>(0.092)      | 1.575<br>(0.440)  | 2.047<br>(3.947)  | 10.08<br>(2.88) | -0.85<br>(3.95)  |
| MOST SEVERE<br>MAX.              | 0.013<br>(0.013)      | 0.047<br>(0.040)  | 0.789<br>(0.214)  | 0.74<br>(0.24)  | 0.35<br>(0.71)   |
| WHITE                            | -0.046<br>(0.081)     | -0.153<br>(0.261) | 0.453<br>(1.426)  | -0.41<br>(1.52) | 3.35<br>(4.46)   |
| AGE                              | -0.005<br>(0.003)     | -0.015<br>(0.008) | -0.065<br>(0.050) | -0.13<br>(0.05) | -0.17<br>(0.12)  |
| EMPLOY                           | 0.057<br>(0.023)      | 0.170<br>(0.075)  | 0.625<br>(0.408)  | 1.27<br>(0.44)  | 0.65<br>(1.30)   |
| MARITAL                          | 0.024<br>(0.023)      | 0.064<br>(0.072)  | -0.106<br>(0.434) | 0.34<br>(0.44)  | 1.38<br>(1.21)   |
| LEG. SUPPORT                     | 0.056<br>(0.023)      | 0.159<br>(0.074)  | -0.278<br>(0.414) | 0.65<br>(0.44)  | 0.32<br>(1.29)   |
| FAMILY                           | 0.029<br>(0.021)      | 0.083<br>(0.064)  | 0.009<br>(0.301)  | 0.43<br>(0.35)  | 1.13<br>(1.48)   |
| CHILD ADJ.                       | -0.033<br>(0.023)     | -0.079<br>(0.068) | 0.060<br>(0.368)  | -0.36<br>(0.40) | -0.06<br>(1.40)  |
| FORM. YEARS                      | 0.017<br>(0.022)      | 0.058<br>(0.068)  | 0.296<br>(0.377)  | 0.38<br>(0.40)  | -0.51<br>(1.15)  |
| SOCIAL                           | 0.023<br>(0.023)      | 0.064<br>(0.074)  | -0.099<br>(0.467) | 0.34<br>(0.45)  | -1.83<br>(1.11)  |

Table B.2.b. REGRESSION RESULTS ON SENTENCES, INCOME TAX (continued)

| Variables<br>Used in the<br>Regression | Probability of Prison |                   | Prison Length    |                 | Probation<br>Length |
|--|-----------------------|-------------------|------------------|-----------------|---------------------|
|  | OLS                   | PROBIT            | OLS              | TOBIT           | OLS                 |
| MENTAL                                 | 0.006<br>(0.022)      | 0.038<br>(0.067)  | 0.773<br>(0.456) | 0.50<br>(0.43)  | -0.39<br>(1.08)     |
| HEALTH                                 | -0.016<br>(0.023)     | -0.046<br>(0.075) | 0.570<br>(0.439) | -0.07<br>(0.45) | 0.48<br>(1.18)      |
| NO. OF<br>OBSERVATIONS                 | 422                   | 422               | 168              | 422             | 249                 |
| R SQUARE                               | .23                   | .38               | .37              |                 | .08                 |
| CHI-SQUARE                             |                       | 108               |                  | 683             |                     |

Note: Standard errors are reported in parentheses below the regression coefficients to which they pertain.

B.3.a. VARIABLES ENTERING THE SENTENCING EQUATION,  
FORGERY

| Variables          | Descriptions   |
|--------------------|--|
| COUNTS             | The logarithm of the number of counts in the convicting offense.   |
| ANY REVOCATIONS    | Indicates whether the offender ever had probation of parole revoked.   |
| SERVE SENT./WARR.  | Indicates whether the offender was serving a sentence, or had a warrant outstanding, at the time he committed the instant offense.                                     |
| SUPPLIED INFO.     | Indicates that the offender supplied information leading to the arrest or prosecution of others.   |
| PRINCIPAL          | Indicates that the offender organized and ran a conspiracy to commit forgery.  |
| TRIAL              | Indicates that the offender was convicted by trail rather than by guilty plea.   |
| PREVIOUS PROBATION | Indicates that the offender previously served a criminal sentence of probation.  |
| PREVIOUS SHORT     | Indicates that the offender previously served a prison term of less than one year.   |
| PREVIOUS LONG      | Indicates that the offender previously served a prison term of greater than one year.  |
| MID. AMT.          | Indicates that the offender was convicted of an offense causing a dollar loss between \$1,000 and \$10,000.  |
| HI. AMT.           | Indicates that the offender was convicted of an offense causing a dollar loss in excess of \$10,000.   |
| MALE               | Indicates that the offender was a male.  |
| CODEFEND           | The number of codefendants prosecuted as part of this forgery scheme.  |
| DURATION           | The duration of the offense in months.   |
| DOLLAR ACT.        | Indicates that the dollar loss resulting from the offender's actual offense was in excess of the dollar amount resulting from the offense with which he was convicted. |
| MOST SEVERE MAX.   | The maximum number of years that the offender could receive for the top charge with which he was convicted.  |
| EMPLOY             | A factor score reflecting the offender's employment history.   |
| MARITAL            | A factor score reflecting the offender's marital ties.   |
| DRUGS              | A factor score reflecting the offender's use of illegal drugs.   |
| FAMILY             | A factor score indicating the criminal background in the offender's family.  |
| INTERACT           | A factor score reflecting the criminal background of persons with whom the offender regularly interacts.   |

B.3.a. VARIABLES ENTERING THE SENTENCING EQUATION,  
FORGERY (continued)

| Variables   | Descriptions   |
|-------------|--|
| SOCIAL ADJ. | A factor score reflecting the offender's social adjustment.                                      |
| FORMATIVE   | A factor score reflecting aspects of the offender's formative years.                             |
| MENTAL      | A factor score reflecting the offender's mental health.  |
| COHABS      | A factor score reflecting the criminal background of persons with whom the offender cohabitates. |
| MIXED       | A factor score associated with several different background variables.                           |

Table B.3.b. REGRESSION RESULTS ON SENTENCES, FORGERY

| Variables Used in the Regression | Probability of Prison |         | Prison Length |        | Probation Length |
|----------------------------------|-----------------------|---------|---------------|--------|------------------|
|                                  | OLS                   | PROBIT  | OLS           | TOBIT  | OLS              |
| CONSTANT                         | -0.026                | -1.794  | 1.981         | -27.68 | 27.87            |
|                                  |                       | (0.279) |               | (3.39) |                  |
| COUNTS                           | 0.037                 | 0.109   | 2.600         | 1.83   | -2.00            |
|                                  | (0.042)               | (0.144) | (1.162)       | (1.69) | (1.79)           |
| ANY REVOCATIONS                  | 0.161                 | 0.524   | 1.692         | 6.84   | 1.64             |
|                                  | (0.045)               | (0.149) | (1.124)       | (1.73) | (2.30)           |
| SERVE SENT./ WARR.               | 0.105                 | 0.351   | 1.918         | 3.96   | 1.27             |
|                                  | (0.042)               | (0.140) | (1.140)       | (1.61) | (1.97)           |
| SUPPLIED INFO.                   | -0.064                | -0.221  | -1.775        | -4.25  | 2.11             |
|                                  | (0.046)               | (0.160) | (1.340)       | (1.93) | (1.78)           |
| PRINCIPAL TRIAL                  | 0.002                 | -0.008  | -0.043        | 0.09   | -2.21            |
|                                  | (0.055)               | (0.193) | (1.344)       | (2.13) | (2.72)           |
| PREVIOUS PROBATION               | 0.205                 | 0.686   | 0.200         | 7.39   | 0.89             |
|                                  | (0.078)               | (0.272) | (1.931)       | (3.02) | (3.98)           |
| PREVIOUS SHORT                   | 0.131                 | 0.453   | -0.856        | 4.69   | 2.79             |
|                                  | (0.053)               | (0.186) | (1.873)       | (2.40) | (1.85)           |
| PREVIOUS LONG                    | 0.140                 | 0.440   | 2.388         | 8.33   | 1.77             |
|                                  | (0.059)               | (0.202) | (1.876)       | (2.52) | (2.29)           |
| MID. AMT.                        | 0.296                 | 0.988   | 4.302         | 2.94   | 10.54            |
|                                  | (0.062)               | (0.214) | (1.879)       | (2.85) | (2.73)           |
| HI. AMT.                         | 0.116                 | 0.409   | 2.908         | 6.49   | 9.03             |
|                                  | (0.065)               | (0.196) | (1.467)       | (2.22) | (2.40)           |
| MALE                             | 0.173                 | 0.655   | 3.935         | 8.31   | 4.34             |
|                                  | (0.089)               | (0.327) | (2.138)       | (3.44) | (4.47)           |
| CODEFEND                         | 0.112                 | 0.391   | 3.584         | 6.33   | -0.44            |
|                                  | (0.044)               | (0.150) | (1.301)       | (1.87) | (1.66)           |
| DURATION                         | -0.001                | 0.037   | 1.149         | 1.21   | -2.63            |
|                                  | (0.035)               | (0.122) | (0.957)       | (1.42) | (1.48)           |
| DOLLAR ACT.                      | 0.015                 | 0.043   | 0.485         | 0.67   | 0.61             |
|                                  | (0.014)               | (0.048) | (0.391)       | (0.57) | (0.59)           |
| MOST SEVERE MAX.                 | 0.119                 | 0.404   | 2.929         | 6.52   | 6.48             |
|                                  | (0.045)               | (0.155) | (1.232)       | (1.82) | (1.91)           |
| EMPLOY                           | 0.013                 | 0.048   | 0.289         | 0.84   | 0.55             |
|                                  | (0.006)               | (0.021) | (0.153)       | (0.25) | (0.19)           |
| MARITAL                          | 0.099                 | 0.326   | 1.442         | 4.05   | 1.05             |
|                                  | (0.019)               | (0.065) | (0.534)       | (0.78) | (0.79)           |
| DRUGS                            | 0.003                 | 0.018   | -0.084        | 0.30   | -0.32            |
|                                  | (0.018)               | (0.063) | (0.526)       | (0.76) | (0.68)           |
| FAMILY                           | 0.026                 | 0.088   | 1.218         | 1.47   | 1.79             |
|                                  | (0.019)               | (0.067) | (0.444)       | (0.71) | (0.93)           |
|                                  | 0.043                 | 0.142   | 0.969         | 1.96   | -0.12            |
|                                  | (0.018)               | (0.060) | (0.455)       | (0.69) | (0.80)           |

Table B.3.b. REGRESSION RESULTS ON SENTENCES, FORGERY (continued)

| Variables Used in the Regression | Probability of Prison |                   | Prison Length     |                 | Probation Length |
|----------------------------------|-----------------------|-------------------|-------------------|-----------------|------------------|
|                                  | OLS                   | PROBIT            | OLS               | TOBIT           | OLS              |
| INTERACT                         | 0.017<br>(0.019)      | 0.044<br>(0.066)  | 0.197<br>(0.513)  | 0.66<br>(0.77)  | 2.41<br>(0.85)   |
| SOCIAL ADJ.                      | -0.012<br>(0.018)     | -0.20<br>(0.062)  | -0.332<br>(0.472) | -0.59<br>(0.72) | -1.25<br>(0.78)  |
| FORMATIVE                        | 0.015<br>(0.018)      | 0.053<br>(0.062)  | 1.005<br>(0.467)  | 1.03<br>(0.72)  | 1.23<br>(0.75)   |
| MENTAL                           | -0.020<br>(0.018)     | -0.079<br>(0.064) | 0.012<br>(0.492)  | -0.58<br>(0.74) | 0.39<br>(0.73)   |
| COHABS                           | 0.011<br>(0.017)      | 0.026<br>(0.058)  | 1.627<br>(0.495)  | 1.23<br>(0.71)  | 0.62<br>(0.68)   |
| MIXED                            | -0.048<br>(0.018)     | -0.164<br>(0.064) | -0.395<br>(0.498) | -2.19<br>(0.75) | 1.16<br>(0.72)   |
| NO. OF OBSERVATIONS              | 574                   | 574               | 290               | 574             | 305              |
| R SQUARE                         | .34                   | .48               | .22               | 1341            | .26              |
| CHI-SQUARE                       |                       | 226               |                   |                 |                  |

Note: Standard errors are reported in parentheses below the regression coefficients to which they pertain.

B.4.a. VARIABLES ENTERING THE SENTENCING EQUATION, DRUGS

| Variables         | Descriptions   |
|-------------------|--|
| COUNTS            | The logarithm of the number of counts in the convicting offense.   |
| ANY REVOCATIONS   | Indicates that the offender had previously had probation or parole revoked.  |
| SERVE SENT./WARR. | Indicates that the offender was serving a sentence, or had a warrant outstanding for his arrest, at the time he committed his offense. |
| SUPPLIED INFO.    | Indicates that the offender supplied information that was used to arrest or prosecute others.  |
| ORGANIZED         | Indicates that the offender was a member of organized crime.   |
| HEROIN            | Indicates that the offender sold heroin.   |
| COKE              | Indicates that the offender sold cocaine.  |
| DISTRIB 1         | Indicates that the offender was a level one distributor.   |
| DISTRIB 2         | Indicates that the offender was a level two distributor.   |
| DISTRIB 3         | Indicates that the offender was a level three distributor.   |
| ORGAN 1           | Indicates that the offender organized and/or ran the distribution network.   |
| TRIAL             | Indicates that the offender was convicted by trial.  |
| PRIOR PROBATION   | Indicates that the offender served a previous term of probation.   |
| PRIOR SHORT       | Indicates that the offender served a previous prison term less than one year.  |
| PRIOR LONG        | Indicates that the offender served a previous prison term more than one year.  |
| MALE              | Indicates that the offender was male.  |
| WHITE             | Indicates that the offender was not a member of a minority group.  |
| MOST SEVERE MAX.  | The longest prison term that could legally be imposed for the most serious charge with which the offender was convicted.               |
| AGE               | The offender's age in years.   |
| EMPLOY            | A factor score reflecting the offender's employment stability.   |
| MARITAL           | A factor score reflecting the offender's marital ties and support given dependents.  |
| FAMILY            | A factor score indicating the support toward a legitimate life-style received from the offender's family.                              |
| SOCIAL ADJ.       | A factor score reflecting the difficulty that the offender had adjusting socially and academically during his school years.            |

B.4.a. VARIABLES ENTERING THE SENTENCING EQUATION,  
DRUGS (continued)

| Variables | Descriptions   |
|-----------|--|
| DRUGS     | A factor score reflecting the extent of the offender's involvement in the consumption of drugs.  |
| INTERACT  | A factor score reflecting the support toward a legitimate life-style received from persons with whom the offender interacts.                       |
| FORMATIVE | A factor score reflecting whether the offender's family abused him or had difficulty supplying the necessities of life during his formative years. |
| COHABS    | A factor score reflecting the support toward a legitimate life-style received from persons with whom the offender cohabitates.                     |
| MIXED 1   | A factor score with no specific nomenclature.  |
| DRINK     | A factor score reflecting whether the offender had a drinking or other health problem.   |
| MIXED 2   | A factor score with no specific nomenclature.  |

Table B.4.b. REGRESSION RESULTS ON SENTENCES, DRUGS

| Variables<br>Used in the<br>Regression | Probability of Prison |                   | Prison Length     |                   | Probation<br>Length<br>OLS* |
|--|-----------------------|-------------------|-------------------|-------------------|-----------------------------|
|  | OLS                   | PROBIT            | OLS               | TOBIT             |                             |
| CONSTANT                               | -0.008                | -2.064<br>(0.584) | -7.19             | -32.39<br>(66.15) |                             |
| COUNTS                                 | 0.064<br>(0.046)      | 0.325<br>(0.193)  | 2.432<br>(1.562)  | 4.76<br>(1.90)    |                             |
| ANY<br>REVOCATIONS                     | -0.036<br>(0.061)     | -0.166<br>(0.293) | 3.242<br>(1.976)  | 22.88<br>(2.49)   |                             |
| SERVE SENT./<br>WARR.                  | 0.059<br>(0.048)      | 0.304<br>(0.203)  | 1.757<br>(1.636)  | 3.01<br>(2.00)    |                             |
| SUPPLIED INFO.                         | -0.069<br>(0.041)     | -0.230<br>(0.152) | -3.710<br>(1.531) | -5.78<br>(1.79)   |                             |
| ORGANIZED                              | 0.087<br>(0.047)      | 0.445<br>(0.205)  | 0.310<br>(1.623)  | 2.90<br>(1.97)    |                             |
| HEROIN                                 | 0.056<br>(0.049)      | 0.230<br>(0.189)  | 4.201<br>(1.816)  | 5.54<br>(2.10)    |                             |
| COCAIN                                 | -0.008<br>(0.040)     | -0.101<br>(0.151) | 1.825<br>(1.545)  | 1.35<br>(1.75)    |                             |
| DISTRIB 1                              | 0.041<br>(0.054)      | 0.098<br>(0.191)  | 10.694<br>(2.065) | 9.95<br>(2.40)    |                             |
| DISTRIB 2                              | 0.030<br>(0.064)      | 0.147<br>(0.236)  | 8.969<br>(2.433)  | 8.04<br>(2.80)    |                             |
| DISTRIB 3                              | 0.063<br>(0.073)      | 0.266<br>(0.274)  | 5.566<br>(2.727)  | 6.26<br>(3.19)    |                             |
| ORGAN 1                                | 0.139<br>(0.060)      | 0.559<br>(0.228)  | 12.478<br>(2.243) | 1.44<br>(2.64)    |                             |
| TRIAL                                  | 0.054<br>(0.050)      | 0.301<br>(0.215)  | 6.313<br>(1.690)  | 6.71<br>(2.08)    |                             |
| PRIOR PROBATION                        | 0.049<br>(0.043)      | 0.109<br>(0.153)  | 1.871<br>(1.677)  | 2.86<br>(1.90)    |                             |
| PRIOR SHORT                            | 0.127<br>(0.064)      | 0.363<br>(0.255)  | 6.671<br>(2.227)  | 9.84<br>(2.71)    |                             |
| PRIOR LONG                             | 0.178<br>(0.062)      | 0.987<br>(0.321)  | 5.819<br>(2.108)  | 10.88<br>(2.62)   |                             |
| MALE                                   | 0.296<br>(0.058)      | 0.976<br>(0.203)  | 9.150<br>(2.678)  | 16.59<br>(2.77)   |                             |
| WHITE                                  | 0.058<br>(0.043)      | 0.283<br>(0.168)  | 0.534<br>(1.571)  | 2.39<br>(1.84)    |                             |
| MOST SEVERE MAX.                       | 0.001<br>(0.000)      | 0.005<br>(0.001)  | 0.080<br>(0.012)  | 0.10<br>(1.36)    |                             |
| AGE                                    | 0.002<br>(0.003)      | 0.010<br>(0.010)  | -0.098<br>(0.092) | -0.02<br>(0.11)   |                             |
| EMPLOY                                 | 0.041<br>(0.019)      | 0.166<br>(0.077)  | 2.788<br>(0.689)  | 3.99<br>(0.83)    |                             |
| MARITAL                                | -0.007<br>(0.019)     | -0.011<br>(0.071) | 0.156<br>(0.680)  | -0.31<br>(0.80)   |                             |

Table B.4.b. REGRESSION RESULTS ON SENTENCES, DRUGS (continued)

| Variables<br>Used in the<br>Regression | Probability of Prison |                   | Prison Length     |                 | Probation<br>Length |
|--|-----------------------|-------------------|-------------------|-----------------|---------------------|
|  | OLS                   | PROBIT            | OLS               | TOBIT           | OLS*                |
| FAMILY                                 | 0.011<br>(0.018)      | 0.094<br>(0.088)  | 0.181<br>(0.621)  | 0.56<br>(0.77)  |                     |
| SOCIAL ADJ.                            | -0.034<br>(0.018)     | -0.139<br>(0.072) | 0.416<br>(0.608)  | -0.65<br>(0.74) |                     |
| DRUGS                                  | -0.015<br>(0.018)     | -0.041<br>(0.072) | 0.800<br>(0.637)  | 0.20<br>(0.77)  |                     |
| INTERACT                               | 0.007<br>(0.018)      | 0.039<br>(0.068)  | 0.785<br>(0.695)  | 1.07<br>(0.80)  |                     |
| FORMATIVE                              | 0.014<br>(0.018)      | 0.042<br>(0.073)  | -0.173<br>(0.642) | 0.31<br>(0.76)  |                     |
| COHABS                                 | 0.006<br>(0.018)      | 0.045<br>(0.076)  | 0.484<br>(0.686)  | 0.40<br>(0.79)  |                     |
| MIXED 1                                | 0.024<br>(0.018)      | 0.099<br>(0.070)  | 0.013<br>(0.665)  | 0.74<br>(0.78)  |                     |
| DRINK                                  | 0.022<br>(0.018)      | 0.082<br>(0.078)  | 0.972<br>(0.632)  | 1.59<br>(0.78)  |                     |
| MIXED 2                                | -0.009<br>(0.018)     | -0.041<br>(0.069) | 0.639<br>(0.679)  | 0.19<br>(0.78)  |                     |
| NO. OF<br>OBSERVATIONS                 | 595                   | 595               | 413               | 595             |                     |
| R SQUARE                               | .23                   | .48               | .50               |                 |                     |

\*Note: Regressions were not run for the length of probation because of the small number of observations (N=182).

Note: Standard errors are reported in parentheses below the regression coefficients to which they pertain.

B.5.a. VARIABLES ENTERING THE SENTENCING EQUATION,  
MAIL FRAUD

| Variables         | Descriptions   |
|-------------------|--|
| COUNTS            | The logarithm of the number of counts in the convicting offense.   |
| ANY REVOCATIONS   | Indicates whether the offender previously had parole or probation revoked.   |
| SERVE SENT./WARR. | Indicates that the offender was serving a sentence, or had a warrant outstanding for his arrest, at the time of the instant offense.       |
| SUPPLIED INFO.    | Indicates that the offender supplied information leading to the arrest or prosecution of others.   |
| PRIMARY           | Indicates that the offender organized and ran the criminal enterprise.   |
| SHARED            | Indicates that the offender was equally culpable with compatriots in committing the fraud.   |
| PERIPHERAL        | Indicates that the offender was only marginally involved in the crime.   |
| BETWEEN 1-30K     | Indicates that the offender stole between \$1,000 and \$30,000, according to the offense for which he was convicted.                       |
| MORE THAN 30K     | Indicates that the offender stole more than \$30,000, according to the offense for which he was convicted.                                 |
| PROB OR 1 YR      | Indicates that the offender was previously served a prison term of less than one year, or a term of probation.                             |
| PRISON 1 YR       | Indicates that the offender previously served a prison term in excess of one year.   |
| CODEFEND          | The logarithm of the number of persons who were arrested in connection with the offense.   |
| DURATION          | The logarithm of the number of months over which the offender used the mail illegally.   |
| DOLLAR ACT.       | Indicates that the amount of money stolen in the actual offense exceeds the amount of money stolen according to the offense of conviction. |
| TRIAL             | Indicates that the offender was convicted by trial.  |
| MALE              | Indicates that the offender was male.  |
| WHITE             | Indicates that the offender was white.   |
| AGE               | The offender's age in years.   |
| EMPLOY            | A factor score reflecting the offender's employment ties.  |
| MARITAL           | A factor score reflecting the offender's marital ties and the extent to which he supports dependents.                                      |
| DRUGS             | A factor score reflecting the extent to which the offender used or was addicted to drugs.  |

B.5.a. VARIABLES ENTERING THE SENTENCING EQUATION,  
MAIL FRAUD (continued)

| Variables    | Descriptions  |
|--------------|---|
| FAMILY SUPP. | A factor score reflecting the extent to which the offender received support toward leading a crime-free life-style from his family.                     |
| INTERACT     | A factor score reflecting the extent to which the offender received support toward leading a crime-free life-style from persons with whom he interacts. |
| COHABS       | A factor score reflecting the criminal background of persons with whom the offender cohabitates.  |
| SOCIAL       | A factor reflecting the extent to which the offender engages in community activity.   |
| MENTAL       | A factor score reflecting the offender's mental health.   |
| FORMATIVE    | A factor score reflecting whether the offender was abused as a child or whether his family had difficulty supplying the necessities of life.            |
| MIXED        | A factor score with no specific nomenclature.   |

Table B.5.b. REGRESSION RESULTS ON SENTENCES, MAIL FRAUD

| Variables<br>Used in the<br>Regression | Probability of Prison |                   | Prison Length   |                  | Probation<br>Length |
|--|-----------------------|-------------------|-----------------|------------------|---------------------|
|  | OLS                   | PROBIT            | OLS             | TOBIT            | OLS                 |
| CONSTANT                               | -0.347                | -2.866<br>(0.488) | -2.02           | -32.56<br>(5.04) | 36.03               |
| COUNTS                                 | 0.042<br>(0.034)      | 0.172<br>(0.115)  | 0.42<br>(1.02)  | 1.44<br>(1.11)   | 0.41<br>(1.60)      |
| ANY<br>REVOCATIONS                     | -0.016<br>(0.065)     | -0.010<br>(0.223) | 2.58<br>(1.74)  | 1.38<br>(2.08)   | 4.43<br>(3.67)      |
| SERVE SENT./<br>WARR.                  | 0.144<br>(0.062)      | 0.502<br>(0.211)  | 1.27<br>(1.67)  | 4.93<br>(1.97)   | 1.22<br>(3.63)      |
| SUPPLIED INFO.                         | 0.097<br>(0.063)      | 0.359<br>(0.222)  | -1.92<br>(1.79) | 1.94<br>(2.12)   | -2.03<br>(3.09)     |
| PRIMARY                                | 0.078<br>(0.102)      | 0.295<br>(0.344)  | 0.45<br>(3.02)  | 2.26<br>(3.40)   | 0.14<br>(5.21)      |
| SHARED                                 | 0.006<br>(0.094)      | 0.004<br>(0.322)  | -2.61<br>(2.93) | -1.30<br>(3.25)  | 3.15<br>(4.40)      |
| PERIPHERAL                             | -0.112<br>(0.124)     | -0.449<br>(0.458) | -8.92<br>(4.22) | -9.29<br>(4.69)  | -0.28<br>(5.66)     |
| BETWEEN 1-30K                          | 0.072<br>(0.065)      | 0.277<br>(0.222)  | 1.57<br>(2.18)  | 3.40<br>(2.35)   | 4.66<br>(2.88)      |
| MORE THAN 30K                          | 0.120<br>(0.081)      | 0.411<br>(0.275)  | 6.93<br>(2.60)  | 8.26<br>(2.84)   | 5.52<br>(3.76)      |
| PROB OR 1 YR                           | 0.064<br>(0.057)      | 0.168<br>(0.192)  | 2.80<br>(1.96)  | 3.33<br>(2.02)   | 1.98<br>(2.46)      |
| PRISON 1 YR                            | 0.237<br>(0.078)      | 0.696<br>(0.266)  | 9.16<br>(2.24)  | 12.55<br>(2.57)  | 4.45<br>(4.79)      |
| CODEFEND                               | -0.120<br>(0.061)     | -0.418<br>(0.215) | 1.01<br>(1.86)  | -2.93<br>(2.08)  | -6.05<br>(2.93)     |
| DURATION                               | 0.039<br>(0.021)      | 0.115<br>(0.075)  | 0.13<br>(0.67)  | 1.27<br>(0.75)   | 0.21<br>(0.99)      |
| DOLLAR ACT.                            | 0.051<br>(0.069)      | 0.180<br>(0.238)  | 2.88<br>(1.99)  | 3.47<br>(2.33)   | 8.30<br>(3.29)      |
| TRIAL                                  | 0.276<br>(0.085)      | 0.937<br>(0.295)  | 3.75<br>(2.38)  | 9.88<br>(2.73)   | 5.35<br>(5.57)      |
| MALE                                   | 0.236<br>(0.072)      | 0.823<br>(0.266)  | 3.92<br>(3.00)  | 9.30<br>(2.86)   | -3.65<br>(3.11)     |
| WHITE                                  | 0.037<br>(0.059)      | 0.098<br>(0.202)  | 0.60<br>(1.92)  | 1.64<br>(2.08)   | -1.19<br>(2.71)     |
| AGE                                    | 0.007<br>(0.002)      | 0.027<br>(0.008)  | 0.08<br>(0.08)  | 0.25<br>(0.08)   | 0.05<br>(0.11)      |
| EMPLOY                                 | 0.079<br>(0.023)      | 0.289<br>(0.083)  | 0.78<br>(0.68)  | 2.82<br>(0.79)   | -1.08<br>(1.18)     |
| MARITAL                                | 0.048<br>(0.023)      | 0.162<br>(0.077)  | 0.02<br>(0.72)  | 1.40<br>(0.78)   | 0.21<br>(1.09)      |
| DRUGS                                  | 0.040<br>(0.023)      | 0.154<br>(0.101)  | 0.81<br>(0.54)  | 1.68<br>(0.71)   | -0.32<br>(2.28)     |

Table B.5.b. REGRESSION RESULTS ON SENTENCES, MAIL FRAUD (continued)

| Variables<br>Used in the<br>Regression | Probability of Prison |                   | Prison Length   |                 | Probation<br>Length |
|--|-----------------------|-------------------|-----------------|-----------------|---------------------|
|  | OLS                   | PROBIT            | OLS             | TOBIT           | OLS                 |
| FAMILY SUPP.                           | 0.034<br>(0.023)      | 0.126<br>(0.082)  | 0.68<br>(0.68)  | 1.44<br>(0.79)  | 1.45<br>(1.21)      |
| SOCIAL                                 | -0.040<br>(0.023)     | -0.139<br>(0.078) | -0.67<br>(0.68) | -1.52<br>(0.77) | 0.141<br>(1.14)     |
| INTERACT                               | 0.033<br>(0.025)      | 0.116<br>(0.087)  | 1.21<br>(0.71)  | 1.87<br>(0.83)  | 2.81<br>(1.23)      |
| MENTAL                                 | 0.003<br>(0.023)      | 0.002<br>(0.080)  | 0.28<br>(0.65)  | 0.18<br>(0.75)  | 0.58<br>(1.14)      |
| COHABS                                 | 0.043<br>(0.023)      | 0.140<br>(0.082)  | 0.32<br>(0.73)  | 1.62<br>(0.79)  | 0.31<br>(1.10)      |
| MIXED                                  | 0.019<br>(0.022)      | 0.055<br>(0.074)  | 0.65<br>(0.65)  | 0.95<br>(0.75)  | 1.76<br>(1.10)      |
| FORMATIVE                              | 0.035<br>(0.023)      | 0.105<br>(0.080)  | 0.96<br>(0.67)  | 1.82<br>(0.76)  | -3.22<br>(1.17)     |
| NO. OF<br>OBSERVATIONS                 | 389                   | 389               | 192             | 389             | 197                 |
| R SQUARE                               | .33                   | .50               | .39             |                 | .20                 |

Note: Standard errors are reported in parentheses below the regression coefficients to which they pertain.

B.6.a. VARIABLES ENTERING THE SENTENCING EQUATION,  
BANK ROBBERY

| Variables           | Descriptions   |
|---------------------|--|
| DETAINER            | Indicates if offender had detainer pending at time of sentencing.  |
| COUNTS              | The logarithm of the number of counts in the convicting offense.   |
| ANY REVOCATIONS     | Indicates whether the offender previously had parole or probation revoked.   |
| SERVE SENT./WARR.   | Indicates that the offender was serving a sentence, or had a warrant outstanding for his arrest, at the time of the instant offense. |
| SUPPLIED INFO.      | Indicates that the offender supplied information leading to the arrest or prosecution of others.                                     |
| GROUP               | Indicates offender engaged in organized group offense.   |
| EXTEN               | Indicates physical injury or kidnapping occurrence.  |
| PERIPHERAL          | Indicates that offender played a lesser role in the organized conspiracy.  |
| PREVIOUS PROBATION  | Indicates that the offender previously served a criminal sentence of probation.  |
| PREVIOUS SHORT      | Indicates that the offender previously served a prison term of less than one year.   |
| PREVIOUS LONG       | Indicates that the offender previously served a prison term of greater than one year.  |
| BETWEEN 500-1K      | Indicates between \$500 and \$1,000 were stolen in the convicting offense.   |
| MORE THAN 1K        | Indicates officially more than \$1,000 were stolen.  |
| MALE                | Indicates the offender's sex.  |
| MONTHS              | Indicates number of months defendant was involved in bank robbery.   |
| NO. ROBBA. A.       | Indicates how many banks were robbed by defendant in actual offense. Logarithm of the number of banks robbed.                        |
| MOST SEVERE<br>MAX. | The maximum number of years that could be sentenced for the most serious charge included among the convicting offenses.              |
| TRIAL               | Indicates that the offender was convicted by trial.  |
| WHITE               | Indicates the offender's race.   |
| AGE                 | The offender's age in years.   |
| EMPLOY              | Reflects the offender's employment history.  |

Table B.6.b. REGRESSION RESULTS ON SENTENCES, BANK ROBBERY

| Variables<br>Used in the<br>Regression | Probability of Prison |                   | Prison Length    |                  | Probation<br>Length<br>OLS* |
|--|-----------------------|-------------------|------------------|------------------|-----------------------------|
|  | OLS                   | PROBIT            | OLS              | TOBIT            |                             |
| CONSTANT                               | 0.373<br>(0.671)      | -1.378<br>(0.671) | -10.30<br>(6.79) | -32.36<br>(6.79) |                             |
| DETAINER                               | 0.374<br>(0.025)      | 0.472<br>(0.260)  | 5.76<br>(1.86)   | 7.51<br>(2.06)   |                             |
| COUNTS                                 | -0.023<br>(0.031)     | -0.070<br>(0.401) | 3.48<br>(2.29)   | 2.53<br>(2.54)   |                             |
| ANY<br>REVOCATIONS                     | 0.003<br>(0.025)      | -0.002<br>(0.307) | 6.86<br>(1.81)   | 6.95<br>(2.03)   |                             |
| SERVE SENT./<br>WARR.                  | 0.023<br>(0.027)      | 0.217<br>(0.282)  | 2.30<br>(1.95)   | 3.23<br>(2.17)   |                             |
| SUPPLIED INFO.                         | -0.040<br>(0.027)     | -0.284<br>(0.276) | 1.19<br>(2.02)   | -0.26<br>(2.21)  |                             |
| GROUP                                  | 0.022<br>(0.026)      | 0.345<br>(0.256)  | 7.55<br>(1.91)   | 8.37<br>(2.11)   |                             |
| EXTEN                                  | 0.037<br>(0.056)      | **                | 7.53<br>(3.63)   | 9.77<br>(4.12)   |                             |
| PERIPHERAL                             | -0.028<br>(0.035)     | 0.001<br>(0.307)  | 2.18<br>(2.69)   | 1.19<br>(2.91)   |                             |
| PREVIOUS<br>PROBATION                  | 0.054<br>(0.034)      | 0.085<br>(0.250)  | -0.19<br>(2.66)  | 0.78<br>(2.81)   |                             |
| PREVIOUS SHORT                         | 0.133<br>(0.036)      | 0.828<br>(0.339)  | 11.02<br>(2.74)  | 15.09<br>(2.99)  |                             |
| PREVIOUS LONG                          | 0.126<br>(0.035)      | 1.100<br>(0.378)  | 17.57<br>(2.65)  | 21.85<br>(2.94)  |                             |
| BETWEEN 500-1K                         | 0.165<br>(0.051)      | 0.964<br>(0.444)  | 5.20<br>(4.02)   | 13.11<br>(4.26)  |                             |
| MORE THAN 1K                           | 0.168<br>(0.036)      | 0.932<br>(0.256)  | 6.29<br>(2.95)   | 13.94<br>(3.02)  |                             |
| MALE                                   | 0.023<br>(0.045)      | 0.051<br>(0.330)  | 6.14<br>(3.62)   | 5.89<br>(3.81)   |                             |
| MONTHS                                 | -0.003<br>(0.022)     | 0.087<br>(0.190)  | -1.73<br>(1.65)  | -1.74<br>(1.80)  |                             |
| NO. ROBB. A.                           | -0.001<br>(0.021)     | 0.086<br>(0.018)  | 4.88<br>(1.62)   | 4.87<br>(1.76)   |                             |
| MOST<br>SEVERE MAX.                    | 0.013<br>(0.002)      | 0.160<br>(0.352)  | 1.55<br>(0.17)   | 1.96<br>(0.18)   |                             |
| TRIAL                                  | -0.018<br>(0.030)     | 0.118<br>(0.221)  | 1.66<br>(2.27)   | 1.47<br>(2.50)   |                             |
| WHITE                                  | -0.014<br>(0.023)     | -0.014<br>(0.015) | 0.90<br>(1.70)   | 0.72<br>(1.86)   |                             |
| AGE                                    | -0.001<br>(0.002)     | 0.346<br>(0.096)  | 0.12<br>(0.12)   | 0.09<br>(0.13)   |                             |

Table B.6.b. REGRESSION RESULTS ON SENTENCES, BANK ROBBERY  
(continued)

| Variables<br>Used in the<br>Regression | Probability of Prison |                   | Prison Length  |                | Probation<br>Length<br>OLS* |
|--|-----------------------|-------------------|----------------|----------------|-----------------------------|
|  | OLS                   | PROBIT            | OLS            | TOBIT          |                             |
| EMPLOY                                 | 0.050<br>(0.012)      | -0.066<br>(0.106) | 4.10<br>(0.91) | 6.20<br>(0.97) |                             |
| NO. OF<br>OBSERVATIONS                 | 605                   | 605               | 551            | 551            |                             |
| R SQUARE                               | .27                   | .56               | .54            |                |                             |

Note: Standard errors are reported in parentheses below the regression coefficients to which they pertain.

\* There were too few cases to estimate the length of probations.  
\*\* The PROBIT model did not converge on a solution when the variable extent was included in the model.

Table B.7.a. VARIABLES ENTERING THE SENTENCING EQUATION,  
POSTAL EMBEZZLEMENT

| Variables      | Descriptions   |
|----------------|--|
| COUNTS         | The number of counts in the convicting offense.  |
| SUPPLIED INFO. | Indicates that the offender supplied information leading to the arrest or prosecution of others. |
| PAST2          | Indicates defendant's employment stability over the past 2 years.                                |
| SEX            | Indicates sex of offender.   |
| WHITE          | Indicates the offender was not a member of a minority.   |
| GROUP          | Indicates the offender was acting with others to commit the crime.                               |
| TIMEINVO       | Indicates how long offender was involved in actual offense.                                      |
| DOLLARA        | Indicates the offender actually stole more than was indicated by the top charge at conviction.   |
| MOSTSEUM       | The maximum number of years that could be sentenced for the most serious convicting offense.     |
| AGE            | The offender's age in years.   |
| PRIORREC       | Indicates that the offender had a prior criminal conviction.                                     |

Table B.7.b. REGRESSION RESULTS ON SENTENCES, RANDOM OTHER

| Variables<br>Used in the<br>Regression | Probability of Prison |                   | Prison Length |                 | Probation<br>Length |
|--|-----------------------|-------------------|---------------|-----------------|---------------------|
|  | OLS                   | PROBIT            | OLS           | TOBIT           | OLS*                |
| CONSTANT                               | -0.333                | -1.719<br>(0.990) |               | 15.44<br>(8.62) |                     |
| COUNTS                                 | 0.53<br>(.107)        | .174<br>(.352)    |               | 1.27<br>(2.95)  |                     |
| SUPPLIED INFO.                         | .111<br>(.214)        | .277<br>(.693)    |               | 2.30<br>(5.28)  |                     |
| PAST2                                  | .089<br>(.065)        | .305<br>(.210)    |               | 2.33<br>(1.80)  |                     |
| SEX                                    | .066<br>(.142)        | .301<br>(.507)    |               | .92<br>(4.44)   |                     |
| RACE                                   | -0.029<br>(.099)      | -.115<br>(.334)   |               | -3.94<br>(2.98) |                     |
| GROUP                                  | .189<br>(.160)        | .575<br>(.526)    |               | 4.38<br>(4.26)  |                     |
| TIMEINVO                               | .042<br>(.024)        | .143<br>(.084)    |               | 1.39<br>(.73)   |                     |
| DOLLARA                                | .112<br>(.100)        | .452<br>(.335)    |               | 6.15<br>(2.92)  |                     |
| MOSTSEUM                               | .047<br>(.030)        | .171<br>(.107)    |               | 1.92<br>(.95)   |                     |
| AGE                                    | -0.007<br>(.005)      | -.027<br>(.017)   |               | -.22<br>(.14)   |                     |
| PRIOREC                                | 0.065<br>(.116)       | -.276<br>(.419)   |               | -.30<br>(3.57)  |                     |
| NO. OF<br>OBSERVATIONS                 | 90                    | 90                |               | 90              |                     |
| R SQUARE                               | .28                   | .32               |               |                 |                     |

\*No regression was fit for the length of probation because of the small number of observations.

Note: Standard errors are reported in parentheses below the regression coefficients to which they pertain.

B.8.a. VARIABLES ENTERING THE SENTENCING EQUATION, HOMICIDE

| Variables         | Descriptions   |
|-------------------|--|
| VERBAL            | Indicates that the victim verbally assaulted the defendant, a member of the defendant's family, or one of the defendant's close friends.   |
| PHYSICAL          | Indicates that the victim physically assaulted the defendant, a member of the defendant's family, or one of the defendant's close friends. |
| WEAPON            | Indicates that the offender used a weapon including a gun, club, or knife.   |
| TRIAL             | Indicates that the offender was convicted by trial rather than by a guilty plea.   |
| PRIOR PROBATION   | Indicates that the offender previously served a term of probation.   |
| PRIOR SHORT       | Indicates that the offender previously served a prison term less than one year.  |
| PRIOR LONG        | Indicates that the offender previously served a prison term of greater than one year.  |
| INDIAN            | Indicates that the offender was an American Indian.  |
| VOL. MANSLAUGHTER | Indicates that the convicting offense was voluntary manslaughter.  |
| INVOL./NEGLIG.    | Indicates that the convicting offense was involuntary manslaughter or negligent homicide.  |
| 2nd DEGREE        | Indicates that the convicting offense was second degree homicide.  |
| MALE              | Indicates that the offender was a male.  |
| OTHER PERSONS     | Indicates that the offender was involved with other individuals to commit the homicide.  |
| NO. KILLED        | The number of persons killed as a result of this offense.  |
| CONCEAL           | Indicates that the offender took special precautions to conceal his offense.   |
| CONFESS           | Indicates that the offender revealed his offense to the police prior to arrest.  |
| EMPLOY            | A factor score reflecting the offender's employment stability.   |
| DRUGS             | A factor score reflecting the offender's use or addiction to drugs.  |

Table B.8.b. REGRESSION RESULTS ON SENTENCES, HOMICIDE

| Variables Used in the Regression | Probability of Prison |                   | Prison Length    |                  | Probation Length |
|----------------------------------|-----------------------|-------------------|------------------|------------------|------------------|
|                                  | OLS                   | PROBIT            | OLS              | TOBIT            | OLS*             |
| CONSTANT                         | 0.333                 | -0.793<br>(0.548) | 78.24            | 47.56<br>(9.43)  |                  |
| VERBAL                           | 0.041<br>(0.060)      | 0.101<br>(0.226)  | 1.27<br>(3.58)   | 1.52<br>(4.49)   |                  |
| PHYSICAL                         | 0.057<br>(0.057)      | 0.134<br>(0.228)  | -8.81<br>(3.23)  | -5.97<br>(4.18)  |                  |
| WEAPON                           | 0.058<br>(0.053)      | 0.238<br>(0.209)  | 8.38<br>(2.82)   | 8.54<br>(3.72)   |                  |
| TRIAL                            | 0.019<br>(0.047)      | 0.068<br>(0.189)  | 3.79<br>(2.60)   | 3.38<br>(3.37)   |                  |
| PRIOR PROBATION                  | 0.063<br>(0.055)      | 0.246<br>(0.210)  | 3.22<br>(3.11)   | 7.09<br>(4.00)   |                  |
| PRIOR SHORT                      | 0.032<br>(0.056)      | 0.135<br>(0.215)  | 7.24<br>(3.26)   | 9.50<br>(4.13)   |                  |
| PRIOR LONG                       | 0.055<br>(0.060)      | 0.333<br>(0.255)  | 12.27<br>(3.12)  | 13.74<br>(4.10)  |                  |
| INDIAN                           | 0.039<br>(0.048)      | 0.125<br>(0.196)  | -11.18<br>(2.69) | -7.55<br>(3.52)  |                  |
| VOL. MANSLAUGHTER                | -0.083<br>(0.052)     | -0.446<br>(0.237) | -44.19<br>(3.74) | -52.01<br>(5.45) |                  |
| INVOL./NEGLIG.                   | -0.335<br>(0.071)     | -1.246<br>(0.289) | -65.24<br>(4.88) | -82.63<br>(6.95) |                  |
| MALE                             | 0.302<br>(0.062)      | 0.950<br>(0.216)  | 8.87<br>(4.30)   | 27.17<br>(4.88)  |                  |
| OTHER PERSONS                    | 0.108<br>(0.055)      | 0.691<br>(0.276)  | 7.11<br>(2.66)   | 13.06<br>(3.64)  |                  |
| NO. KILLED                       | 0.143<br>(0.065)      | 0.794<br>(0.396)  | 3.46<br>(2.91)   | 8.34<br>(4.01)   |                  |
| CONCEAL                          | 0.101<br>(0.069)      | 0.609<br>(0.354)  | 1.34<br>(3.14)   | 5.73<br>(4.31)   |                  |
| CONFESS                          | -0.061<br>(0.050)     | -0.197<br>(0.183) | -1.57<br>(2.98)  | -6.48<br>(3.73)  |                  |
| EMPLOY                           | 0.046<br>(0.021)      | 0.173<br>(0.080)  | 2.95<br>(1.21)   | 5.56<br>(1.53)   |                  |
| DRUGS                            | 0.019<br>(0.024)      | 0.140<br>(0.126)  | 3.09<br>(1.05)   | 3.92<br>(1.46)   |                  |
| 2ND DEGREE                       |                       |                   | -17.77<br>(3.59) | -20.87<br>(5.02) |                  |
| NO. OF OBSERVATIONS              | 395                   | 395               | 369              | 470              |                  |
| R SQUARE                         | .23                   | .42               | .70              |                  |                  |

\*No regression was fit for the length of probation because of the small number of observations (N=101).

Note: Standard errors are reported in parentheses below the regression coefficients to which they pertain.

B.9.a. VARIABLES ENTERING THE SENTENCING EQUATION,  
BRIBERY OF PUBLIC OFFICIALS

| Variables        | Descriptions   |
|------------------|--|
| COUNTS           | The logarithm of the number of counts in the convicting offense.                                 |
| SUPINF           | Indicates that the offender supplied information leading to the arrest or prosecution of others. |
| TAXES            | Indicates that the offense was related to taxes.   |
| IMMIG            | Indicates that the offense was related to immigration.   |
| GOV. CONTRACT    | Indicates that the offense was related to a government contract.                                 |
| MORE THAN 1 MO.  | Indicates that the offense lasted for more than one month but less than one year.                |
| MORE THAN 1 YR.  | Indicates that the offense lasted for more than one year.  |
| ORGAN            | Indicates that the offender was responsible for organizing or managing the conspiracy.           |
| EQUAL            | Indicates that the offender shared responsibility equally with co-conspirators.                  |
| TRIAL            | Indicates that the offender was convicted by trial.  |
| MALE             | Indicates that the offender was a male.  |
| WHITE            | Indicates that the offender was not a member of a minority group.                                |
| PUBLIC OFFICIAL  | Indicates that the offender was a public official.   |
| MOST SEVERE MAX. | The maximum number of years that could have been imposed given the top convicting offense.       |
| PRIOR RECORD     | Indicates that the offender has a previous conviction for a criminal offense.                    |

Table B.9.b. REGRESSION RESULTS ON SENTENCES,  
BRIBERY OF PUBLIC OFFICIALS

| Variables<br>Used in the<br>Regression | Probability of Prison |                 | Prison Length   |                    | Probation<br>Length |
|--|-----------------------|-----------------|-----------------|--------------------|---------------------|
|  | OLS                   | PROBIT          | OLS             | TOBIT              | OLS                 |
| CONSTANT                               | -0.192                | -2.24<br>(0.59) | 11.57           | -26.02<br>(217.94) | 23.27               |
| COUNTS                                 | -0.160<br>(0.041)     | -0.04<br>(0.12) | 1.19<br>(0.59)  | -0.25<br>(0.36)    | 4.30<br>(2.20)      |
| SUPINF                                 | -0.026<br>(0.068)     | -0.08<br>(0.20) | 0.42<br>(1.11)  | -0.17<br>(0.60)    | 2.94<br>(3.14)      |
| TAXES                                  | -0.045<br>(0.076)     | -0.13<br>(0.23) | -3.95<br>(1.36) | -0.05<br>(0.70)    | -13.24<br>(3.40)    |
| IMMIG                                  | 0.168<br>(0.111)      | 0.53<br>(0.33)  | -1.61<br>(1.74) | 0.12<br>(0.99)     | -10.83<br>(5.49)    |
| GOV. CONTRACT                          | 0.041<br>(0.071)      | 0.14<br>(0.21)  | -1.02<br>(1.19) | 0.17<br>(0.62)     | -13.05<br>(3.41)    |
| MORE THAN<br>1 MO.                     | -0.018<br>(0.061)     | -0.06<br>(0.18) | 0.88<br>(1.08)  | -0.37<br>(0.57)    | -1.02<br>(2.66)     |
| MORE THAN<br>1 YR.                     | 0.019<br>(0.069)      | 0.06<br>(0.21)  | -2.32<br>(1.15) | 0.23<br>(0.61)     | 1.23<br>(3.19)      |
| ORGANIZED                              | 0.222<br>(0.093)      | 0.66<br>(0.28)  | 1.09<br>(1.42)  | 1.59<br>(0.24)     | 7.08<br>(4.65)      |
| EQUAL                                  | 0.202<br>(0.053)      | 0.59<br>(0.16)  | -0.38<br>(0.94) | 1.61<br>(0.48)     | 1.80<br>(2.37)      |
| TRIAL                                  | 0.234<br>(0.078)      | 0.72<br>(0.24)  | 1.63<br>(1.09)  | 1.88<br>(0.63)     | 2.71<br>(4.77)      |
| MALE                                   | 0.327<br>(0.136)      | 1.18<br>(0.50)  | -5.67<br>(3.80) | 23.27<br>(217.94)  | 6.20<br>(5.07)      |
| WHITE                                  | 0.046<br>(0.069)      | 0.14<br>(0.21)  | 0.33<br>(1.11)  | -0.44<br>(0.61)    | -1.12<br>(3.28)     |
| PUBLIC<br>OFFICIAL                     | 0.280<br>(0.058)      | 0.83<br>(0.18)  | 1.63<br>(0.89)  | 1.90<br>(0.50)     | 2.98<br>(3.16)      |
| MOST<br>SEVERE MAX.                    | 0.007<br>(0.004)      | 0.02<br>(0.01)  | 0.05<br>(0.08)  | 0.17<br>(0.15)     | 0.53<br>(0.20)      |
| PRIOR RECORD                           | 0.052<br>(0.067)      | 0.13<br>(0.20)  | 3.98<br>(1.03)  | 9.35<br>(1.88)     | 8.06<br>(3.19)      |
| NO. OF<br>OBSERVATIONS                 | 398                   | 398             | 172             | 398                | 226                 |
| R SQUARE                               | .19                   | .31             | .33             |                    | .20                 |

Note: Standard errors are reported in parentheses below the regression coefficients to which they pertain.

B.10.a. VARIABLES ENTERING THE SENTENCING EQUATION,  
FALSE CLAIMS AND STATEMENTS

| Variables               | Descriptions  |
|-------------------------|---|
| DETAINER                | Indicates that the offender had charges pending at the time of his conviction.  |
| COUNTS                  | The logarithm of the number of counts in the convicting offense.  |
| ANY REVOCATIONS         | Indicates that the offender had previously had parole or probation revoked.   |
| SERVE SENT./WARR.       | Indicates that the offender was serving a sentence or had a warrant outstanding for his arrest at the time that he committed the instant offense. |
| MALE                    | Indicates that the offender was male.   |
| WHITE                   | Indicates that the offender was not a member of a minority group.   |
| ORGAN                   | Indicates that the offender organized and managed the conspiracy that resulted in the false claims offense.                                       |
| EQUAL                   | Indicates that the offender participated in a conspiracy and that his role was judged to be equally culpable for the crime.                       |
| PERIPHERAL              | Indicates that the offender participated in a conspiracy but played a peripheral role.  |
| LESS THAN 1K            | The offender stole less than \$1,000.   |
| BETWEEN 1-25K           | The offender stole between \$1,000 and \$25,000.  |
| BETWEEN 25-100K         | The offender stole between \$25,000 and \$100,000.  |
| GREATER THAN 100K TRIAL | The offender stole more than \$100,000. Indicates that the offender was convicted by trial rather than by guilty plea.                            |
| PRIOR PROBATION         | Indicates that the offender served a prior term of probation.   |
| PRIOR PRISON            | Indicates that the offender served a prior term of prison or jail.  |
| FREQUENCY A             | The number of times that the offender actually made a false claim or statement.   |

Table B.10.b. REGRESSION RESULTS ON SENTENCES,  
FALSE CLAIMS AND STATEMENTS

| Variables Used in the Regression | Probability of Prison |         | Prison Length |        | Probation Length |
|----------------------------------|-----------------------|---------|---------------|--------|------------------|
|                                  | OLS                   | PROBIT  | OLS           | TOBIT  | OLS              |
| INTERCEPT                        | 0.249                 | -0.662  | 4.94          | -17.45 | 27.04            |
|                                  |                       | (0.311) |               | (7.39) |                  |
| DETAINER                         | 0.033                 | 0.070   | -0.41         | -0.77  | 1.55             |
|                                  | (0.082)               | (0.254) | (2.10)        | (5.45) | (4.56)           |
| COUNTS                           | 0.049                 | 0.150   | 1.87          | 5.18   | 1.83             |
|                                  | (0.035)               | (0.107) | (2.37)        | (2.32) | (1.82)           |
| ANY REVOCATIONS                  | 0.128                 | 0.437   | 4.44          | 13.80  | 5.37             |
|                                  | (0.090)               | (0.280) | (2.37)        | (6.00) | (4.86)           |
| SERVE SENT./WARR.                | 0.269                 | 0.799   | 3.10          | 20.00  | -3.05            |
|                                  | (0.107)               | (0.339) | (2.59)        | (7.01) | (6.74)           |
| MALE                             | 0.131                 | 0.213   | 2.97          | 6.08   | -1.63            |
|                                  | (0.057)               | (0.155) | (2.00)        | (3.77) | (2.17)           |
| WHITE                            | -0.172                | -0.451  | -0.92         | 9.57   | 2.16             |
|                                  | (0.051)               | (0.157) | (1.56)        | (3.55) | (2.37)           |
| ORGAN                            | 0.090                 | 0.106   | 5.14          | 4.52   | -6.07            |
|                                  | (0.086)               | (0.261) | (2.22)        | (5.70) | (4.46)           |
| PERIPHERAL                       | -0.111                | -0.393  | 1.66          | -7.94  | -1.46            |
|                                  | (0.064)               | (0.205) | (1.97)        | (4.62) | (2.94)           |
| LESS THAN 1K                     | -0.227                | -0.744  | -4.67         | -22.51 | 1.01             |
|                                  | (0.094)               | (0.300) | (3.42)        | (7.44) | (4.21)           |
| BETWEEN 1-25K                    | -0.178                | -0.530  | -1.92         | -13.97 | -2.43            |
|                                  | (0.105)               | (0.330) | (3.49)        | (7.82) | (4.74)           |
| BETWEEN 25-100K                  | -0.042                | -0.145  | -0.58         | -6.98  | 5.67             |
|                                  | (0.086)               | (0.268) | (2.68)        | (6.19) | (3.96)           |
| GREATER THAN 100K TRIAL          | 0.128                 | 0.379   | 2.59          | 5.93   | 6.71             |
|                                  | (0.095)               | (0.294) | (2.93)        | (6.79) | (4.43)           |
| PRIOR PROBATION                  | 0.194                 | 0.631   | 8.06          | 18.60  | 1.57             |
|                                  | (0.114)               | (0.361) | (3.62)        | (8.02) | (5.66)           |
| PRIOR PRISON                     | 0.183                 | 0.600   | 1.35          | 12.35  | -2.91            |
|                                  | (0.075)               | (0.237) | (1.88)        | (4.95) | (4.29)           |
| FREQUENCY A                      | -0.013                | 0.017   | -0.07         | 0.13   | 6.52             |
|                                  | (0.061)               | (0.187) | (2.00)        | (4.47) | (2.70)           |
|                                  | 0.048                 | 0.218   | 1.25          | 2.32   | 9.15             |
|                                  | (0.073)               | (0.222) | (2.15)        | (5.12) | (3.46)           |
|                                  | 0.032                 | 0.107   | -0.12         | 2.40   | 0.37             |
|                                  | (0.017)               | (0.051) | (0.50)        | (1.19) | (0.78)           |
| NO. OF OBSERVATIONS              | 361                   | 361     | 141           | 361    | 223              |
| R SQUARE                         | .21                   | .30     | .36           |        | .12              |

Note: Standard errors are reported in parentheses below the regression coefficients to which they pertain.

B.11.a. VARIABLES ENTERING THE SENTENCING EQUATION,  
RANDOM OTHER

| Variables         | Descriptions  |
|-------------------|---|
| DETAINER          | Indicates that there were detainers pending at the time of conviction.  |
| COUNTS            | Logarithm of the number of counts in the convicting offense.  |
| ANY REVOCATIONS   | Indicates that the offender previously had parole or probation revoked.   |
| SERVE SENT./WARR. | Indicates that the offender was serving a sentence, or had a warrant outstanding for his arrest, at the time he committed his offense.  |
| ORGAN             | Indicates that the offender was a member of organized crime.  |
| LESS THAN 1K      | The offender's crime resulted in a non-zero loss of less than \$1,000.  |
| BETWEEN 1-50K     | The offender's crime resulted in a non-zero loss of between \$1,000 and \$50,000.   |
| MORE THAN 50K     | The offender's crime resulted in a non-zero loss in excess of \$50,000.   |
| THREAT            | Indicates that the offender threatened bodily harm but did not cause bodily harm.   |
| WEAPON            | Indicates that the offender had a weapon in his possession during the offense.  |
| HARM              | An ordinal measure of the amount of harm to persons, coded (1) victim(s) treated for injury but not hospitalized; (2) victim(s) recovered following hospitalization; (3) victim(s) were killed. |
| ORGANIZE          | The offender organized the conspiracy.  |
| EQUAL             | Offenders were equally culpable in the conspiracy.  |
| PERIPHERAL        | The offender played a minor role in the conspiracy.   |
| AUTHORITY         | The offense was committed during the course of legitimate employment in which the offender held a position of authority or management.  |
| OTHER EMP.        | The offense was committed during the course of legitimate employment in which the offender held a subordinate or menial position.   |
| TRIAL             | Indicates that the offender was convicted by trial.   |
| PRIOR PROBATION   | Indicates that the offender was previously convicted and served at most a sentence of probation.  |
| PRIOR SHORT       | Indicates that the offender was previously convicted and served a prison term of one year at most.  |
| PRIOR LONG        | Indicates that the offender was previously convicted and served a prison term in excess of one year.  |

B.11.a. VARIABLES ENTERING THE SENTENCING EQUATION,  
RANDOM OTHER (continued)

| Variables | Descriptions   |
|-----------|--|
| MALE      | Indicates that the offender was male.                        |
| WHITE     | Indicates that the offender was white.                       |
| DURATION  | Logarithm of the duration code (see code book).              |
| EMPLOY    | A factor score reflecting the offender's employment history. |
| MARITAL   | A factor score reflecting the offender's marital history.    |
| DRUGS     | A factor score reflecting the offender's drug history.       |

Table B.11.b. REGRESSION RESULTS ON SENTENCES, RANDOM OTHER

| Variables<br>Used in the<br>Regression | Probability of Prison |                   | Prison Length     |                   | Probation<br>Length |
|--|-----------------------|-------------------|-------------------|-------------------|---------------------|
|  | OLS                   | PROBIT            | OLS               | TOBIT             | OLS                 |
| CONSTANT                               | 0.133                 | -1.316<br>(0.325) | -29.11            | -85.58<br>(14.04) | 21.24               |
| DETAINER                               | 0.096<br>(0.055)      | 0.361<br>(0.200)  | 11.61<br>(8.51)   | 15.42<br>(7.38)   | 4.25<br>(2.86)      |
| COUNTS                                 | 0.188<br>(0.049)      | 0.549<br>(0.213)  | 19.23<br>(6.41)   | 24.64<br>(6.16)   | -0.46<br>(3.47)     |
| ANY<br>REVOCATIONS                     | 0.068<br>(0.063)      | 0.345<br>(0.229)  | 15.79<br>(8.80)   | 19.31<br>(8.08)   | -1.69<br>(3.89)     |
| SERVE SENT./<br>WARR.                  | 0.088<br>(0.059)      | 0.263<br>(0.207)  | 2.53<br>(8.80)    | 9.48<br>(7.75)    | 1.15<br>(3.13)      |
| SUPPLIED INFO.                         | -0.065<br>(0.84)      | -0.266<br>(0.284) | -10.20<br>(14.37) | -14.93<br>(11.99) | 2.39<br>(3.80)      |
| ORGAN                                  | 0.086<br>(0.086)      | 0.351<br>(0.322)  | -19.99<br>(12.84) | -10.71<br>(11.56) | -2.47<br>(4.73)     |
| LESS THAN 1K                           | -0.018<br>(0.062)     | -0.024<br>(0.216) | 10.89<br>(10.95)  | 6.56<br>(9.00)    | -3.93<br>(2.79)     |
| BETWEEN 1-50K                          | 0.145<br>(0.062)      | 0.614<br>(0.232)  | 13.73<br>(9.93)   | 21.53<br>(8.51)   | 4.09<br>(3.06)      |
| MORE THAN 50K                          | 0.301<br>(0.80)       | 1.157<br>(0.301)  | 47.38<br>(12.37)  | 60.56<br>(10.83)  | 2.77<br>(4.26)      |
| THREAT                                 | 0.200<br>(0.098)      | 1.027<br>(0.464)  | 19.58<br>(13.60)  | 27.12<br>(12.54)  | 1.46<br>(7.05)      |
| WEAPON                                 | -0.068<br>(0.130)     | 0.594<br>(0.755)  | 44.94<br>(17.40)  | 49.38<br>(16.36)  | 31.96<br>(15.45)    |
| HARM                                   | 0.088<br>(0.060)      | 0.186<br>(0.339)  | 25.22<br>(7.89)   | 30.46<br>(7.45)   | 1.62<br>(6.16)      |
| ORGANIZE                               | 0.056<br>(0.078)      | 0.288<br>(0.288)  | 11.38<br>(12.01)  | 9.38<br>(10.31)   | -8.41<br>(4.10)     |
| EQUAL                                  | -0.021<br>(0.052)     | -0.088<br>(0.190) | 16.53<br>(8.42)   | 8.00<br>(7.22)    | -1.82<br>(2.47)     |
| PERIPHERAL                             | -0.077<br>(0.083)     | -0.068<br>(0.283) | 1.84<br>(13.68)   | -1.49<br>(11.64)  | -7.46<br>(3.84)     |
| AUTHORITY                              | 0.105<br>(0.078)      | 0.323<br>(0.260)  | -18.72<br>(12.68) | 0.25<br>(10.80)   | -8.32<br>(3.62)     |
| OTHER EMP.                             | -0.067<br>(0.070)     | -0.252<br>(0.248) | 1.12<br>(12.38)   | -8.05<br>(9.92)   | -0.10<br>(3.04)     |
| TRIAL                                  | 0.095<br>(0.064)      | 0.396<br>(0.237)  | 35.20<br>(9.46)   | 36.92<br>(8.34)   | -0.15<br>(3.56)     |
| PRIOR PROBATION                        | 0.083<br>(0.056)      | 0.314<br>(0.192)  | -9.61<br>(10.76)  | 3.29<br>(8.32)    | 6.89<br>(2.32)      |
| PRIOR SHORT                            | 0.142<br>(0.073)      | 0.454<br>(0.256)  | -6.15<br>(12.97)  | 10.14<br>(10.29)  | 11.30<br>(3.25)     |
| PRIOR LONG                             | 0.136<br>(0.077)      | 1.148<br>(0.283)  | 6.60<br>(21.36)   | 33.49<br>(10.25)  | 19.71<br>(4.53)     |

Table B.11.b. REGRESSION RESULTS ON SENTENCES, RANDOM OTHER  
(continued)

| Variables<br>Used in the<br>Regression | Probability of Prison |                   | Prison Length    |                  | Probation<br>Length |
|--|-----------------------|-------------------|------------------|------------------|---------------------|
|  | OLS                   | PROBIT            | OLS              | TOBIT            | OLS                 |
| MALE                                   | 0.130<br>(0.067)      | 0.494<br>(0.236)  | 20.41<br>(13.41) | 30.35<br>(10.56) | 2.12<br>(2.69)      |
| WHITE                                  | -0.091<br>(0.049)     | -0.352<br>(0.173) | 2.83<br>(8.03)   | -6.39<br>(6.74)  | -1.07<br>(2.57)     |
| DURATION                               | -0.009<br>(0.031)     | -0.043<br>(0.105) | -5.54<br>(4.98)  | -3.63<br>(4.21)  | 6.14<br>(1.42)      |
| EMPLOY                                 | 0.050<br>(0.024)      | 0.189<br>(0.085)  | 3.19<br>(3.97)   | 6.81<br>(3.32)   | 0.79<br>(1.07)      |
| MARITAL                                | 0.029<br>(0.022)      | 0.089<br>(0.079)  | 2.95<br>(3.95)   | 4.24<br>(3.18)   | 0.24<br>(1.00)      |
| DRUGS                                  | 0.032<br>(0.021)      | 0.141<br>(0.083)  | -2.46<br>(2.84)  | -0.16<br>(2.68)  | 0.24<br>(1.36)      |
| NO. OF<br>OBSERVATIONS                 | 416                   | 416               | 205              | 416              | 205                 |
| R SQUARE                               | .31                   | .60               | .54              |                  | .36                 |

Note: Standard errors are reported in parentheses below the regression coefficients to which they pertain.

FEDERAL JUSTICE RESEARCH PROGRAM REPORTS

| <u>Report No.</u> | <u>Title</u>  | <u>Author</u>                 | <u>Printing Date</u> |
|-------------------|---|-------------------------------|----------------------|
| 78/001            | Federalism and Assistance to State Court Systems 1969 to 1978                         | Kleps                         | July 1978            |
| 78/002            | Significant Nonobvious Effects of the Abolition of the General Diversity Jurisdiction | Rowe                          | August 1978          |
| 79/001            | The Role of Courts in Antitrust Law   | Gerhart                       | April 1979           |
| 79/002            | Tort Cases in Judicial and Alternative Dispute Resoltuion Systems                     | Keeton                        | April 1979           |
| 79/003            | A Study of Sanctions for Discovery Abuse  | Ellington                     | May 1979             |
| 79/004            | The Role of Courts in the Administration of Decedents' Estates                        | Alford                        | May 1979             |
| 79/005            | An Empirical Study of Federal Habeas Corpus Review of State Court Judgements          | Robinson                      | July 1979            |
| 79/006            | The Utilization and Impact of United States Magistrates: A Pilot Study                | Padawer-Singer, Goldman, Puro | August 1979          |
| 79/007            | Allocating Resources to U.S. Attorneys' Offices: A Case-weighting Approach            | Dungworth, Hausner            | Sept. 1979           |
| 79/008            | The California and United States Courts of Appeals, Problems and Proposals            | Wold                          | Sept. 1979           |
| 79/009            | Revision of Class Damage Procedures: Empirical Studies                                | Arthur Young & Co.            | Nov. 1979            |
| 79/010            | What the Lower Courts Do: The Work and Role of Courts of Limited Jurisdiction         | Silbey                        | Sept. 1979           |

|        |  |   |            |
|--------|--|---|------------|
| 80/001 | Judicial Disciplinary Com-missions: Alternatives to Impeachment  | Goldman   | April 1980 |
| 80/002 | The Processing of Federal Criminal Cases Under the Speedy Trial Act of 1974 (as Amended 1979)              | Ames, Carlson, Hammett, Kennington                | July 1980  |
| 80/003 | A Study of Justice Impact Analysis   | Celeste, Douglass                                 | May 1980   |
| 81/001 | A Longitudinal Study of the Judicial Role in Family and Commercial Disputes                                | Perlstein   | March 1981 |
| 81/002 | Practices of Release Pending Appeal in Federal Criminal Cases  | Juster, Smith                                     | May 1981   |
| 81/003 | Federal Sentencing: Toward a More Explicit Policy of Criminal Sanctions                                    | INSLAW, Inc., Yankelovich, Skelly and White, Inc. | May 1981   |
| 81/004 | Analysis of Federal Sentencing   | Rhodes, Conly                                     | May 1981   |
| 81/005 | Judicial Reactions to Sentencing Guidelines  | Bartolomeo  | May 1981   |
| 81/006 | Sentence Decision Making: The Logic of Sentence Decisions and the Extent and Sources of Sentence Disparity | Bartolomeo, Clancy, Richardson, Berger            | May 1981   |

┌  
└

**END**